

# [MS-DOC]:

## Word (.doc) Binary File Format

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## Revision Summary

| Date       | Revision History | Revision Class | Comments   |
|------------|------------------|----------------|--|
| 6/27/2008  | 1.0              | New            | First release  |
| 1/16/2009  | 1.01             | Minor          | Updated IP Notice  |
| 7/13/2009  | 1.02             | Major          | Changes made for template compliance   |
| 8/28/2009  | 1.03             | Editorial      | Revised and edited the technical content                                     |
| 11/6/2009  | 1.04             | Editorial      | Revised and edited the technical content                                     |
| 2/19/2010  | 2.0              | Editorial      | Revised and edited the technical content                                     |
| 3/31/2010  | 2.01             | Editorial      | Revised and edited the technical content                                     |
| 4/30/2010  | 2.02             | Editorial      | Revised and edited the technical content                                     |
| 6/7/2010   | 2.03             | Major          | Updated and revised the technical content                                    |
| 6/29/2010  | 2.04             | Editorial      | Changed language and formatting in the technical content.                    |
| 7/23/2010  | 2.04             | None           | No changes to the meaning, language, or formatting of the technical content. |
| 9/27/2010  | 2.05             | Editorial      | Changed language and formatting in the technical content.                    |
| 11/15/2010 | 2.05             | None           | No changes to the meaning, language, or formatting of the technical content. |
| 12/17/2010 | 2.05             | None           | No changes to the meaning, language, or formatting of the technical content. |
| 3/18/2011  | 2.05             | None           | No changes to the meaning, language, or formatting of the technical content. |
| 6/10/2011  | 2.05             | None           | No changes to the meaning, language, or formatting of the technical content. |
| 1/20/2012  | 3.0              | Major          | Significantly changed the technical content.                                 |
| 4/11/2012  | 3.0              | None           | No changes to the meaning, language, or formatting of the technical content. |
| 7/16/2012  | 3.1              | Minor          | Clarified the meaning of the technical content.                              |
| 10/8/2012  | 3.2              | Minor          | Clarified the meaning of the technical content.                              |
| 2/11/2013  | 3.3              | Minor          | Clarified the meaning of the technical content.                              |
| 7/30/2013  | 3.3              | None           | No changes to the meaning, language, or formatting of the technical content. |
| 11/18/2013 | 3.3              | None           | No changes to the meaning, language, or formatting of the technical content. |
| 2/10/2014  | 3.3              | None           | No changes to the meaning, language, or formatting of the technical content. |
| 4/30/2014  | 3.4              | Minor          | Clarified the meaning of the technical content.                              |
| 7/31/2014  | 4.0              | Major          | Significantly changed the technical content.                                 |

| <b>Date</b> | <b>Revision History</b> | <b>Revision Class</b> | <b>Comments</b>  |
|-------------|-------------------------|-----------------------|--|
| 10/30/2014  | 4.1                     | Minor                 | Clarified the meaning of the technical content.                              |
| 3/16/2015   | 5.0                     | Major                 | Significantly changed the technical content.                                 |
| 9/4/2015    | 6.0                     | Major                 | Significantly changed the technical content.                                 |
| 7/15/2016   | 6.0                     | None                  | No changes to the meaning, language, or formatting of the technical content. |
| 9/14/2016   | 6.0                     | None                  | No changes to the meaning, language, or formatting of the technical content. |

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# 1 Introduction

This document specifies the Word Binary File Format (.doc) Structure, which defines the Word Binary File Format (.doc). The Word Binary File Format is a collection of records and structures that specify text, tables, fields, pictures, embedded XML markup, and other document content. The content can be printed on pages of multiple sizes or displayed on a variety of devices.

The Word Binary File Format begins with a master record named the File Information Block, which references all other data in the file. By following links from the File Information Block, an application can locate all text and other objects in the file and compute the properties of those objects.

Sections 1.7 and 2 of this specification are normative. All other sections and examples in this specification are informative.

## 1.1 Glossary

This document uses the following terms:

**accelerator key:** Any combination of keys that are pressed simultaneously to run a command.

**allocated command:** A built-in command that requires the user to specify a value for a parameter when customizing the command.

**anchor:** A set of qualifiers and quantifiers that specifies the location of an element or object within a document. These values are typically relative to another element or known location in the document, such as the edge of a page or margin.

**annotation bookmark:** An entity in a document that is used to denote the range of content to which a comment applies.

**ASCII:** The American Standard Code for Information Interchange (ASCII) is an 8-bit character-encoding scheme based on the English alphabet. ASCII codes represent text in computers, communications equipment, and other devices that work with text. ASCII refers to a single 8-bit ASCII character or an array of 8-bit ASCII characters with the high bit of each character set to zero.

**Augmented Backus-Naur Form (ABNF):** A modified version of Backus-Naur Form (BNF), commonly used by Internet specifications. ABNF notation balances compactness and simplicity with reasonable representational power. ABNF differs from standard BNF in its definitions and uses of naming rules, repetition, alternatives, order-independence, and value ranges. For more information, see [\[RFC5234\]](#).

**auto spacing:** A condition in which space is inserted automatically before and after a series of consecutive paragraphs that do not have breaks or other items between them.

**AutoCaption:** A feature that adds a **caption** to an object automatically when the object is inserted in a document.

**AutoCorrect:** A feature that corrects errors and makes other substitutions in a document automatically by using default and user-defined settings.

**auto-hyphenated:** A condition of content where the distance between the text is measured and maintained to force breaks automatically in elongated words that would not otherwise end correctly on a line.

**automark file:** A file that stores the text, location, and index level of a set of characters that were marked for inclusion in a document index.

**AutoSummary:** A process in which key points are identified in selected text by analyzing document content. A score is assigned to each sentence; sentences that contain frequently used words are given a higher score.

**AutoText:** A storage location for text and graphics, such as a standard contract clause, that can be used multiple times in one or more documents. Each selection of text or graphics is recorded as an AutoText entry and assigned a unique name.

**bar tab:** A tab that specifies where to draw a vertical line or bar in a paragraph. It neither affects the position of characters nor creates a custom tab stop in a paragraph.

**bidirectional compatibility:** The ability to display and process text in two directions, right-to-left and left-to-right.

**big-endian:** Multiple-byte values that are byte-ordered with the most significant byte stored in the memory location with the lowest address.

**bookmark:** An entity that is used in a document to denote the beginning and ending character positions of specific text in the document, and optionally, metadata about that text or its relationship to other referenced parts of the document.

**caption:** One or more characters that can be used as a label for display purposes or as an identifier.

**cascading style sheet (CSS):** An extension to HTML that enables authors and users of HTML documents to attach style sheets to those documents, as described in [\[CSS-LEVEL1\]](#) and [\[CSS-LEVEL2\]](#). A style sheet includes typographical information about the appearance of a page, including the font for text on the page.

**cell:** A box that is formed by the intersection of a row (2) and a column (2) in a worksheet or a table. A cell can contain numbers, strings, and formulas, and various formats can be applied to that data.

**cell margin:** A measurement of the distance between the border of a cell and the nearest pixel in a character or digit of data in the cell. There are top, bottom, right, and left margins. See also [cell spacing](#).

**cell spacing:** A measurement of the distance between the cells of a table or worksheet. Most tables and worksheets are implemented with contiguous cells, in which case the cell spacing value is 0 (zero). See also [cell margin](#).

**CGAPI:** An API that is implemented by [grammar checkers](#) that have been licensed to Microsoft Corporation by external vendors.

**chapter numbering:** A page numbering format in which pages are numbered relative to the beginning of a chapter within a document instead of the beginning of the document. The chapter number is typically included in a page number; for example "3 – 2," where "3" is the chapter number and "2" is the number of that page within that chapter.

**character pitch:** A quality that measures the number of characters that can be printed in a horizontal inch. Pitch is typically used to measure monospace fonts.

**character set:** A mapping between the characters of a written language and the values that are used to represent those characters to a computer.

**character unit:** A horizontal unit of measurement that is relative to the document grid and is used to position content in a document.

**class identifier (CLSID):** A GUID that identifies a software component; for instance, a DCOM object class (4) or a COM class.

**code page:** An ordered set of characters of a specific script in which a numerical index (code-point value) is associated with each character. Code pages are a means of providing support for **character sets** and keyboard layouts used in different countries. Devices such as the display and keyboard can be configured to use a specific code page and to switch from one code page (such as the United States) to another (such as Portugal) at the user's request.

**Component Object Model (COM):** An object-oriented programming model that defines how objects interact within a single process or between processes. In **COM**, clients have access to an object through interfaces implemented on the object. For more information, see [\[MS-DCOM\]](#).

**connection string:** A series of arguments, delimited by a semicolon, that defines the location of a database and how to connect to it.

**custom toolbar:** A type of toolbar that contains a user-defined set of controls and is not included in an application by default. A custom toolbar has a toolbar identifier value of "1".

**custom toolbar control:** A user-defined control that can be added to a toolbar. A custom toolbar control has a **toolbar control identifier (TCID)** value of "1" and can be one of the following types of controls: ActiveX, Button, ComboBox, DropDown, Edit, or Popup.

**deletion point:** A position between two existing characters, or a position before or after a character, where text was removed. If a caret is positioned at a deletion point, the point can retain unique formatting and that formatting can be reapplied to any text that is inserted at the deletion point.

**digital signature:** A value that is generated by using a digital signature algorithm, taking as input a private key and an arbitrary-length string, such that a specific verification algorithm is satisfied by the value, the input string, and the public key corresponding to the input private key.

**document:** An object in a content database such as a file, folder, list (1), or site (2). Each object is identified by a **URI**.

**document grid:** A feature that enables the precise layout of full-width East Asian language characters by specifying the number of characters per line and the number of lines per page.

**document template:** A file that serves as the basis for new documents.

**East Asian character:** A character that is part of the Simplified Chinese, Traditional Chinese, Japanese, or Korean **character set**.

**East Asian language:** A spoken or written communication that consists of words that are used within the grammatical and syntactic structure of Simplified Chinese, Traditional Chinese, Japanese, or Korean.

**East Asian line breaking rules:** A set of algorithms that define how text is parsed and displayed to ensure that line breaks and word wraps follow the rules of various East Asian languages, including Simplified Chinese, Traditional Chinese, Japanese, and Korean.

**end of cell mark:** A character with a hexadecimal value of "0x07" that is used to indicate the end of a cell in a table.

**end of row mark:** The combination of a character, hexadecimal value of "0x07", and a paragraph property, sprmPFTtp, that is used to indicate the end of a row in a table.

**endnote:** A note that appears at the end of a section or document and that is referenced by text in the main body of the document. An endnote consists of two linked parts, a reference mark within the main body of text and the corresponding text of the note.

**endnote continuation notice:** A set of characters indicating that an endnote continues to the next page. The default notice is blank.

**endnote continuation separator:** A set of characters that indicates the end of document text on a page and the beginning of endnotes that continue from the preceding page.

**endnote separator:** A set of characters that separates document text from endnotes about that text. The default separator is a horizontal line.

**field:** An element or attribute (1) in a data source that can contain data.

**field type:** A name that identifies the action or effect that a field has within a document. Examples of field types are Author, Page, Comments, and Date.

**file allocation table (FAT):** A data structure that the operating system creates when a volume is formatted by using **FAT** or FAT32 file systems. The operating system stores information about each file in the **FAT** so that it can retrieve the file later.

**footer:** One or more lines of text in the bottom margin area of a page in a document or a slide in a presentation. A footer typically contains elements such as the page number and the name of the file.

**footnote:** A note that appears at the end of a page, section, chapter, or publication. It explains, comments on, or provides references for text in the main body of a document. A footnote consists of two linked parts, a reference mark within the main body of the document and the corresponding text of the note.

**footnote continuation notice:** A set of characters indicating that a footnote continues to the next page. The default notice is blank.

**footnote continuation separator:** A set of characters that indicates the end of document text on a page and the beginning of footnotes that continue from the preceding page.

**footnote separator:** A set of characters that separates document text from footnotes about that text. The default separator is a horizontal line.

**form field:** A data-entry area on a webpage, document, or form.

**format consistency checker:** An application that applies a wavy blue underline to text where the formatting is similar, but not identical, to comparable text in a document.

**format consistency-checker bookmark:** An entity in a document that is used to denote text where the formatting is similar, but not identical, to comparable text in the document, and the user indicated that the formatting inconsistency is not to be flagged.

**frame:** A space, displayed onscreen as a box, that contains a specific element of a publication.

**full save:** A process in which an existing file is overwritten with all of the additions, changes, and other content in a document.

**full screen view:** A document view that expands the display of a document to fill the computer screen. The view hides menus, toolbars, and taskbars.

**grammar checker:** An application that uses default or user-defined settings to search for grammatical errors in a document.

**grammar checker cookie:** An entity in a document that a grammar checker uses to denote a possible grammatical error in the document and data about that error.

**gutter:** An area above a column heading and to the left of a row heading. A gutter typically displays outline symbols that are used to expand and collapse groups of cells.

**gutter margin:** A margin setting that adds extra space to the side or top margin of a document that will be printed and bound. A gutter margin ensures that text is not obscured by the binding.

**Hangul-Hanja converter (HHC):** A collection of dictionaries that readers can use to search for and select a Hanja word that corresponds to a specified Hangul word, or a Hangul word that corresponds to a specified Hanja word.

**header:** A line, or lines, of content in the top margin area of a page in a document or a slide in a presentation. A header typically contains elements such as the title of the chapter, the title of the document, a page number, or the name of the author.

**heading style:** A type of paragraph style that also specifies a heading level. There are as many as nine built-in heading styles, Heading 1 through Heading 9.

**horizontal band:** A set of rows in a table that are treated as a single unit, typically to ensure the consistency of the layout and the format.

**HTML image map:** An image that contains more than one hyperlink on a webpage. Clicking various parts of the image links the user to other resources on another part of the page, a different page, or a file.

**hybrid list:** A nine-level list that is exposed in the user interface as a collection of nine, one-level lists, instead of a single nine-level list.

**Hyperlink view:** A document view that displays a document as it would appear as a webpage.

**incremental save:** A process in which an existing file is modified to reflect only additions or changes to a document, while maintaining all other existing content in the file.

**Input Method Editor (IME):** An application that is used to enter characters in written Asian languages by using a standard 101-key keyboard. An IME consists of both an engine that converts keystrokes into phonetic and ideographic characters and a dictionary of commonly used ideographic words.

**insertion point:** A position between two existing characters, or a position before or after a character, where text can be inserted. If a caret is positioned at an insertion point, the point can have unique formatting, which is applied to any text that is inserted at the insertion point.

**kinsoku:** A rule set in the Japanese language that is used to determine characters that are not permitted at the beginning or end of a line.

**Kumimoji:** A text layout setting that displays annotative characters inline next to the text to which they apply. It is typically used with East Asian text to indicate pronunciation.

**labels document:** A document that stores label design and printing information in conjunction with a mail merge document.

**language auto-detection:** A process that automatically determines the language code identifier (LCID) for text in a document.

**left-to-right:** A reading order in which characters in words are read from left to right, and words are read from left to right in sentences.

**line numbers:** A formatting property in which each line of text is prefixed with a sequential number as part of a larger collection of lines on a page.

**line unit:** A vertical unit of measurement that is relative to the document grid and is used to position content in a document.

**list level:** A condition of a paragraph that specifies which numbering system and indentation to use, relative to other paragraphs in a bulleted or numbered list.

**list tab:** A tab stop that is between a list number or bullet and the text of that list item.

**little-endian:** Multiple-byte values that are byte-ordered with the least significant byte stored in the memory location with the lowest address.

**logical left:** A position that is relative to the language orientation of a document. Logical left means left, except in a right-to-left language where it means right. Also referred to as leading edge.

**logical right:** A position that is relative to the language orientation of a document. Logical right means right, except in a right-to-left language where it means left. Also referred to as trailing edge.

**macro:** A set of instructions that are recorded or written, and then typically saved to a file. When a macro is run, all of the instructions are performed automatically.

**mail merge:** The process of merging information into a document from a data source (1), such as an address book or database, to create customized documents, such as form letters or mailing labels.

**mail merge data source:** A file or address book that contains the information to be merged into a document during a mail merge operation.

**mail merge header document:** A file that contains the names of the **fields** in a mail merge data source.

**mail merge main document:** A document that contains the text and graphics that are the same for each version of the merged document, such as the return address or salutation in a form letter.

**manifest:** A file that stores metadata about an expansion pack, such as the name of the expansion pack, the files and resources that are included in the expansion pack, and the dependencies that it has on other files and components.

**master document:** A document that refers to or contains one or more other documents, which are referred to as subdocuments. A master document can be used to configure and manage a multipart document, such as a book with multiple chapters.

**menu toolbar:** A type of toolbar that is displayed in an application window, typically at the top, and provides a set of menu controls from which the user can select. Activating a control on the toolbar displays a list of commands in that menu, and the menu remains open until the user closes it or chooses a menu command.

**message identifier:** A string that uniquely identifies an email message.

**NLCheck:** An API that is implemented by **grammar checkers** that were developed by Microsoft Corporation.

**Normal template:** The default global template that is used for any type of document. Users can modify this template to change default document formatting, or content for any new document.

**Normal view:** A document view that displays text formatting and a simplified page layout of a document. The Normal view hides some layout elements such as the header and footer. Referred to as Draft view in Microsoft Office Word 2007 and Microsoft Word 2010.

**NT file system (NTFS):** A proprietary Microsoft file system. For more information, see [\[MSFT-NTFS\]](#).

**number text:** A string that is calculated automatically and represents the numbering scheme and position of a paragraph in a bulleted or numbered list.

**Object Linking and Embedding (OLE):** A technology for transferring and sharing information between applications by inserting a file or part of a file into a compound document. The inserted file can be either embedded or linked. See also embedded object and linked object.

**OLE compound file:** A form of structured storage, as described in [\[MS-CFB\]](#). A compound file allows independent storages and streams to exist within a single file.

**OLE control:** A reusable software component that is designed to work in containers that support **Object Linking and Embedding (OLE) 2.0**.

**OLE object:** An object that supports the **Object Linking and Embedding (OLE)** protocol.

**outline level:** A type of paragraph formatting that can be used to assign a hierarchical level, Level 1 through Level 9, to paragraphs in a document. After outline levels are assigned, an outline of a document can be viewed by using Outline view, the document map, or the navigation pane.

**page border:** A line that can be applied to the outer edge of a page in a document. A page border can be formatted for style, color, and thickness.

**paragraph mark:** An entity in a document that is used to denote the end of a paragraph and has a Unicode character code of 13.

**paragraph style:** A combination of character- and paragraph-formatting characteristics that are named and stored as a set. Users can select a paragraph and use a paragraph style to apply all of the formatting characteristics to the paragraph simultaneously.

**personal style:** A list of formatting settings that is applied to a document or an Internet message when it is opened or created by a specific user on a specific computer. The settings are associated with a user and a computer.

**physical left:** A leftward position that is not relative to the language orientation of document content. See also **logical left**.

**physical right:** A rightward position that is not relative to the language orientation of document content. See also **logical right**.

**point:** A unit of measurement for fonts and spacing. A point is equal to 1/72 of an inch.

**policy labels:** A set of fields that stores metadata about a document and is defined by an information management policy.

**primary shortcut key:** The default combination of keys that are pressed simultaneously to execute a command. See also **secondary shortcut key**.

**Print Preview view:** A document view that displays a document as it will appear on a printed page.

**ProgID:** An identifier that is used by the Windows registry to uniquely identify an object and is in the form OLEServerName.ObjectName, for example, "Excel.Sheet" or "PowerPoint.Slide."

**property revision mark:** A type of revision mark indicating that one or more formatting properties, such as bold, indentation, or spacing, changed.

**range-level protection:** A mechanism that permits users to change only specific parts of a protected document while restricting access to all other parts of the document. See also **range-level protection bookmark**.

**range-level protection bookmark:** An entity in a document that is used to denote a range of content that is an exception to a document-level protection setting.



**Reading Layout view:** A document view that displays a document as it will appear on a printed page and is optimized for reading a document on a computer screen. Two pages are displayed simultaneously, side-by-side.

**repair bookmark:** An entity in a document that is used to denote text that was changed automatically during a document repair operation.

**rich text:** Text that is formatted in the Rich Text Format, as described in [\[MSFT-RTF\]](#).

**right-to-left:** A reading and display order that is optimized for right-to-left languages.

**Ruby:** A text layout setting that displays annotative characters above or to the right of the text to which it applies. It is typically used in East Asian documents to indicate pronunciation or to provide a brief annotation.

**ScreenTip:** A small pop-up window that provides brief context-sensitive help when users point to an item.

**secondary shortcut key:** A user-defined combination of keys that are pressed simultaneously to execute a command. See also **primary shortcut key**.

**section:** A portion of a document that is terminated by a section break or the end of the document. A section can store unique, page-level formatting, such as page size and orientation, and other formatting features such as headers and footers.

**section break:** A special character that terminates a section and acts as a repository for the properties of the specified section.

**shading pattern:** A background color pattern against which characters and graphics are displayed, typically in tables. The color can be no color or it can be a specific color with a transparency or pattern value.

**smart tag:** A feature that adds the ability to recognize and label specific data types, such as people's names, within a document and displays an action button that enables users to perform common tasks for that data type.

**smart tag bookmark:** An entity in a document that is used to denote the location and presence of a smart tag.

**smart tag recognizer:** An add-in that can interpret a specific type of smart tag, such as an address or a financial symbol, in a document and display an action button that enables users to perform common tasks for that data type.

**South Asian language:** A spoken or written communication consisting of words that are used within the grammatical and syntactic structure of a language of southern Asia, such as Hindi, Urdu, or Tamil.

**structured document tag:** An entity in a document that is used to denote content that is stored as XML data.

**structured document tag bookmark:** An entity in a document that is used to denote the location and presence of a **structured document tag**.

**style:** A set of formatting options that is applied to text, tables, charts, and other objects in a document.

**subdocument:** A document that can be referred to or inserted into another document. Subdocuments can be referenced by master documents and other subdocuments.

**table depth:** An indicator that specifies how tables are nested and how to display paragraphs within those tables. The depth is derived from values that are applied to paragraph marks, cell

marks, or table-terminating paragraph marks. A paragraph that is not in a table has a table depth of "0" (zero); a nested table has a table depth of one greater than the cell that contains it.

**table style:** A set of formatting options, such as font, border formatting, and row banding, that are applied to a table. The regions of a table, such as the header row, header column, and data area, can be variously formatted.

**Tatenakayoko:** A text layout setting that displays a range of text perpendicular (horizontal) to the flow of other text (vertical).

**toolbar:** A row, column, or block of controls that represent tasks or commands within an application. A toolbar can be either a menu toolbar, which provides access to menu commands, or a basic toolbar, which contains buttons that provide shortcuts to tasks that are frequently accessed from menus.

**toolbar control:** An object that appears on a toolbar and enables user interaction or input, typically to initiate an action, display information, or set values.

**toolbar control identifier (TCID):** An integer that identifies a specific control on a toolbar.

**toolbar delta:** A file component that stores a modification that a user made to a built-in toolbar. Stored modifications include adding, changing, or removing a control from a built-in toolbar.

**TrueType font:** A type of computer font that can be scaled to any size. TrueType fonts are clear and readable in all sizes and can be sent to any printer or other output device.

**twip:** A unit of measurement that is used in typesetting and desktop publishing. It equals one-twentieth of a printer's point, or 1/1440 of an inch.

**Unicode:** A character encoding standard developed by the Unicode Consortium that represents almost all of the written languages of the world. The **Unicode** standard [\[UNICODE5.0.0/2007\]](#) provides three forms (UTF-8, UTF-16, and UTF-32) and seven schemes (UTF-8, UTF-16, UTF-16 BE, UTF-16 LE, UTF-32, UTF-32 LE, and UTF-32 BE).

**Uniform Resource Identifier (URI):** A string that identifies a resource. The URI is an addressing mechanism defined in Internet Engineering Task Force (IETF) Uniform Resource Identifier (URI): Generic Syntax [\[RFC3986\]](#).

**Universal Input Method (UIM):** An application or service that provides multilingual support and delivers text services such as keyboard processors, handwriting recognition, and speech recognition

**Vector Markup Language (VML):** A system of marking up or tagging two-dimensional vector graphics for publication on the World Wide Web. VML graphics are scalable and editable, and typically require less disk space and less time to download.

**vertical band:** A set of columns in a table that are treated as a single unit, typically for the purpose of layout and formatting consistency.

**virtual key code:** A symbolic constant name, hexadecimal value, or mouse or keyboard equivalent that provides a hardware- and language-independent method of identifying keyboard keys. Each virtual key code represents a unique keyboard key and also identifies the purpose of that key. The keyboard driver provides one or more keyboard layouts that maps keyboard scan codes to the appropriate virtual key codes.

**Visual Basic for Applications (VBA):** A macro-based programming language that derives from Microsoft Visual Basic and can be used to customize and extend an application. Unlike Visual Basic, Microsoft Visual Basic for Applications (VBA) code and macros can be run only from within a host application that supports VBA.

**Warichu:** A text layout setting that creates two sublines within a line and stacks text equally between those sublines. One subline contains the text proper and the other subline contains comments, notes, and annotations about that text.

**Web Layout view:** A view of a document as it might appear in a web browser. For example, the document appears as only one page, without page breaks.

**word wrap:** The process of breaking lines of text automatically to stay within the page margins of a document or window boundaries.

**Word97 compatibility mode:** An application mode that prevents users from applying formatting and other document features and settings that are not supported in Microsoft Word 97 or earlier versions of Word.

**write-reservation password:** A sequence of characters that need to be entered to modify a document.

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as defined in [\[RFC2119\]](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## 1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](#).

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information.

[ECMA-376] ECMA International, "Office Open XML File Formats", 1st Edition, ECMA-376, December 2006, <http://www.ecma-international.org/publications/standards/Ecma-376.htm>

[Embed-Open-Type-Format] Nelson, P., "Embedded OpenType (EOT) File Format", W3C Member Submission, March 2008, <http://www.w3.org/Submission/2008/SUBM-EOT-20080305/>

[MC-CPB] Microsoft Corporation, "Code Page Bitfields", <http://msdn.microsoft.com/en-us/library/dd317754.aspx>

[MC-FONTSIGNATURE] Microsoft Corporation, "FONTSIGNATURE", <http://msdn.microsoft.com/en-us/library/dd318064.aspx>

[MC-USB] Microsoft Corporation, "Unicode Subset Bitfields", <http://msdn.microsoft.com/en-us/library/ms776439.aspx>

[MS-CFB] Microsoft Corporation, "[Compound File Binary File Format](#)".

[MS-CTDOC] Microsoft Corporation, "[Word Custom Toolbar Binary File Format](#)".

[MS-DOCX] Microsoft Corporation, "[Word Extensions to the Office Open XML \(.docx\) File Format](#)".

[MS-DTYP] Microsoft Corporation, "[Windows Data Types](#)".

[MS-EMF] Microsoft Corporation, "[Enhanced Metafile Format](#)".

[MS-LCID] Microsoft Corporation, "[Windows Language Code Identifier \(LCID\) Reference](#)".

- [MS-ODRAW] Microsoft Corporation, "[Office Drawing Binary File Format](#)".
- [MS-OE376] Microsoft Corporation, "[Office Implementation Information for ECMA-376 Standards Support](#)".
- [MS-OFFCRYPTO] Microsoft Corporation, "[Office Document Cryptography Structure](#)".
- [MS-OLEPS] Microsoft Corporation, "[Object Linking and Embedding \(OLE\) Property Set Data Structures](#)".
- [MS-OSHARED] Microsoft Corporation, "[Office Common Data Types and Objects Structures](#)".
- [MS-OVBA] Microsoft Corporation, "[Office VBA File Format Structure](#)".
- [MS-WMF] Microsoft Corporation, "[Windows Metafile Format](#)".
- [PANOSE] Hewlett-Packard Corporation, "PANOSE Classification Metrics Guide", February 1997, <http://www.panose.com>
- [RFC1950] Deutsch, P., and Gailly, J-L., "ZLIB Compressed Data Format Specification version 3.3", RFC 1950, May 1996, <http://www.ietf.org/rfc/rfc1950.txt>
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.rfc-editor.org/rfc/rfc2119.txt>
- [RFC2822] Resnick, P., Ed., "Internet Message Format", RFC 2822, April 2001, <http://www.ietf.org/rfc/rfc2822.txt>
- [RFC4234] Crocker, D., Ed., and Overell, P., "Augmented BNF for Syntax Specifications: ABNF", RFC 4234, October 2005, <http://www.rfc-editor.org/rfc/rfc4234.txt>

## 1.2.2 Informative References

- [MS-OLEDS] Microsoft Corporation, "[Object Linking and Embedding \(OLE\) Data Structures](#)".
- [MSDN-FONTS] Microsoft Corporation, "About Fonts", [http://msdn.microsoft.com/en-us/library/dd162470\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/dd162470(VS.85).aspx)

## 1.3 Overview

### 1.3.1 Characters

The fundamental unit of a Word binary file is a character. This includes visual characters such as letters, numbers, and punctuation. It also includes formatting characters such as **paragraph marks**, **end of cell marks**, line breaks, or **section breaks**. Finally, it includes **anchor** characters such as footnote reference characters, picture anchors, and comment anchors.

Characters are indexed by their zero-based **Character Position**, or **CP** (section [2.2.1](#)). This documentation is generally concerned with **CPs** (section 2.2.1), not with the underlying text. Section [2.4.1](#) specifies an algorithm for determining the text at a particular **CP** (section 2.2.1), but this is just one of many pieces of information an application might look for. The reader needs to understand that this documentation is much more about logical characters in a document than about physical bytes in a file.

### 1.3.2 PLCs

Many features of the Word Binary File Format pertain to a range of **CPs** (section [2.2.1](#)). For example, a **bookmark** is a range of **CPs** (section 2.2.1) that is named by the document author. As another example, a field is made up of three control characters with ranges of arbitrary document content between them.

The Word Binary File Format uses a **PLC** structure (section [2.2.2](#)) to specify these and other kinds of ranges of **CPs** (section 2.2.1). A **PLC** (section 2.2.2) is simply a mapping from **CPs** (section 2.2.1) to other, arbitrary data.

### 1.3.3 Formatting

The formatting of characters, paragraphs, sections, tables, and pictures is specified as a set of differences in formatting from the default formatting for these objects. Modifications to individual properties are expressed using a **Prl**. A **Prl** is a Single Property Modifier, or **Sprm**, and an operand that specifies the new value for the property. Each property has (at least) one unique **Sprm** that modifies it. For example, [sprmCFBold](#) modifies the bold formatting of text, and [sprmPDxaLeft](#) modifies the **logical left** indent of a paragraph.

The final set of properties for text, paragraphs, and tables comes from a hierarchy of styles and from **Prl** elements applied directly (for example, by the user selecting some text and clicking the Bold button in the user interface). Styles allow complex sets of properties to be specified in a compact way. They also allow the user to change the appearance of a document without visiting every place in the document where a change is necessary. The style sheet for a document is specified by a [STSH](#), as defined in section 2.9.271.

See section 2.4.6.6 for the algorithm that determines the complete set of formatting for a character, paragraph, table, or picture.

See section 2.8.26 for the structure used to determine the boundaries of sections and the location of their properties.

See section 2.6 for the complete list of **Sprms**.

### 1.3.4 Tables

A table consists of a set of paragraphs that has a particular set of properties applied. There are special characters that denote the ends of table **cells** and the ends of table rows, but there are no characters to denote the beginning of a table cell or the end of the table as a whole. Tables can be nested inside other tables.

Section 2.4.3 provides an overview of tables, and Sections 2.4.4 and 2.4.5 specify algorithms for determining the boundaries of a table cell and table row, respectively.

### 1.3.5 Pictures

Pictures in the Word Binary File format can be either inline or floating. An inline picture is represented by a character whose **Unicode** value is 0x0001 and has [sprmCFSpec](#) applied with a value of 1 and [sprmCPicLocation](#) applied to specify the location of the picture data. A floating picture is represented by an anchor character with a Unicode value of 0x0008 with [sprmCFSpec](#) applied with a value of 1. In addition, floating pictures are referenced by a [PlcfSpa](#) structure which contains additional data about the picture. A floating picture can appear anywhere on the same page as its anchor. The document author can choose to have the floating picture rearrange the text in various ways or to leave the text as is.

### 1.3.6 The FIB

The [main stream](#) of the Word Binary File Format begins with a File Information Block, or [FIB](#). The FIB specifies the locations of all other data in the file. The locations are specified by a pair of integers, the first of which specifies the location and the second of which specifies the size. These integers appear in substructures of the FIB such as the [FibRgFclCb97](#). The location names are prefixed with **fc**; the size names are prefixed with **lcb**.

### 1.3.7 Byte Ordering

Some computer architectures number bytes in a binary word from left to right, which is referred to as **big-endian**. The bit diagram for this documentation is big-endian. Other architectures number the bytes in a binary word from right to left, which is referred to as **little-endian**. The underlying file format enumerations, objects, and records are little-endian.

Using big-endian and little-endian methods, the number 0x12345678 would be stored as shown in the following table.

| Byte order    | Byte 0 | Byte 1 | Byte 2 | Byte 3 |
|---------------|--------|--------|--------|--------|
| Big-endian    | 0x12   | 0x34   | 0x56   | 0x78   |
| Little-endian | 0x78   | 0x56   | 0x34   | 0x12   |

Unless otherwise specified, all data in the Word Binary File Format is stored in little-endian format.

### 1.3.8 General Organization of This Documentation

Section 2 of this documentation is arranged with high-level overviews followed by detailed specifications.

Sections 2.1 through 2.4 provide general specifications of structures and concepts that recur in this documentation. Read these sections from beginning to end before delving deeper into section 2. The most important part of this documentation is section 2.4, which specifies algorithms for retrieving document content and determining its properties.

Section 2.5 provides a complete specification of the [FIB](#), including links to all referenced data structures.

Section 2.6 provides a complete list of [Sprm](#) elements and their operands; it can be considered a complete list of the character, paragraph, table, and section properties supported by the Word Binary File Format. Note that most picture properties are not represented by Sprm elements. [\[MS-ODRAW\]](#) specifies most picture properties. Each Sprm definition specifies the default value for the property that it modifies.

Section 2.7 provides a specification of document-level properties

Section 2.8 provides a complete specification of all [PLC](#) types. Finally, section 2.9 provides specifications for data types referenced by previous sections. Sections 2.8 and 2.9 are intended to be read as the destination of links from other sections; they are not intended to be read straight through.

Section 3 provides examples that relate to the algorithms in section 2.4 and examples of bookmarks (1) and sections. These examples are intended to illustrate the concept of property storage, PLCs, and numbering, and to demonstrate the mapping between **CP** (section [2.2.1](#)) and underlying text (as specified in section 2.4.1).

Section 4 discusses encryption, obfuscation, and other security issues relating to the Word Binary File Format.

Section 5 is a list of version-specific behaviors. It is intended to be read in the context of specifications in section 2, not as a stand-alone section. Specifications in section 2 provide links to the relevant items in section 5.

## 1.4 Relationship to Protocols and Other Structures

The Word Binary File Format is an **OLE compound file** as specified in [\[MS-CFB\]](#). It is dependent on the structures defined in the following references:

- [\[MS-ODRAW\]](#) for the persistence format for shapes.
- [\[MS-OVBA\]](#) for the persistence format for macros.
- [\[MS-OFFCRYPTO\]](#) for the persistence format for document signing, information rights management, document encryption, and obfuscation.
- [\[MS-OSHARED\]](#) for the persistence format for additional common structures.

The Word Binary File Format is superseded by [\[ECMA-376\]](#).

## 1.5 Applicability Statement

This document specifies a persistence format for word processing document content and templates, which can include text, images, tables, custom XML schemas applied to the content, and page layout information. This persistence format is applicable when the document content is intended to flow across a set of pages as necessary for a particular media, and when the document can be printed. This persistence format is not applicable when exact reproduction of a specific representation of the content across various media and devices is desired.

This persistence format is applicable for use as a stand-alone document, and for containment within other documents as an embedded object as specified by [\[MS-OLEDS\]](#).

This persistence format provides interoperability with applications that create or read documents conforming to this structure [<1>](#).

## 1.6 Versioning and Localization

This document covers versioning issues in the following areas:

**Structure Versions:** There is only one version of the Word Binary File Format structure.

**Localization:** This structure defines no general locale-specific processes or data. Locale-specific variations for specific field values within the structure are specified in the definition of the affected field in Section 2.

## 1.7 Vendor-Extensible Fields

This persistence format can be extended by storing information in streams and storages that are not specified in section 2. Implementations are not required to preserve or remove additional streams or storages when modifying an existing document.

## 2 Structures

### 2.1 File Structure

A Word Binary File is an OLE compound file as specified by [\[MS-CFB\]](#). The file consists of the following storages and streams.

#### 2.1.1 WordDocument Stream

The WordDocument stream **MUST** be present in the file and **MUST** have an [FIB](#) at offset 0. It also contains the document text and other information referenced from other parts of the file. The stream has no predefined structure other than the **FIB** at the beginning.

In the context of Word Binary Files, the delay stream that is referenced in [\[MS-ODRAW\]](#) is the WordDocument stream.

The WordDocument stream **MUST NOT** be larger than 0x7FFFFFFF bytes.

#### 2.1.2 1Table Stream or 0Table Stream

Either the 1Table stream or the 0Table stream **MUST** be present in the file. If the [FIB](#) at offset 0 in the [WordDocument stream](#) has **base.fWhichTblStm** set to 1, this stream is called 1Table. Otherwise, it is called 0Table.

If the document is encrypted as specified in section 2.2.6, this stream **MUST** have an **EncryptionHeader** at offset 0, as specified in section 2.2.6. If the document is not encrypted, this stream has no predefined structure. Other than the possible **EncryptionHeader**, this stream contains the data that is referenced from the **FIB** or from other parts of the file.

This documentation refers to this stream as the *Table Stream*.

If a file contains both a 1Table and a 0Table stream, only the stream that is referenced by **base.fWhichTblStm** is used. The unreferenced stream **MUST** be ignored.

The Table Stream **MUST NOT** be larger than 0x7FFFFFFF bytes.

#### 2.1.3 Data Stream

The Data stream has no predefined structure. It contains data that is referenced from the [FIB](#) or from other parts of the file. This stream need not be present if there are no references to it.

The Data stream **MUST NOT** be larger than 0x7FFFFFFF bytes.

#### 2.1.4 ObjectPool Storage

The Object Pool storage contains storages for embedded **OLE objects**. This storage need not be present if there are no embedded OLE objects in the document.

##### 2.1.4.1 ObjInfo Stream

Each storage within the [ObjectPool storage](#) contains a stream whose name is "\003ObjInfo" where \003 is the character with value 0x0003, not the string literal "\003". This stream contains an [ODT](#) structure which specifies information about that embedded OLE object.



#### 2.1.4.2 Print Stream

Each storage within the ObjectPool storage optionally contains a stream whose name is "\003PRINT" where \003 is the character with value 0x0003, not the string literal "\003". This stream contains an MFPF followed immediately by a Metafile as specified in [\[MS-WMF\]](#). If no PRINT or [EPRINT stream](#) is present, then the object does not have a print presentation distinct from its screen presentation.

#### 2.1.4.3 EPrint Stream

Each storage within the ObjectPool storage optionally contains a stream whose name is "\003EPRINT" where \003 is the character with value 0x0003, not the string literal "\003".[.<2>](#) This stream contains an Enhanced Metafile, as specified in [\[MS-EMF\]](#), to be used when printing the object. If no EPRINT or [PRINT stream](#) is present, then the object does not have a print presentation distinct from its screen presentation.

#### 2.1.5 Custom XML Data Storage

The Custom XML Data storage is an optional storage whose name MUST be "MsoDataStore".

The contents of the storage are specified in [\[MS-OSHARED\]](#) section 2.3.6.

#### 2.1.6 Summary Information Stream

The Summary Information stream is an optional stream whose name MUST be "\005SummaryInformation", where \005 is the character with value 0x0005, and not the string literal "\005".

The contents of this stream are specified in [\[MS-OSHARED\]](#) section 2.3.3.2.1.

#### 2.1.7 Document Summary Information Stream

The Document Summary Information stream is an optional stream whose name MUST be "\005DocumentSummaryInformation", where \005 is the character with value 0x0005, not the string literal "\005".

The contents of this stream are specified in [\[MS-OSHARED\]](#) section 2.3.3.2.2.

#### 2.1.8 Encryption Stream

The Encryption stream is an optional stream whose name MUST be "encryption". The format of this stream is specified in section [2.2.6.3](#). This stream MUST NOT be present unless both of the following conditions are met:

- The document is encrypted with Office Binary Document RC4 CryptoAPI Encryption (section [2.2.6.3](#)).
- The **fDocProps** value is set in the **EncryptionHeader.Flags**.

#### 2.1.9 Macros Storage

The Macros storage is an optional storage that contains the macros for the file. If present, it MUST be a Project Root Storage as defined in [\[MS-OVBA\]](#) section 2.2.1.

### 2.1.10 XML Signatures Storage

The XML signatures storage is an optional storage whose name MUST be "\_xmlsignatures". This storage contains **digital signatures** as specified in [\[MS-OFFCRYPTO\]](#) section 2.5.2.4. This storage MAY<3> be ignored.

### 2.1.11 Signatures Stream

The signatures stream is an optional stream whose name MUST be "\_signatures". This stream contains digital signatures as specified in [\[MS-OFFCRYPTO\]](#) section 2.5.1. This stream MAY<4> be ignored.

### 2.1.12 Information Rights Management Data Space Storage

The Information Rights Management Data Space storage is an optional storage whose name MUST be "\006DataSpaces", where \006 is the character with value 0x0006, and not the string literal "\006". This storage is specified in [\[MS-OFFCRYPTO\]](#) section 2.2.

If this storage is present, the [Protected Content Stream](#) MUST also be present.

If this storage is present, all specified streams and storages other than this storage and the Protected Content Stream SHOULD<5> be read from the Protected Content Stream as specified in [\[MS-OFFCRYPTO\]](#) section 1.3.2 and if any of those streams and storages exist outside of the Protected Content Stream, they SHOULD<6> be ignored.

### 2.1.13 Protected Content Stream

The Protected Content Stream is an optional stream whose name MUST be "\009DRMContent", where \009 is the character with value 0x0009, and not the string literal "\009". This storage is specified in [\[MS-OFFCRYPTO\]](#) section 2.2.10.

If this stream is present, the [Information Rights Management Data Space Storage](#) MUST also be present.

## 2.2 Fundamental Concepts

### 2.2.1 Character Position (CP)

A character position, which is also known as a CP, is an unsigned 32-bit integer that serves as the zero-based index of a character in the document text. There is no requirement that the text at consecutive character positions be at adjacent locations in the file. The size of each character in the file also varies. The location and size of each character in the file can be computed using the algorithm in section [2.4.1](#) (Retrieving Text).

Characters include the text of the document, anchors for objects such as footnotes or textboxes, and control characters such as paragraph marks and table cell marks.

Unless otherwise specified by a particular usage, a CP MUST be greater than or equal to zero and less than 0x7FFFFFFF. The range of valid character positions in a particular document is given by the algorithm in section [2.4.1](#) (Retrieving Text).

### 2.2.2 PLC

The **PLC** structure is an array of [character positions](#) followed by an array of data elements. The data elements for any **PLC** MUST be the same size of zero or more bytes. The number of CPs MUST be one more than the number of data elements. The CPs MUST appear in ascending order. There are different

types of **PLC** structures, as specified in section 2.8. Each type specifies whether duplicate CPs are allowed for that type.

If the total size of a **PLC** (cbPlc) and the size of a single data element (cbData) are known, the number of data elements in that **PLC** ( $n$ ) is given by the following expression:

$$n = \frac{cbPlc - 4}{4 + cbData}$$

The preceding expression MUST yield a whole number for  $n$ .

|                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aCP (variable)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aData (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable length):** An array of CP elements. Each type of **PLC** structure specifies the meaning of the CP elements and the allowed range.

**aData (variable length):** Each type of **PLC** structure specifies the structure and meaning of the data elements, any restrictions on the number of data elements, and any restrictions on the data contained therein. It also specifies the relationship between the data elements and the corresponding CPs.

### 2.2.3 Valid Selection

Many constructs in file types described by this document refer to ranges of **CPs**. When such ranges specify that they are restricted to a valid selection, the following rules apply.

- If the range contains content from more than one table cell at a particular table depth, then it MUST contain only whole table rows at that table depth. For further specification, see Overview of Tables (section 2.4.3).
- If the range contains a field begin character, field separator character, or field end character, then it MUST contain the entire field. For further specification, see **Plcfld** (section 2.8.25).
- Both ends of the range MUST be in the same [document part](#).
- If the range is in the [footnote document](#), then both ends MUST be in the same footnote. For further specification, see **PlcffndTxt** (section 2.8.20).
- If the range is in the [header document](#), then both ends MUST be in the same header or footer. For further specification, see **Plcfhdd** (section 2.8.22).
- If the range is in the [comment document](#), both ends MUST be in the same comment. For further specification, see **PlcfandTxt** (section 2.8.8).
- If the range is in the [endnote document](#), then both ends MUST be in the same end note. For further specification, see **PlcfendTxt** (section 2.8.17).

- If the range is in the [textbox document](#), then both ends MUST be in the same textbox. For further specification, see **PicftxbxTxt** (section 2.8.32).
- If the range is in the [header textbox document](#), then both ends MUST be in the same textbox. For further specification, see **PicfHdrtxbxTxt** (section 2.8.23).

## 2.2.4 STTB

The **STTB** is a string table that is made up of a header that is followed by an array of elements. The **cData** value specifies the number of elements that are contained in the array.

| 0                                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6                                  | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| fExtend (variable)                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cData (variable)                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cbExtra                                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (variable)    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>0</sub> (variable)            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | ExtraData <sub>0</sub> (variable)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cchData <sub>1</sub> (variable)         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Data <sub>1</sub> (variable)       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ExtraData <sub>1</sub> (variable)       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | ...                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cchData <sub>cData-1</sub> (variable)   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Data <sub>cData-1</sub> (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ExtraData <sub>cData-1</sub> (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

The header consists of the following.

**fExtend (variable):** If the first two bytes of the **STTB** are equal to 0xFFFF, this is a 2-byte **fExtend** field that specifies, by its existence, that the **Data** fields in this **STTB** contain extended (2-byte) characters and that the **cchData** fields are 2 bytes in size. If the first two bytes of the **STTB** are not equal to 0xFFFF, this **fExtend** field does not exist, which specifies, by its nonexistence, that the **Data** fields in this **STTB** contain nonextended (1-byte) characters and that the **cchData** fields are 1 byte in size.

**cData (variable):** A 2-byte unsigned integer or a 4-byte signed integer that specifies the count of elements in this **STTB**. If this is a 2-byte unsigned integer, it MUST be less than 0xFFFF. If this is a 4-byte signed integer, it MUST be greater than zero. Unless otherwise specified, this is a 2-byte unsigned integer.

**cbExtra (2 bytes):** An unsigned integer that specifies the size, in bytes, of the **ExtraData** fields in this **STTB**.

The array of elements consists of the following.

**cchData (variable):** An unsigned integer that specifies the count of characters in the **Data** field following this field. If this **STTB** is using extended characters as defined by **fExtend**, the size of **cchData** is 2 bytes. If this **STTB** is not using extended characters, the size of **cchData** is 1 byte.

**Data (variable):** The definition of each **STTB** specifies the meaning of this field. If this **STTB** uses extended characters, the size of this field is 2×**cchData** bytes and it is a Unicode string unless otherwise specified by the **STTB** definition. If this **STTB** does not use extended characters, then

the size of this field is **cchData** bytes and it is an ANSI string, unless otherwise specified by the **STTB** definition.

**ExtraData (variable):** The definition of each **STTB** specifies the structure and meaning of this field. The size of this field is **cbExtra** bytes.

## 2.2.5 Property Storage

Files in Word Binary File Format store the properties of characters, paragraphs, tables, pictures, and sections as lists of differences from the default. A **Prl** specifies each difference. It consists of a Single Property Modifier (**Sprm**) and its operand. An application can determine the final set of properties by applying lists of **Prls** in the order that is specified in section 2.4.6 (Applying Properties).

An application SHOULD [<7>](#) skip any **Prl** that corresponds to a property or feature not present in the application by using **Sprm.spra** to determine the size of the **Prl** to skip.

The definition of each **Sprm** in section [2.6](#) specifies the default value for the corresponding property.

If multiple **Prls** modify the same property, the last one that is applied determines the final value of that property unless otherwise specified in a **Sprm** definition in section 2.6.

Any restrictions on the ordering of **Prls** are included in the specifications of the individual **Sprms** involved in the restriction. See [sprmTDelete](#) as an example.

In cases where multiple **Sprms** modify the same property, but are supported by different application versions, an application generating a file MUST first emit the **Sprm** that has the lower **ispmid**, followed by the **Sprm** that has the higher **ispmid**. For example, [sprmPBrcTop80](#) and [sprmPBrcTop](#) both modify the top border of a paragraph, but [sprmPBrcTop](#) can express more colors. If an application emits only [sprmPBrcTop](#), applications that support only [sprmPBrcTop80](#) do not display a top border.

### 2.2.5.1 Sprm

The **Sprm** structure specifies a modification to a property of a character, paragraph, table, or section.

|        |   |   |   |   |   |   |   |   |   |    |     |    |    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---|---|---|---|---|---|---|---|---|----|-----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11  | 12 | 13 | 14   | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ispmid |   |   |   |   |   |   |   |   |   | A  | sgc |    |    | spra |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ispmid (9 bits):** An unsigned integer that, when combined with **fSpec**, specifies the property being modified. See the tables in the [Single Property Modifiers](#) section (2.6) for the complete list of valid **ispmid**, **fSpec**, **spra** combinations for each **sgc**.

**A - fSpec (1 bit):** When combined with **ispmid**, specifies the property being modified. See the tables in the [Single Property Modifiers](#) section (2.6) for the complete list of valid **ispmid**, **fSpec**, **spra** combinations for each **sgc**.

**sgc (3 bits):** An unsigned integer that specifies the kind of document content to which this **Sprm** applies. The following table specifies the valid values and their meanings.

| Sgc | Meaning  |
|-----|--|
| 1   | <b>Sprm</b> is modifying a paragraph property. |
| 2   | <b>Sprm</b> is modifying a character property. |
| 3   | <b>Sprm</b> is modifying a picture property.   |
| 4   | <b>Sprm</b> is modifying a section property.   |
| 5   | <b>Sprm</b> is modifying a table property.     |

**spra (3 bits):** An unsigned integer that specifies the size of the operand of this **Sprm**. The following table specifies the valid values and their meanings.

| Spra | Meaning   |
|------|---|
| 0    | Operand is a <a href="#">ToggleOperand</a> (which is 1 byte in size).   |
| 1    | Operand is 1 byte.  |
| 2    | Operand is 2 bytes.   |
| 3    | Operand is 4 bytes.   |
| 4    | Operand is 2 bytes.   |
| 5    | Operand is 2 bytes.   |
| 6    | Operand is of variable length. The first byte of the operand indicates the size of the rest of the operand, except in the cases of <a href="#">sprmTDefTable</a> and <a href="#">sprmPChgTabs</a> . |
| 7    | Operand is 3 bytes.   |

### 2.2.5.2 Prl

The **Prl** structure is a **Sprm** that is followed by an operand. The **Sprm** specifies a property to modify, and the operand specifies the new value.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| sprm |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | operand (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**sprm (2 bytes):** A **Sprm** which specifies the property to be modified.

**operand (variable):** A variable-length operand for the **sprm**. The size of the operand is specified by **sprm.spra**. The meaning of the operand depends on the **sprm**, see section 2.6 (Single Property Modifiers).

## 2.2.6 Encryption and Obfuscation (Password to Open)

A file in Word Binary File Format can be password protected by using one of the following mechanisms:

- XOR obfuscation (section [2.2.6.1](#))
- Office binary document RC4 encryption (section [2.2.6.2](#))
- Office binary document RC4 CryptoAPI encryption<8> (section [2.2.6.3](#))

If **FibBase.fEncrypted** and **FibBase.fObfuscation** are both 1, the file is obfuscated by using XOR obfuscation (section 2.2.6.1) as specified in section 2.2.6.1.

If **FibBase.fEncrypted** is 1 and **FibBase.fObfuscation** is 0, the file is encrypted by using either Office Binary Document RC4 Encryption (section 2.2.6.2) or Office Binary Document RC4 CryptoAPI Encryption (section 2.2.6.3), with the **EncryptionHeader** stored in the first **FibBase.IKey** bytes of the [Table stream](#). The **EncryptionHeader.EncryptionVersionInfo** specifies which encryption mechanism was used to encrypt the file.

See [Security Considerations](#) for information about security concerns relating to file obfuscation and encryption for this file format.

### 2.2.6.1 XOR Obfuscation

In a file that is password protected by using XOR obfuscation, **FibBase.fEncrypted** and **FibBase.fObfuscation** MUST both be 1.

The password verifier computed from the password as specified in Binary Document Password Verifier Derivation Method 2 in [\[MS-OFFCRYPTO\]](#) section 2.3.7.4 MUST be stored in **FibBase.IKey**.

The [WordDocument stream](#), the [Table stream](#), and the [Data stream](#) MUST be obfuscated using XOR Data Transformation Method 2 as specified in [\[MS-OFFCRYPTO\]](#) section 2.3.7.6. All other streams and storages MUST NOT be obfuscated.

The byte transformation specified in [\[MS-OFFCRYPTO\]](#) section 2.3.7.6 MUST be carried out in the WordDocument stream relative to the beginning of the stream, but the initial 68 bytes MUST be written out with their untransformed values.

### 2.2.6.2 Office Binary Document RC4 Encryption

In a file that is password protected by using Office binary document RC4 encryption as specified in [\[MS-OFFCRYPTO\]](#) section 2.3.6, **FibBase.fEncrypted** MUST be 1 and **FibBase.fObfuscation** MUST be 0.

The **EncryptionHeader**, as specified in [\[MS-OFFCRYPTO\]](#) section 2.3.6.1, MUST be written in unencrypted form in the first **FibBase.IKey** bytes of the [Table stream](#). The remainder of the Table stream, the [WordDocument stream](#) beyond the initial 68 bytes, and the entire [Data stream](#) MUST be encrypted.

These three streams of data MUST be encrypted in 512-byte blocks. The block number MUST be set to zero at the beginning of the stream and MUST be incremented at each 512-byte boundary. The encryption algorithm MUST be carried out at the beginning of the Table stream and the WordDocument stream even though some of the bytes are written in unencrypted form.

All other streams and storages MUST NOT be encrypted.

### 2.2.6.3 Office Binary Document RC4 CryptoAPI Encryption

In a file that is password protected by using Office binary document RC4 CryptoAPI encryption as specified in [\[MS-OFFCRYPTO\]](#) section 2.3.5, **FibBase.fEncrypted** MUST be 1 and **FibBase.fObfuscation** MUST be 0.

The **EncryptionHeader** as specified in [\[MS-OFFCRYPTO\]](#) section 2.3.5.1 MUST be written in unencrypted form in the first **FibBase.IKey** bytes of the [Table stream](#). The remainder of the Table stream, the [WordDocument stream](#) beyond the initial 68 bytes, and the entire [Data stream](#) MUST be encrypted.

These three streams of data MUST be encrypted in 512-byte blocks. The block number MUST be set to zero at the beginning of the stream and MUST be incremented at each 512 byte boundary. The encryption algorithm MUST be carried out at the beginning of the Table stream and the WordDocument stream even though some of the bytes are written in unencrypted form.

The [ObjectPool](#) storage MUST NOT be present and if the file contains OLE objects, the storage objects for the OLE objects MUST be stored in the Data stream as specified in [sprmCPicLocation](#).

If **fDocProps** is set in the **EncryptionHeader.Flags**, the [Encryption stream](#) MUST be present, the [Summary Information stream](#) MUST NOT be present, and a placeholder [Document Summary Information stream](#) MUST be present as specified in [MS-OFFCRYPTO] section 2.3.5.4.

If **fDocProps** is not set in the **EncryptionHeader.Flags**, the Document Summary Information stream and the Summary Information stream MUST NOT be encrypted.

All other streams and storages MUST NOT be encrypted [<9>](#).

## 2.3 Document Parts

The range of [CPs](#) in a document is separated into multiple logical parts. Many features operate within the individual parts and use CPs relative to the beginning of the part in which they operate rather than relative to the beginning of the document. This section defines the document parts and specifies the corresponding range of CPs.

All documents MUST include a non-empty [Main Document](#) part. In addition, if any of the other document parts are non-empty, the document MUST include one additional paragraph mark character (Unicode 0x000D) beyond the end of the last non-empty document part. That character is not displayed to or editable by the user, because it is outside of any document part.

### 2.3.1 Main Document

The main document contains all content outside any of the specialized document parts, including anchors that specify where content from the other document parts appears.

The main document begins at [CP](#) zero, and is [FibRgLw97.ccpText](#) characters long.

The last character in the main document MUST be a paragraph mark (Unicode 0x000D).

### 2.3.2 Footnotes

The footnote document contains all of the content in the footnotes. It begins at the [CP](#) immediately following the [Main Document](#), and is [FibRgLw97.ccpFtn](#) characters long.

The locations of individual footnotes within the footnote document are specified by a [PlcffndTxt](#) whose location is specified by the **fPlcffndTxt** member of [FibRgFcLcb97](#). The locations of the footnote reference characters in the Main Document are specified by a [PlcffndRef](#) whose location is specified by the **fPlcffndRef** member of [FibRgFcLcb97](#).

### 2.3.3 Headers

The header document contains all content in headers and footers as well as the footnote and endnote separators. It begins immediately after the footnote document and is [FibRgLw97.ccpHdd](#) characters long.

The header document is split into text ranges called stories, as specified by [PlcfHdd](#). Each story specifies the contents of a single header, footer, or footnote/endnote separator. If a story is non-empty, it MUST end with a paragraph mark that serves as a guard between stories. This paragraph mark is not considered part of the story contents (that is, if the story contents require a paragraph mark themselves, a second paragraph mark MUST be used).

Stories are considered empty if they have no contents and no guard paragraph mark. Thus, an empty story is indicated by the beginning [CP](#), as specified in **PlcfHdd**, being the same as the next CP in **PlcfHdd**.



If the header document exists, as indicated by **FibRgLw97.ccpHdd** and [FibRgFcLcb97.lcbPlcfHdd](#) being nonzero, its first six stories specify footnote and endnote separators, in this order.

| Story number | Contents                        |
|--------------|---------------------------------|
| 0            | Footnote separator              |
| 1            | Footnote continuation separator |
| 2            | Footnote continuation notice    |
| 3            | Endnote separator               |
| 4            | Endnote continuation separator  |
| 5            | Endnote continuation notice     |

The footnote and endnote separator stories do not need to contain whole paragraphs—that is, they do not necessarily need to have paragraph marks in their contents. However, they MUST have the guard paragraph marks if they are non-empty.

Following the footnote and endnote separator stories are the stories that contain the contents of headers and footers. Six such stories MUST exist for every **section** of the [Main Document](#). The first such group of stories specifies the contents of the headers and footers for the first section. The second group specifies the contents of the headers and footers for the second section, and so on. The stories within each group MUST appear in the following order.

| Story number in group | Contents   |
|-----------------------|--|
| 0                     | Even page header. This MUST be non-empty if different even and odd headers and footers are enabled for the section.  |
| 1                     | Odd page header. If different even and odd headers and footers are not enabled for the section, the odd page header MUST be used on both even and odd pages. |
| 2                     | Even page footer. This MUST be non-empty if different even and odd headers and footers are enabled for the section.  |
| 3                     | Odd page footer. If different even and odd headers and footers are not enabled for the section, the odd page footer MUST be used on both even and odd pages. |
| 4                     | First page header. This MUST be non-empty if different first page headers and footers are enabled for the section.   |
| 5                     | First page footer. This MUST be non-empty if different first page headers and footers are enabled for the section.   |

Non-empty header and footer stories MUST contain whole paragraphs and thus MUST end with a paragraph mark. Therefore, non-empty header and footer stories MUST have two paragraph marks at their ends, one as part of the content followed by a separate guard paragraph mark.

An empty header or footer story specifies that the header or footer of the corresponding type of the previous section is used. For the first section, an empty header or footer story specifies that it does not have a header or footer of this type.

### 2.3.4 Comments

The comment document contains all of the content in the comments. It begins at the [CP](#) immediately following the [Header Document](#) and is **FibRgLw97.ccpAtn** characters long.

The locations of individual comments within the comment document are specified by a [PlcfandTxt](#) whose location is specified by the **fcPlcfandTxt** member of [FibRgFcLcb97](#). The locations of the comment reference characters in the [Main Document](#) are specified by a [PlcfandRef](#) whose location is specified by the **fcPlcfandRef** member of [FibRgFcLcb97](#).

### 2.3.5 Endnotes

The endnote document contains all of the content in the endnotes. It begins at the [CP](#) that immediately follows the [Comment Document](#) and is [FibRgLw97.ccpEdn](#) characters long.

The locations of individual endnotes within the endnote document are specified by a [PlcfendTxt](#) whose location is specified by the **fcPlcfendTxt** member of [FibRgFcLcb97](#). The locations of the endnote reference characters in the [Main Document](#) are specified by a [PlcfendRef](#) whose location is specified by the **fcPlcfendRef** member of [FibRgFcLcb97](#).

### 2.3.6 Textboxes

The textbox document contains all of the content in the textboxes whose anchors are in the [Main Document](#). It begins at the [CP](#) immediately following the [Endnote Document](#) and is [FibRgLw97.ccpTxbx](#) characters long.

The locations of individual textboxes within the textbox document are specified by a [PlcftxbxTxt](#) whose location is specified by the **fcPlcftxbxTxt** member of the [FibRgFcLcb97](#). The locations of the textbox anchors in the Main Document are specified by a [plcfSpa](#) whose location is specified by the **fcPlcSpaMom** member of the [FibRgFcLcb97](#).

Not all members of a **plcfSpa** specify the location of a textbox. The **lid** member of the [FTXBXS](#) structure specifies the relationship between shape anchors and textbox anchors.

### 2.3.7 Header Textboxes

The header textbox document contains all of the content in the textboxes whose anchors are in the [Header Document](#). It begins at the [CP](#) immediately following the [Textbox Document](#) and is [FibRgLw97.ccpHdrTxbx](#) characters long.

The locations of individual textboxes within the header textbox document are specified by a [PlcfHdrtxbxTxt](#) whose location is specified by the **fcPlcfHdrtxbxTxt** member of the [FibRgFcLcb97](#). The locations of the textbox anchors in the Header Document are specified by a [plcfSpa](#) whose location is specified by the **fcPlcSpaHdr** member of the [FibRgFcLcb97](#).

Not all members of a **plcfSpa** specify the location of a textbox. The **lid** member of the [FTXBXS](#) structure specifies the relationship between shape anchors and textbox anchors.

## 2.4 Document Content

This section specifies algorithms that are used to analyze document content and determine its properties. These algorithms take [CPs](#) as input and return some piece of information about the document content at that location. For example, the algorithm in section 2.4.1 returns the text at that [CP](#).

Collectively, these algorithms specify relationships among data structures in the file types that are specified in this documentation. These relationships **MUST** be maintained. These algorithms are not examples, but definitions of how to interpret these data structures.

These algorithms can derive significant performance benefits from common programming practices such as caching the results from previous input.

### 2.4.1 Retrieving Text

The following algorithm specifies how to find the text at a particular [character position](#) (**cp**). Negative character positions are not valid.

1. Read the **FIB** from offset zero in the [WordDocument Stream](#).
2. All versions of the **FIB** contain exactly one [FibRgFcLcb97](#), though it can be nested in a larger structure. **FibRgFcLcb97.fcClx** specifies the offset in the [Table Stream](#) of a **Clx**. **FibRgFcLcb97.lcbClx** specifies the size, in bytes, of that **Clx**. Read the **Clx** from the Table Stream.
3. The **Clx** contains a **Pcdt**, and the **Pcdt** contains a **PlcPcd**. Find the largest  $i$  such that  $\mathbf{PlcPcd.aCp}[i] \leq \mathbf{cp}$ . As with all **Plcs**, the elements of **PlcPcd.aCp** are sorted in ascending order. Recall from the definition of a **Plc** that the **aCp** array has one more element than the **aPcd** array. Thus, if the last element of **PlcPcd.aCp** is less than or equal to **cp**, **cp** is outside the range of valid character positions in this document.
4. **PlcPcd.aPcd**[ $i$ ] is a **Pcd**. **Pcd.fc** is an [FcCompressed](#) that specifies the location in the WordDocument Stream of the text at character position **PlcPcd.aCp**[ $i$ ].
5. If **FcCompressed.fCompressed** is zero, the character at position **cp** is a 16-bit Unicode character at offset  $\mathbf{FcCompressed.fc} + 2(\mathbf{cp} - \mathbf{PlcPcd.aCp}[i])$  in the WordDocument Stream. This is to say that the text at character position **PlcPcd.aCp**[ $i$ ] begins at offset **FcCompressed.fc** in the WordDocument Stream and each character occupies two bytes.
6. If **FcCompressed.fCompressed** is 1, the character at position **cp** is an 8-bit ANSI character at offset  $(\mathbf{FcCompressed.fc} / 2) + (\mathbf{cp} - \mathbf{PlcPcd.aCp}[i])$  in the WordDocument Stream, unless it is one of the special values in the table defined in the description of **FcCompressed.fc**. This is to say that the text at character position **PlcPcd.aCp**[ $i$ ] begins at offset  $\mathbf{FcCompressed.fc} / 2$  in the WordDocument Stream and each character occupies one byte.

### 2.4.2 Determining Paragraph Boundaries

This section specifies how to find the beginning and end [character positions](#) of the paragraph that contains a given character position. The character at the end character position of a paragraph MUST be a paragraph mark, an end-of-section character, a cell mark, or a TTP mark (See [Overview of Tables](#)). Negative character positions are not valid.

To find the character position of the first character in the paragraph that contains a given character position **cp**:

1. Follow the algorithm from [Retrieving Text](#) up to and including step 3 to find  $i$ . Also remember the [FibRgFcLcb97](#) and **PlcPcd** found in step 1 of Retrieving Text. If the algorithm from Retrieving Text specifies that **cp** is invalid, leave the algorithm.
2. Let **pcd** be **PlcPcd.aPcd**[ $i$ ].
3. Let **fcPcd** be **Pcd.fc.fc**. Let **fc** be  $\mathbf{fcPcd} + 2(\mathbf{cp} - \mathbf{PlcPcd.aCp}[i])$ . If **Pcd.fc.fCompressed** is one, set **fc** to  $\mathbf{fc} / 2$ , and set **fcPcd** to  $\mathbf{fcPcd} / 2$ .
4. Read a **PlcBtePapx** at offset **FibRgFcLcb97.fcPlcfBtePapx** in the [Table Stream](#), and of size **FibRgFcLcb97.lcbPlcfBtePapx**. Let **fcLast** be the last element of **plcbtePapx.aFc**. If **fcLast** is less than or equal to **fc**, examine **fcPcd**. If **fcLast** is less than **fcPcd**, go to step 8. Otherwise, set **fc** to **fcLast**. If **Pcd.fc.fCompressed** is one, set **fcLast** to  $\mathbf{fcLast} / 2$ . Set **fcFirst** to **fcLast** and go to step 7.
5. Find the largest  $j$  such that  $\mathbf{plcbtePapx.aFc}[j] \leq \mathbf{fc}$ . Read a **PapxFkp** at offset **aPnBtePapx**[ $j$ ].**pn** \*512 in the [WordDocument Stream](#).

6. Find the largest  $k$  such that  $\mathbf{PapxFkp.rgfc}[k] \leq \mathbf{fc}$ . If the last element of  $\mathbf{PapxFkp.rgfc}$  is less than or equal to  $\mathbf{fc}$ , then  $\mathbf{cp}$  is outside the range of character positions in this document, and is not valid. Let  $\mathbf{fcFirst}$  be  $\mathbf{PapxFkp.rgfc}[k]$ .
7. If  $\mathbf{fcFirst}$  is greater than  $\mathbf{fcPcd}$ , then let  $\mathbf{dfc}$  be  $(\mathbf{fcFirst} - \mathbf{fcPcd})$ . If  $\mathbf{Pcd.fc.fCompressed}$  is zero, then set  $\mathbf{dfc}$  to  $\mathbf{dfc} / 2$ . The first character of the paragraph is at character position  $\mathbf{PlcPcd.aCp}[i] + \mathbf{dfc}$ . Leave the algorithm.
8. If  $\mathbf{PlcPcd.aCp}[i]$  is 0, then the first character of the paragraph is at character position 0. Leave the algorithm.
9. Set  $\mathbf{cp}$  to  $\mathbf{PlcPcd.aCp}[i]$ . Set  $i$  to  $i - 1$ . Go to step 2.

To find the character position of the last character in the paragraph that contains a given character position  $\mathbf{cp}$ :

1. Follow the algorithm from Retrieving Text up to and including step 3 to find  $i$ . Also remember the  $\mathbf{FibRgFcLcb97}$ , and  $\mathbf{PlcPcd}$  found in step 1 of Retrieving Text. If the algorithm from Retrieving Text specifies that  $\mathbf{cp}$  is invalid, leave the algorithm.
2. Let  $\mathbf{pcd}$  be  $\mathbf{PlcPcd.aPcd}[i]$ .
3. Let  $\mathbf{fcPcd}$  be  $\mathbf{Pcd.fc.fc}$ . Let  $\mathbf{fc}$  be  $\mathbf{fcPcd} + 2(\mathbf{cp} - \mathbf{PlcPcd.aCp}[i])$ . Let  $\mathbf{fcMac}$  be  $\mathbf{fcPcd} + 2(\mathbf{PlcPcd.aCp}[i+1] - \mathbf{PlcPcd.aCp}[i])$ . If  $\mathbf{Pcd.fc.fCompressed}$  is one, set  $\mathbf{fc}$  to  $\mathbf{fc}/2$ , set  $\mathbf{fcPcd}$  to  $\mathbf{fcPcd} / 2$  and set  $\mathbf{fcMac}$  to  $\mathbf{fcMac}/2$ .
4. Read a  $\mathbf{PlcBtePapx}$  at offset  $\mathbf{FibRgFcLcb97.fcPlcfBtePapx}$  in the Table Stream, and of size  $\mathbf{FibRgFcLcb97.lcbPlcfBtePapx}$ . Then find the largest  $j$  such that  $\mathbf{plcbtePapx.aFc}[j] \leq \mathbf{fc}$ . If the last element of  $\mathbf{plcbtePapx.aFc}$  is less than or equal to  $\mathbf{fc}$ , then go to step 7. Read a  $\mathbf{PapxFkp}$  at offset  $\mathbf{aPnBtePapx}[j].\mathbf{pn} * 512$  in the WordDocument Stream.
5. Find largest  $k$  such that  $\mathbf{PapxFkp.rgfc}[k] \leq \mathbf{fc}$ . If the last element of  $\mathbf{PapxFkp.rgfc}$  is less than or equal to  $\mathbf{fc}$ , then  $\mathbf{cp}$  is outside the range of character positions in this document, and is not valid. Let  $\mathbf{fcLim}$  be  $\mathbf{PapxFkp.rgfc}[k+1]$ .
6. If  $\mathbf{fcLim} \leq \mathbf{fcMac}$ , then let  $\mathbf{dfc}$  be  $(\mathbf{fcLim} - \mathbf{fcPcd})$ . If  $\mathbf{Pcd.fc.fCompressed}$  is zero, then set  $\mathbf{dfc}$  to  $\mathbf{dfc} / 2$ . The last character of the paragraph is at character position  $\mathbf{PlcPcd.aCp}[i] + \mathbf{dfc} - 1$ . Leave the algorithm.
7. Set  $\mathbf{cp}$  to  $\mathbf{PlcPcd.aCp}[i+1]$ . Set  $i$  to  $i + 1$ . Go to step 2.

### 2.4.3 Overview of Tables

A table cell consists of one or more paragraphs at the same nonzero table depth and, optionally, one or more tables whose table depth is one greater than that of the containing cell. The last paragraph in a table cell is terminated by a cell mark. If the table depth is 1, the cell mark MUST be character Unicode 0x0007. If the table depth is greater than 1, the cell mark MUST be a paragraph mark (Unicode 0x000D) with [sprmPFInnerTableCell](#) applied with a value of 1.

A table row has between 1 and 63 table cells, each at the same table depth, followed by a Table Terminating Paragraph mark (TTP mark, also called a row mark), also at the same table depth. If the table depth is 1, then the TTP mark MUST be a character Unicode 0x0007 with [sprmPFTtp](#) applied with a value of 1. If the table depth is greater than 1, then the TTP mark MUST be a paragraph mark (Unicode 0x000D) with [sprmPFInnerTtp](#) applied with a value of 1.

The table depth of a paragraph, table cell, or table row, is derived from the values of [sprmPFInTable](#), [sprmPItap](#), and [sprmPDtap](#) applied as direct paragraph properties to the paragraph mark, cell mark, or TTP mark. See section [2.4.6.1](#), Direct Paragraph Formatting for further specifications. Paragraphs that are not in a table have a table depth of zero.

The following [ABNF] rulelist defines a table at depth *N* (TableN) in terms of paragraphs at depth *N* (ParaN), cell marks at depth *N* (CellMarkN), TTP marks at depth *N* (TTPN), and tables at depth *N*+1 (TableN1). ABNF is specified in [\[RFC4234\]](#).

```
CellN    = *(TableN1 / ParaN) CellMarkN
RowN     = 1*63CellN      TTPN
TableN   = 1*RowN
```

Two adjacent table rows of the same table depth are considered part of the same table unless they differ in one of the following properties:

- The operand to [sprmTIpgp](#)
- The table style, as specified by sprmTistd
- The table directionality as specified by [sprmTFBidi](#) or [sprmTFBidi90](#)
- The table position and wrapping as specified by sprmTPc, sprmTFNoAllowOverlap, sprmTDxaAbs, sprmTDyaAbs, sprmTDxaFromText, [sprmTDyafromText](#), sprmTDxaFromTextRight, and sprmTDyaFromTextBottom

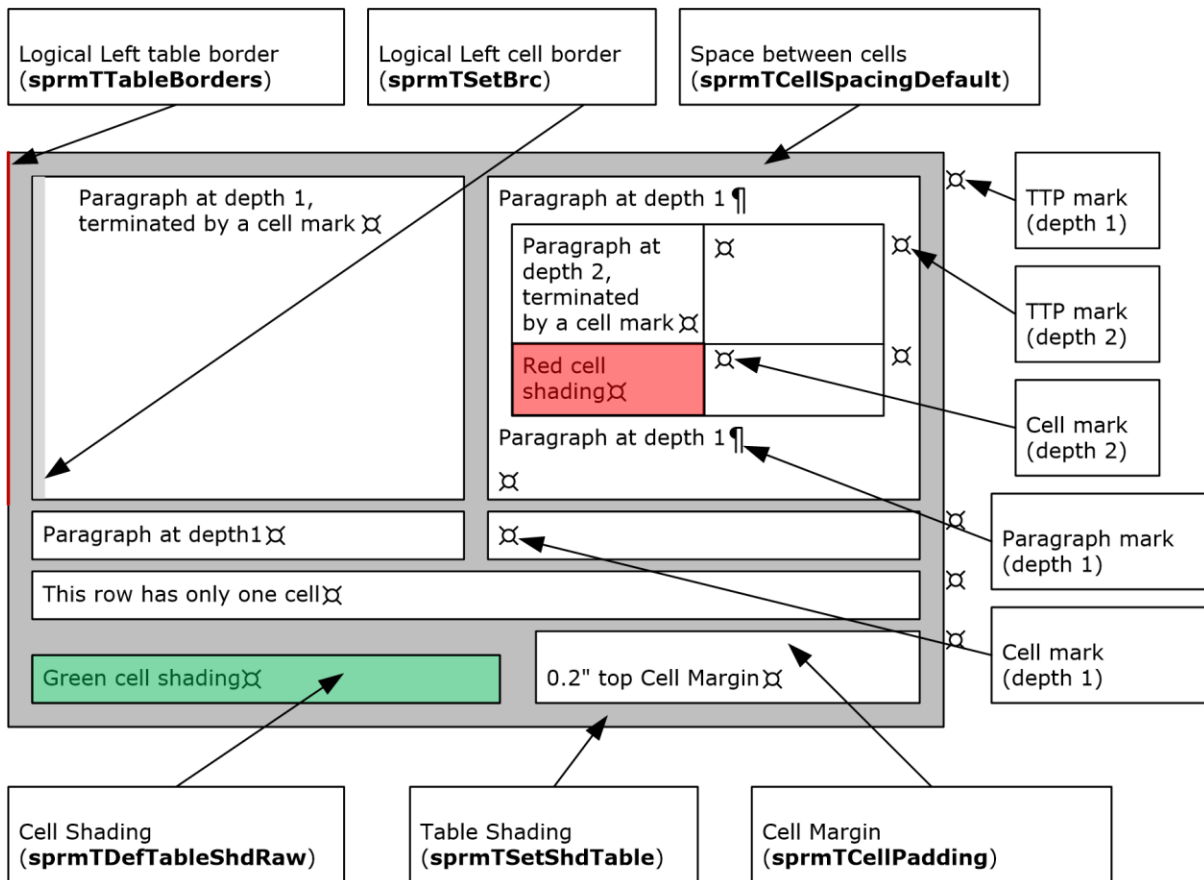
If neither table row specifies nondefault values for the preceding table position and wrapping properties, then two adjacent table rows of the same table depth are considered different tables if the first paragraphs of the first cells of the rows differ in any of the paragraph frame properties specified by sprmPPc, sprmPDxaAbs, sprmPDyaAbs, sprmPDxaWidth, sprmPWHeightAbs, sprmPDcs, sprmPWwr, sprmPDxaFromText, sprmPDyaFromText, sprmPFLocked, sprmPFNoAllowOverlap, and sprmPFrameTextFlow.

In addition, two table rows are considered part of different tables if a **range-level protection bookmark** is present whose type, as specified by the **sdtt** member of the corresponding [SDTI](#), is sdttPara and that bookmark (1) contains content from more than one table cell but does not contain the entirety of both rows.

The properties of each row mark MUST define the cells for that table row. [SprmTDefTable](#) and sprmTInsert are used to create cell definitions, and sprmTDelete is used to remove them. The number of cell definitions applied to the row mark MUST be equal to the number of cells in the row. There is no requirement that each row of a table have the same number of cells.

An application SHOULD [<10>](#) use sprmTDefTable to define table cells for applications that do not process sprmPTableProps, and at the same time use sprmTInsert for applications that do process sprmPTableProps.

The following diagram shows several elements of a table and gives examples of [Sprms](#) that can be used to modify each. The table in this example includes spacing between cells to demonstrate borders and shading. It includes a nested table to demonstrate table depth.

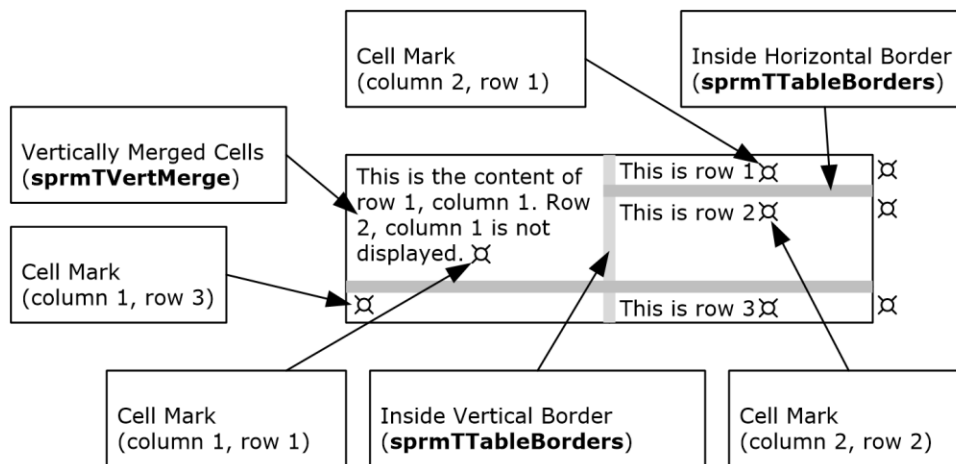


**Figure 1: A sample table**

To determine which borders are displayed, see the following sections from [\[ECMA-376\]](#) Part 4:

- Section 2.4.63 tcBorders (Table Cell Borders)
- Section 2.4.37 tblBorders (Table Border Exceptions)
- Section 2.4.38 tblBorders (Table Borders)

Cells can be vertically merged to create the appearance of a single cell spanning multiple rows. The cell mark characters for the merged cells MUST still appear in the file. The second and subsequent cells in the merged group MUST NOT contain any content other than their cell marks. The following diagram shows a table with vertically merged cells. It uses inside borders to demonstrate that the vertically merged cells act as one cell.



**Figure 2: A table with vertically merged cells**

#### 2.4.4 Determining Cell Boundaries

This section describes an algorithm to find the boundaries of the innermost table cell containing a given [character position](#) or to determine that the given character position is not in a table cell. Every valid character position in a document belongs to a paragraph, so table depth can be computed for each paragraph. If a paragraph is found to be at depth zero, that paragraph is not in a table cell.

Given character position **cp**, use the following algorithm to determine if **cp** is in a table cell.

1. Follow the procedure from [Direct Paragraph Formatting](#) to find the paragraph properties for the paragraph that contains **cp**. Apply the properties, and determine the table depth as specified in [Overview of Tables](#). Call this **itapOrig**.
2. If **itapOrig** is 0, then this paragraph is not in a table cell, so the following algorithms do not apply. Leave this algorithm. Otherwise, **cp** is in a table.
3. If the character at character position **cp** is not a TTP mark as specified in Overview of Tables, then leave this algorithm.
4. If **itapOrig** is 1, then the **cp** is not in a table cell. Leave this algorithm. Otherwise this TTP mark is in a cell itself, to determine the boundaries of the containing cell set **itapOrig** to **itapOrig** - 1 in the following algorithms.

Given a character position **cp** known to be at table depth **itapOrig**, follow this procedure to determine the character position of the last character in the innermost table cell that contains **cp**.

1. Set **itap** to **itapOrig**.
2. Determine the character position of the last character in the paragraph that contains **cp**, as specified in [Determining Paragraph Boundaries](#). Let this position be called **cpLast**.
3. Follow the procedure from Direct Paragraph Formatting to find the paragraph properties for the paragraph that contains **cpLast**. Apply the properties, and determine the table depth as specified in Overview of Tables. Call this **itap'**. It is invalid for **itap'** to be less than **itap**. If **itap'** is less than **itap**, leave the algorithm.
4. If **itap'** is equal to **itap**, determine the text at character position **cpLast**, as specified in [Retrieving Text](#). If this character is a cell mark, as specified in Overview of Tables, then **cpLast** is the desired output. Leave the algorithm.
5. Let **cp** be **cpLast** + 1, and go to step 2.

Given a character position **cp** that is known to be at table depth **itapOrig**, follow this procedure to determine the character position of the first character in the innermost table cell that contains **cp**.

1. Set **itap** to **itapOrig**.



2. Determine the character position of the first character in the paragraph that contains **cp**, as specified in Determining Paragraph Boundaries. Let this character position be called **cpFirst**.
3. If **cpFirst** is zero, then this is the desired output. Leave the algorithm. Negative values for **cpFirst** are invalid. If **cpFirst** is negative, leave the algorithm.
4. Let **cpPrev** be **cpFirst** – 1. Follow the procedure from Direct Paragraph Formatting to find the paragraph properties for the paragraph that contains **cpPrev**. Apply the properties, and determine the table depth as specified in Overview of Tables. Call this **itapPrev**.
5. If **itapPrev** is less than **itap**, then **cpFirst** is the desired output. Leave the algorithm.
6. If **itapPrev** is equal to **itap**, determine the text at character position **cpPrev**, as specified in Retrieving Text. If this character is a cell mark or a TTP mark, then **cpFirst** is the desired output. Leave the algorithm.
7. Set **cp** to **cpPrev**. Go to step 2.

## 2.4.5 Determining Row Boundaries

This section describes an algorithm to find the boundaries of the innermost table row containing a given [character position](#) or to determine that the given character position is not in a table row. Every valid character position in a document belongs to a paragraph, so table depth can be computed for each paragraph. If a paragraph is found to be at depth zero, then that paragraph is not in a table row.

This algorithm is the same as [Determining Cell Boundaries](#) except that only TTP marks cause a termination, not cell marks.

Given character position **cp**, use the following algorithm to determine if **cp** is in a table.

1. Follow the procedure from [Direct Paragraph Formatting](#) to find the paragraph properties for the paragraph that contains **cp**. Apply the properties and determine the table depth as specified in [Overview of Tables](#). Call this **itap**.
2. If **itap** is zero, then this paragraph is not in a table row. Leave the algorithm.

Given a character position **cp** known to be at table depth **itap**, which is greater than 0, follow this procedure to determine the character position of the TTP mark of the row that contains **cp**.

1. Determine the character position of the last character in the paragraph that contains **cp**, as specified in [Determining Paragraph Boundaries](#). Let this position be called **cpLast**.
2. Follow the procedure from Direct Paragraph Formatting to find the paragraph properties for the paragraph that contains **cpLast**. Apply the properties and determine the table depth as specified in Overview of Tables. Call this **itap'**. It is invalid for **itap'** to be less than **itap**. If **itap'** is less than **itap**, leave the algorithm.
3. If **itap'** is equal to **itap**, determine the text at character position **cpLast**, as specified in [Retrieving Text](#). If this character is a TTP mark as specified in Overview of Tables, then **cpLast** is the desired output. Leave the algorithm.
4. Let **cp** be **cpLast** + 1 and go to step 1.

Given a character position **cp** known to be at table depth **itap**, which is greater than 0, follow this procedure to determine the character position of the first character in the innermost table row that contains **cp**.

1. Determine the character position of the first character in the paragraph that contains **cp** as specified in Determining Paragraph Boundaries. Let this character position be called **cpFirst**.
2. If **cpFirst** is zero, then this is the desired output. Leave the algorithm. Negative values for **cpFirst** are invalid. If **cpFirst** is negative leave the algorithm.
3. Let **cpPrev** be **cpFirst** – 1. Follow the procedure from Direct Paragraph Formatting to find the paragraph properties for the paragraph that contains **cpPrev**. Apply the properties, and determine the table depth as specified in Overview of Tables. Call this **itapPrev**.
4. If **itapPrev** is less than **itap**, then **cpFirst** is the desired output. Leave the algorithm.
5. If **itapPrev** is equal to **itap**, determine the text at character position **cpPrev**, as specified in Retrieving Text. If this character is a TTP mark as specified in Overview of Tables, then **cpFirst** is the desired output. Leave the algorithm.



6. Set **cp** to **cpPrev**. Go to step 1.

## 2.4.6 Applying Properties

This section specifies algorithms for determining the properties of text, paragraphs, lists, and tables. The final two subsections (Determining Properties of a Style and Determining Formatting Properties) specify the order in which the arrays of [Prls](#) are combined to compute the final property set. Recall from section [2.2.5](#) (Property Storage) that it is valid for multiple [Prls](#) to modify the same property. In this event, the last [Prl](#) applied determines the value of that property, unless otherwise specified in the specification of a particular [Sprm](#). Thus, an application MUST process the arrays of [Prls](#) in the order specified in section 2.4.6.6, Determining Formatting Properties, to arrive at the correct property set.

Recall also from section 2.2.5 (Property Storage) that a [Prl](#) MAY [<11>](#) be ignored by applications that do not support the features represented by the [Prl](#).

### 2.4.6.1 Direct Paragraph Formatting

This section explains how to find the properties applied directly (as opposed to through a style, for example) to a paragraph, given a [character position cp](#) within it. The properties are found as an array of [Prl](#) elements.

1. Follow the algorithm from [Determining Paragraph Boundaries](#) for finding the character position of the last character in the paragraph to completion. From step 5, remember the [PapxFkp](#) and *k*. From step 4, remember the offset in the [WordDocument Stream](#) at which [PapxFkp](#) was read. Let this offset be called **of**. From step 2 remember the [Pcd](#). If the algorithm from Determining Paragraph Boundaries specifies that **cp** is invalid, leave the algorithm.
2. Find a [BxPap](#) at [PapxFkp.rgbx\[k\]](#). Find a [PapxFkp](#) at offset **of** + 2\*[BxPap.bOffset](#)
3. Find a [GrpprlAndIstd](#) in the [PapxFkp](#) from step 2. The offset and size of the [GrpprlAndIstd](#) is instructed by the first byte of the [PapxFkp](#), as detailed at [PapxFkp](#).
4. Find the [grpprl](#) within the [GrpprlAndIstd](#). This is an array of [Prl](#) elements that specifies the direct properties of this paragraph.
5. Finally [Pcd.Prm](#) specifies further property modifications that apply to this paragraph. If [Pcd.Prm](#) is a [Prm0](#) and the [Sprm](#) specified within [Prm0](#) modifies a paragraph property, append to the array of [Prl](#) elements from the previous step a single [Prl](#) made of the [Sprm](#) and value in [Prm0](#). if [Pcd.Prm](#) is a [Prm1](#), append to the array of [Prl](#) elements from the previous step any [Sprm](#) structures that modify paragraph properties within the array of [Prl](#) elements specified by [Prm1](#).

### 2.4.6.2 Direct Character Formatting

This section specifies how to find the properties applied directly to a given [character position cp](#). The result will be an array of [Prl](#) elements that specify the property modifications to be applied.

Additional formatting and properties can affect that **cp** as well, if a style is applied. To determine the full set of properties, including those from styles, see section [2.4.6.6](#) Determining Formatting Properties.

1. Follow the algorithm from [Retrieving Text](#). From step 5 or 6, determine the offset in the [WordDocument Stream](#) where text was found. Call this offset **fc**. Also remember from step 4, the [Pcd](#). If the algorithm from Retrieving Text specifies **cp** is invalid, leave the algorithm.
2. Read a [PlcBteChpx](#) at offset [FibRgFcLcb97.fcPlcfBteChpx](#) in the [Table Stream](#), and of size [FibRgFcLcb97.lcbPlcfBteChpx](#).

3. Find the largest  $i$  such that  $\text{plcbteChpx.aFc}[i] \leq \mathbf{fc}$ . If the last element of  $\text{plcbteChpx.aFc}$  is less than or equal to  $\mathbf{fc}$ , then  $\mathbf{cp}$  is outside the range of character positions in this document, and is not valid. Read a [ChpxFkp](#) at offset  $\mathbf{aPnBteChpx}[i].\mathbf{pn} * 512$  in the WordDocument Stream.
4. Find the largest  $j$  such that  $\text{ChpxFkp.rgfc}[j] \leq \mathbf{fc}$ . If the last element of  $\text{ChpxFkp.rgfc}$  is less than or equal to  $\mathbf{fc}$ , then  $\mathbf{cp}$  is outside the range of character positions in this document, and is not valid. Find a [Chpx](#) at offset  $\text{ChpxFkp.rgb}[i]$  in  $\text{ChpxFkp}$ .
5. The **grpprl** within the Chpx is an array of Prls that specifies the direct properties of this character.
6. Additionally, apply [Pcd.Prm](#) which specifies additional properties for this text. If [Pcd.Prm](#) is a [Prm0](#) and the [Sprm](#) specified within [Prm0](#) modifies a character property (a [Sprm](#) with an **sgc** value of 2), append a single Prl made of the [Sprm](#) and value in that [Prm0](#) to the array of Prls from the previous step. If [Pcd.Prm](#) is a [Prm1](#), append any [Sprms](#) that modify character properties from the array of Prls specified by [Prm1](#).

### 2.4.6.3 Determining List Formatting of a Paragraph

A list in an MS-DOC file consists of one or more paragraphs. Each paragraph in a list has a nonzero **iLfo** property (see [sprmPIlfo](#)) and an **iLvl** property (see [sprmPIlvl](#)), which are used to determine the information that is necessary to format the paragraph as a member in a specific list. Paragraphs that share the same **iLfo** property, and exist in a range of text that constitutes a [Valid Selection](#), are considered to be part of the same list. Paragraphs in a list do not need to be consecutive, and a list can overlap with other lists. This section describes an algorithm to add list formatting to a paragraph containing a given [character position](#).

Given character position **cp**, use the following three-part algorithm to add list formatting to the paragraph containing **cp**.

#### Part 1

1. Follow the procedure for determining formatting properties, as specified in section [2.4.6.6](#), to find the paragraph properties for the paragraph that **cp** belongs to.
2. Let  $iLfoCur$  and  $iLvlCur$  be the **iLfo** (see [sprmPIlfo](#)) and **iLvl** (see [sprmPIlvl](#)) properties of the paragraph, respectively. If  $iLfoCur$  is zero, the paragraph is not part of a list, and the algorithm ends.
3. Let **lfo** be the [LFO](#) at [PifLfo.rgLfo](#) $[iLfoCur - 1]$ . If there is no such LFO, the file is invalid and the algorithm ends.
4. Let **lstf** be the [LSTF](#) in [PifLst.rgLstf](#) such that **lstf.lsid** equals **lfo.lsid**. If there is no such LSTF, the file is invalid and the algorithm ends.
5. Let **lfoData** be the [LFOData](#) at [PifLfo.rgLfoData](#) $[iLfoCur - 1]$ .
6. Let **lfolvl** be the [LFOLVL](#) in **lfoData.rgLfoLvl** such that **lfolvl.iLvl** equals  $iLvlCur$ , if such an LFOLVL exists. If there is no such LFOLVL, go to part 1 step 8.
7. If **lfolvl.fFormatting** is nonzero, let **lvl** be **lfolvl.lvl** and go to part 2 step 1.
8. Let  $i$  be 0. For each LSTF in [PifLst.rgLstf](#) prior to **lstf**, if LSTF.**fSimple** is zero, let  $i = i + 9$ , if LSTF.**fSimple** is nonzero, let  $i$  be  $i + 1$ .
9. Let  $i$  be  $i + iLvlCur$ .

10. Let **lvl** be the  $i^{\text{th}}$  [LVL](#) in the array of LVLs appended to **PlfLst** (see the **fcPlfLst** field of [FibRgFcLcb97](#)).

## Part 2

After the **lstf** and **lvl** are determined, the next step is to determine the number text of the paragraph.

1. Let *xstNumberText* be a copy of **lvl.xst**.
2. If **lvl.lvlf.nfc** is not equal to 0x17, go to part 2 step 4. If **lvl.lvlf.nfc** is equal to 0x17, the paragraph is in a bulleted level.
3. Let *xchBullet* be the 16-bit character at *xstNumberText.rgtchar*[0]. If *xchBullet* & 0xF000 is nonzero, let *xstNumberText.rgtchar*[0] equal *xchBullet* & 0x0FFF. Go to part 3 step 1.
4. For each entry *j* in **lvl.lvlf.rgbxchNums** such that **lvl.lvlf.rgbxchNums**[*j*] is nonzero, let *iLvITemp* be the 16-bit integer stored at **lvl.xst.rgtchar**[**lvl.lvlf.rgbxchNums**[*j*] - 1]. If *iLvITemp* == *iLvICur*, replace the *iLvITemp* placeholder in *xstNumberText* with the [level number](#) of the current paragraph. If *iLvITemp* < *iLvICur*, replace the *iLvITemp* placeholder in *xstNumberText* with the level number of the closest previous paragraph in the list that has an **iLvl** property that equals *iLvITemp*. If *iLvITemp* > *iLvICur*, the file is invalid and the algorithm ends. If **lvl.lvlf.fLegal** is nonzero, each of these level numbers MUST be reformatted as according to the **fLegal** field description in [LVLf](#) before they replace their respective placeholders.

## Part 3

After the number text of the paragraphs is determined, the final step is to format the paragraph and the number text.

1. If **lstf.rgisdPara**[*iLvICur*] != 0x0FFF, apply the style specified by **lstf.rgisdPara**[*iLvICur*] to both the paragraph and *xstNumberText*.
2. Apply the character properties specified by **lvl.grppriChpx** to *xstNumberText*.
3. Append the character specified by **lvl.lvlf.ixchFollow** to *xstNumberText*. *xstNumberText* is now the number text that will be displayed at the beginning of the paragraph.
4. Apply the paragraph properties specified by **lvl.grppriPapx** to the paragraph, including *xstNumberText*.
5. Justify only the *xstNumberText* according to the justification specified by **lvl.lvlf.jc**.

The paragraph is now formatted as part of a list.

### 2.4.6.4 Determining Level Number of a Paragraph

The level number of a paragraph is the number in the number sequence of the level that corresponds to that paragraph, formatted according to an MSONFC (as specified in [MS-OSHARED](#) section 2.2.1.3). The number sequence of a level begins at a specified value and increments by 1 for each paragraph in the level. Also, the number sequence of a level can restart when certain other levels are encountered. See the specification of [LVLf](#) for more information. This section describes an algorithm to determine the level number of a paragraph containing a given [character position](#).

Given character position **cp**, use the following algorithm to determine the level number of the paragraph containing **cp**:

1. Follow steps 1 thru 10 of [Determining List Formatting of a Paragraph](#) to get the *iLfoCur*, *iLvCur*, **lfolvl**, and **lvl** that correspond to the paragraph that **cp** belongs to.
2. Let *nfcCur* be **lvl.lvlf.nfc**. If *nfcCur* is equal to 0xFF or 0x17, this level has no number sequence, and the level number of the paragraph is an empty string. In this case, let *xsLevelNumber* be an empty string, and the algorithm ends.
3. If **lfolvl** exists, and **lfolvl.fStartAt** is nonzero and **lfolvl.fFormatting** is zero, let *iStartAt* be **lfolvl.iStartAt**. Otherwise, let *iStartAt* be **lvl.lvlf.iStartAt**.
4. If **lvl.lvlf.fNoRestart** is nonzero, let *iLvRestartLim* be **lvl.lvlf.iLvRestartLim**. Otherwise, let *iLvRestartLim* be *iLvCur*.
5. Let *numCur* be *iStartAt*.
6. For each paragraph *p* that has an **ilfo** property that is equal to *iLfoCur* and that is in the same [Valid Selection](#) as **cp**, beginning with the paragraph starting at the lowest character position up to but not including the paragraph containing **cp**: If the **ilvl** property of the paragraph *p* is less than *iLvRestartLim*, let *numCur* be *iStartAt*. If the **ilvl** of the paragraph *p* equals *iLvCur*, let *numCur* be *numCur* + 1.
7. Let *xsLevelNumber* be a string containing the number specified by *numCur* formatted according to the MSONFC (as specified in [MS-OSHARED] section 2.2.1.3) specified by *nfcCur*.

*xsLevelNumber* is now the level number of the paragraph.

#### 2.4.6.5 Determining Properties of a Style

This section specifies an algorithm to determine the set of properties to apply to text, a paragraph, a table, or a list when a particular style is applied to it. Given an **istd**, one or more arrays of **Prl** can be derived that express the differences from defaults for this style. Depending on its **stk**, a style can specify properties for any combination of tables, paragraphs, and characters.

Given an **istd**:

1. Read the **FIB** from offset zero in the [WordDocument Stream](#).
2. All versions of the **FIB** contain exactly one [FibRgFcLcb97](#) though it can be nested in a larger structure. Read a **STSH** from offset **FibRgFcLcb97.fcStshf** in the [Table Stream](#) with size **FibRgFcLcb97.lcbStshf**.
3. The given **istd** is a zero-based index into **STSH.rglpstd**. Read an **LPStd** at **STSH.rglpstd[istd]**.
4. Read the **STD** structure as **LPStd.std**, of length **LPStd.cbStd** bytes.
5. From the **STD.stdf.stdfBase** obtain **istdBase**. If **istdBase** is any value other than 0x0FFF, then this style is based on another style. Recursively apply this algorithm using **istdBase** as the starting **istd** to obtain one or more arrays of **Prl**s as the properties for tables, paragraphs and characters from the base style.
6. From the **STD.stdf.stdfBase** obtain **stk**. For more information, see the description of the **cupx** member of [StdBase](#). Read an **STD.grLPUpXSw**. Based on the **stk**, **grLPUpXSw** contains one of the following structures: [StkParaGRLPUPX](#), [StkCharGRLPUPX](#), [StkTableGRLPUPX](#), [StkListGRLPUPX](#).
7. Each of the preceding structures contains one or more of the following: [LPUpXPapx](#), [LPUpXChpx](#), [LPUpXTapx](#). Each of the latter structures leads to one or more arrays of **Prl** that specify properties.

For more information, see the sections documenting these structures for how to obtain these arrays.

8. For each array obtained in step 7 that specifies properties of a table, paragraph, or characters, append to the beginning of the corresponding array from step 5, if any. The resulting arrays of **Pri** are the desired output. Leave the algorithm.

#### 2.4.6.6 Determining Formatting Properties

This section specifies an algorithm for how to combine properties from various sources that influence the properties of a [character position](#) to obtain the final formatting.

Character, paragraph, and table properties of the text at any given character position are specified by lists of differences from the defaults. [Property Storage](#) explains how to determine defaults and how to apply property differences. This section further specifies which lists of property differences are applicable and the order in which they apply.

In general, the differences from defaults are specified by one or more styles as well as any directly applied property modifications. Multiple styles can influence the properties at a given character position. A table style, for example, can specify paragraph properties that apply to some or all paragraphs within that table. A paragraph in such a table can itself have a paragraph style, in which case two different lists of differences modify the properties of said paragraph.

Given character position **cp**, use the following algorithm to determine the properties of text at **cp**:

Part 1:

1. Determine defaults for all properties the application is interested in. For further specification, see [Property Storage](#).
2. Split the properties into three groups based on the objects they apply to: paragraph properties, character properties, and table properties as specified by [Single Property Modifies](#). These are the set of properties which will be modified throughout the algorithm to arrive at the desired properties.
3. All versions of the [FIB](#) contain exactly one [FibRgFcLcb97](#) though it can be nested in a larger structure. Read an [STSH](#) from offset **FibRgFcLcb97.fcStshf** in the [Table Stream](#), with size **FibRgFcLcb97.lcbStshf**. From the [STSH](#), obtain an [LPStshi](#) and from that obtain an [STSHI](#).
4. Apply the property modifications specified by the **ftcAscii**, **ftcFE** and **ftcOther** members of the [STSHI.Stshif](#) along with the **ftcBi** member of [STSHI](#) if specified.
5. Determine whether **cp** is in a table or not. For further specification, see [Determining Cell Boundaries](#). If **cp** is not in a table, go to step 1 of part 2.
6. Determine the table style that is applied to the innermost row that contains **cp** as follows:
  1. Apply the algorithm from [Determining Row Boundaries](#) to obtain the character position of the TTP mark of the innermost row that contains **cp**. Call this **cpTtp**.
  2. Apply the algorithm from [Direct Paragraph Formatting](#) on **cpTtp**.
  3. Apply the array of [Pri](#) elements that was obtained to the table row and determine the **istd** of the table style applied to this table row using [sprmIstd](#). Call it **istdTable**. If no table style is applied, go to step 1 of part 2.
7. Using the algorithm from [Determining Properties of a Style](#), obtain a **grpriPapx**, **grpriChpx**, and a **grpriTapx** (if available) from the **istdTable**. Apply any property modifications specified in **grpriChpx**, **grpriPapx**, and **grpriTapx** to the character, paragraph, and table properties, respectively.

8. Find the position of the innermost cell that contains **cp** within the innermost table that contains **cp** by applying the algorithm from Determining Row Boundaries and Determining Cell Boundaries as appropriate. Specifically, determine if the innermost cell that contains **cp** belongs to the first row, first column, last row, or last column of the innermost table that contains **cp**. Also, determine whether the innermost cell that contains **cp** is in an even or an odd **horizontal band** based on horizontal banding applied in **grppriTapx** with **sprmTCHorzBands** and, similarly, if it is in an even or an odd **vertical band** based on vertical banding applied in **grppriTapx** with **sprmTCVertBands**. Note that if **sprmTTIp.grfatl** specifies that the top row of the table receives special formatting, then the top row of the table and any row with **sprmTTableHeader** applied with a value of 0x01 is not counted when determining odd or even horizontal banding. Similarly, if **sprmTTIp.grfatl** specifies that the logically leftmost column of the table receives special formatting, then that column is not counted when determining odd or even vertical banding.
9. Next, using the array of Prls obtained in step 6, determine if additional property differences need to be applied to **cp** based on its location in the table as specified by **sprmTTIp.grfatl**. If additional property differences need to be applied, look for **sprmPCnfs** within the **grppriPapx** from step 7, **sprmCCnfs** within **grppriChpx** from step 7, and **sprmTCnfs** within **grppriTapx** from step 7 whose CNFC, see **CNFOperand.cnfc**, matches the position information found in step 8. The following table specifies which CNFC values match which position information.

| <b>CNFC Value</b> | <b>Matches ...</b>   |
|-------------------|--|
| 0x0001            | Any cell in the top row or with <b>sprmTTableHeader</b> applied with a value of 0x01 if <b>sprmTTIp.grfatl</b> specifies that top row of the table receives special formatting.  |
| 0x0002            | Any cell in the bottom row if <b>sprmTTIp.grfatl</b> specifies that bottom row of the table receives special formatting and the cell does not match CNFC value 0x0001.   |
| 0x0004            | Any cell in the logically leftmost column if <b>sprmTTIp.grfatl</b> specifies that the logically leftmost column receives special formatting.  |
| 0x0008            | Any cell in the logically rightmost column if <b>sprmTTIp.grfatl</b> specifies that the logically rightmost column receives special formatting and the cell does not match CNFC value 0x0004.  |
| 0x0010            | Any cell in an odd numbered vertical band if <b>sprmTTIp.grfatl</b> specifies that odd numbered vertical bands receive special formatting and the cell does not match CNFC values 0x0004 or 0x0008.  |
| 0x0020            | Any cell in an even numbered vertical band if <b>sprmTTIp.grfatl</b> specifies that even numbered vertical bands receive special formatting, and the cell does not match CNFC values 0x0004 or 0x0008.   |
| 0x0040            | Any cell in an odd numbered horizontal band if <b>sprmTTIp.grfatl</b> specifies that odd numbered horizontal bands receive special formatting, and the cell does not match CNFC values 0x0001 or 0x0002.   |
| 0x0080            | Any cell in an even numbered horizontal band if <b>sprmTTIp.grfatl</b> specifies that even numbered horizontal bands receive special formatting, and the cell does not match CNFC values 0x0001 or 0x0002.   |
| 0x0100            | The logically rightmost cell on the top row of the table if <b>sprmTTIp.grfatl</b> specifies that both the top row and the logically rightmost column receive special formatting and the cell does not match CNFC value 0x200.                           |
| 0x0200            | The logically leftmost cell on the top row of the table if <b>sprmTTIp.grfatl</b> specifies that both the top row and the logically leftmost column receive special formatting.  |
| 0x0400            | The logically rightmost cell on the bottom row of the table if <b>sprmTTIp.grfatl</b> specifies that both the bottom row and the logically rightmost column receive special formatting and the cell does not match CNFC value 0x0100, 0x0200, or 0x0800. |
| 0x0800            | The logically leftmost cell on the bottom row of the table if <b>sprmTTIp.grfatl</b> specifies that both the bottom row and the logically leftmost column receive special formatting and the cell does not match CNFC value 0x0100 or 0x0200.            |

A single cell position can match multiple CNFC values. For example the logically rightmost cell on the top row could match all of these CNFC values: 0x0100, 0x0008, 0x0001. Apply conditional formatting in the following order.

| CNFC Values                       | Conditional Formatting Type    |
|-----------------------------------|--------------------------------|
| 0x0040 or 0x0080                  | Odd or even horizontal banding |
| 0x0010 or 0x0020                  | Odd or even vertical banding   |
| 0x0004 or 0x0008                  | First or last column           |
| 0x0001 or 0x0002                  | First or last row              |
| 0x0100, 0x0200, 0x0400, or 0x0800 | Corner cell                    |

Apply any property modifications specified in a matching `sprmCCnf`, if one exists, to the character properties. Apply any property modifications specified in a matching `sprmPCnf`, if one exists, to paragraph properties. Apply any property modifications specified in a matching `sprmTCnf`, if one exists, to table properties.

Part 2:

1. Apply the algorithm from Direct Paragraph Formatting up to and including step 4. The remaining steps of that algorithm are applied later. Obtain [GrpprAndIstd](#). Using the algorithm from Determining Properties of a Style, obtain any paragraph property modifications that are specified by **GrpprAndIstd.istd**.
2. Apply any paragraph property modifications obtained from **GrpprAndIstd.istd** in the previous step. Next, apply any paragraph property modifications found in **GrpprAndIstd.grppr**. Finally, finish the remaining steps in the algorithm from Direct Paragraph Formatting that was started in the previous step.
3. If the paragraph that contains **cp** belongs to a list, apply any further paragraph property modifications specified by the list. For information about how to determine whether a paragraph belongs to a list and how to obtain the property modifications specified by the list, see [Determining List Formatting of a Paragraph](#). At this point the paragraph properties reflect those of the paragraph that contains **cp**. The remaining steps determine the character properties.
4. Using the algorithm from Determining Properties of a Style, obtain any character property modifications specified by **GrpprAndIstd.istd** from step 1 of part 2 or the value of the last `sprmPIstdPermute` if any in **GrpprAndIstd.grppr**. Apply any character property modifications obtained from the style to the character properties.
5. Finally, using the algorithm from [Direct Character Formatting](#), obtain any property modifications to be applied to character properties and apply them.

#### 2.4.7 Application Data For VtHyperlink

The following algorithm specifies how hyperlink properties, as specified in [\[MS-OSHARED\]](#) section 2.3.3.1.18, are associated with content in a document construct their **dwApp** field value.

- If the hyperlink is associated with an OfficeArtFSP shape, as specified in [\[MS-ODRAW\]](#) section 2.2.40, the **dwApp** value MUST be 0xFFFFFFFF. Otherwise the hyperlink MUST be associated with a picture, an external link to a picture source, or other document content.
- If the hyperlink is associated directly with a picture, as opposed to the hyperlink field associated with the picture, or an external link to a picture source, the **dwApp** value MUST be set to an [FcCompressed](#) structure that specifies the starting offset of the *field result* in the [WordDocument Stream](#) associated with the picture. For further specification on *field results*, see [PlcFld](#).
- If the hyperlink is associated with any other type of document content, including the hyperlink field of a WordArt shape or picture, the **dwApp** value MUST be set to an unsigned 4-byte integer that specifies the index into a **PlcFld**. The specified **PlcFld** item corresponds to the field begin



character of the hyperlink field in the document content associated with the hyperlink property.

The hyperlink properties that have **dwApp** set to an index into a **PicFld** MUST conform to a specific ordering relative to each other when written. They MUST be written within the property set hyperlink property array **VtHyperlinks**, as specified in [MS-OSHARED] section 2.3.3.1.21, grouped according to the document **PicFld** to which the indices apply, in the following order:

1. [Main Document](#) links.
2. [Footnote Document](#) links.
3. [Header Document](#) links.
4. [Comment Document](#) links.
5. [Endnote Document](#) links.
6. [Textbox Document](#) links.
7. [Header Textbox Document](#) links.

Within these groupings the hyperlink properties MUST be ordered from largest index to smallest index.

Example:

A document contains two hyperlink fields in the Main Document, and two hyperlink fields in the Footnote Document. The field indices for the hyperlinks (h1M, and h2M) in the Main Document are 1 and 4 respectively. The field indices for the hyperlinks (h1F, and h2F) in the Footnote Document are 0 and 3 respectively.

The hyperlink properties in this example MUST be written in the order: h2M, h1M, h2F, h1F.

## 2.5 The File Information Block

### 2.5.1 Fib

The **Fib** structure contains information about the document and specifies the file pointers to various portions that make up the document.

The **Fib** is a variable length structure. With the exception of the base portion which is fixed in size, every section is preceded with a count field that specifies the size of the next section.

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| base (32 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| csw             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | fibRgW (28 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



|                    |                           |
|--------------------|---------------------------|
| ...                | cslw                      |
| fibRgLw (88 bytes) |                           |
| ...                |                           |
| ...                |                           |
| cbRgFcLcb          | fibRgFcLcbBlob (variable) |
| ...                |                           |
| cswNew             | fibRgCswNew (variable)    |
| ...                |                           |

**base (32 bytes):** The [FibBase](#).

**csw (2 bytes):** An unsigned integer that specifies the count of 16-bit values corresponding to **fibRgW** that follow. MUST be 0x000E.

**fibRgW (28 bytes):** The [FibRgW97](#).

**cslw (2 bytes):** An unsigned integer that specifies the count of 32-bit values corresponding to **fibRgLw** that follow. MUST be 0x0016.

**fibRgLw (88 bytes):** The [FibRgLw97](#).

**cbRgFcLcb (2 bytes):** An unsigned integer that specifies the count of 64-bit values corresponding to **fibRgFcLcbBlob** that follow. This MUST be one of the following values, depending on the value of [nFib](#).

| Value of nFib | cbRgFcLcb |
|---------------|-----------|
| 0x00C1        | 0x005D    |
| 0x00D9        | 0x006C    |
| 0x0101        | 0x0088    |
| 0x010C        | 0x00A4    |
| 0x0112        | 0x00B7    |

**fibRgFcLcbBlob (variable):** The [FibRgFcLcb](#).

**cswNew (2 bytes):** An unsigned integer that specifies the count of 16-bit values corresponding to **fibRgCswNew** that follow. This MUST be one of the following values, depending on the value of [nFib](#).

| Value of nFib | cswNew |
|---------------|--------|
| 0x00C1        | 0      |
| 0x00D9        | 0x0002 |
| 0x0101        | 0x0002 |
| 0x010C        | 0x0002 |
| 0x0112        | 0x0005 |

**fibRgCswNew (variable):** If **cswNew** is nonzero, this is [fibRgCswNew](#). Otherwise, it is not present in the file.

## 2.5.2 FibBase

The **FibBase** structure is the fixed-size portion of the [Fib](#).

| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16        | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| wIdent    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | nFib      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| unused    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | lid       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| pnNext    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | A         | B  | C  | D  | E  |    |    |    | F  | G  | H  | I  | J  | K  | L  | M  |
| nFibBack  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | lKey      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | envr      |    |    |    |    |    | N  | O  | P  | Q  | R  | S  |    |    |    |    |
| reserved3 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | reserved4 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved5 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved6 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**wIdent (2 bytes):** An unsigned integer that specifies that this is a Word Binary File. This value MUST be 0xA5EC.

**nFib (2 bytes):** An unsigned integer that specifies the version number of the file format used. Superseded by [FibRgCswNew.nFibNew](#) if it is present. This value SHOULD [<12>](#) be 0x00C1.

**unused (2 bytes):** This value is undefined and MUST be ignored.

**lid (2 bytes):** A [LID](#) that specifies the install language of the application that is producing the document. If [nFib](#) is 0x00D9 or greater, then any East Asian install lid or any install lid with a base language of Spanish, German or French MUST be recorded as lidAmerican. If the nFib is 0x0101 or greater, then any install lid with a base language of Vietnamese, Thai, or Hindi MUST be recorded as lidAmerican.

**pnNext (2 bytes):** An unsigned integer that specifies the offset in the [WordDocument stream](#) of the **FIB** for the document which contains all the **AutoText** items. If this value is 0, there are no AutoText items attached. Otherwise the **FIB** is found at file location **pnNext**×512. If **fGlsy** is 1 or **fDot** is 0, this value MUST be 0. If **pnNext** is not 0, each **FIB** MUST share the same values for

[FibRgFcLcb97.fcPlcBteChpx](#), [FibRgFcLcb97.lcbPlcBteChpx](#), [FibRgFcLcb97.fcPlcBtePapx](#), [FibRgFcLcb97.lcbPlcBtePapx](#), and [FibRgLw97.cbMac](#).

- A - fDot (1 bit):** Specifies whether this is a **document template**.
- B - fGlsy (1 bit):** Specifies whether this is a document that contains only AutoText items (see [FibRgFcLcb97.fcSttbfGlsy](#), [FibRgFcLcb97.fcPlcfGlsy](#) and [FibRgFcLcb97.fcSttbGlsyStyle](#)).
- C - fComplex (1 bit):** Specifies that the last save operation that was performed on this document was an **incremental save** operation.
- D - fHasPic (1 bit):** When set to 0, there SHOULD<13> be no pictures in the document.
- E - cQuickSaves (4 bits):** An unsigned integer. If nFib is less than 0x00D9, then **cQuickSaves** specifies the number of consecutive times this document was incrementally saved. If nFib is 0x00D9 or greater, then **cQuickSaves** MUST be 0xF.
- F - fEncrypted (1 bit):** Specifies whether the document is encrypted or obfuscated as specified in [Encryption and Obfuscation](#).
- G - fWhichTblStm (1 bit):** Specifies the [Table stream](#) to which the **FIB** refers. When this value is set to 1, use 1Table; when this value is set to 0, use 0Table.
- H - fReadOnlyRecommended (1 bit):** Specifies whether the document author recommended that the document be opened in read-only mode.
- I - fWriteReservation (1 bit):** Specifies whether the document has a **write-reservation password**.
- J - fExtChar (1 bit):** This value MUST be 1.
- K - fLoadOverride (1 bit):** Specifies whether to override the language information and font that are specified in the paragraph style at [istd 0](#) (the normal style) with the defaults that are appropriate for the installation language of the application.
- L - fFarEast (1 bit):** Specifies whether the installation language of the application that created the document was an **East Asian language**.
- M - fObfuscated (1 bit):** If **fEncrypted** is 1, this bit specifies whether the document is obfuscated by using XOR obfuscation (section [2.2.6.1](#)); otherwise, this bit MUST be ignored.
- nFibBack (2 bytes):** This value SHOULD<14> be 0x00BF. This value MUST be 0x00BF or 0x00C1.
- lKey (4 bytes):** If **fEncrypted** is 1 and **fObfuscation** is 1, this value specifies the XOR obfuscation (section [2.2.6.1](#)) password verifier. If **fEncrypted** is 1 and **fObfuscation** is 0, this value specifies the size of the **EncryptionHeader** that is stored at the beginning of the Table stream as described in [Encryption and Obfuscation](#). Otherwise, this value MUST be 0.
- envr (1 byte):** This value MUST be 0, and MUST be ignored.
- N - fMac (1 bit):** This value MUST be 0, and MUST be ignored.
- O - fEmptySpecial (1 bit):** This value SHOULD<15> be 0 and SHOULD<16> be ignored.
- P - fLoadOverridePage (1 bit):** Specifies whether to override the section properties for page size, orientation, and margins with the defaults that are appropriate for the installation language of the application.
- Q - reserved1 (1 bit):** This value is undefined and MUST be ignored.
- R - reserved2 (1 bit):** This value is undefined and MUST be ignored.

**S - fSpare0 (3 bits):** This value is undefined and MUST be ignored.

**reserved3 (2 bytes):** This value MUST be 0 and MUST be ignored.

**reserved4 (2 bytes):** This value MUST be 0 and MUST be ignored.

**reserved5 (4 bytes):** This value is undefined and MUST be ignored.

**reserved6 (4 bytes):** This value is undefined and MUST be ignored.

### 2.5.3 FibRgW97

The **FibRgW97** structure is a variable-length portion of the [Fib](#).

| 0          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16         | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| reserved1  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | reserved2  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved3  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | reserved4  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved5  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | reserved6  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved7  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | reserved8  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved9  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | reserved10 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved11 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | reserved12 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved13 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | lidFE      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**reserved1 (2 bytes):** This value is undefined and MUST be ignored.

**reserved2 (2 bytes):** This value is undefined and MUST be ignored.

**reserved3 (2 bytes):** This value is undefined and MUST be ignored.

**reserved4 (2 bytes):** This value is undefined and MUST be ignored.

**reserved5 (2 bytes):** This value SHOULD [<17>](#) be zero, and MUST be ignored.

**reserved6 (2 bytes):** This value SHOULD [<18>](#) be zero, and MUST be ignored.

**reserved7 (2 bytes):** This value SHOULD [<19>](#) be zero, and MUST be ignored.

**reserved8 (2 bytes):** This value SHOULD [<20>](#) be zero, and MUST be ignored.

**reserved9 (2 bytes):** This value SHOULD [<21>](#) be zero, and MUST be ignored.

**reserved10 (2 bytes):** This value SHOULD [<22>](#) be zero, and MUST be ignored.

**reserved11 (2 bytes):** This value SHOULD [<23>](#) be zero, and MUST be ignored.

**reserved12 (2 bytes):** This value SHOULD [<24>](#) be zero, and MUST be ignored.

**reserved13 (2 bytes):** This value SHOULD [<25>](#) be zero, and MUST be ignored.

**lidFE (2 bytes):** A [LID](#) whose meaning depends on the [nFib](#) value, which is one of the following.

| nFib value                           | Meaning   |
|--------------------------------------|---|
| 0x00C1                               | If <b>FibBase.fFarEast</b> is "true", this is the <b>LID</b> of the stored style names. Otherwise it MUST be ignored. |
| 0x00D9<br>0x0101<br>0x010C<br>0x0112 | The <b>LID</b> of the stored style names ( <b>STD.xstzName</b> )  |

## 2.5.4 FibRgLw97

The **FibRgLw97** structure is the third section of the **FIB**. This contains an array of 4-byte values.

| 0          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| cbMac      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved1  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved2  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ccpText    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ccpFtn     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ccpHdd     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved3  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ccpAtn     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ccpEdn     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ccpTxbx    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ccpHdrTxbx |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved4  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved5  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved6  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved7  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved8  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved9  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|            |
|------------|
| reserved10 |
| reserved11 |
| reserved12 |
| reserved13 |
| reserved14 |

**cbMac (4 bytes):** Specifies the count of bytes of those written to the [WordDocument stream](#) of the file that have any meaning. All bytes in the WordDocument stream at offset **cbMac** and greater MUST be ignored.

**reserved1 (4 bytes):** This value is undefined and MUST be ignored.

**reserved2 (4 bytes):** This value is undefined and MUST be ignored.

**ccpText (4 bytes):** A signed integer that specifies the count of [CPs](#) in the [main document](#). This value MUST be zero, 1, or greater.

**ccpFtn (4 bytes):** A signed integer that specifies the count of CPs in the [footnote subdocument](#). This value MUST be zero, 1, or greater.

**ccpHdd (4 bytes):** A signed integer that specifies the count of CPs in the [header subdocument](#). This value MUST be zero, 1, or greater.

**reserved3 (4 bytes):** This value MUST be zero and MUST be ignored.

**ccpAtn (4 bytes):** A signed integer that specifies the count of CPs in the [comment subdocument](#). This value MUST be zero, 1, or greater.

**ccpEdn (4 bytes):** A signed integer that specifies the count of CPs in the [endnote subdocument](#). This value MUST be zero, 1, or greater.

**ccpTxbx (4 bytes):** A signed integer that specifies the count of CPs in the [textbox subdocument of the main document](#). This value MUST be zero, 1, or greater.

**ccpHdrTxbx (4 bytes):** A signed integer that specifies the count of CPs in the [textbox subdocument of the header](#). This value MUST be zero, 1, or greater.

**reserved4 (4 bytes):** This value is undefined and MUST be ignored.

**reserved5 (4 bytes):** This value is undefined and MUST be ignored.

**reserved6 (4 bytes):** This value MUST be equal or less than the number of data elements in [PlcBteChpx](#), as specified by [FibRgFcLcb97.fcPlcfBteChpx](#) and [FibRgFcLcb97.lcbPlcfBteChpx](#). This value MUST be ignored.

**reserved7 (4 bytes):** This value is undefined and MUST be ignored

**reserved8 (4 bytes):** This value is undefined and MUST be ignored

**reserved9 (4 bytes):** This value MUST be less than or equal to the number of data elements in [PlcBtePapx](#), as specified by [FibRgFcLcb97.fcPlcfBtePapx](#) and [FibRgFcLcb97.lcbPlcfBtePapx](#). This value MUST be ignored.

**reserved10 (4 bytes):** This value is undefined and MUST be ignored.

**reserved11 (4 bytes):** This value is undefined and MUST be ignored.

**reserved12 (4 bytes):** This value SHOULD [be zero](#), and MUST be ignored.

**reserved13 (4 bytes):** This value MUST be zero and MUST be ignored.

**reserved14 (4 bytes):** This value MUST be zero and MUST be ignored.

### 2.5.5 FibRgFcLcb

The **FibRgFcLcb** structure specifies the file offsets and byte counts for various portions of the data in the document. The structure of **FibRgFcLcb** depends on the value of [nFib](#), which is one of the following.

| Value  | Meaning                        |
|--------|--------------------------------|
| 0x00C1 | <a href="#">fibRgFcLcb97</a>   |
| 0x00D9 | <a href="#">fibRgFcLcb2000</a> |
| 0x0101 | <a href="#">fibRgFcLcb2002</a> |
| 0x010C | <a href="#">fibRgFcLcb2003</a> |
| 0x0112 | <a href="#">fibRgFcLcb2007</a> |

### 2.5.6 FibRgFcLcb97

The **FibRgFcLcb97** structure is a variable-length portion of the [Fib](#).

| 0             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| fcStshfOrig   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbStshfOrig  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcStshf       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbStshf      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcffndRef  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbPlcffndRef |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcffndTxt  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbPlcffndTxt |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcfandRef  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbPlcfandRef |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcfandTxt  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                |
|----------------|
| lcbPlcfandTxt  |
| fcPlcfSed      |
| lcbPlcfSed     |
| fcPlcPad       |
| lcbPlcPad      |
| fcPlcfPhe      |
| lcbPlcfPhe     |
| fcSttbfGlsy    |
| lcbSttbfGlsy   |
| fcPlcfGlsy     |
| lcbPlcfGlsy    |
| fcPlcfHdd      |
| lcbPlcfHdd     |
| fcPlcfBteChpx  |
| lcbPlcfBteChpx |
| fcPlcfBtePapx  |
| lcbPlcfBtePapx |
| fcPlcfSea      |
| lcbPlcfSea     |
| fcSttbfFfn     |
| lcbSttbfFfn    |
| fcPlcfFldMom   |
| lcbPlcfFldMom  |
| fcPlcfFldHdr   |
| lcbPlcfFldHdr  |



|               |
|---------------|
| fcPlcfFldFtn  |
| lcbPlcfFldFtn |
| fcPlcfFldAtn  |
| lcbPlcfFldAtn |
| fcPlcfFldMcr  |
| lcbPlcfFldMcr |
| fcSttbfBkmk   |
| lcbSttbfBkmk  |
| fcPlcfBkf     |
| lcbPlcfBkf    |
| fcPlcfBkl     |
| lcbPlcfBkl    |
| fcCmds        |
| lcbCmds       |
| fcUnused1     |
| lcbUnused1    |
| fcSttbfMcr    |
| lcbSttbfMcr   |
| fcPrDrvr      |
| lcbPrDrvr     |
| fcPrEnvPort   |
| lcbPrEnvPort  |
| fcPrEnvLand   |
| lcbPrEnvLand  |
| fcWss         |

|                    |
|--------------------|
| IcbWss             |
| fcDop              |
| IcbDop             |
| fcSttbfAssoc       |
| IcbSttbfAssoc      |
| fcClx              |
| IcbClx             |
| fcPlcfPgdFtn       |
| IcbPlcfPgdFtn      |
| fcAutosaveSource   |
| IcbAutosaveSource  |
| fcGrpXstAtnOwners  |
| IcbGrpXstAtnOwners |
| fcSttbfAtnBkmk     |
| IcbSttbfAtnBkmk    |
| fcUnused2          |
| IcbUnused2         |
| fcUnused3          |
| IcbUnused3         |
| fcPlcSpaMom        |
| IcbPlcSpaMom       |
| fcPlcSpaHdr        |
| IcbPlcSpaHdr       |
| fcPlcfAtnBkf       |
| IcbPlcfAtnBkf      |

|                     |
|---------------------|
| fcPlcfAtnBkl        |
| lcbPlcfAtnBkl       |
| fcPms               |
| lcbPms              |
| fcFormFldSttbs      |
| lcbFormFldSttbs     |
| fcPlcfendRef        |
| lcbPlcfendRef       |
| fcPlcfendTxt        |
| lcbPlcfendTxt       |
| fcPlcfFldEdn        |
| lcbPlcfFldEdn       |
| fcUnused4           |
| lcbUnused4          |
| fcDggInfo           |
| lcbDggInfo          |
| fcSttbfRMark        |
| lcbSttbfRMark       |
| fcSttbfCaption      |
| lcbSttbfCaption     |
| fcSttbfAutoCaption  |
| lcbSttbfAutoCaption |
| fcPlcfWkb           |
| lcbPlcfWkb          |
| fcPlcfSpl           |

|                    |
|--------------------|
| IcbPlcfSpl         |
| fcPlcftxbxTxt      |
| IcbPlcftxbxTxt     |
| fcPlcfFldTxbx      |
| IcbPlcfFldTxbx     |
| fcPlcfHdrtxbxTxt   |
| IcbPlcfHdrtxbxTxt  |
| fcPlcffldHdrTxbx   |
| IcbPlcffldHdrTxbx  |
| fcStwUser          |
| IcbStwUser         |
| fcSttbTtmbd        |
| IcbSttbTtmbd       |
| fcCookieData       |
| IcbCookieData      |
| fcPgdMotherOldOld  |
| IcbPgdMotherOldOld |
| fcBkdMotherOldOld  |
| IcbBkdMotherOldOld |
| fcPgdFtnOldOld     |
| IcbPgdFtnOldOld    |
| fcBkdFtnOldOld     |
| IcbBkdFtnOldOld    |
| fcPgdEdnOldOld     |
| IcbPgdEdnOldOld    |

|                   |
|-------------------|
| fcBkdEdnOldOld    |
| lcbBkdEdnOldOld   |
| fcSttbfIntIFld    |
| lcbSttbfIntIFld   |
| fcRouteSlip       |
| lcbRouteSlip      |
| fcSttbSavedBy     |
| lcbSttbSavedBy    |
| fcSttbFnm         |
| lcbSttbFnm        |
| fcPlfLst          |
| lcbPlfLst         |
| fcPlfLfo          |
| lcbPlfLfo         |
| fcPlcfTxbxBkd     |
| lcbPlcfTxbxBkd    |
| fcPlcfTxbxHdrBkd  |
| lcbPlcfTxbxHdrBkd |
| fcDocUndoWord9    |
| lcbDocUndoWord9   |
| fcRgbUse          |
| lcbRgbUse         |
| fcUsp             |
| lcbUsp            |
| fcUskf            |

|                  |
|------------------|
| IcbUskf          |
| fcPlcupcRgbUse   |
| IcbPlcupcRgbUse  |
| fcPlcupcUsp      |
| IcbPlcupcUsp     |
| fcSttbGlsyStyle  |
| IcbSttbGlsyStyle |
| fcPlgosl         |
| IcbPlgosl        |
| fcPlcocx         |
| IcbPlcocx        |
| fcPlcfBteLvc     |
| IcbPlcfBteLvc    |
| dwLowDateTime    |
| dwHighDateTime   |
| fcPlcfLvcPre10   |
| IcbPlcfLvcPre10  |
| fcPlcfAsumy      |
| IcbPlcfAsumy     |
| fcPlcfGram       |
| IcbPlcfGram      |
| fcSttbListNames  |
| IcbSttbListNames |
| fcSttbUssr       |
| IcbSttbUssr      |

**fcStshfOrig (4 bytes):** This value is undefined and MUST be ignored.

**lcbStshfOrig (4 bytes):** This value is undefined and MUST be ignored.

**fcStshf (4 bytes):** An unsigned integer that specifies an offset in the [Table Stream](#). An [STSH](#) that specifies the style sheet for this document begins at this offset.

**lcbStshf (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **STSH** that begins at offset **fcStshf** in the Table Stream. This MUST be a nonzero value.

**fcPlcffndRef (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcffndRef](#) begins at this offset and specifies the locations of footnote references in the [Main Document](#), and whether those references use auto-numbering or custom symbols. If **lcbPlcffndRef** is zero, **fcPlcffndRef** is undefined and MUST be ignored.

**lcbPlcffndRef (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcffndRef** that begins at offset **fcPlcffndRef** in the Table Stream.

**fcPlcffndTxt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcffndTxt](#) begins at this offset and specifies the locations of each block of footnote text in the [Footnote Document](#). If **lcbPlcffndTxt** is zero, **fcPlcffndTxt** is undefined and MUST be ignored.

**lcbPlcffndTxt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcffndTxt** that begins at offset **fcPlcffndTxt** in the Table Stream.

**lcbPlcffndTxt** MUST be zero if [FibRgLw97.ccpFtn](#) is zero, and MUST be nonzero if [FibRgLw97.ccpFtn](#) is nonzero.

**fcPlcfandRef (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfandRef](#) begins at this offset and specifies the dates, user initials, and locations of comments in the Main Document. If **lcbPlcfandRef** is zero, **fcPlcfandRef** is undefined and MUST be ignored.

**lcbPlcfandRef (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfandRef** at offset **fcPlcfandRef** in the Table Stream.

**fcPlcfandTxt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfandTxt](#) begins at this offset and specifies the locations of comment text ranges in the [Comment Document](#). If **lcbPlcfandTxt** is zero, **fcPlcfandTxt** is undefined, and MUST be ignored.

**lcbPlcfandTxt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfandTxt** at offset **fcPlcfandTxt** in the Table Stream.

**lcbPlcfandTxt** MUST be zero if [FibRgLw97.ccpAtn](#) is zero, and MUST be nonzero if [FibRgLw97.ccpAtn](#) is nonzero.

**fcPlcfSed (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfSed](#) begins at this offset and specifies the locations of property lists for each section in the Main Document. If **lcbPlcfSed** is zero, **fcPlcfSed** is undefined and MUST be ignored.

**lcbPlcfSed (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfSed** that begins at offset **fcPlcfSed** in the Table Stream.

**fcPlcPad (4 bytes):** This value is undefined and MUST be ignored.

**lcbPlcPad (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfPhe (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [Plc](#) begins at this offset and specifies version-specific information about paragraph height. This **Plc** SHOULD NOT [<27>](#) be emitted and SHOULD [<28>](#) be ignored.

**lcbPlcfPhe (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Plc** at offset **fcPlcfPhe** in the Table Stream.

**fcSttbfGlsy (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [SttbfGlsy](#) that contains information about the AutoText items that are defined in this document begins at this offset.

**lcbSttbfGlsy (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfGlsy** at offset **fcSttbfGlsy** in the Table Stream. If **base.fGlsy** of the **Fib** that contains this **FibRgFcLcb97** is zero, this value MUST be zero.

**fcPlcfGlsy (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfGlsy](#) that contains information about the AutoText items that are defined in this document begins at this offset.

**lcbPlcfGlsy (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfGlsy** at offset **fcPlcfGlsy** in the Table Stream. If **base.fGlsy** of the **Fib** that contains this **FibRgFcLcb97** is zero, this value MUST be zero.

**fcPlcfHdd (4 bytes):** An unsigned integer that specifies the offset in the Table Stream where a [Plcfhdd](#) begins. The **Plcfhdd** specifies the locations of each block of header/footer text in the [WordDocument Stream](#). If **lcbPlcfHdd** is 0, **fcPlcfHdd** is undefined and MUST be ignored.

**lcbPlcfHdd (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Plcfhdd** at offset **fcPlcfHdd** in the Table Stream. If there is no **Plcfhdd**, this value MUST be zero. A **Plcfhdd** MUST exist if **FibRgLw97.ccpHdd** indicates that there are characters in the [Header Document](#) (that is, if **FibRgLw97.ccpHdd** is greater than 0). Otherwise, the **Plcfhdd** MUST NOT exist.

**fcPlcfBteChpx (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfBteChpx](#) begins at the offset. **fcPlcfBteChpx** MUST be greater than zero, and MUST be a valid offset in the Table Stream.

**lcbPlcfBteChpx (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBteChpx** at offset **fcPlcfBteChpx** in the Table Stream. **lcbPlcfBteChpx** MUST be greater than zero.

**fcPlcfBtePapx (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfBtePapx](#) begins at the offset. **fcPlcfBtePapx** MUST be greater than zero, and MUST be a valid offset in the Table Stream.

**lcbPlcfBtePapx (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBtePapx** at offset **fcPlcfBtePapx** in the Table Stream. **lcbPlcfBteChpx** MUST be greater than zero.

**fcPlcfSea (4 bytes):** This value is undefined and MUST be ignored.

**lcbPlcfSea (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcSttbfFfn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfFfn](#) begins at this offset. This table specifies the fonts that are used in the document. If **lcbSttbfFfn** is 0, **fcSttbfFfn** is undefined and MUST be ignored.

**lcbSttbfFfn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfFfn** at offset **fcSttbfFfn** in the Table Stream.

**fcPlcfFldMom (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfFld](#) begins at this offset and specifies the locations of field characters in the Main Document. All CPs in this **PlcfFld** MUST be greater than or equal to 0 and less than or equal to **FibRgLw97.ccpText**. If **lcbPlcfFldMom** is zero, **fcPlcfFldMom** is undefined and MUST be ignored.

**lcbPlcfFldMom (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfFld** at offset **fcPlcfFldMom** in the Table Stream.



**fcPlcfFldHdr (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfFld** begins at this offset and specifies the locations of field characters in the Header Document. All CPs in this **PlcfFld** are relative to the starting position of the Header Document. All CPs in this **PlcfFld** MUST be greater than or equal to zero and less than or equal to **FibRgLw97.ccpHdd**. If **lcbPlcfFldHdr** is zero, **fcPlcfFldHdr** is undefined and MUST be ignored.

**lcbPlcfFldHdr (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfFld** at offset **fcPlcfFldHdr** in the Table Stream.

**fcPlcfFldFtn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfFld** begins at this offset and specifies the locations of field characters in the Footnote Document. All CPs in this **PlcfFld** are relative to the starting position of the Footnote Document. All CPs in this **PlcfFld** MUST be greater than or equal to zero and less than or equal to **FibRgLw97.ccpFtn**. If **lcbPlcfFldFtn** is zero, **fcPlcfFldFtn** is undefined, and MUST be ignored.

**lcbPlcfFldFtn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfFld** at offset **fcPlcfFldFtn** in the Table Stream.

**fcPlcfFldAtn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfFld** begins at this offset and specifies the locations of field characters in the Comment Document. All CPs in this **PlcfFld** are relative to the starting position of the Comment Document. All CPs in this **PlcfFld** MUST be greater than or equal to zero and less than or equal to **FibRgLw97.ccpAtn**. If **lcbPlcfFldAtn** is zero, **fcPlcfFldAtn** is undefined and MUST be ignored.

**lcbPlcfFldAtn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfFld** at offset **fcPlcfFldAtn** in the Table Stream.

**fcPlcfFldMcr (4 bytes):** This value is undefined and MUST be ignored.

**lcbPlcfFldMcr (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcSttbfBkmk (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfBkmk](#) that contains the names of the bookmarks in the document begins at this offset. If **lcbSttbfBkmk** is zero, **fcSttbfBkmk** is undefined and MUST be ignored.

This **SttbfBkmk** is parallel to the [PlcfBkf](#) at offset **fcPlcfBkf** in the Table Stream. Each string specifies the name of the bookmark that is associated with the data element which is located at the same offset in that **PlcfBkf**. For this reason, the **SttbfBkmk** that begins at offset **fcSttbfBkmk**, and the **PlcfBkf** that begins at offset **fcPlcfBkf**, MUST contain the same number of elements.

**lcbSttbfBkmk (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfBkmk** at offset **fcSttbfBkmk**.

**fcPlcfBkf (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfBkf** that contains information about the standard bookmarks in the document begins at this offset. If **lcbPlcfBkf** is zero, **fcPlcfBkf** is undefined and MUST be ignored.

Each data element in the **PlcfBkf** is associated, in a one-to-one correlation, with a data element in the [PlcfBkl](#) at offset **fcPlcfBkl**. For this reason, the **PlcfBkf** that begins at offset **fcPlcfBkf**, and the **PlcfBkl** that begins at offset **fcPlcfBkl**, MUST contain the same number of data elements. This **PlcfBkf** is parallel to the **SttbfBkmk** at offset **fcSttbfBkmk** in the Table Stream. Each data element in the **PlcfBkf** specifies information about the bookmark that is associated with the element which is located at the same offset in that **SttbfBkmk**. For this reason, the **PlcfBkf** that begins at offset **fcPlcfBkf**, and the **SttbfBkmk** that begins at offset **fcSttbfBkmk**, MUST contain the same number of elements.

The largest value that a [CP](#) marking the start or end of a standard bookmark is allowed to have is the CP representing the end of all [document parts](#).

**lcbPlcfBkf (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBkf** at offset **fcPlcfBkf**.

**fcPlcfBkl (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfBkl** that contains information about the standard bookmarks in the document begins at this offset. If **lcbPlcfBkl** is zero, **fcPlcfBkl** is undefined and MUST be ignored.

Each data element in the **PlcfBkl** is associated, in a one-to-one correlation, with a data element in the **PlcfBkf** at offset **fcPlcfBkf**. For this reason, the **PlcfBkl** that begins at offset **fcPlcfBkl**, and the **PlcfBkf** that begins at offset **fcPlcfBkf**, MUST contain the same number of data elements.

The largest value that a CP marking the start or end of a standard bookmark is allowed to have is the value of the CP representing the end of all document parts.

**lcbPlcfBkl (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBkl** at offset **fcPlcfBkl**.

**fcCmds (4 bytes):** An unsigned integer that specifies the offset in the Table Stream of a **Tcg** that specifies command-related customizations. If **lcbCmds** is zero, **fcCmds** is undefined and MUST be ignored.

**lcbCmds (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Tcg** at offset **fcCmds**.

**fcUnused1 (4 bytes):** This value is undefined and MUST be ignored.

**lcbUnused1 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcSttbfMcr (4 bytes):** This value is undefined and MUST be ignored.

**lcbSttbfMcr (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPrDrvr (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The **PrDrvr**, which contains printer driver information (the names of drivers, port, and so on), begins at this offset. If **lcbPrDrvr** is zero, **fcPrDrvr** is undefined and MUST be ignored.

**lcbPrDrvr (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PrDrvr** at offset **fcPrDrvr**.

**fcPrEnvPort (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The **PrEnvPort** that is the print environment in portrait mode begins at this offset. If **lcbPrEnvPort** is zero, **fcPrEnvPort** is undefined and MUST be ignored.

**lcbPrEnvPort (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PrEnvPort** at offset **fcPrEnvPort**.

**fcPrEnvLand (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The **PrEnvLand** that is the print environment in landscape mode begins at this offset. If **lcbPrEnvLand** is zero, **fcPrEnvLand** is undefined and MUST be ignored.

**lcbPrEnvLand (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PrEnvLand** at offset **fcPrEnvLand**.

**fcWss (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **Selsf** begins at this offset and specifies the last selection that was made in the Main Document. If **lcbWss** is zero, **fcWss** is undefined and MUST be ignored.

**lcbWss (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Selsf** at offset **fcWss**.

**fcDop (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **Dop** begins at this offset.

**lcbDop (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Dopat fcDop**. This value MUST NOT be zero.

**fcSttbfAssoc (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfAssoc](#) that contains strings that are associated with the document begins at this offset.

**lcbSttbfAssoc (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfAssoc** at offset **fcSttbfAssoc**. This value MUST NOT be zero.

**fcClx (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [Clx](#) begins at this offset.

**lcbClx (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Clx** at offset **fcClx** in the Table Stream. This value MUST be greater than zero.

**fcPlcfPgdFtn (4 bytes):** This value is undefined and MUST be ignored.

**lcbPlcfPgdFtn (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcAutosaveSource (4 bytes):** This value is undefined and MUST be ignored.

**lcbAutosaveSource (4 bytes):** This value MUST be zero and MUST be ignored.

**fcGrpXstAtnOwners (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An array of [XSTs](#) begins at this offset. The value of **cch** for all XSTs in this array MUST be less than 56. The number of entries in this array is limited to 0x7FFF. This array contains the names of authors of comments in the document. The names in this array MUST be unique. If no comments are defined, **lcbGrpXstAtnOwners** and **fcGrpXstAtnOwners** MUST be zero and MUST be ignored. If any comments are in the document, **fcGrpXstAtnOwners** MUST point to a valid array of XSTs.

**lcbGrpXstAtnOwners (4 bytes):** An unsigned integer that specifies the size, in bytes, of the XST array at offset **fcGrpXstAtnOwners** in the Table Stream.

**fcSttbfAtnBkmk (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfAtnBkmk](#) that contains information about the **annotation bookmarks** in the document begins at this offset. If **lcbSttbfAtnBkmk** is zero, **fcSttbfAtnBkmk** is undefined and MUST be ignored.

The **SttbfAtnBkmk** is parallel to the **PlcfBkf** at offset **fcPlcfAtnBkf** in the Table Stream. Each element in the **SttbfAtnBkmk** specifies information about the bookmark which is associated with the data element that is located at the same offset in that **PlcfBkf**, so the **SttbfAtnBkmk** beginning at offset **fcSttbfAtnBkmk** and the **PlcfBkf** beginning at offset **fcPlcfAtnBkf** MUST contain the same number of elements. An additional constraint upon the number of elements in the **SttbfAtnBkmk** is specified in the description of **fcPlcfAtnBkf**.

**lcbSttbfAtnBkmk (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfAtnBkmk** at offset **fcSttbfAtnBkmk**.

**fcUnused2 (4 bytes):** This value is undefined and MUST be ignored.

**lcbUnused2 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcUnused3 (4 bytes):** This value is undefined and MUST be ignored.

**lcbUnused3 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfSpaMom (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfSpa](#) begins at this offset. The **PlcfSpa** contains shape information for the Main Document. All CPs in this **PlcfSpa** are relative to the starting position of the Main Document and MUST be greater than or equal to zero and less than or equal to **cppText** in **FibRgLw97**. The final CP is undefined and MUST

be ignored, though it MUST be greater than the previous entry. If there are no shapes in the Main Document, **lcbPlcSpaMom** and **fcPlcSpaMom** MUST be zero and MUST be ignored. If there are shapes in the Main Document, **fcPlcSpaMom** MUST point to a valid PlcfSpa structure.

**lcbPlcSpaMom (4 bytes):** An unsigned integer that specifies the size, in bytes, of the PlcfSpa at offset **fcPlcSpaMom**.

**fcPlcSpaHdr (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A PlcfSpa begins at this offset. The PlcfSpa contains shape information for the Header Document. All CPs in this PlcfSpa are relative to the starting position of the Header Document and MUST be greater than or equal to zero and less than or equal to **ccpHdd** in FibRgLw97. The final CP is undefined and MUST be ignored, though this value MUST be greater than the previous entry. If there are no shapes in the Header Document, **lcbPlcSpaHdr** and **fcPlcSpaHdr** MUST both be zero and MUST be ignored. If there are shapes in the Header Document, **fcPlcSpaHdr** MUST point to a valid PlcfSpa structure.

**lcbPlcSpaHdr (4 bytes):** An unsigned integer that specifies the size, in bytes, of the PlcfSpa at the offset **fcPlcSpaHdr**.

**fcPlcfAtnBkf (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfBkf** that contains information about annotation bookmarks in the document begins at this offset. If **lcbPlcfAtnBkf** is zero, **fcPlcfAtnBkf** is undefined and MUST be ignored.

Each data element in the **PlcfBkf** is associated, in a one-to-one correlation, with a data element in the **PlcfBkl** at offset **fcPlcfAtnBkl**. For this reason, the **PlcfBkf** that begins at offset **fcPlcfAtnBkf**, and the **PlcfBkl** that begins at offset **fcPlcfAtnBkl**, MUST contain the same number of data elements. The **PlcfBkf** is parallel to the **SttbfAtnBkmk** at offset **fcSttbfAtnBkmk** in the Table Stream. Each data element in the **PlcfBkf** specifies information about the bookmark which is associated with the element that is located at the same offset in that **SttbfAtnBkmk**. For this reason, the **PlcfBkf** that begins at offset **fcPlcfAtnBkf**, and the **SttbfAtnBkmk** that begins at offset **fcSttbfAtnBkmk**, MUST contain the same number of elements.

The CP range of an annotation bookmark MUST be in the Main Document part.

**lcbPlcfAtnBkf (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBkf** at offset **fcPlcfAtnBkf**.

**fcPlcfAtnBkl (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfBkl** that contains information about annotation bookmarks in the document begins at this offset. If **lcbPlcfAtnBkl** is zero, then **fcPlcfAtnBkl** is undefined and MUST be ignored.

Each data element in the **PlcfBkl** is associated, in a one-to-one correlation, with a data element in the **PlcfBkf** at offset **fcPlcfAtnBkf**. For this reason, the **PlcfBkl** that begins at offset **fcPlcfAtnBkl**, and the **PlcfBkf** that begins at offset **fcPlcfAtnBkf**, MUST contain the same number of data elements.

The CP range of an annotation bookmark MUST be in the Main Document part.

**lcbPlcfAtnBkl (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBkl** at offset **fcPlcfAtnBkl**.

**fcPms (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **Pms**, which contains the current state of a print merge operation, begins at this offset. If **lcbPms** is zero, **fcPms** is undefined and MUST be ignored.

**lcbPms (4 bytes):** An unsigned integer which specifies the size, in bytes, of the **Pms** at offset **fcPms**.

**fcFormFldSttbs (4 bytes):** This value is undefined and MUST be ignored.

**lcbFormFldSttbs (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfendRef (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfendRef](#) that begins at this offset specifies the locations of endnote references in the Main Document and whether those references use auto-numbering or custom symbols. If **lcbPlcfendRef** is zero, **fcPlcfendRef** is undefined and MUST be ignored.

**lcbPlcfendRef (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfendRef** that begins at offset **fcPlcfendRef** in the Table Stream.

**fcPlcfendTxt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfendTxt](#) begins at this offset and specifies the locations of each block of endnote text in the [Endnote Document](#). If **lcbPlcfendTxt** is zero, **fcPlcfendTxt** is undefined and MUST be ignored.

**lcbPlcfendTxt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfendTxt** that begins at offset **fcPlcfendTxt** in the Table Stream.

**lcbPlcfendTxt** MUST be zero if **FibRgLw97.ccpEdn** is zero, and MUST be nonzero if **FibRgLw97.ccpEdn** is nonzero.

**fcPlcfFldEdn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcFld** begins at this offset and specifies the locations of field characters in the Endnote Document. All CPs in this **PlcFld** are relative to the starting position of the Endnote Document. All CPs in this **PlcFld** MUST be greater than or equal to zero and less than or equal to **FibRgLw97.ccpEdn**. If **lcbPlcfFldEdn** is zero, **fcPlcfFldEdn** is undefined and MUST be ignored.

**lcbPlcfFldEdn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcFld** at offset **fcPlcfFldEdn** in the Table Stream.

**fcUnused4 (4 bytes):** This value is undefined and MUST be ignored.

**lcbUnused4 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcDggInfo (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [OfficeArtContent](#) that contains information about the drawings in the document begins at this offset.

**lcbDggInfo (4 bytes):** An unsigned integer that specifies the size, in bytes, of the OfficeArtContent at the offset **fcDggInfo**. If **lcbDggInfo** is zero, there MUST NOT be any drawings in the document.

**fcSttbfRMark (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfRMark](#) that contains the names of authors who have added revision marks or comments to the document begins at this offset. If **lcbSttbfRMark** is zero, **fcSttbfRMark** is undefined and MUST be ignored.

**lcbSttbfRMark (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfRMark** at the offset **fcSttbfRMark**.

**fcSttbfCaption (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfCaption](#) that contains information about the **captions** that are defined in this **document** begins at this offset. If **lcbSttbfCaption** is zero, **fcSttbfCaption** is undefined and MUST be ignored. If this document is not the **Normal template**, this value MUST be ignored.

**lcbSttbfCaption (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfCaption** at offset **fcSttbfCaption** in the Table Stream. If **base.fDot** of the Fib that contains this **FibRgFclcb97** is zero, this value MUST be zero.

**fcSttbfAutoCaption (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [SttbfAutoCaption](#) that contains information about the **AutoCaption** strings defined in this

document begins at this offset. If **lcbSttbfAutoCaption** is zero, **fcSttbfAutoCaption** is undefined and MUST be ignored. If this document is not the Normal template, this value MUST be ignored.

**lcbSttbfAutoCaption (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfAutoCaption** at offset **fcSttbfAutoCaption** in the Table Stream. If **base.fDot** of the **Fib** that contains this **FibRgFcLcb97** is zero, this MUST be zero.

**fcPlcfWkb (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfWKB** that contains information about all master documents and subdocuments begins at this offset.

**lcbPlcfWkb (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfWKB** at offset **fcPlcfWkb** in the Table Stream. If **lcbPlcfWkb** is zero, **fcPlcfWkb** is undefined and MUST be ignored.

**fcPlcfSpl (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfSpl**, which specifies the state of the spell checker for each text range, begins at this offset. If **lcbPlcfSpl** is zero, then **fcPlcfSpl** is undefined and MUST be ignored.

**lcbPlcfSpl (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfSpl** that begins at offset **fcPlcfSpl** in the Table Stream.

**fcPlcftxbxTxt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcftxbxTxt** begins at this offset and specifies which ranges of text are contained in which textboxes. If **lcbPlcftxbxTxt** is zero, **fcPlcftxbxTxt** is undefined and MUST be ignored.

**lcbPlcftxbxTxt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcftxbxTxt** that begins at offset **fcPlcftxbxTxt** in the Table Stream.

**lcbPlcftxbxTxt** MUST be zero if **FibRgLw97.ccpTxbx** is zero, and MUST be nonzero if **FibRgLw97.ccpTxbx** is nonzero.

**fcPlcfFldTxbx (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfFld** begins at this offset and specifies the locations of field characters in the [Textbox Document](#). All CPs in this **PlcfFld** are relative to the starting position of the Textbox Document. All CPs in this **PlcfFld** MUST be greater than or equal to zero and less than or equal to **FibRgLw97.ccpTxbx**. If **lcbPlcfFldTxbx** is zero, **fcPlcfFldTxbx** is undefined and MUST be ignored.

**lcbPlcfFldTxbx (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfFld** at offset **fcPlcfFldTxbx** in the Table Stream.

**fcPlcfHdrtxbxTxt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfHdrtxbxTxt** begins at this offset and specifies which ranges of text are contained in which [header textboxes](#).

**lcbPlcfHdrtxbxTxt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfHdrtxbxTxt** that begins at offset **fcPlcfHdrtxbxTxt** in the Table Stream.

**lcbPlcfHdrtxbxTxt** MUST be zero if **FibRgLw97.ccpHdrTxbx** is zero, and MUST be nonzero if **FibRgLw97.ccpHdrTxbx** is nonzero.

**fcPlcffldHdrTxbx (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **Plcffld** begins at this offset and specifies the locations of field characters in the Header Textbox Document. All CPs in this **Plcffld** are relative to the starting position of the Header Textbox Document. All CPs in this **Plcffld** MUST be greater than or equal to zero and less than or equal to **FibRgLw97.ccpHdrTxbx**. If **lcbPlcffldHdrTxbx** is zero, **fcPlcffldHdrTxbx** is undefined, and MUST be ignored.

**lcbPlcffldHdrTxbx (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Plcffld** at offset **fcPlcffldHdrTxbx** in the Table Stream.



**fcStwUser (4 bytes):** An unsigned integer that specifies an offset into the Table Stream. An [StwUser](#) that specifies the user-defined variables and **VBA** digital signature, as specified by [\[MS-OSHARED\]](#) section 2.3.2, begins at this offset. If **lcbStwUser** is zero, **fcStwUser** is undefined and MUST be ignored.

**lcbStwUser (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **StwUser** at offset **fcStwUser**.

**fcSttbTtmbd (4 bytes):** An unsigned integer that specifies an offset into the Table Stream. A [SttbTtmbd](#) begins at this offset and specifies information about the **TrueType fonts** that are embedded in the document. If **lcbSttbTtmbd** is zero, **fcSttbTtmbd** is undefined and MUST be ignored.

**lcbSttbTtmbd (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbTtmbd** at offset **fcSttbTtmbd**.

**fcCookieData (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [RgCdb](#) begins at this offset. If **lcbCookieData** is zero, **fcCookieData** is undefined and MUST be ignored. Otherwise, **fcCookieData** MAY [<29>](#) be ignored.

**lcbCookieData (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **RgCdb** at offset **fcCookieData** in the Table Stream.

**fcPgdMotherOldOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated document page layout cache begins at this offset. Information SHOULD NOT [<30>](#) be emitted at this offset and SHOULD [<31>](#) be ignored. If **lcbPgdMotherOldOld** is zero, **fcPgdMotherOldOld** is undefined and MUST be ignored.

**lcbPgdMotherOldOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated document page layout cache at offset **fcPgdMotherOldOld** in the Table Stream.

**fcBkdMotherOldOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated document text flow break cache begins at this offset. Information SHOULD NOT [<32>](#) be emitted at this offset and SHOULD [<33>](#) be ignored. If **lcbBkdMotherOldOld** is zero, **fcBkdMotherOldOld** is undefined and MUST be ignored.

**lcbBkdMotherOldOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated document text flow break cache at offset **fcBkdMotherOldOld** in the Table Stream.

**fcPgdFtnOldOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated footnote layout cache begins at this offset. Information SHOULD NOT [<34>](#) be emitted at this offset and SHOULD [<35>](#) be ignored. If **lcbPgdFtnOldOld** is zero, **fcPgdFtnOldOld** is undefined and MUST be ignored.

**lcbPgdFtnOldOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated footnote layout cache at offset **fcPgdFtnOldOld** in the Table Stream.

**fcBkdFtnOldOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated footnote text flow break cache begins at this offset. Information SHOULD NOT [<36>](#) be emitted at this offset and SHOULD [<37>](#) be ignored. If **lcbBkdFtnOldOld** is zero, **fcBkdFtnOldOld** is undefined and MUST be ignored.

**lcbBkdFtnOldOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated footnote text flow break cache at offset **fcBkdFtnOldOld** in the Table Stream.

**fcPgdEdnOldOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated endnote layout cache begins at this offset. Information SHOULD NOT [<38>](#) be emitted at this offset and SHOULD [<39>](#) be ignored. If **lcbPgdEdnOldOld** is zero, **fcPgdEdnOldOld** is undefined and MUST be ignored.

**lcbPgdEdnOldOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated endnote layout cache at offset **fcPgdEdnOldOld** in the Table Stream.

**fcBkdEdnOldOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated endnote text flow break cache begins at this offset. Information SHOULD NOT <40> be emitted at this offset and SHOULD <41> be ignored. If **lcbBkdEdnOldOld** is zero, **fcBkdEdnOldOld** is undefined and MUST be ignored.

**lcbBkdEdnOldOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated endnote text flow break cache at offset **fcBkdEdnOldOld** in the Table Stream.

**fcSttbfIntIFld (4 bytes):** This value is undefined and MUST be ignored.

**lcbSttbfIntIFld (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcRouteSlip (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [RouteSlip](#) that specifies the route slip for this document begins at this offset. This value SHOULD <42> be ignored.

**lcbRouteSlip (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **RouteSlip** at offset **fcRouteSlip** in the Table Stream.

**fcSttbSavedBy (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [SttbSavedBy](#) that specifies the save history of this document begins at this offset. This value SHOULD <43> be ignored.

**lcbSttbSavedBy (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbSavedBy** at the offset **fcSttbSavedBy**. This value SHOULD <44> be zero.

**fcSttbFnm (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbFnm](#) that contains information about the external files that are referenced by this document begins at this offset. If **lcbSttbFnm** is zero, **fcSttbFnm** is undefined and MUST be ignored.

**lcbSttbFnm (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbFnm** at the offset **fcSttbFnm**.

**fcPifLst (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PifLst](#) that contains list formatting information begins at this offset. An array of [LVLs](#) is appended to the **PifLst**. **lcbPifLst** does not account for the array of **LVLs**. The size of the array of **LVLs** is specified by the [LSTFs](#) in **PifLst**. For each **LSTF** whose **fSimpleList** is set to 0x1, there is one **LVL** in the array of **LVLs** that specifies the level formatting of the single level in the list which corresponds to the **LSTF**. And, for each **LSTF** whose **fSimpleList** is set to 0x0, there are 9 **LVLs** in the array of **LVLs** that specify the level formatting of the respective levels in the list which corresponds to the **LSTF**. This array of **LVLs** is in the same respective order as the **LSTFs** in **PifLst**. If **lcbPifLst** is 0, **fcPifLst** is undefined and MUST be ignored.

**lcbPifLst (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PifLst** at the offset **fcPifLst**. This does not include the size of the array of **LVLs** that are appended to the **PifLst**.

**fcPifLfo (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PifLfo](#) that contains list formatting override information begins at this offset. If **lcbPifLfo** is zero, **fcPifLfo** is undefined and MUST be ignored.

**lcbPifLfo (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PifLfo** at the offset **fcPifLfo**.

**fcPlcftxbxBkd (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcftxbxBkd](#) begins at this offset and specifies which ranges of text go inside which textboxes.

**lcbPlcftxbxBkd (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcftxbxBkd** that begins at offset **fcPlcftxbxBkd** in the Table Stream.



**lcbPlcFTxbxBkd** MUST be zero if **FibRgLw97.ccpTxbx** is zero, and MUST be nonzero if **FibRgLw97.ccpTxbx** is nonzero.

**fcPlcFTxbxHdrBkd (4 bytes)**: An unsigned integer that specifies an offset in the Table Stream. A [PlcFTxbxHdrBkd](#) begins at this offset and specifies which ranges of text are contained inside which header textboxes.

**lcbPlcFTxbxHdrBkd (4 bytes)**: An unsigned integer that specifies the size, in bytes, of the **PlcFTxbxHdrBkd** that begins at offset **fcPlcFTxbxHdrBkd** in the Table Stream.

**lcbPlcFTxbxHdrBkd** MUST be zero if **FibRgLw97.ccpHdrTxbx** is zero, and MUST be nonzero if **FibRgLw97.ccpHdrTxbx** is nonzero.

**fcDocUndoWord9 (4 bytes)**: An unsigned integer that specifies an offset in the WordDocument Stream. Version-specific undo information begins at this offset. This information SHOULD NOT [<45>](#) be emitted and SHOULD [<46>](#) be ignored.

**lcbDocUndoWord9 (4 bytes)**: An unsigned integer. If this is nonzero, version-specific undo information exists at offset **fcDocUndoWord9** in the WordDocument Stream.

**fcRgbUse (4 bytes)**: An unsigned integer that specifies an offset in the WordDocument Stream. Version-specific undo information begins at this offset. This information SHOULD NOT [<47>](#) be emitted and SHOULD [<48>](#) be ignored.

**lcbRgbUse (4 bytes)**: An unsigned integer that specifies the size, in bytes, of the version-specific undo information at offset **fcRgbUse** in the WordDocument Stream.

**fcUsp (4 bytes)**: An unsigned integer that specifies an offset in the WordDocument Stream. Version-specific undo information begins at this offset. This information SHOULD NOT [<49>](#) be emitted and SHOULD [<50>](#) be ignored.

**lcbUsp (4 bytes)**: An unsigned integer that specifies the size, in bytes, of the version-specific undo information at offset **fcUsp** in the WordDocument Stream.

**fcUskf (4 bytes)**: An unsigned integer that specifies an offset in the Table Stream. Version-specific undo information begins at this offset. This information SHOULD NOT [<51>](#) be emitted and SHOULD [<52>](#) be ignored.

**lcbUskf (4 bytes)**: An unsigned integer that specifies the size, in bytes, of the version-specific undo information at offset **fcUskf** in the Table Stream.

**fcPlcupcRgbUse (4 bytes)**: An unsigned integer that specifies an offset in the Table Stream. A **Plc** begins at this offset and contains version-specific undo information. This information SHOULD NOT [<53>](#) be emitted and SHOULD [<54>](#) be ignored.

**lcbPlcupcRgbUse (4 bytes)**: An unsigned integer that specifies the size, in bytes, of the **Plc** at offset **fcPlcupcRgbUse** in the Table Stream.

**fcPlcupcUsp (4 bytes)**: An unsigned integer that specifies an offset in the Table Stream. A **Plc** begins at this offset and contains version-specific undo information. This information SHOULD NOT [<55>](#) be emitted and SHOULD [<56>](#) be ignored.

**lcbPlcupcUsp (4 bytes)**: An unsigned integer that specifies the size, in bytes, of the **Plc** at offset **fcPlcupcUsp** in the Table Stream.

**fcSttbGlsyStyle (4 bytes)**: An unsigned integer that specifies an offset in the Table Stream. A [SttbGlsyStyle](#), which contains information about the **styles** that are used by the AutoText items which are defined in this document, begins at this offset.

**lcbSttbGlsyStyle (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbGlsyStyle** at offset **fcSttbGlsyStyle** in the Table Stream. If **base.fGlsy** of the **Fib** that contains this **FibRgFcLcb97** is zero, this value MUST be zero.

**fcPlgosl (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlfGosl](#) begins at the offset. If **lcbPlgosl** is zero, **fcPlgosl** is undefined and MUST be ignored.

**lcbPlgosl (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlfGosl** at offset **fcPlgosl** in the Table Stream.

**fcPlcocx (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [RgxOcxInfo](#) that specifies information about the **OLE controls** in the document begins at this offset. When there are no OLE controls in the document, **fcPlcocx** and **lcbPlcocx** MUST be zero and MUST be ignored. If there are any OLE controls in the document, **fcPlcocx** MUST point to a valid **RgxOcxInfo**.

**lcbPlcocx (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **RgxOcxInfo** at the offset **fcPlcocx**.

**fcPlcfBteLvc (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A deprecated numbering field cache begins at this offset. This information SHOULD NOT [<57>](#) be emitted and SHOULD [<58>](#) ignored. If **lcbPlcfBteLvc** is zero, **fcPlcfBteLvc** is undefined and MUST be ignored.

**lcbPlcfBteLvc (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated numbering field cache at offset **fcPlcfBteLvc** in the Table Stream. This value SHOULD [<59>](#) be zero.

**dwLowDateTime (4 bytes):** The low-order part of a **FILETIME** structure, as specified by [\[MS-DTYP\]](#), that specifies when the document was last saved.

**dwHighDateTime (4 bytes):** The high-order part of a **FILETIME** structure, as specified by [\[MS-DTYP\]](#), that specifies when the document was last saved.

**fcPlcfLvcPre10 (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated list level cache begins at this offset. Information SHOULD NOT [<60>](#) be emitted at this offset and SHOULD [<61>](#) be ignored. If **lcbPlcfLvcPre10** is zero, **fcPlcfLvcPre10** is undefined and MUST be ignored.

**lcbPlcfLvcPre10 (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated list level cache at offset **fcPlcfLvcPre10** in the Table Stream. This value SHOULD [<62>](#) be zero.

**fcPlcfAsumy (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfAsumy](#) begins at the offset. If **lcbPlcfAsumy** is zero, **fcPlcfAsumy** is undefined and MUST be ignored.

**lcbPlcfAsumy (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfAsumy** at offset **fcPlcfAsumy** in the Table Stream.

**fcPlcfGram (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [Plcfgram](#), which specifies the state of the grammar checker for each text range, begins at this offset. If **lcbPlcfGram** is zero, then **fcPlcfGram** is undefined and MUST be ignored.

**lcbPlcfGram (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Plcfgram** that begins at offset **fcPlcfGram** in the Table Stream.

**fcSttbListNames (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [SttbListNames](#), which specifies the [LISTNUM](#) field names of the lists in the document, begins at this offset. If **lcbSttbListNames** is zero, **fcSttbListNames** is undefined and MUST be ignored.

**lcbSttbListNames (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbListNames** at the offset **fcSttbListNames**.

**fcSttbfUssr (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated, version-specific undo information begins at this offset. This information SHOULD NOT [<63>](#) be emitted and SHOULD [<64>](#) be ignored.

**lcbSttbfUssr (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated, version-specific undo information at offset **fcSttbfUssr** in the Table Stream.

### 2.5.7 FibRgFcLcb2000

The **FibRgFcLcb2000** structure is a variable-sized portion of the [Fib](#). It extends the [FibRgFcLcb97](#).

| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| rgFcLcb97 (744 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcfTch             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbPlcfTch            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcRmdThreading        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbRmdThreading       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcMid                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbMid                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcSttbRgtplc          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbSttbRgtplc         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcMsoEnvelope         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbMsoEnvelope        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcfLad             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbPlcfLad            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcRgDofr              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbRgDofr             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcosl              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                  |
|------------------|
| IcbPlcosl        |
| fcPlcfCookieOld  |
| IcbPlcfCookieOld |
| fcPgdMotherOld   |
| IcbPgdMotherOld  |
| fcBkdMotherOld   |
| IcbBkdMotherOld  |
| fcPgdFtnOld      |
| IcbPgdFtnOld     |
| fcBkdFtnOld      |
| IcbBkdFtnOld     |
| fcPgdEdnOld      |
| IcbPgdEdnOld     |
| fcBkdEdnOld      |
| IcbBkdEdnOld     |

**rgFcLcb97 (744 bytes):** The contained **FibRgFcLcb97**.

**fcPlcfTch (4 bytes):** An unsigned integer that specifies an offset in the [Table Stream](#). A **PlcfTch** begins at this offset and specifies a cache of table characters. Information at this offset SHOULD [<65>](#) be ignored. If **IcbPlcfTch** is zero, **fcPlcfTch** is undefined and MUST be ignored.

**IcbPlcfTch (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfTch** at offset **fcPlcfTch**.

**fcRmdThreading (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [RmdThreading](#) that specifies the data concerning the e-mail messages and their authors in this document begins at this offset.

**IcbRmdThreading (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **RmdThreading** at the offset **fcRmdThreading**. This value MUST NOT be zero.

**fcMid (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A double-byte character Unicode string that specifies the **message identifier** of the document begins at this offset. This value MUST be ignored.

**IcbMid (4 bytes):** An unsigned integer that specifies the size, in bytes, of the double-byte character Unicode string at offset **fcMid**. This value MUST be ignored.

**fcSttbRgtplc (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [SttbRgtplc](#) that specifies the styles of lists in the document begins at this offset. If **lcbSttbRgtplc** is zero, **fcSttbRgtplc** is undefined and MUST be ignored.

**lcbSttbRgtplc (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbRgtplc** at the offset **fcSttbRgtplc**.

**fcMsoEnvelope (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An **MsoEnvelopeCLSID**, which specifies the envelope data as specified by [\[MS-OSHARED\]](#) section 2.3.8.1, begins at this offset. If **lcbMsoEnvelope** is zero, **fcMsoEnvelope** is undefined and MUST be ignored.

**lcbMsoEnvelope (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **MsoEnvelopeCLSID** at the offset **fcMsoEnvelope**.

**fcPlcflad (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [Plcflad](#) begins at this offset and specifies the language auto-detect state of each text range. If **lcbPlcflad** is zero, **fcPlcflad** is undefined and MUST be ignored.

**lcbPlcflad (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Plcflad** that begins at offset **fcPlcflad** in the Table Stream.

**fcRgDofr (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A variable-length array with elements of type [Dofrh](#) begins at that offset. The elements of this array are records that support the frame set and list style features. If **lcbRgDofr** is zero, **fcRgDofr** is undefined and MUST be ignored.

**lcbRgDofr (4 bytes):** An unsigned integer that specifies the size, in bytes, of the array that begins at offset **fcRgDofr** in the Table Stream.

**fcPlcosl (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlfCosl](#) begins at the offset. If **lcbPlcosl** is zero, **fcPlcosl** is undefined and MUST be ignored.

**lcbPlcosl (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlfCosl** at offset **fcPlcosl** in the Table Stream.

**fcPlcfCookieOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlcfcookieOld](#) begins at this offset. If **lcbPlcfcookieOld** is zero, **fcPlcfcookieOld** is undefined and MUST be ignored. **fcPlcfcookieOld** MAY [<66>](#) be ignored.

**lcbPlcfCookieOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfcookieOld** at offset **fcPlcfcookieOld** in the Table Stream.

**fcPgdMotherOld (4 bytes):** An unsigned integer that specifies an offset in the [Table Stream](#). The deprecated document page layout cache begins at this offset. Information SHOULD NOT [<67>](#) be emitted at this offset and SHOULD [<68>](#) be ignored. If **lcbPgdMotherOld** is zero, **fcPgdMotherOld** is undefined and MUST be ignored.

**lcbPgdMotherOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated document page layout cache at offset **fcPgdMotherOld** in the [Table Stream](#).

**fcBkdMotherOld (4 bytes):** An unsigned integer that specifies an offset in the [Table Stream](#). The deprecated document text flow break cache begins at this offset. Information SHOULD NOT [<69>](#) be emitted at this offset and SHOULD [<70>](#) be ignored. If **lcbBkdMotherOld** is zero, **fcBkdMotherOld** is undefined and MUST be ignored.

**lcbBkdMotherOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated document text flow break cache at offset **fcBkdMotherOld** in the [Table Stream](#).

**fcPgdFtnOld (4 bytes):** An unsigned integer that specifies an offset in the [Table Stream](#). The deprecated footnote layout cache begins at this offset. Information SHOULD NOT [<71>](#) be emitted at

this offset and SHOULD<72> be ignored. If **lcbPgdFtnOld** is zero, **fcPgdFtnOld** is undefined and MUST be ignored.

**lcbPgdFtnOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated footnote layout cache at offset **fcPgdFtnOld** in the Table Stream.

**fcBkdFtnOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated footnote text flow break cache begins at this offset. Information SHOULD NOT<73> be emitted at this offset and SHOULD<74> be ignored. If **lcbBkdFtnOld** is zero, **fcBkdFtnOld** is undefined and MUST be ignored.

**lcbBkdFtnOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated footnote text flow break cache at offset **fcBkdFtnOld** in the Table Stream.

**fcPgdEdnOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated endnote layout cache begins at this offset. Information SHOULD NOT<75> be emitted at this offset and SHOULD<76> be ignored. If **lcbPgdEdnOld** is zero, **fcPgdEdnOld** is undefined and MUST be ignored.

**lcbPgdEdnOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated endnote layout cache at offset **fcPgdEdnOld** in the Table Stream.

**fcBkdEdnOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated endnote text flow break cache begins at this offset. Information SHOULD NOT<77> be emitted at this offset and SHOULD<78> be ignored. If **lcbBkdEdnOld** is zero, **fcBkdEdnOld** is undefined and MUST be ignored.

**lcbBkdEdnOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated endnote text flow break cache at offset **fcBkdEdnOld** in the Table Stream.

## 2.5.8 FibRgFcLcb2002

The **FibRgFcLcb2002** structure is a variable-sized portion of the Fib. It extends the FibRgFcLcb2000.

| 0                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| rgFcLcb2000 (864 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcUnused1               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbUnused1              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcfPgp               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbPlcfPgp              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcfuim               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbPlcfuim              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                       |
|-----------------------|
| fcPlfguidUim          |
| IcbPlfguidUim         |
| fcAtrdExtra           |
| IcbAtrdExtra          |
| fcPlrsid              |
| IcbPlrsid             |
| fcSttbfBkmkFactoid    |
| IcbSttbfBkmkFactoid   |
| fcPlcfBkfFactoid      |
| IcbPlcfBkfFactoid     |
| fcPlcfcookie          |
| IcbPlcfcookie         |
| fcPlcfBklFactoid      |
| IcbPlcfBklFactoid     |
| fcFactoidData         |
| IcbFactoidData        |
| fcDocUndo             |
| IcbDocUndo            |
| fcSttbfBkmkFcc        |
| IcbSttbfBkmkFcc       |
| fcPlcfBkfFcc          |
| IcbPlcfBkfFcc         |
| fcPlcfBklFcc          |
| IcbPlcfBklFcc         |
| fcSttbfbkmkBPRrepairs |

|                       |
|-----------------------|
| IcbSttbfkkmkBPRepairs |
| fcPlcfbkfBPRepairs    |
| IcbPlcfbkfBPRepairs   |
| fcPlcfbkIBPRepairs    |
| IcbPlcfbkIBPRepairs   |
| fcPmsNew              |
| IcbPmsNew             |
| fcODSO                |
| IcbODSO               |
| fcPlcfpmiOldXP        |
| IcbPlcfpmiOldXP       |
| fcPlcfpmiNewXP        |
| IcbPlcfpmiNewXP       |
| fcPlcfpmiMixedXP      |
| IcbPlcfpmiMixedXP     |
| fcUnused2             |
| IcbUnused2            |
| fcPlcffactoid         |
| IcbPlcffactoid        |
| fcPlcflvcOldXP        |
| IcbPlcflvcOldXP       |
| fcPlcflvcNewXP        |
| IcbPlcflvcNewXP       |
| fcPlcflvcMixedXP      |
| IcbPlcflvcMixedXP     |



**rgFcLcb2000 (864 bytes):** The contained **FibRgFcLcb2000**.

**fcUnused1 (4 bytes):** This value is undefined and MUST be ignored.

**lcbUnused1 (4 bytes):** This value MUST be zero, and MUST be ignored

**fcPlcfPgp (4 bytes):** An unsigned integer that specifies an offset in the [Table Stream](#). A [PGPArray](#) begins at this offset. If **lcbPlcfPgp** is 0, **fcPlcfPgp** is undefined and MUST be ignored.

**lcbPlcfPgp (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PGPArray** that is stored at offset **fcPlcfPgp**.

**fcPlcfuim (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [Plcfuim](#) begins at this offset. If **lcbPlcfuim** is zero, **fcPlcfuim** is undefined and MUST be ignored.

**lcbPlcfuim (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Plcfuim** at offset **fcPlcfuim**.

**fcPlfguidUim (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PlfguidUim](#) begins at this offset. If **lcbPlfguidUim** is zero, **fcPlfguidUim** is undefined and MUST be ignored.

**lcbPlfguidUim (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlfguidUim** at offset **fcPlfguidUim**.

**fcAtrdExtra (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [AtrdExtra](#) begins at this offset. If **lcbAtrdExtra** is zero, **fcAtrdExtra** is undefined and MUST be ignored.

**lcbAtrdExtra (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **AtrdExtra** at offset **fcAtrdExtra** in the Table Stream.

**fcPlrsid (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [PLRSID](#) begins at this offset. If **lcbPlrsid** is zero, **fcPlrsid** is undefined and MUST be ignored.

**lcbPlrsid (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PLRSID** at offset **fcPlrsid** in the Table Stream.

**fcSttbfBkmkFactoid (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfBkmkFactoid](#) containing information about **smart tag bookmarks** in the document begins at this offset. If **lcbSttbfBkmkFactoid** is zero, **fcSttbfBkmkFactoid** is undefined and MUST be ignored.

The **SttbfBkmkFactoid** is parallel to the [PlcfBkfd](#) at offset **fcPlcfBkfFactoid** in the Table Stream. Each element in the **SttbfBkmkFactoid** specifies information about the bookmark that is associated with the data element which is located at the same offset in that **PlcfBkfd**. For this reason, the **SttbfBkmkFactoid** that begins at offset **fcSttbfBkmkFactoid**, and the **PlcfBkfd** that begins at offset **fcPlcfBkfFactoid**, MUST contain the same number of elements.

**lcbSttbfBkmkFactoid (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfBkmkFactoid** at offset **fcSttbfBkmkFactoid**.

**fcPlcfBkfFactoid (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfBkfd** that contains information about the smart tag bookmarks in the document begins at this offset. If **lcbPlcfBkfFactoid** is zero, **fcPlcfBkfFactoid** is undefined and MUST be ignored.

Each data element in the **PlcfBkfd** is associated, in a one-to-one correlation, with a data element in the [Plcfbkld](#) at offset **fcPlcfBklFactoid**. For this reason, the **PlcfBkfd** that begins at offset **fcPlcfBkfFactoid**, and the **Plcfbkld** that begins at offset **fcPlcfBklFactoid**, MUST contain the same number of data elements. The **PlcfBkfd** is parallel to the **SttbfBkmkFactoid** at offset **fcSttbfBkmkFactoid** in the Table Stream. Each data element in the **PlcfBkfd** specifies

information about the bookmark that is associated with the element which is located at the same offset in that **SttbfBkmkFactoid**. For this reason, the **PlcfBkfd** that begins at offset **fcPlcfBkfFactoid**, and the **SttbfBkmkFactoid** that begins at offset **fcSttbfBkmkFactoid**, MUST contain the same number of elements.

**lcbPlcfBkfFactoid (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBkfd** at offset **fcPlcfBkfFactoid**.

**fcPlcfcookie (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [Plcfcookie](#) begins at this offset. If **lcbPlcfcookie** is zero, **fcPlcfcookie** is undefined and MUST be ignored. **fcPlcfcookie** MAY <79> be ignored.

**lcbPlcfcookie (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Plcfcookie** at offset **fcPlcfcookie** in the Table Stream.

**fcPlcfBklFactoid (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **Plcfbkld** that contains information about the smart tag bookmarks in the document begins at this offset. If **lcbPlcfBklFactoid** is zero, **fcPlcfBklFactoid** is undefined and MUST be ignored.

Each data element in the **Plcfbkld** is associated, in a one-to-one correlation, with a data element in the **PlcfBkfd** at offset **fcPlcfBkfFactoid**. For this reason, the **Plcfbkld** that begins at offset **fcPlcfBklFactoid**, and the **PlcfBkfd** that begins at offset **fcPlcfBkfFactoid**, MUST contain the same number of data elements.

**lcbPlcfBklFactoid (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Plcfbkld** at offset **fcPlcfBklFactoid**.

**fcFactoidData (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [SmartTagData](#) begins at this offset and specifies information about the **smart tag recognizers** that are used in this document. If **lcbFactoidData** is zero, **fcFactoidData** is undefined and MUST be ignored.

**lcbFactoidData (4 bytes):** An unsigned integer that specifies the size, in bytes, of the SmartTagData at offset **fcFactoidData** in the Table Stream.

**fcDocUndo (4 bytes):** An unsigned integer that specifies an offset in the [WordDocument Stream](#). Version-specific undo information begins at this offset. This information SHOULD NOT <80> be emitted and SHOULD <81> be ignored.

**lcbDocUndo (4 bytes):** An unsigned integer. If this value is nonzero, version-specific undo information exists at offset **fcDocUndo** in the WordDocument Stream.

**fcSttbfBkmkFcc (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfBkmkFcc](#) that contains information about the **format consistency-checker bookmarks** in the document begins at this offset. If **lcbSttbfBkmkFcc** is zero, **fcSttbfBkmkFcc** is undefined and MUST be ignored.

The **SttbfBkmkFcc** is parallel to the **PlcfBkfd** at offset **fcPlcfBkfFcc** in the Table Stream. Each element in the **SttbfBkmkFcc** specifies information about the bookmark that is associated with the data element which is located at the same offset in that **PlcfBkfd**. For this reason, the **SttbfBkmkFcc** that begins at offset **fcSttbfBkmkFcc**, and the **PlcfBkfd** that begins at offset **fcPlcfBkfFcc**, MUST contain the same number of elements.

**lcbSttbfBkmkFcc (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfBkmkFcc** at offset **fcSttbfBkmkFcc**.

**fcPlcfBkfFcc (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfBkfd** that contains information about format consistency-checker bookmarks in the document begins at this offset. If **lcbPlcfBkfFcc** is zero, **fcPlcfBkfFcc** is undefined and MUST be ignored.

Each data element in the **PlcfBkfd** is associated, in a one-to-one correlation, with a data element in the **PlcfBkld** at offset **fcPlcfBkIFcc**. For this reason, the **PlcfBkfd** that begins at offset **fcPlcfBkfFcc** and the **PlcfBkld** that begins at offset **fcPlcfBkIFcc** MUST contain the same number of data elements. The **PlcfBkfd** is parallel to the **SttbfBkmkFcc** at offset **fcSttbfBkmkFcc** in the Table Stream. Each data element in the **PlcfBkfd** specifies information about the bookmark that is associated with the element which is located at the same offset in that **SttbfBkmkFcc**. For this reason, the **PlcfBkfd** that begins at offset **fcPlcfBkfFcc** and the **SttbfBkmkFcc** that begins at offset **fcSttbfBkmkFcc** MUST contain the same number of elements.

**lcbPlcfBkfFcc (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBkfd** at offset **fcPlcfBkfFcc**.

**fcPlcfBkIFcc (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfBkld** that contains information about the format consistency-checker bookmarks in the document begins at this offset. If **lcbPlcfBkIFcc** is zero, **fcPlcfBkIFcc** is undefined and MUST be ignored.

Each data element in the **PlcfBkld** is associated, in a one-to-one correlation, with a data element in the **PlcfBkfd** at offset **fcPlcfBkfFcc**. For this reason, the **PlcfBkld** that begins at offset **fcPlcfBkIFcc**, and the **PlcfBkfd** that begins at offset **fcPlcfBkfFcc**, MUST contain the same number of data elements.

**lcbPlcfBkIFcc (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBkld** at offset **fcPlcfBkIFcc**.

**fcSttbfBkmkBPRepairs (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An **SttbfBkmkBPRepairs** that contains information about the **repair bookmarks** in the document begins at this offset. If **lcbSttbfBkmkBPRepairs** is zero, **fcSttbfBkmkBPRepairs** is undefined and MUST be ignored.

The **SttbfBkmkBPRepairs** is parallel to the **PlcfBkf** at offset **fcPlcfBkfBPRepairs** in the Table Stream. Each element in the **SttbfBkmkBPRepairs** specifies information about the bookmark that is associated with the data element which is located at the same offset in that **PlcfBkf**. For this reason, the **SttbfBkmkBPRepairs** that begins at offset **fcSttbfBkmkBPRepairs**, and the **PlcfBkf** that begins at offset **fcPlcfBkfBPRepairs**, MUST contain the same number of elements.

**lcbSttbfBkmkBPRepairs (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfBkmkBPRepairs** at offset **fcSttbfBkmkBPRepairs**.

**fcPlcfBkfBPRepairs (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfBkf** that contains information about the repair bookmarks in the document begins at this offset. If **lcbPlcfBkfBPRepairs** is zero, **fcPlcfBkfBPRepairs** is undefined and MUST be ignored.

Each data element in the **PlcfBkf** is associated, in a one-to-one correlation, with a data element in the **PlcfBkld** at offset **fcPlcfBkIFcc**. For this reason, the **PlcfBkf** that begins at offset **fcPlcfBkfBPRepairs**, and the **PlcfBkld** that begins at offset **fcPlcfBkIFcc**, MUST contain the same number of data elements. The **PlcfBkf** is parallel to the **SttbfBkmkBPRepairs** at offset **fcSttbfBkmkBPRepairs** in the Table Stream. Each data element in the **PlcfBkf** specifies information about the bookmark that is associated with the element which is located at the same offset in that **SttbfBkmkBPRepairs**. For this reason, the **PlcfBkf** that begins at offset **fcPlcfBkfBPRepairs**, and the **SttbfBkmkBPRepairs** that begins at offset **fcSttbfBkmkBPRepairs**, MUST contain the same number of elements.

The **CPs** in this **PlcfBkf** MUST NOT exceed the CP that represents the end of the **Main Document part**.

**lcbPlcfBkfBPRepairs (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBkf** at offset **fcPlcfBkfBPRepairs**.

**fcPlcfbklBPRrepairs (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcfBkl** that contains information about the repair bookmarks in the document begins at this offset. If **lcbPlcfBklBPRrepairs** is zero, **fcPlcfBklBPRrepairs** is undefined and MUST be ignored.

Each data element in the **PlcfBkl** is associated, in a one-to-one correlation, with a data element in the **PlcfBkf** at offset **fcPlcfBkfBPRrepairs**. For this reason, the **PlcfBkl** that begins at offset **fcPlcfBklBPRrepairs**, and the **PlcfBkf** that begins at offset **fcPlcfBkfBPRrepairs**, MUST contain the same number of data elements.

The CPs that are contained in this **PlcfBkl** MUST NOT exceed the CP that represents the end of the Main Document part.

**lcbPlcfbklBPRrepairs (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcfBkl** at offset **fcPlcfBklBPRrepairs**.

**fcPmsNew (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A new **Pms**, which contains the current state of a print merge operation, begins at this offset. If **lcbPmsNew** is zero, **fcPmsNew** is undefined and MUST be ignored.

**lcbPmsNew (4 bytes):** An unsigned integer which specifies the size, in bytes, of the **Pms** at offset **fcPmsNew**.

**fcODSO (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. [Office Data Source Object](#) (ODSO) data that is used to perform mail merge begins at this offset. The data is stored in an array of **ODSOPropertyBase** items. The **ODSOPropertyBase** items are of variable size and are stored contiguously. The complete set of properties that are contained in the array is determined by reading each **ODSOPropertyBase**, until a total of **lcbODSO** bytes of data are read. If **lcbODSO** is zero, **fcODSO** is undefined and MUST be ignored.

**lcbODSO (4 bytes):** An unsigned integer that specifies the size, in bytes, of the Office Data Source Object data at offset **fcODSO** in the Table Stream.

**fcPlcfpmiOldXP (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated paragraph mark information cache begins at this offset. Information SHOULD NOT [<82>](#) be emitted at this offset and SHOULD [<83>](#) be ignored. If **lcbPlcfpmiOldXP** is zero, **fcPlcfpmiOldXP** is undefined and MUST be ignored.

**lcbPlcfpmiOldXP (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated paragraph mark information cache at offset **fcPlcfpmiOldXP** in the Table Stream. This value SHOULD [<84>](#) be zero.

**fcPlcfpmiNewXP (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated paragraph mark information cache begins at this offset. Information SHOULD NOT [<85>](#) be emitted at this offset and SHOULD [<86>](#) be ignored. If **lcbPlcfpmiNewXP** is zero, **fcPlcfpmiNewXP** is undefined and MUST be ignored.

**lcbPlcfpmiNewXP (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated paragraph mark information cache at offset **fcPlcfpmiNewXP** in the Table Stream. This value SHOULD [<87>](#) be zero.

**fcPlcfpmiMixedXP (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated paragraph mark information cache begins at this offset. Information SHOULD NOT [<88>](#) be emitted at this offset and SHOULD [<89>](#) be ignored. If **lcbPlcfpmiMixedXP** is zero, **fcPlcfpmiMixedXP** is undefined and MUST be ignored.

**lcbPlcfpmiMixedXP (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated paragraph mark information cache at offset **fcPlcfpmiMixedXP** in the Table Stream. This value SHOULD [<90>](#) be zero.

**fcUnused2 (4 bytes):** This value is undefined and MUST be ignored.

**lcbUnused2 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfftoid (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [Plcfftoid](#), which specifies the smart tag recognizer state of each text range, begins at this offset. If **lcbPlcfftoid** is zero, **fcPlcfftoid** is undefined and MUST be ignored.

**lcbPlcfftoid (4 bytes):** An unsigned integer that specifies the size, in bytes of the **Plcfftoid** that begins at offset **fcPlcfftoid** in the Table Stream.

**fcPlcflvcOldXP (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated **listnum** field cache begins at this offset. Information SHOULD NOT [<91>](#) be emitted at this offset and SHOULD [<92>](#) be ignored. If **lcbPlcflvcOldXP** is zero, **fcPlcflvcOldXP** is undefined and MUST be ignored.

**lcbPlcflvcOldXP (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated **listnum** field cache at offset **fcPlcflvcOldXP** in the Table Stream. This value SHOULD [<93>](#) be zero.

**fcPlcflvcNewXP (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated **listnum** field cache begins at this offset. Information SHOULD NOT [<94>](#) be emitted at this offset and SHOULD [<95>](#) be ignored. If **lcbPlcflvcNewXP** is zero, **fcPlcflvcNewXP** is undefined and MUST be ignored.

**lcbPlcflvcNewXP (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated **listnum** field cache at offset **fcPlcflvcNewXP** in the Table Stream. This value SHOULD [<96>](#) be zero.

**fcPlcflvcMixedXP (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated **listnum** field cache begins at this offset. Information SHOULD NOT [<97>](#) be emitted at this offset and SHOULD [<98>](#) be ignored. If **lcbPlcflvcMixedXP** is zero, **fcPlcflvcMixedXP** is undefined and MUST be ignored.

**lcbPlcflvcMixedXP (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated **listnum** field cache at offset **fcPlcflvcMixedXP** in the Table Stream. This value SHOULD [<99>](#) be zero.

## 2.5.9 FibRgFcLcb2003

The **FibRgFcLcb2003** structure is a variable-sized portion of the [Fib](#). It extends the [FibRgFcLcb2002](#).

|                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| rgFcLcb2002 (1088 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcHplxldr                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbHplxldr               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcSttbfBkmkSdt           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbSttbfBkmkSdt          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                     |
|---------------------|
| fcPlcfBkfSdt        |
| lcbPlcfBkfSdt       |
| fcPlcfBkISdt        |
| lcbPlcfBkISdt       |
| fcCustomXForm       |
| lcbCustomXForm      |
| fcSttbfBkmkProt     |
| lcbSttbfBkmkProt    |
| fcPlcfBkfProt       |
| lcbPlcfBkfProt      |
| fcPlcfBkIProt       |
| lcbPlcfBkIProt      |
| fcSttbProtUser      |
| lcbSttbProtUser     |
| fcUnused            |
| lcbUnused           |
| fcPlcfpmiOld        |
| lcbPlcfpmiOld       |
| fcPlcfpmiOldInline  |
| lcbPlcfpmiOldInline |
| fcPlcfpmiNew        |
| lcbPlcfpmiNew       |
| fcPlcfpmiNewInline  |
| lcbPlcfpmiNewInline |
| fcPlcfIvcOld        |

|                     |
|---------------------|
| IcbPlcflvcOld       |
| fcPlcflvcOldInline  |
| IcbPlcflvcOldInline |
| fcPlcflvcNew        |
| IcbPlcflvcNew       |
| fcPlcflvcNewInline  |
| IcbPlcflvcNewInline |
| fcPgdMother         |
| IcbPgdMother        |
| fcBkdMother         |
| IcbBkdMother        |
| fcAfdMother         |
| IcbAfdMother        |
| fcPgdFtn            |
| IcbPgdFtn           |
| fcBkdFtn            |
| IcbBkdFtn           |
| fcAfdFtn            |
| IcbAfdFtn           |
| fcPgdEdn            |
| IcbPgdEdn           |
| fcBkdEdn            |
| IcbBkdEdn           |
| fcAfdEdn            |
| IcbAfdEdn           |

|        |
|--------|
| fcAfd  |
| lcbAfd |

**rgFcLcb2002 (1088 bytes):** The contained **FibRgFcLcb2002**.

**fcHplxldr (4 bytes):** An unsigned integer that specifies an offset in the [Table Stream](#). An [Hplxldr](#) structure begins at this offset. This structure specifies information about XML schema definition references.

**lcbHplxldr (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Hplxldr** structure at the offset **fcHplxldr** in the Table Stream. If **lcbHplxldr** is zero, then **fcHplxldr** is undefined and MUST be ignored.

**fcSttbfBkmkSdt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfBkmkSdt](#) that contains information about the **structured document tag bookmarks** in the document begins at this offset. If **lcbSttbfBkmkSdt** is zero, then **fcSttbfBkmkSdt** is undefined and MUST be ignored.

The **SttbfBkmkSdt** is parallel to the [PlcBkfd](#) at offset **fcPlcfBkfSdt** in the Table Stream. Each element in the **SttbfBkmkSdt** specifies information about the bookmark that is associated with the data element which is located at the same offset in that **PlcBkfd**. For this reason, the **SttbfBkmkSdt** that begins at offset **fcSttbfBkmkSdt**, and the **PlcBkfd** that begins at offset **fcPlcfBkfSdt**, MUST contain the same number of elements.

**lcbSttbfBkmkSdt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfBkmkSdt** at offset **fcSttbfBkmkSdt**.

**fcPlcfBkfSdt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcBkfd** that contains information about the structured document tag bookmarks in the document begins at this offset. If **lcbPlcfBkfSdt** is zero, **fcPlcfBkfSdt** is undefined and MUST be ignored.

Each data element in the **PlcBkfd** is associated, in a one-to-one correlation, with a data element in the [PlcBkld](#) at offset **fcPlcfBklSdt**. For this reason, the **PlcBkfd** that begins at offset **fcPlcfBkfSdt**, and the **PlcBkld** that begins at offset **fcPlcfBklSdt**, MUST contain the same number of data elements. The **PlcBkfd** is parallel to the **SttbfBkmkSdt** at offset **fcSttbfBkmkSdt** in the Table Stream. Each data element in the **PlcBkfd** specifies information about the bookmark that is associated with the element which is located at the same offset in that **SttbfBkmkSdt**. For this reason, the **PlcBkfd** that begins at offset **fcPlcfBkfSdt**, and the **SttbfBkmkSdt** that begins at offset **fcSttbfBkmkSdt**, MUST contain the same number of elements.

**lcbPlcfBkfSdt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcBkfd** at offset **fcPlcfBkfSdt**.

**fcPlcfBklSdt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcBkld** that contains information about the structured document tag bookmarks in the document begins at this offset. If **lcbPlcfBklSdt** is zero, **fcPlcfBklSdt** is undefined and MUST be ignored.

Each data element in the **PlcBkld** is associated, in a one-to-one correlation, with a data element in the **PlcBkfd** at offset **fcPlcfBkfSdt**. For this reason, the **PlcBkld** that begins at offset **fcPlcfBklSdt**, and the **PlcBkfd** that begins at offset **fcPlcfBkfSdt** MUST contain the same number of data elements.

**lcbPlcfBklSdt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcBkld** at offset **fcPlcfBklSdt**.



**fcCustomXForm (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An array of 16-bit Unicode characters, which specifies the full path and file name of the XML Stylesheet to apply when saving this document in XML format, begins at this offset. If **lcbCustomXForm** is zero, **fcCustomXForm** is undefined and MUST be ignored.

**lcbCustomXForm (4 bytes):** An unsigned integer that specifies the size, in bytes, of the array at offset **fcCustomXForm** in the Table Stream. This value MUST be less than or equal to 4168 and MUST be evenly divisible by two.

**fcSttbfBkmkProt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. An [SttbfBkmkProt](#) that contains information about range-level protection bookmarks in the document begins at this offset. If **lcbSttbfBkmkProt** is zero, **fcSttbfBkmkProt** is undefined and MUST be ignored.

The **SttbfBkmkProt** is parallel to the [PlcBkf](#) at offset **fcPlcfBkfProt** in the Table Stream. Each element in the **SttbfBkmkProt** specifies information about the bookmark that is associated with the data element which is located at the same offset in that **PlcBkf**. For this reason, the **SttbfBkmkProt** that begins at offset **fcSttbfBkmkProt**, and the **PlcBkf** that begins at offset **fcPlcfBkfProt**, MUST contain the same number of elements.

**lcbSttbfBkmkProt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbfBkmkProt** at offset **fcSttbfBkmkProt**.

**fcPlcfBkfProt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcBkf** that contains information about range-level protection bookmarks in the document begins at this offset. If **lcbPlcfBkfProt** is zero, then **fcPlcfBkfProt** is undefined and MUST be ignored.

Each data element in the **PlcBkf** is associated, in a one-to-one correlation, with a data element in the [PlcBkl](#) at offset **fcPlcfBklProt**. For this reason, the **PlcBkf** that begins at offset **fcPlcfBkfProt**, and the **PlcBkl** that begins at offset **fcPlcfBklProt**, MUST contain the same number of data elements. The **PlcBkf** is parallel to the **SttbfBkmkProt** at offset **fcSttbfBkmkProt** in the Table Stream. Each data element in the **PlcBkf** specifies information about the bookmark that is associated with the element which is located at the same offset in that **SttbfBkmkProt**. For this reason, the **PlcBkf** that begins at offset **fcPlcfBkfProt**, and the **SttbfBkmkProt** that begins at offset **fcSttbfBkmkProt**, MUST contain the same number of elements.

**lcbPlcfBkfProt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcBkf** at offset **fcPlcfBkfProt**.

**fcPlcfBklProt (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A **PlcBkl** containing information about range-level protection bookmarks in the document begins at this offset. If **lcbPlcfBklProt** is zero, then **fcPlcfBklProt** is undefined and MUST be ignored.

Each data element in the **PlcBkl** is associated in a one-to-one correlation with a data element in the **PlcBkf** at offset **fcPlcfBkfProt**, so the **PlcBkl** beginning at offset **fcPlcfBklProt** and the **PlcBkf** beginning at offset **fcPlcfBkfProt** MUST contain the same number of data elements.

**lcbPlcfBklProt (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcBkl** at offset **fcPlcfBklProt**.

**fcSttbProtUser (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A [SttbProtUser](#) that specifies the usernames that are used for **range-level protection** begins at this offset.

**lcbSttbProtUser (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **SttbProtUser** at the offset **fcSttbProtUser**.

**fcUnused (4 bytes):** This value MUST be zero, and MUST be ignored.

**lcbUnused (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfpmiOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated paragraph mark information cache begins at this offset. Information SHOULD NOT [<100>](#) be emitted at this offset and SHOULD [<101>](#) be ignored. If **lcbPlcfpmiOld** is zero, then **fcPlcfpmiOld** is undefined and MUST be ignored.

**lcbPlcfpmiOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated paragraph mark information cache at offset **fcPlcfpmiOld** in the Table Stream. SHOULD [<102>](#) be zero.

**fcPlcfpmiOldInline (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated paragraph mark information cache begins at this offset. Information SHOULD NOT [<103>](#) be emitted at this offset and SHOULD [<104>](#) be ignored. If **lcbPlcfpmiOldInline** is zero, then **fcPlcfpmiOldInline** is undefined and MUST be ignored.

**lcbPlcfpmiOldInline (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated paragraph mark information cache at offset **fcPlcfpmiOldInline** in the Table Stream. SHOULD [<105>](#) be zero.

**fcPlcfpmiNew (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated paragraph mark information cache begins at this offset. Information SHOULD NOT [<106>](#) be emitted at this offset and SHOULD [<107>](#) be ignored. If **lcbPlcfpmiNew** is zero, then **fcPlcfpmiNew** is undefined and MUST be ignored.

**lcbPlcfpmiNew (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated paragraph mark information cache at offset **fcPlcfpmiNew** in the Table Stream. SHOULD [<108>](#) be zero.

**fcPlcfpmiNewInline (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated paragraph mark information cache begins at this offset. Information SHOULD NOT [<109>](#) be emitted at this offset and SHOULD [<110>](#) be ignored. If **lcbPlcfpmiNewInline** is zero, then **fcPlcfpmiNewInline** is undefined and MUST be ignored.

**lcbPlcfpmiNewInline (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated paragraph mark information cache at offset **fcPlcfpmiNewInline** in the Table Stream. SHOULD [<111>](#) be zero.

**fcPlcflvcOld (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated **listnum** field cache begins at this offset. Information SHOULD NOT [<112>](#) be emitted at this offset and SHOULD [<113>](#) be ignored. If **lcbPlcflvcOld** is zero, then **fcPlcflvcOld** is undefined and MUST be ignored.

**lcbPlcflvcOld (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated **listnum** field cache at offset **fcPlcflvcOld** in the Table Stream. SHOULD [<114>](#) be zero.

**fcPlcflvcOldInline (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated **listnum** field cache begins at this offset. Information SHOULD NOT [<115>](#) be emitted at this offset and SHOULD [<116>](#) be ignored. If **lcbPlcflvcOldInline** is zero, **fcPlcflvcOldInline** is undefined and MUST be ignored.

**lcbPlcflvcOldInline (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated **listnum** field cache at offset **fcPlcflvcOldInline** in the Table Stream. SHOULD [<117>](#) be zero.

**fcPlcflvcNew (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated **listnum** field cache begins at this offset. Information SHOULD NOT [<118>](#) be emitted at this offset and SHOULD [<119>](#) be ignored. If **lcbPlcflvcNew** is zero, **fcPlcflvcNew** is undefined and MUST be ignored.

**lcbPlcflvcNew (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated **listnum** field cache at offset **fcPlcflvcNew** in the Table Stream. SHOULD [<120>](#) be zero.

**fcPlcflvcNewInline (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated **listnum** field cache begins at this offset. Information SHOULD NOT [<121>](#) be emitted at this offset and SHOULD [<122>](#) be ignored. If **lcbPlcflvcNewInline** is zero, **fcPlcflvcNewInline** is undefined and MUST be ignored.

**lcbPlcflvcNewInline (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated **listnum** field cache at offset **fcPlcflvcNewInline** in the Table Stream. SHOULD [<123>](#) be zero.

**fcPgdMother (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated document page layout cache begins at this offset. Information SHOULD NOT [<124>](#) be emitted at this offset and SHOULD [<125>](#) be ignored. If **lcbPgdMother** is zero, **fcPgdMother** is undefined and MUST be ignored.

**lcbPgdMother (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated document page layout cache at offset **fcPgdMother** in the Table Stream.

**fcBkdMother (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated document text flow break cache begins at this offset. Information SHOULD NOT [<126>](#) be emitted at this offset and SHOULD [<127>](#) be ignored. If **lcbBkdMother** is zero, then **fcBkdMother** is undefined and MUST be ignored.

**lcbBkdMother (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated document text flow break cache at offset **fcBkdMother** in the Table Stream.

**fcAfdMother (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated document author filter cache begins at this offset. Information SHOULD NOT [<128>](#) be emitted at this offset and SHOULD [<129>](#) be ignored. If **lcbAfdMother** is zero, then **fcAfdMother** is undefined and MUST be ignored.

**lcbAfdMother (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated document author filter cache at offset **fcAfdMother** in the Table Stream.

**fcPgdFtn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated footnote layout cache begins at this offset. Information SHOULD NOT [<130>](#) be emitted at this offset and SHOULD [<131>](#) be ignored. If **lcbPgdFtn** is zero, then **fcPgdFtn** is undefined and MUST be ignored.

**lcbPgdFtn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated footnote layout cache at offset **fcPgdFtn** in the Table Stream.

**fcBkdFtn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated footnote text flow break cache begins at this offset. Information SHOULD NOT [<132>](#) be emitted at this offset and SHOULD [<133>](#) be ignored. If **lcbBkdFtn** is zero, **fcBkdFtn** is undefined and MUST be ignored.

**lcbBkdFtn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated footnote text flow break cache at offset **fcBkdFtn** in the Table Stream.

**fcAfdFtn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated footnote author filter cache begins at this offset. Information SHOULD NOT [<134>](#) be emitted at this offset and SHOULD [<135>](#) be ignored. If **lcbAfdFtn** is zero, **fcAfdFtn** is undefined and MUST be ignored.

**lcbAfdFtn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated footnote author filter cache at offset **fcAfdFtn** in the Table Stream.

**fcPgdEdn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated endnote layout cache begins at this offset. Information SHOULD NOT <136> be emitted at this offset and SHOULD <137> be ignored. If **lcbPgdEdn** is zero, then **fcPgdEdn** is undefined and MUST be ignored.

**lcbPgdEdn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated endnote layout cache at offset **fcPgdEdn** in the Table Stream.

**fcBkdEdn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. The deprecated endnote text flow break cache begins at this offset. Information SHOULD NOT <138> be emitted at this offset and SHOULD <139> be ignored. If **lcbBkdEdn** is zero, **fcBkdEdn** is undefined and MUST be ignored.

**lcbBkdEdn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated endnote text flow break cache at offset **fcBkdEdn** in the Table Stream.

**fcAfdEdn (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. Deprecated endnote author filter cache begins at this offset. Information SHOULD NOT <140> be emitted at this offset and SHOULD <141> be ignored. If **lcbAfdEdn** is zero, then **fcAfdEdn** is undefined and MUST be ignored.

**lcbAfdEdn (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated endnote author filter cache at offset **fcAfdEdn** in the Table Stream.

**fcAfd (4 bytes):** An unsigned integer that specifies an offset in the Table Stream. A deprecated **AFD** structure begins at this offset. Information SHOULD NOT <142> be emitted at this offset and SHOULD <143> be ignored. If **lcbAfd** is zero, **fcAfd** is undefined and MUST be ignored.

**lcbAfd (4 bytes):** An unsigned integer that specifies the size, in bytes, of the deprecated **AFD** structure at offset **fcAfd** in the Table Stream.

### 2.5.10 FibRgFcLcb2007

The **FibRgFcLcb2007** structure is a variable-sized portion of the Fib. It extends the FibRgFcLcb2003.

|                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| rgFcLcb2003 (1312 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcfmthd               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbPlcfmthd              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcSttbfBkmkMoveFrom      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbSttbfBkmkMoveFrom     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fcPlcfBkfMoveFrom        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lcbPlcfBkfMoveFrom       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                    |
|--------------------|
| fcPlcfBklMoveFrom  |
| lcbPlcfBklMoveFrom |
| fcSttbfBkmkMoveTo  |
| lcbSttbfBkmkMoveTo |
| fcPlcfBkfMoveTo    |
| lcbPlcfBkfMoveTo   |
| fcPlcfBklMoveTo    |
| lcbPlcfBklMoveTo   |
| fcUnused1          |
| lcbUnused1         |
| fcUnused2          |
| lcbUnused2         |
| fcUnused3          |
| lcbUnused3         |
| fcSttbfBkmkArto    |
| lcbSttbfBkmkArto   |
| fcPlcfBkfArto      |
| lcbPlcfBkfArto     |
| fcPlcfBklArto      |
| lcbPlcfBklArto     |
| fcArtoData         |
| lcbArtoData        |
| fcUnused4          |
| lcbUnused4         |
| fcUnused5          |

|                       |
|-----------------------|
| IcbUnused5            |
| fcUnused6             |
| IcbUnused6            |
| fcOssTheme            |
| IcbOssTheme           |
| fcColorSchemeMapping  |
| IcbColorSchemeMapping |

**rgFcLcb2003 (1312 bytes):** The contained **FibRgFcLcb2003**.

**fcPlcfmthd (4 bytes):** This value is undefined and MUST be ignored.

**IcbPlcfmthd (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcSttbfBkmkMoveFrom (4 bytes):** This value is undefined and MUST be ignored.

**IcbSttbfBkmkMoveFrom (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfBkfMoveFrom (4 bytes):** This value is undefined and MUST be ignored

**IcbPlcfBkfMoveFrom (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfBkiMoveFrom (4 bytes):** This value is undefined and MUST be ignored.

**IcbPlcfBkiMoveFrom (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcSttbfBkmkMoveTo (4 bytes):** This value is undefined and MUST be ignored.

**IcbSttbfBkmkMoveTo (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfBkfMoveTo (4 bytes):** This value is undefined and MUST be ignored.

**IcbPlcfBkfMoveTo (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfBkiMoveTo (4 bytes):** This value is undefined and MUST be ignored.

**IcbPlcfBkiMoveTo (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcUnused1 (4 bytes):** This value is undefined and MUST be ignored.

**IcbUnused1 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcUnused2 (4 bytes):** This value is undefined and MUST be ignored.

**IcbUnused2 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcUnused3 (4 bytes):** This value is undefined and MUST be ignored.

**IcbUnused3 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcSttbfBkmkArto (4 bytes):** This value is undefined and MUST be ignored.

**IcbSttbfBkmkArto (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcPlcfBkfArto (4 bytes):** This value is undefined and MUST be ignored.

**lcbPlcfBkfArto (4 bytes):** This value MUST be zero, and MUST be ignored

**fcPlcfBklArto (4 bytes):** Undefined and MUST be ignored.

**lcbPlcfBklArto (4 bytes):** MUST be zero, and MUST be ignored.

**fcArtoData (4 bytes):** This value is undefined and MUST be ignored.

**lcbArtoData (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcUnused4 (4 bytes):** This value is undefined and MUST be ignored.

**lcbUnused4 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcUnused5 (4 bytes):** This value is undefined and MUST be ignored.

**lcbUnused5 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcUnused6 (4 bytes):** This value is undefined and MUST be ignored.

**lcbUnused6 (4 bytes):** This value MUST be zero, and MUST be ignored.

**fcOssTheme (4 bytes):** This value is undefined and MUST be ignored.

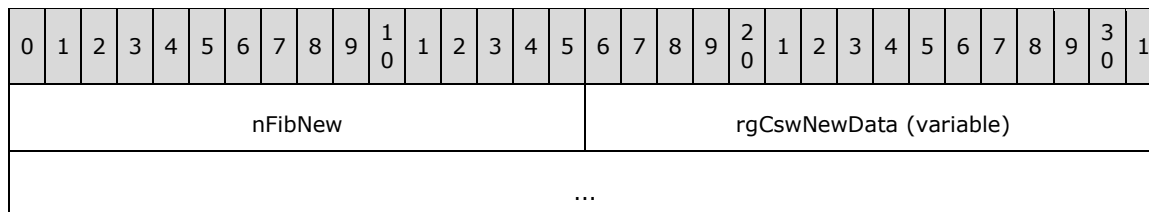
**lcbOssTheme (4 bytes):** This value SHOULD [<144>](#) be zero, and MUST be ignored.

**fcColorSchemeMapping (4 bytes):** This value is undefined and MUST be ignored.

**lcbColorSchemeMapping (4 bytes):** This value SHOULD [<145>](#) be zero, and MUST be ignored.

### 2.5.11 FibRgCswNew

The **FibRgCswNew** structure is an extension to the [Fib](#) structure that exists only if **Fib.cswNew** is nonzero.



**nFibNew (2 bytes):** An unsigned integer that specifies the version number of the file format that is used. This value MUST be one of the following.

| Value  |
|--------|
| 0x00D9 |
| 0x0101 |
| 0x010C |
| 0x0112 |

**rgCswNewData (variable):** Depending on the value of **nFibNew** this is one of the following.

| Value of nFibNew | Meaning                                       |
|------------------|---|
| 0x00D9           | <a href="#">fibRgCswNewData2000</a> (2 bytes) |
| 0x0101           | fibRgCswNewData2000 (2 bytes)                 |
| 0x010C           | fibRgCswNewData2000 (2 bytes)                 |
| 0x0112           | <a href="#">fibRgCswNewData2007</a> (8 bytes) |

### 2.5.12 FibRgCswNewData2000

The **FibRgCswNewData2000** structure is a variable-sized portion of the [Fib](#).

|                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cQuickSavesNew |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cQuickSavesNew (2 bytes):** An unsigned integer that specifies the number of times that this document was incrementally saved since the last **full save**. This value MUST be between 0 and 0x000F, inclusively.

### 2.5.13 FibRgCswNewData2007

The **FibRgCswNewData2007** structure is a variable-sized portion of the [Fib](#). It extends the [FibRgCswNewData2000](#).

|                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16            | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| rgCswNewData2000 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | lidThemeOther |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lidThemeFE       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | lidThemeCS    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**rgCswNewData2000 (2 bytes):** The contained **FibRgCswNewData2000**.

**lidThemeOther (2 bytes):** This value is undefined and MUST be ignored.

**lidThemeFE (2 bytes):** This value is undefined and MUST be ignored.

**lidThemeCS (2 bytes):** This value is undefined and MUST be ignored.

### 2.5.14 Determining the nFib

The **nFib** value specifies the version number of the file format that is used. The proper **nFib** value for the current document is determined in the following way:

1. Read the **FIB** from offset zero in the WordDocument Stream.
2. Check the value of FIB.cswNew.
  - If the value is 0, **nFib** is specified by [FibBase.nFib](#).
  - Otherwise, the value is not 0 and **nFib** is specified by [FibRgCswNew.nFibNew](#).



### 2.5.15 How to read the FIB

The **Fib** structure is located at offset 0 of the [WordDocument Stream](#). Given the variable size of the **Fib**, the proper way to load it is the following:

1. Set all bytes of the in-memory version of the **Fib** being used to 0. It is recommended to use the largest version of the **Fib** structure as the in-memory version.
2. Read the entire [FibBase](#), which MUST be present and has fixed size.
3. Read **Fib.csw**.
4. Read the minimum of **Fib.csw** \* 2 bytes and the size, in bytes, of the in-memory version of [FibRgW97](#) into **FibRgW97**.
5. If the application expects fewer bytes than indicated by **Fib.csw**, advance by the difference thereby skipping the unknown portion of **FibRgW97**.
6. Read **Fib.cslw**.
7. Read the minimum of **Fib.cslw** \* 4 bytes and the size, in bytes, of the in-memory version of [FibRgLw97](#) into **FibRgLw97**.
8. If the application expects fewer bytes than indicated by **Fib.cslw**, advance by the difference thereby skipping the unknown portion of **FibRgLw97**.
9. Read **Fib.cbRgFcLcb**.
10. Read the minimum of **Fib.cbRgFcLcb** \* 8 bytes and the size, in bytes, of the in-memory version of [FibRgFcLcb](#) into **FibRgFcLcb**.
11. If the application expects fewer bytes than indicated by **Fib.cbRgFcLcb**, advance by the difference, thereby skipping the unknown portion of **FibRgFcLcb**.
12. Read **Fib.cswNew**.
13. Read the minimum of **Fib.cswNew** \* 2 bytes and the size, in bytes, of the in-memory version of [FibRgCswNew](#) into **FibRgCswNew**.

## 2.6 Single Property Modifiers

The following sections specify the valid [Sprm](#) values.

For ease of implementation, the **Sprms** are listed as 16-bit integers rather than structures. The following formulas specify the relationship between the 16-bit integer representation and the members of the **Sprms** structure. The single ampersand (&) represents the bitwise AND operation; all fractions are rounded down to the previous whole number.

$$\text{ispm} = \text{sprm} \& 0x01FF$$

$$f = \frac{\text{sprm}}{512} \& 0x0001$$

$$\text{sgc} = \frac{\text{sprm}}{1024} \& 0x0007$$

$$\text{spra} = \frac{\text{sprm}}{8192}$$

## 2.6.1 Character Properties

A [PrI](#) with a **sprm.sgc** of 2 modifies a character property.

The following table specifies the character property modifiers, including the valid **sprm** values, their function, and the corresponding **operand** type and meaning.

| Sprm                         | ispmid | operand   |
|------------------------------|--------|---|
| sprmCFRMarkDel<br>(0x0800)   | 0x00   | A <a href="#">ToggleOperand</a> that specifies whether the text is formatted as deleted revision mark text, which is text that was deleted while revision marking was on. By default, text is not formatted as deleted revision mark text.  |
| sprmCFRMarkIns<br>(0x0801)   | 0x01   | A <a href="#">ToggleOperand</a> that specifies whether the text is formatted as inserted revision mark text, which is text that was inserted while revision marking was on. By default, text is not formatted as inserted revision mark text.   |
| sprmCFFldVanish<br>(0x0802)  | 0x02   | A <a href="#">ToggleOperand</a> that specifies whether the field text is hidden. By default, field text is not hidden.  |
| sprmCPicLocation<br>(0x6A03) | 0x03   | <p>A signed 32-bit integer that specifies either the position in the <a href="#">Data Stream</a> of a picture or binary data or the name of an OLE object storage.</p> <p>Text with sprmCPicLocation applied MUST also have sprmCFSpec applied with a value of 1. The text range MUST contain only characters from the special characters specified in sprmCFSpec.</p> <p>The value of sprmCPicLocation is evaluated for each character in the text range. The value is evaluated differently depending on the character code, as shown following:</p> <p>If the character is U+0001:</p> <ul style="list-style-type: none"> <li>The operand of sprmCPicLocation is a position in the <b>DataStream</b>. If sprmCFData is also present and set to 1, the value specifies the position of a <a href="#">NilPICFAndBinData</a> and describes binary data; otherwise the value specifies the position of a <a href="#">PICFAndOfficeArtData</a> and describes a picture.</li> </ul> <p>If the character is U+0014:</p> <ul style="list-style-type: none"> <li>If sprmCFOle2 is also present and set to "true" and the associated field does not have grffdEnd.fZombieEmbed set, the operand of sprmCPicLocation specifies the location of an OLE object storage. If the file is not encrypted with Office Binary Document RC4 CryptoAPI Encryption (section <a href="#">2.2.6.3</a>), the value specifies the name of an OLE object storage in the <a href="#">ObjectPool</a> of the document.</li> </ul> <p>Specifically, the decimal value is converted to a string, and prefixed with an underscore. The resultant string MUST be the name of a valid OLE storage in the <b>ObjectPool</b> of the document. If the file is encrypted with Office Binary Document RC4 CryptoAPI Encryption, the value specifies an offset in the data stream which contains an <a href="#">FOBJH</a> followed by an OLE object storage.</p> <p>When used in this fashion, the text range on which sprmCPicLocation is applied MUST contain exactly one character.</p> <p>If sprmCFOle2 is absent or set to "false" or the associated field has grffdEnd.fZombieEmbed set, sprmCPicLocation is unused</p> |

| Sprm                       | ispmid | operand   |
|----------------------------|--------|---|
|                            |        | <p>and MUST be ignored.</p> <p>If there is another character, sprmCPicLocation MUST be ignored.</p> <p>sprmCPicLocation MUST be present for characters that indicate a picture, binary data, or OLE object storage.</p>   |
| sprmCIbstRMark<br>(0x4804) | 0x04   | <p>A signed 16-bit integer that specifies a zero-based index into <b>SttbfrMark</b>. This value MUST be greater than or equal to zero and MUST be less than <b>SttbfrMark.cData</b>. The string at this index is the name of the author who inserted the text. This is only recorded if revision marking is on at the time of the insertion. By default, this index is zero, which is the index of the "unknown" author.</p>  |
| sprmCDttmRMark<br>(0x6805) | 0x05   | <p>A <b>DTTM</b> that specifies the date and time at which the text was inserted. This is recorded only if revision marking is on at the time of the insertion. By default, all fields of this <b>DTTM</b> are zero.</p>  |
| sprmCFData<br>(0x0806)     | 0x06   | <p>A <b>Bool8</b> that specifies whether the picture character in the text represents binary data. If set to <b>true</b>, the text range MUST contain exactly 1 character that is the picture character (U+0001) and sprmCPicLocation MUST be present to specify the location of the binary data. By default, a picture character specifies a picture and does not specify binary data.</p>   |
| sprmCIdslRMark<br>(0x4807) | 0x07   | <p>An unsigned 16-bit integer that specifies the reason value of the inserted or modified revision mark text. This is recorded only if revision marking is on at the time of the text insertion or modification. MUST be one of the values shown following.</p> <ul style="list-style-type: none"> <li>0x0000 - Performed a normal edit</li> <li>0x0001 - Applied a style</li> <li>0x0002 - Adjusted alignment with a tab</li> <li>0x0003 - Adjusted alignment with a tab</li> <li>0x0004 - Removed extra paragraph mark</li> <li>0x0005 - Replaced all caps with mixed caps</li> <li>0x0006 - Replaced bullet character with bullet symbol</li> <li>0x0007 - Replaced straight quote with smart quote</li> <li>0x0008 - Replaced multiple-character symbol with single symbol</li> <li>0x0009 - Replaced text with trademark symbol</li> <li>0x000A - Replaced text with copyright symbol</li> <li>0x000B - Replaced text with registered trademark symbol</li> <li>0x000C - Adjusted spaces after period</li> <li>0x000D - Replaced numbers with fraction symbol</li> <li>0x000E - Applied a heading style</li> <li>0x000F - Applied an outline style</li> <li>0x0010 - Applied a list style</li> <li>0x0011 - Applied a memo header style</li> <li>0x0012 - Applied an address style</li> <li>0x0013 - Applied a salutation style</li> <li>0x0014 - Applied a closing phrase style</li> <li>0x0015 - Applied a date style</li> <li>0x0016 - Applied a distribution list style</li> <li>0x0017 - Applied a bullet list style</li> <li>0x0018 - Applied a column style</li> <li>0x0019 - Applied a carbon copy style</li> <li>0x001A - Replaced text with superscript</li> </ul> |

| Sprm                         | ispmid | operand   |
|------------------------------|--------|---|
|                              |        | <p>0x001B - Replaced whitespace galley with tabs<br/> 0x001C - Removed leading whitespace<br/> 0x001D - Removed manual numbering<br/> 0x001E - Replaced two hyphens with long (em) dash<br/> 0x001F - Adjusted spaces before: '!', '?', or ','<br/> 0x0020 - Inserted paragraph mark<br/> 0x0021 - Replaced leading whitespace to first line indent<br/> 0x0022 - Removed space between DBC and SBC to use auto space<br/> 0x0023 - Replaced to match to open parenthesis<br/> 0x0024 - Replaced double byte to single byte<br/> 0x0025 - Replaced single byte to double byte<br/> 0x0026 - Replaced manual emphasis<br/> 0x0027 - Replaced border characters with borders<br/> 0x0028 - Replaced e-mail history characters with indentation<br/> 0x0029 - Replaced URL or UNC with hyperlink<br/> 0x002A - Replaced Gateway-generated hex characters<br/> 0x002B - Applied outline level for document map</p> <p>By default, the reason value of text that is revision-marked is zero.</p> |
| sprmCSymbol<br>(0x6A09)      | 0x09   | A <a href="#">CSymbolOperand</a> structure that designates the character as a symbol and specifies the font and character code for the symbol. By default, characters are not symbols.  |
| sprmCFOle2<br>(0x080A)       | 0x0A   | A <b>Bool8</b> value that specifies whether the character is a placeholder for an OLE object. When <b>sprmCFOle2</b> is <b>true</b> , sprmCFObj MUST also be <b>true</b> , and sprmCPicLocation MUST also be set with the OLE storage name. The character representing the OLE object MUST be the field separator (U+00014) of an <a href="#">EMBED</a> field (0x3A), <b>LINK</b> field (0x38), or <b>CONTROL</b> field (0x57). By default, characters are not placeholders for OLE objects.  |
| sprmCHighlight<br>(0x2A0C)   | 0x0C   | An <a href="#">Ico</a> value that specifies the highlighting color of the text. By default, text is not highlighted.  |
| sprmCFWebHidden<br>(0x0811)  | 0x11   | A <a href="#">ToggleOperand</a> value that specifies whether the text is hidden in <b>Web Layout view</b> of the document. By default, text is not hidden in Web Layout view.   |
| sprmCRsidProp<br>(0x6815)    | 0x15   | An integer value that specifies a revision save ID, as specified in <a href="#">[ECMA-376]</a> Part 4, Section 2.15.1.70 rsid (Single Session Revision Save ID), associated with character formatting. If not present, then no revision save ID is specified for this formatting.   |
| sprmCRsidText<br>(0x6816)    | 0x16   | An integer that specifies a revision save ID, as specified in <a href="#">[ECMA-376]</a> Part 4, Section 2.15.1.70 rsid (Single Session Revision Save ID), associated with insertion of text. If not present, then no revision save ID is specified for this text.  |
| sprmCRsidRMDel<br>(0x6817)   | 0x17   | An integer that specifies a revision save ID, as specified in <a href="#">[ECMA-376]</a> Part 4, Section 2.15.1.70 rsid (Single Session Revision Save ID), associated with tracked deletion of text. If not present, then no revision save ID is specified for this deletion.   |
| sprmCFSpecVanish<br>(0x0818) | 0x18   | A <b>ToggleOperand</b> that specifies that this line break does not indicate a line break but serves as a style separator. A style separator allows one paragraph to consist of parts that have different paragraph styles. This <a href="#">Sprm</a> MUST NOT be applied to any character other than a line break character (Unicode 0x000B). By default, line break characters specify regular line breaks, and are not used as style separators.   |
| sprmCFMathPr<br>(0xC81A)     | 0x1A   | A <a href="#">MathPrOperand</a> that specifies the justification of equations in the paragraph. This <b>Sprm</b> MUST only be applied to paragraph mark characters or line break characters (Unicode 0x000B). By default, equations are justified according to the <b>mathbpjc</b> member of the <a href="#">DOPMTH</a> . <a href="#">MAY&lt;146&gt;</a> be ignored.  |

| Sprm                  | ispmid | operand   |
|-----------------------|--------|---|
| sprmCIstd<br>(0x4A30) | 0x30   | <p>An unsigned integer that specifies the <b>istd</b> of a character style to apply. To apply the <b>istd</b>:</p> <ol style="list-style-type: none"> <li>Reset the character properties of the text to match the results of the paragraph style (in other words, revert any formatting that is applied on top of the paragraph style).</li> <li>Fetch the set of properties from the specified character style. (For instructions, see <a href="#">Applying Properties.</a>)</li> <li>Apply those properties to the current text.</li> </ol> <p>During steps 1 and 3, preserve the previous values of the following:</p> <ul style="list-style-type: none"> <li>Whether the text is formatted as deleted revision mark text (for example, by sprmCFRMarkDel).</li> <li>Whether the text is formatted with <b>right-to-left</b> layout (for example, by sprmCFBiDi).</li> <li>Whether the text is displayed right-to-left or is in a <b>South Asian language</b>. (for example, by sprmCFComplexScripts).</li> <li>Whether the field text is hidden (for example, by sprmCFFldVanish).</li> <li>Whether the text is formatted as inserted revision mark text (for example, by sprmCFRMarkIns).</li> <li>Whether the text has a special meaning and special display handling (for example, by sprmCFSpec).</li> <li>Whether the text has associated picture data (for example, by sprmCFData).</li> <li>Whether the character is a placeholder for an OLE object (for example, by sprmCFole2).</li> <li>Whether the text is hidden in Web Layout view (for example, by sprmCFWebHidden).</li> <li>Whether the text is hidden and the image of a shape is displayed in its place (for example, by sprmCFObj).</li> <li>The position in the Data Stream of a picture, or the name of an <b>Object Linking and Embedding (OLE)</b> stream (for example, by sprmCPicLocation).</li> <li>Whether the text has an associated property revision mark, as well as its author and date/time (for example, by sprmCPropRMark).</li> <li>Paragraph properties that have been preserved for revision marking (for example, by sprmCWall).</li> <li>The reason value of the inserted or modified revision mark text (for example, by sprmCIidsIRMark).</li> <li>Whether the text is a symbol and, if it is, the font and character code (for example, by sprmCSymbol).</li> <li>Any previous operand value of sprmCIidctHint.</li> <li>The highlighting color of the text (for example, from sprmCHighlight).</li> <li>Whether the text is hidden from display when hiding arbitrary XML delimiters (for example, from sprmCFSdtVanish).</li> <li>The type of font substitution that is needed for the associated text (for example, from sprmCNeedFontFixup).</li> <li>The revision save ID that is associated with the insertion of text (for example, from sprmCRsidText).</li> <li>The revision save ID that is associated with character formatting (for example, from sprmCRsidProp).</li> <li>The revision save ID that is associated with the tracked deletion of text (for example, by sprmCRsidRMDel).</li> <li>The names of the authors who inserted the text, (for example, by sprmCIbstRMark).</li> <li>The dates and times at which the text was inserted (for example, by sprmCDttmRMark).</li> <li>The names of the authors who deleted the text (for example, by sprmCIbstRMarkDel).</li> <li>The dates and times at which the text was deleted (for example, by sprmCDttmRMarkDel).</li> <li>The justification of equations in the paragraph (for example, by sprmCFMathPr).</li> </ul> |

| Sprm                         | ispmid | operand   |
|------------------------------|--------|---|
|                              |        | By default, text has the character style specified by <b>istd</b> 0x000A.   |
| sprmCIstdPermute<br>(0xCA31) | 0x31   | <p>An <a href="#">SPPOperand</a> value that specifies a potential application of a different character style (<b>istd</b>).</p> <p>If the <b>istd</b> is not affected, this <b>Pri</b> MUST be ignored.</p> <p>If the <b>istd</b> is affected, the operation of this <b>sprm</b> specifies the new <b>istd</b> as equivalent to sprmCIstd. Note that the character properties of the text that are not specified by the current character style are reapplied after applying sprmCIstdPermute.</p> <p>By default, the character style of the text is unaffected.</p>  |
| sprmCPlain<br>(0x2A33)       | 0x33   | <p>The operand is an unsigned integer that MUST be 0 and MUST be ignored.</p> <p>The presence of this <b>Sprm</b> specifies a reset of the character properties of the text to match that of the underlying <b>paragraph style</b> (taking style hierarchy into account), while preserving the previous values of properties in the following list.</p> <p>To determine the properties of the underlying paragraph style (taking style hierarchy into account), follow the algorithm in <a href="#">Determining Formatting Properties</a> but stop before applying <a href="#">Direct Character Formatting</a>. (In other words, the new values are determined by evaluating the properties of the text as if no character style or direct character formatting are applied; see Style Hierarchy in [ECMA-376] Part 4, Section 2.7.2 for further specification.)</p> <p>The following properties MUST NOT be affected by the application of sprmCPlain:</p> <ul style="list-style-type: none"> <li>▪ Whether the text is formatted as deleted revision mark text (for example, by sprmCFRMarkDel).</li> <li>▪ Whether the text is formatted with right-to-left layout (for example, by sprmCFBiDi).</li> <li>▪ Whether the text is displayed right-to-left or is in a South Asian language. (for example, by sprmCFComplexScripts).</li> <li>▪ Whether the field text is hidden (for example, by sprmCFFldVanish).</li> <li>▪ Whether the text is formatted as inserted revision mark text (for example, by sprmCFRMarkIns).</li> <li>▪ Whether the text has a special meaning and special display handling (for example, by sprmCFSpec).</li> <li>▪ Whether the text has associated picture data (for example, by sprmCFData).</li> <li>▪ Whether the character is a placeholder for an OLE object (for example, by sprmCFOle2).</li> <li>▪ Whether the text is hidden in Web Layout view (for example, by sprmCFWebHidden).</li> <li>▪ The names of the authors who inserted the text (for example, by sprmCIbstRMark).</li> <li>▪ The dates and times at which the text was inserted (for example, by sprmCDttmRMark).</li> <li>▪ The names of the authors who deleted the text (for example, by sprmCIbstRMarkDel).</li> <li>▪ The dates and times at which the text was deleted (for example, by sprmCDttmRMarkDel).</li> <li>▪ Whether the text has an associated property revision mark, as well as its author and date/time (for example, by sprmCPropRMark).</li> <li>▪ Paragraph properties that have been preserved for revision marking (for example, by sprmCWall).</li> <li>▪ The reason value of the inserted or modified revision mark text (for example, by sprmCIdslRMark).</li> <li>▪ Whether the text is a symbol and, if it is, the font and character code (for example, by sprmCSymbol).</li> <li>▪ The position in the Data Stream of a picture, or the name of an OLE stream (for example, by sprmCPicLocation).</li> <li>▪ Any previous operand value of sprmCIIdctHint.</li> <li>▪ The highlighting color of the text (for example, by sprmCHighlight).</li> </ul> |

| Sprm                 | ispmid | operand  |
|----------------------|--------|--|
|                      |        | <ul style="list-style-type: none"> <li>▪ The type of font substitution that is needed for the associated text (for example, by sprmCNeedFontFixup).</li> <li>▪ The revision save ID that is associated with the insertion of text (for example, by sprmCRsidText).</li> <li>▪ The revision save ID that is associated with character formatting (for example, by sprmCRsidProp).</li> <li>▪ The revision save ID that is associated with the tracked deletion of text (for example, by sprmCRsidRMDel).</li> <li>▪ The justification of equations in the paragraph (for example, by sprmCFMathPr).</li> </ul> <p>By default, the character properties of the text are not reset.</p>   |
| sprmCKcd<br>(0x2A34) | 0x34   | <p>A byte that specifies the kind of emphasis to apply to the text. The operand MUST be one of the following values.</p> <p style="padding-left: 40px;">0x00 - No emphasis</p> <p style="padding-left: 40px;">0x01 - Solid circle</p> <p style="padding-left: 40px;">0x02 - Comma above</p> <p style="padding-left: 40px;">0x03 - Circle above</p> <p style="padding-left: 40px;">0x04 - Solid circle below</p> <p>The operands map to Unicode characters as shown following. The East Asian language of the text is specified by sprmCRgLid1_80 and sprmCRgLid1. The default East Asian language is Japanese if sprmCRgLid1_80 or sprmCRgLid1 does not specify Japanese, Korean, Chinese (Taiwan), or Chinese (China).</p> <p>If the meaning of the operand is "solid circle", the following applies:</p> <ul style="list-style-type: none"> <li>▪ In the Japanese language, the Unicode character of 0xFF0E is positioned above the text.</li> <li>▪ In the Korean language, the Unicode character of 0x02D9 is positioned above the text.</li> <li>▪ In the Chinese (Taiwan) language, the Unicode character of 0x2027 is positioned above the text.</li> <li>▪ In the Chinese (China) language, the Unicode character of 0xFF0E is positioned below the text.</li> </ul> <p>If the meaning of the operand is "comma above", the following applies:</p> <ul style="list-style-type: none"> <li>▪ In the Japanese language, the Unicode character of 0x3001 is positioned above the text.</li> <li>▪ In the Korean language, the Unicode character of 0x02DA is positioned above the text.</li> <li>▪ In the Chinese (Taiwan) language, the Unicode character of 0x3002 is positioned above the text.</li> <li>▪ In the Chinese (China) language, the Unicode character of 0x3001 is positioned above the text.</li> </ul> <p>If the meaning of the operand is "circle above", the following applies:</p> <ul style="list-style-type: none"> <li>▪ In the Japanese language, the Unicode character of 0x02DA is positioned above the text.</li> <li>▪ In the Korean language, the Unicode character of 0x02DA is positioned above the text.</li> <li>▪ In the Chinese (Taiwan) language, the Unicode character of 0x3002 is</li> </ul> |

| <b>Sprm</b>                 | <b>ispmid</b> | <b>operand</b>  |
|-----------------------------|---------------|---|
|                             |               | <p>positioned above the text.</p> <ul style="list-style-type: none"> <li>In the Chinese (China) language, the Unicode character of 0x02DA is positioned above the text.</li> </ul> <p>If the meaning of the operand is "solid circle below", the following applies:</p> <ul style="list-style-type: none"> <li>In the Japanese language, the Unicode character of 0xFF0E is positioned below the text.</li> <li>In the Korean language, the Unicode character of 0xFF0E is positioned below the text.</li> <li>In the Chinese (Taiwan) language, the Unicode character of 0xFF0E is positioned below the text.</li> <li>In the Chinese (China) language, the Unicode character of 0xFF0E is positioned below the text.</li> </ul> <p>By default, text has no emphasis mark.</p> |
| sprmCFBold<br>(0x0835)      | 0x35          | A <b>ToggleOperand</b> value that specifies whether the text is bold. By default, text is not bold.   |
| sprmCFItalic<br>(0x0836)    | 0x36          | A <b>ToggleOperand</b> value that specifies whether the text is italicized. By default, text is not italicized.   |
| sprmCFStrike<br>(0x0837)    | 0x37          | A <b>ToggleOperand</b> value that specifies whether the text is formatted with strikethrough. By default, text is not struck through.   |
| sprmCFOutline<br>(0x0838)   | 0x38          | A <b>ToggleOperand</b> value that specifies whether only the outline contour of the characters in the text is rendered, with the inside of each character left empty. By default, text is rendered in normal solid characters. If <b>sprmCFEmboss</b> , or <b>sprmCFImprint</b> is <b>true</b> , then <b>sprmCFOutline</b> MUST be <b>false</b> .   |
| sprmCFShadow<br>(0x0839)    | 0x39          | A <b>ToggleOperand</b> value that specifies whether the text is formatted with a shadow. By default, text has no shadow. If <b>sprmCFEmboss</b> or <b>sprmCFImprint</b> is <b>true</b> , then <b>sprmCFShadow</b> MUST be <b>false</b> .  |
| sprmCFSmallCaps<br>(0x083A) | 0x3A          | A <b>ToggleOperand</b> value that specifies whether the text characters are displayed as their capital letter equivalents, in a font size that is smaller than the actual font size that is specified for this text. It does not affect any nonalphabetic character. By default, the characters are displayed in their original character form.   |
| sprmCFCaps<br>(0x083B)      | 0x3B          | A <b>ToggleOperand</b> value that specifies whether the text characters are displayed as their capital letter equivalents. It does not affect any nonalphabetic character. By default, the characters are displayed in their original character form.   |
| sprmCFVanish<br>(0x083C)    | 0x3C          | A <b>ToggleOperand</b> value that specifies whether the text is formatted as hidden. By default, text is not hidden.  |
| sprmCKul<br>(0x2A3E)        | 0x3E          | A <b>Kul</b> value that specifies the underlining style of the text. By default, text is not underlined.  |
| sprmCDxaSpace<br>(0x8840)   | 0x40          | An <b>XAS</b> value that specifies the extra space, in <b>twips</b> , between a character and the one to its right. This does not vary with the directionality of the script or layout. Negative values indicate that space is removed, possibly producing character overlap. Negative space beyond the character width is ignored. By default, the space to the right of a character is neither added nor removed.   |
| sprmCIco<br>(0x2A42)        | 0x42          | An <b>Ico</b> value that specifies the color of the text. The default text color is <b>cvAuto</b> .   |
| sprmCHps<br>(0x4A43)        | 0x43          | An unsigned 2-byte integer that specifies the size of the text, except for text that meets the qualifications for <b>sprmCHpsBi</b> . This value is specified in <b>half-points</b> . The specified value MUST be between 2 and 3276. By default, the font size is 20 half-points.  |
| sprmCHpsPos<br>(0x4845)     | 0x45          | A signed integer value that specifies the vertical position, in half-points, of text relative to the normal position. The specified value MUST be between -3168 and 3168. By default, text is in its normal vertical position.  |
| sprmCMajority               | 0x47          | A <b>CMajorityOperand</b> value that specifies which of the character properties of   |



| Sprm     | ispmid | operand   |
|----------|--------|---|
| (0xCA47) |        | <p>the text to reset to match the properties of the underlying paragraph style, taking the style hierarchy into account.</p> <p>If the character style index (the <b>istd</b>) of the text is not 10 (the default), this <b>Sprm</b> MUST be ignored.</p> <p>sprmCMajority can affect any of the character properties in the following list. If a character property is affected, that property on the text is then set to the value of that property in the underlying paragraph style, taking the style hierarchy into account.</p> <p>To determine if a given property (from the following list of potentially affected character properties) is affected, do the following:</p> <ol style="list-style-type: none"> <li>1. Find the property value on the text.</li> <li>2. Find the property value as specified in the <b>grppl</b> member of CMajorityOperand. If the property value is not specified in the <b>grppl</b> member, use the default value.</li> <li>3. Compare the two values.</li> <li>4. If the values match, the property is affected.</li> </ol> <p>After it is determined that a property is affected, see sprmCPlain for information about how to determine the properties of the underlying paragraph style.</p> <p>Note that two special cases occur in the determination of whether a property is affected:</p> <ul style="list-style-type: none"> <li>▪ In the case of whether the text is excluded from the proofing analysis (for example, by sprmCFNoProof), if the value of the property on the text is 1 and the value of the property specified in the <b>grppl</b> is 1, the property is not affected (it is left as 1 on the text.) Otherwise the preceding rules apply.</li> <li>▪ In the case of the font index that is used only if the language for the text is an East Asian language (for example, by sprmCRgFtc1), if the preceding rules would lead to the application of a font index for this property that specifies the Times New Roman font, the property is not affected (it is left as before).</li> </ul> <p>The character properties (potentially) affected are:</p> <ul style="list-style-type: none"> <li>▪ Whether the text is bold (for example, by sprmCFBold)</li> <li>▪ Whether the text is italicized (for example, by sprmCFItalic)</li> <li>▪ Whether the text is formatted in smaller capital forms (for example, by sprmCFSmallCaps)</li> <li>▪ Whether the text is formatted as hidden (for example, by sprmCFVanish)</li> <li>▪ Whether the text is bolded when displayed right-to-left (for example, by sprmCFBoldBi)</li> <li>▪ Whether the text is italicized when the text is displayed right-to-left (for example, by sprmCFItalicBi)</li> <li>▪ Whether the text is formatted with a strikethrough effect (for example, by sprmCFStrike)</li> <li>▪ Whether the text is formatted in capital form (for example, by sprmCFCaps)</li> <li>▪ Whether the text is formatted with a shadow effect (for example, by sprmCFShadow)</li> <li>▪ Whether only the outline contour of the characters in the text is rendered, with the inside of each character left empty (for example, by sprmCFOutline)</li> <li>▪ Whether the text is formatted with a double strikethrough effect (for example, by sprmCFDStrike)</li> <li>▪ Whether the text is embossed (for example, by sprmCFEmboss)</li> <li>▪ Whether the text is formatted with the imprint style (for example, by sprmCFImprint)</li> <li>▪ Whether the text is excluded from the proofing analysis (for example, by sprmCFNoProof)</li> <li>▪ The font index that is used to display the text only if the conditions for using these fonts do not apply: sprmCRgFtc1, sprmCRgFtc2 and</li> </ul> |

| Sprm                     | ispmid | operand  |
|--------------------------|--------|--|
|                          |        | <p>sprmCFtcBi (for example, by sprmCRgFtc0)</p> <ul style="list-style-type: none"> <li>▪ The font index that is used only if the language for the text is an East Asian language (for example, by sprmCRgFtc1)</li> <li>▪ The font index that is used to display the text if the language for the text is one of those listed for sprmCRgFtc2 (for example, by sprmCRgFtc2)</li> <li>▪ The font index that is used to display the text only if the text flow is right-to-left or if the language for the text is a South Asian language (for example, by sprmCFtcBi)</li> <li>▪ The size of the text (for example, by sprmCHps)</li> <li>▪ The size of the text, for text that is displayed right-to-left (for example, by sprmCHpsBi)</li> <li>▪ The vertical position of the text relative to the normal position (for example, by sprmCHpsPos)</li> <li>▪ The superscript or subscript for text (for example, by sprmCIss)</li> <li>▪ The kind of emphasis to apply to the text (for example, by sprmCKcd)</li> <li>▪ The underlining style of the text (for example, by sprmCKul)</li> <li>▪ The extra space, in twips, between a character and the one to its right (for example, by sprmCDxaSpace)</li> <li>▪ The color of the text (for example, by sprmCCv)</li> <li>▪ The text effect of the text (for example, by sprmCSfxText)</li> <li>▪ The language of the text, except for East Asian languages (for example, by sprmCRgLid0)</li> <li>▪ The language of the text, if it is an East Asian language (for example, by sprmCRgLid1)</li> <li>▪ The language of the text when the text is displayed right-to-left (for example, by sprmCLidBi)</li> </ul> <p>Any character property that is not in this list MUST NOT be affected by sprmCMajority.</p> |
| sprmCIss<br>(0x2A48)     | 0x48   | <p>An 8-bit unsigned integer that specifies superscript or subscript for text. By default, text is normal. The value MUST be one of those listed following.</p> <p style="padding-left: 40px;">0x00 - Normal text<br/>0x01 - Superscript<br/>0x02 - Subscript</p>  |
| sprmCHpsKern<br>(0x484B) | 0x4B   | <p>A signed integer that specifies a font size threshold, in half-points, at or above which kerning is applied to the text. If the operand is 0, no kerning is applied; otherwise, it MUST be a value between 1 and 3276. By default, kerning is not applied to any characters.</p>  |
| sprmCHresi<br>(0x484E)   | 0x4E   | <p>An <a href="#">HresiOperand</a> value that specifies the word-breaking behavior for the text. By default the text uses normal hyphenation.</p>  |
| sprmCRgFtc0<br>(0x4A4F)  | 0x4F   | <p>A 2-byte signed integer value that is an index into the font table (<a href="#">SttbFfn</a>). The font that is referenced by this index is used to display the text only if the conditions for using these fonts do not apply: sprmCRgFtc1, sprmCRgFtc2 and sprmCFtcBi. This value MUST be between 0 and a number that is one less than the count of entries in SttbFfn unless there are 0 entries, in which case this value MUST be 0. By default, the font used under these conditions is <b>STSH.Stshi.Stshif.ftcAscii</b>.</p>  |
| sprmCRgFtc1<br>(0x4A50)  | 0x50   | <p>A 2-byte signed integer value that is an index into the font table (<a href="#">SttbFfn</a>). The font referenced by this index is used only if the language for the text is an East Asian language. This value MUST be between 0 and a number that is one less than the count of entries in SttbFfn unless there are 0 entries, in which case this value MUST be 0. By default, the font that is used under these conditions is <b>STSH.Stshi.Stshif.ftcFE</b>.</p>  |
| sprmCRgFtc2<br>(0x4A51)  | 0x51   | <p>A 2-byte signed integer that is an index into the font table (<a href="#">SttbFfn</a>). The font that is referenced by this index is used to display text if the character falls outside the Unicode character range U+0020 to U+007F and the conditions for using these fonts do not apply: sprmCRgFtc1 and sprmCFtcBi. This value MUST be between 0 and a number that is one less than the count</p>  |

| Sprm                         | ispmid | operand  |
|------------------------------|--------|--|
|                              |        | of entries in SttbFfn unless there are 0 entries, in which case this value MUST be 0. By default, the font that is used under these conditions is <b>STSH.Stshi.Stshif.ftcOther</b> .  |
| sprmCCCharScale<br>(0x4852)  | 0x52   | A 2-byte unsigned integer that specifies the percentage by which to horizontally scale the text, thereby changing the shape of the characters. The value MUST be greater than or equal to 1, and less than or equal to 600. Values that are less than 100 represent the compressing of text. Values that are greater than 100 represent the expanding of text. By default, text is neither compressed nor expanded.  |
| sprmCFDStrike<br>(0x2A53)    | 0x53   | A <b>ToggleOperand</b> value that specifies whether the text is formatted with the double strikethrough effect. By default, text is not struck through.  |
| sprmCFImprint<br>(0x0854)    | 0x54   | A <b>ToggleOperand</b> value that specifies whether the text is formatted with the imprint effect. By default, text does not have this formatting applied. If sprmCFEmboss, sprmCFOutline or sprmCFShadow is "true", then sprmCFImprint MUST be "false".   |
| sprmCFSpec<br>(0x0855)       | 0x55   | <p>A <b>ToggleOperand</b> value that specifies whether the current text has a meaning that differs or displays differently than the underlying character to which it is applied. This value SHOULD <a href="#">&lt;147&gt;</a> be applied only to the following characters.</p> <p>U+0001 - A picture location that is used in conjunction with sprmCPicLocation.</p> <p>U+0002 - An auto-numbered footnote reference. See plcffndRef.</p> <p>U+0003 - A short horizontal line.</p> <p>U+0004 - A long horizontal line that is the width of the content area of the page.</p> <p>U+0005 - An annotation reference character. See PlcfandRef.</p> <p>U+0008 - A drawn object. See plcfSpa.</p> <p>U+0013 - A field begin character. See Plcflf.</p> <p>U+0014 - A field separator character. See Plcflf.</p> <p>U+0015 - A field end character. See Plcflf.</p> <p>U+0028 - A symbol. See sprmCSymbol.</p> <p>U+003C - The start of a structured document tag bookmark range. See FibRgFclCb2003.fcPlcfBkfSdt.</p> <p>U+003E - The end of a structured document tag bookmark range. See FibRgFclCb2003.fcPlcfBkiSdt.</p> <p>U+2002 - An en space.</p> <p>U+2003 - An em space.</p> <p>By default, characters have no special meaning beyond their underlying glyph.</p> |
| sprmCFObj<br>(0x0856)        | 0x56   | A <b>Bool8</b> value that specifies whether the current text represents an embedded object. If sprmCFObj is "true", sprmCFObj2 MUST also be "true". By default, text is not an embedded object.  |
| sprmCPropRMark90<br>(0xCA57) | 0x57   | A <b>PropRMarkOperand</b> value that specifies whether the character run has an associated <b>property revision mark</b> , as well as its author and date/time. By default, character runs have no property revision marks.  |
| sprmCFEmboss<br>(0x0858)     | 0x58   | A <b>ToggleOperand</b> value that specifies whether the text is embossed. By default, text is not embossed. If sprmCFOutline, sprmCFShadow or sprmCFImprint is "true", sprmCFEmboss MUST be "false".   |
| sprmCSfxText<br>(0x2859)     | 0x59   | A byte that specifies a text effect to apply to the text. By default, text does not have any text effects. The allowed values and their meanings are listed following.   |

| Sprm                          | ispmid | operand  |
|-------------------------------|--------|--|
|                               |        | <p>0x0 - None.</p> <p>0x1 - Las Vegas Lights. Text is bordered by marquee lights that blink between the colors red, yellow, green, and blue.</p> <p>0x2 - Blinking background. Text has a black background that blinks on and off.</p> <p>0x3 - Sparkle Text. Text is overlaid with multicolored stars that blink on and off at regular intervals.</p> <p>0x4 - Marching Black Ants. Text is surrounded by a black dashed-line border. The border is animated so that the individual dashes appear to move clockwise around the text.</p> <p>0x5 - Marching Red Ants. Text is surrounded by a red dashed-line border that is animated to appear to move clockwise around the text.</p> <p>0x6 - Shimmer. Text is alternately blurred and unblurred at regular intervals, to give the appearance of shimmering.</p> |
| sprmCFBiDi<br>(0x085A)        | 0x5A   | A <b>ToggleOperand</b> value that specifies whether the text is formatted with right-to-left layout. By default, text is displayed from right to left if the language for the text is a right-to-left language.  |
| sprmCFBoldBi<br>(0x085C)      | 0x5C   | A <b>ToggleOperand</b> value that specifies whether the text is formatted bold when displayed right-to-left or determined to be complex script. By default, text is not bold.  |
| sprmCFItalicBi<br>(0x085D)    | 0x5D   | A <b>ToggleOperand</b> value that specifies whether the text is italicized when displayed right-to-left or determined to be complex script. By default, text is not italicized.  |
| sprmCFtcBi<br>(0x4A5E)        | 0x5E   | A 2-byte signed index into the font table ( <b>SttbFfn</b> ). The font that is referenced by this index is used to display the text only if the text flow is right-to-left or if the text is a complex script. This value MUST be a number that is between 0 and one less than the count of entries in <b>SttbFfn</b> unless there are 0 entries, in which case this value MUST be 0. By default, the font used under these conditions is <b>STSH.Stshi.ftcBi</b> .  |
| sprmCLidBi<br>(0x485F)        | 0x5F   | A <b>LID</b> value that specifies the language of the text when the text is displayed right-to-left or if the text is complex script. By default, text language is undefined and text is not checked for spelling, grammar, or hyphenation.  |
| sprmCIcoBi<br>(0x4A60)        | 0x60   | An <b>ICO</b> value that specifies the color of text when displayed right-to-left or determined to be complex script. <a href="#">&lt;148&gt;</a>  |
| sprmCHpsBi<br>(0x4A61)        | 0x61   | <p>An unsigned 2-byte integer value that specifies the size of the text, for text that is displayed right-to-left or text that is a complex script. This value is specified in half-points. The specified value MUST be between 0 and 3276. By default, text of the following Unicode subranges uses the associated size, in half points, as specified in <a href="#">[MC-USB]</a>.</p> <ul style="list-style-type: none"> <li>▪ Thai, Mongolian, and Bengali use a font size of 28.</li> <li>▪ Tibetan uses a font size of 32.</li> <li>▪ Devanagari uses a font size of 20.</li> <li>▪ Khmer uses a font size of 36.</li> </ul> <p>Text of other Unicode subranges uses a font size of 24 half points.</p>   |
| sprmCDispFldRMark<br>(0xCA62) | 0x62   | A <b>DispFldRmOperand</b> value that indicates a revision within the result of a display field. This sprm MUST be applied only to a LISTNUM display field.   |
| sprmCIbstRMarkDel<br>(0x4863) | 0x63   | A signed 16-bit integer value that specifies a zero-based index into <b>SttbFMark</b> . This value MUST be greater than or equal to zero and MUST be less than <b>SttbFMark.cData</b> . The string at this index is the name of the author who deleted the text. This is recorded only if revision marking is on at the time of deletion. By default, this index is zero, which is the index of the  |

| Sprm                          | ispmid | operand   |
|-------------------------------|--------|---|
|                               |        | "Unknown" author.   |
| sprmCDttmRMarkDel<br>(0x6864) | 0x64   | A <b>DTTM</b> value that specifies the date and time at which the text was deleted. This is recorded only if revision marking is on at the time of the deletion. By default, the date is 1/1/1900 and the time is 00:00:00.   |
| sprmCBrc80<br>(0x6865)        | 0x65   | A <b>Brc80</b> value that specifies the border of all four sides of the text. The logical left border is hidden if the previous character on the same line has the same border as this character. The <b>logical right</b> border is hidden if the next character on the same line has the same border as this character. By default, text has no border.<br><b>Brc80.dptSpace</b> MUST be ignored when applied to character borders.   |
| sprmCShd80<br>(0x4866)        | 0x66   | A <b>Shd80</b> structure that specifies the background shading for the text. By default, text is not shaded.  |
| sprmCIdsIRMarkDel<br>(0x4867) | 0x67   | <p>An unsigned 16-bit integer that specifies the reason why the text under revision was deleted. This is recorded only if revision marking is on at the time when the text is edited. This value MUST be one of the following.</p> <ul style="list-style-type: none"> <li>0x0000 – Performed a normal edit.</li> <li>0x0001 – Applied a style.</li> <li>0x0002 – Adjusted alignment with a tab.</li> <li>0x0003 – Adjusted alignment with a tab.</li> <li>0x0004 – Removed extra paragraph mark.</li> <li>0x0005 – Replaced all caps with mixed caps.</li> <li>0x0006 – Replaced bullet character with bullet symbol.</li> <li>0x0007 – Replaced straight quote with smart quote.</li> <li>0x0008 – Replaced multiple-character symbol with single symbol.</li> <li>0x0009 – Replaced text with trademark symbol.</li> <li>0x000A – Replaced text with copyright symbol.</li> <li>0x000B – Replaced text with registered trademark symbol.</li> <li>0x000C – Adjusted spaces after period.</li> <li>0x000D – Replaced numbers with fraction symbol.</li> <li>0x000E – Applied a heading style.</li> <li>0x000F – Applied an outline style.</li> <li>0x0010 – Applied a list style.</li> <li>0x0011 – Applied a memo header style.</li> <li>0x0012 – Applied an address style.</li> <li>0x0013 – Applied a salutation style.</li> <li>0x0014 – Applied a closing phrase style.</li> <li>0x0015 – Applied a date style.</li> <li>0x0016 – Applied a distribution list style.</li> </ul> |

| Sprm                              | ispmid | operand  |
|-----------------------------------|--------|--|
|                                   |        | <p>0x0017 – Applied a bullet list style.</p> <p>0x0018 – Applied a column style.</p> <p>0x0019 – Applied a carbon copy style.</p> <p>0x001A – Replaced text with superscript.</p> <p>0x001B – Replaced whitespace galley with tabs.</p> <p>0x001C – Removed leading whitespace.</p> <p>0x001D – Removed manual numbering.</p> <p>0x001E – Replaced two hyphens with long (em) dash.</p> <p>0x001F – Adjusted spaces before: ‘!’, ‘?’, or ‘;’</p> <p>0x0020 – Inserted paragraph mark.</p> <p>0x0021 – Replaced leading whitespace to first line indent.</p> <p>0x0022 – Removed space between DBC and SBC to use auto space.</p> <p>0x0023 – Replaced to match to open parenthesis.</p> <p>0x0024 – Replaced double byte to single byte.</p> <p>0x0025 – Replaced single byte to double byte.</p> <p>0x0026 – Replaced manual emphasis.</p> <p>0x0027 – Replaced border characters with borders</p> <p>0x0028 – Replaced e-mail history characters with indentation.</p> <p>0x0029 – Replaced URL or UNC with hyperlink.</p> <p>0x002A – Replaced Gateway-generated hex characters.</p> <p>0x002B – Applied outline level for document map.</p> <p>By default, the reason for the revision is "Performed a normal edit."</p> |
| sprmCFUsePgsuSettings<br>(0x0868) | 0x68   | A <b>ToggleOperand</b> value that specifies whether the text is to be displayed according to the <b>document grid</b> . By default, text uses the document grid if one is defined. (See <a href="#">sprmSClm</a> for more details about the document grid.)  |
| sprmCRgLid0_80<br>(0x486D)        | 0x6D   | A <b>LID</b> value that specifies the language of the text, except for East Asian languages. East Asian languages are specified by sprmCRgLid1_80. By default, the text language is undefined.   |
| sprmCRgLid1_80<br>(0x486E)        | 0x6E   | A <b>LID</b> value that specifies the language of the text if it is an East Asian language. Other languages are specified by sprmCRgLid0_80. By default, the text language is undefined.   |
| sprmCIctHint<br>(0x286F)          | 0x6F   | <p>An 8-bit unsigned integer value that specifies which of the language, font, size, bold, and italic properties is to be used for handling the text, in the case where this cannot be derived from the characters themselves. The valid values and their meanings are specified as follows. These meanings correspond to the values of the ST_Hint type specified in [ECMA-376] Part 4, Section 2.18.47.</p> <p><b>0x00 - default</b><br/>Use sprmCRgLid0 (or sprmCRgLid0_80) for language. Use sprmCRgFtc0 for font if the character is between 0x0020 and</p>   |

| <b>Sprm</b>                      | <b>ispmid</b> | <b>operand</b>   |
|----------------------------------|---------------|--|
|                                  |               | <p>0x007F, inclusive. Otherwise, use sprmCRgFtc2. Use sprmCHps for size, sprmCFBold for bold, and sprmCFItalic for italic.</p> <p><b>0x01 - eastAsia</b><br/>Use sprmCRgLid1 (or sprmCRgLid1_80) for language, sprmCRgFtc1 for font, sprmCHps for size, sprmCFBold for bold, and sprmCFItalic for italic.</p> <p><b>0x02 - cs</b><br/>Use sprmCLidBi for language, sprmCFtcBi for font, sprmCHpsBi for size, sprmCFBoldBi for bold, and sprmCFItalicBi for italic.</p> <p><b>0xFF - No ST_Hint equivalent</b><br/>Provides no guidance on how to treat ambiguous text.</p> |
| sprmCCv<br>(0x6870)              | 0x70          | A <a href="#">COLORREF</a> value that specifies the color of the text. The default text color is <b>cvAuto</b> .   |
| sprmCShd<br>(0xCA71)             | 0x71          | A <a href="#">SHDOperand</a> value that specifies the background shading for the text. By default, text is not shaded.   |
| sprmCBrc<br>(0xCA72)             | 0x72          | A <a href="#">BrcOperand</a> value that specifies the border on all four sides of the text. The logical left border is hidden if the previous character on the same line has the same border as this character. The logical right border is hidden if the next character on the same line has the same border as this character. By default, text has no border.<br><a href="#">Brc.dptSpace</a> MUST be ignored when applied to character borders.  |
| sprmCRgLid0<br>(0x4873)          | 0x73          | A <b>LID</b> value that specifies the language of the text, except for East Asian languages. East Asian languages are specified by sprmCRgLid1. By default, the text language is undefined and text is not checked for spelling, grammar, or hyphenation.  |
| sprmCRgLid1<br>(0x4874)          | 0x74          | A <b>LID</b> value that specifies the language of the text if it is an East Asian language. Other languages are specified by the sprmCRgLid0. By default, the text language is undefined and text is not checked for spelling, grammar, or hyphenation.  |
| sprmCFNoProof<br>(0x0875)        | 0x75          | A <b>ToggleOperand</b> value that specifies whether the text is excluded from the proofing analysis. By default, text is not excluded from the proofing analysis.  |
| sprmCFitText<br>(0xCA76)         | 0x76          | A <a href="#">CFitTextOperand</a> value that specifies a width, in twips, to which text is expanded or condensed to fit. By default, text is not modified to fit into a specific width.  |
| sprmCCvUI<br>(0x6877)            | 0x77          | A <b>COLORREF</b> value that specifies the color of the text underline. The default underline color is <b>cvAuto</b> .   |
| sprmCFELayout<br>(0xCA78)        | 0x78          | A <a href="#">FarEastLayoutOperand</a> value that specifies text layout information for East Asian languages. By default, text layout is unchanged by the <b>sprmCFELayout</b> value.  |
| sprmCLbcCRJ<br>(0x2879)          | 0x79          | An <a href="#">LBCOperand</a> value that specifies that this character is a special character representing a line break of the given type. The presence of a line break character means that the line ends at this point and that the rest of the text continues on another line even though it is part of the same paragraph. This <b>Sprm</b> MUST NOT be applied to any character other than a line break character (Unicode 0x000B). By default, text restarts at the beginning of the next line after a line break character.   |
| sprmCFComplexScripts<br>(0x0882) | 0x82          | A <b>ToggleOperand</b> value that specifies whether complex script formatting (for example, see sprmCFBoldBi) is applied to the text regardless of the Unicode characters themselves.<br><br>By default, characters are evaluated to determine whether complex script formatting is applied.   |
| sprmCWall<br>(0x2A83)            | 0x83          | A <b>Bool8</b> value that specifies whether the values of character properties are preserved for revision-marking purposes until the modifications are accepted  |

| Sprm                           | ispmid | operand  |
|--------------------------------|--------|--|
|                                |        | <p>or rejected by the user.</p> <p>A value of 1 specifies that the values of properties are preserved. All character <b>SPRMs</b> that are encountered before the <b>sprmCWall</b> in the text property evaluation specify the state of the character properties before revision marking is enabled, whereas all character <b>SPRMs</b> that follow the <b>sprmCWall</b> specify the character property modifications that occur after revision marking is enabled.</p> <p>A value of 0 specifies that no values have been preserved (overriding any previously encountered <b>sprmCWall</b> <b>SPRMs</b> that specify the contrary). Neither <b>SPRMs</b> encountered before the <b>sprmCWall</b>, nor subsequent <b>SPRMs</b> (until another <b>sprmCWall</b>, if any), are treated in any special way with regard to revision marking.</p> <p>By default, values of properties are not preserved.</p> |
| sprmCCnf<br>(0xCA85)           | 0x85   | <p>A <b>CNFOperand</b> that specifies conditional character formatting for a specific condition of a <b>table style</b>. The <b>grppl</b> member of <b>CNFOperand</b> specifies the character formatting properties and MUST NOT contain any <b>Sprms</b> that are disallowed in the <b>grpplChpx</b> member of <b>UpXChpx</b>.</p> <p>This <b>sprm</b> MUST only be specified within the <b>grpplChpx</b> member of a <b>UpXChpx</b> within a table style definition (<b>LPStd</b>).</p> <p>By default, a table style definition does not include conditional formatting.</p>   |
| sprmCNeedFontFixup<br>(0x2A86) | 0x86   | <p>An <b>FFM</b> that specifies the type of font substitution that is needed for the associated text. Font substitution is needed when certain language characters are not supported by the current font for the text, so it is necessary to pick a different font that supports the characters. By default, text is not marked as requiring font substitution.</p>  |
| sprmCPbiIBullet<br>(0x6887)    | 0x87   | <p>A <b>CP</b> value in the Bullet Pictures document that specifies which picture is used as a bullet character when rendering the bullet. The CP value MUST be greater than or equal to zero. The Bullet Pictures document is stored within the main document and marked by a hidden bookmark (1) called "_PictureBullets."</p> <p>This <b>Sprm</b> MUST NOT be applied to any character other than a paragraph mark (Unicode 0x000D), a cell mark (Unicode 0x0007), or a section mark (Unicode 0x000C). If a picture bullet is used, <b>sprmCPbiGrf</b> MUST be present to specify the properties of the picture bullet. By default, pictures are not used for rendering bullets.</p>  |
| sprmCPbiGrf<br>(0x4888)        | 0x88   | <p>A <b>PbiGrfOperand</b> value that specifies whether a picture is used as a bullet character when rendering the bullet. This value also specifies the properties of the picture bullet. This <b>Sprm</b> MUST NOT be applied to any character other than a paragraph mark (Unicode 0x000D). If a picture bullet is used, <b>sprmCPbiIBullet</b> MUST be present to specify the location of the picture that is used for the bullet. By default, pictures are not used to render bullets.</p>   |
| sprmCPropRMark<br>(0xCA89)     | 0x89   | <p>A <b>PropRMarkOperand</b> value that specifies whether the text has an associated property revision mark, as well as its author and the date and time.</p> <p>By default, text has no property revision marks.</p>  |
| sprmCFSdtVanish<br>(0x2A90)    | 0x90   | <p>A <b>Bool8</b> value that specifies whether the text is hidden from display when the option to hide arbitrary XML delimiters is enabled. This value MUST NOT be applied to any characters other than '&lt;' (U+003C) or '&gt;' (U+003E) with <b>sprmCFSpec</b> set to "true". By default, text is not hidden when the option to hide XML delimiters is enabled.</p>   |

## 2.6.2 Paragraph Properties

A **PrI** with a **sprm.sgc** of 1 modifies a paragraph property.



The following table specifies the paragraph property modifiers, including the valid **sprm** values, their function, and the corresponding **operand** type and meaning.

| sprm                         | isprm | Operand  |
|------------------------------|-------|--|
| sprmPIstd<br>(0x4600)        | 0x00  | <p>An unsigned integer that specifies the <b>istd</b> of a paragraph style to apply.</p> <p>To apply the <b>istd</b>, fetch the complete set of paragraph and character properties from that style. (See <a href="#">Applying Properties</a> for instructions.) Apply those properties to the current paragraph, while preserving the previous values of the following:</p> <ul style="list-style-type: none"> <li>▪ Whether the paragraph is a Table Terminating Paragraph Mark (for example, by sprmPFTtp). (See <a href="#">Overview of Tables</a>).</li> <li>▪ Whether the paragraph is in a table (for example, by sprmPFIinTable).</li> <li>▪ The <b>table depth</b> of the paragraph (for example, by sprmPItap).</li> <li>▪ Whether the paragraph is the final paragraph in a nested table cell (for example, by sprmPFIinnerTableCell).</li> <li>▪ The table style applied to the paragraph (for example, by <a href="#">sprmTIstd</a>).</li> <li>▪ The <b>igppSelf</b> value of the <a href="#">PGPInfo</a> data that is applied to the paragraph (for example, by sprmPIpgp).</li> <li>▪ Paragraph properties that have been preserved for revision marking (for example, by sprmPWall) See sprmPWall for the meaning of revision marking.</li> <li>▪ The revision save ID that is associated with the paragraph (for example, by sprmPRsid), as specified in <a href="#">[ECMA-376]</a> Part 4, Section 2.15.1.70.</li> <li>▪ Whether the paragraph has an associated property revision mark, as well as its author and the date and time (for example, by sprmPPropRMark).</li> <li>▪ The numbering revision mark for the paragraph (for example, by sprmPNumRM).</li> <li>▪ Whether a numbered list was applied to the paragraph after the previous revision (for example, by sprmPFNumRMIns).</li> </ul> <p>An <b>istd</b> value in the range of 1 to 9, inclusive, also specifies the <b>outline level</b> of the paragraph (for example, by sprmPOutLvl), where the new outline level is equal to the value of the <b>istd</b> minus 1.</p> <p>If an <b>istd</b> value refers to an empty or nonexistent style, or to a style of a different type, a later PrI such as sprmPIstd or sprmPIstdPermute MUST change the <b>istd</b> to a valid value. Applying an <b>istd</b> that refers to an empty or nonexistent style, or to a style of a different type, is equivalent to applying the paragraph and character document default formatting (while preserving the same set of properties as when applying an <b>istd</b>.)</p> <p>By default, the paragraph style is unchanged.</p> |
| sprmPIstdPermute<br>(0xC601) | 0x01  | <p>A <a href="#">SPPOperand</a> value that specifies a potential change in the current paragraph style (<b>istd</b>).</p> <p>If the <b>istd</b> is not affected, this PrI MUST be ignored.</p> <p>If the <b>istd</b> is affected, this <b>sprm</b> is equivalent to sprmPIstd with the operand being the new <b>istd</b>.</p>  |
| sprmPInclLvl<br>(0x2602)     | 0x02  | <p>A signed 8-bit integer value. If the paragraph has an <b>istd</b> that is greater than or equal to 0x0001 and less than or equal to 0x0009, this value specifies an offset to the <b>istd</b> of the paragraph. If this value offsets the <b>istd</b> of the paragraph beyond one of the limits 0x0001 or 0x0009, then the <b>istd</b> of the paragraph is set to that limit. See <a href="#">Determining Formatting Properties</a> for information about how to determine the <b>istd</b> of the paragraph.</p> <p>If the <b>istd</b> of the paragraph is not within the range that was specified earlier, this value specifies an offset to the outline level of the</p>  |

| sprm                              | ispmid | Operand  |
|-----------------------------------|--------|--|
|                                   |        | paragraph, unless the outline level of the paragraph is equal to 0x09, in which case this value MUST be ignored. If this offset adjusts the outline level beyond one of the limits 0x00 or 0x09, then the outline level of the paragraph is set to that limit. See sprmPOutLvl for the outline level of the paragraph.   |
| sprmPJc80<br>(0x2403)             | 0x03   | <p>An unsigned 8-bit integer that specifies the physical justification of the paragraph. This MUST be one of the following values.</p> <ul style="list-style-type: none"> <li>0 - Paragraph is physically left justified.</li> <li>1 - Paragraph is centered.</li> <li>2 - Paragraph is physically right justified.</li> <li>3 - Paragraph is justified to both right and left with a low character compression ratio.</li> <li>4 - Paragraph is justified to both right and left with a medium character compression ratio.</li> <li>5 - Paragraph is justified to both right and left with a high character compression ratio.</li> </ul> <p>By default, paragraphs are physically left-justified.</p> |
| sprmPFKeep<br>(0x2405)            | 0x05   | A <a href="#">Bool8</a> value that specifies whether an application SHOULD <a href="#">&lt;149&gt;</a> keep this paragraph on a single page. By default, paragraphs are allowed to split across pages.   |
| sprmPFKeepFollow<br>(0x2406)      | 0x06   | A <a href="#">Bool8</a> value that specifies whether an application SHOULD <a href="#">&lt;150&gt;</a> keep the end of this paragraph on the same page as the beginning of the next paragraph. By default, adjacent paragraphs are allowed to be on separate pages.  |
| sprmPFPageBreakBefore<br>(0x2407) | 0x07   | A <a href="#">Bool8</a> value that specifies whether this paragraph has a page break before it. By default, paragraphs do not have page breaks before them.  |
| sprmPIlvl<br>(0x260A)             | 0x0A   | <p>An unsigned 8-bit integer that specifies the <b>list level</b> of the paragraph. This value MUST be ignored if this paragraph is not in a list (see sprmPIlfo). This value MUST be one of the following:</p> <ul style="list-style-type: none"> <li><b>0x0 - 0x8</b><br/>The value specifies the zero-based level of the list that contains this paragraph. For example, a value of 0x0 means that the paragraph is in the first level of the list.</li> <li><b>0xC</b><br/>The list skips this paragraph and does not include it in its numbering.</li> </ul> <p>By default, a paragraph is in the first level of the list.</p>  |

| sprm                         | ispmid | Operand  |
|------------------------------|--------|--|
| sprmPIlfo<br>(0x460B)        | 0x0B   | <p>A 16-bit signed integer value that is used to determine which list contains the paragraph. This value <b>MUST</b> be one of the following:</p> <p><b>0x0000</b><br/>This paragraph is not in a list, and any list formatting on the paragraph is removed.</p> <p><b>0x0001 - 0x07FE</b><br/>The value is a 1-based index into PlfLfo.rgLfo. The LFO at this index defines the list that this paragraph is in.</p> <p><b>0xF801</b><br/>This paragraph is not in a list.</p> <p><b>0xF802 - 0xFFFF</b><br/>The value is the negation of a 1-based index into PlfLfo.rgLfo. The LFO at this index defines the list that this paragraph is in. The logical left indentation (see sprmPDxaLeft) and the logical left first line indentation (see sprmPDxaLeft1) of the paragraph <b>MUST</b> be preserved despite any list formatting.</p> <p>By default, a paragraph is not in a list.</p> |
| sprmPFNoLineNumb<br>(0x240C) | 0x0C   | A Bool8 value that specifies whether this paragraph is ignored when the application counts or displays <b>line numbers</b> . By default, if line numbers are enabled, paragraphs have line numbers.  |
| sprmPChgTabsPapx<br>(0xC60D) | 0x0D   | A <a href="#">PChgTabsPapxOperand</a> value that specifies custom tab stops to be added or ignored. By default, custom tab stops are neither added nor ignored.  |
| sprmPDxaRight80<br>(0x840E)  | 0x0E   | An <a href="#">XAS</a> value that specifies the <b>physical right</b> indent of the paragraph, in twips. By default, there is no right indentation.  |
| sprmPDxaLeft80<br>(0x840F)   | 0x0F   | An <a href="#">XAS</a> value that specifies the <b>physical left</b> indent of the paragraph, in twips. By default, there is no left indentation.  |
| sprmPNest80<br>(0x4610)      | 0x10   | An <a href="#">XAS</a> value that is added to sprmPDxaLeft80 to specify the final indent of a paragraph. By default, there is no additional space added to sprmPDxaLeft80 to determine the final indent of a paragraph.  |
| sprmPDxaLeft180<br>(0x8411)  | 0x11   | An <a href="#">XAS</a> value that specifies the logical left indent of the first line of the paragraph, in twips, relative to the rest of the paragraph. By default, the first line is not indented relative to the rest of the paragraph.   |
| sprmPDyaLine<br>(0x6412)     | 0x12   | An <a href="#">LSPD</a> value that specifies the spacing between lines in this paragraph. By default, paragraphs use single spacing.   |
| sprmPDyaBefore<br>(0xA413)   | 0x13   | A two-byte unsigned integer value that specifies the size, in twips, of the spacing before this paragraph. The value <b>MUST</b> be a number between 0x0000 and 0x7BC0, inclusive. When auto-spacing is supported and the value of sprmPFDyaBeforeAuto is 1, this property is ignored. By default, the space before a paragraph is zero twips.   |
| sprmPDyaAfter<br>(0xA414)    | 0x14   | A two-byte unsigned integer value that specifies the size, in twips, of the spacing after this paragraph. The value <b>MUST</b> be between 0x0000 and 0x7BC0, inclusive. When <b>auto spacing</b> is supported and the value of sprmPFDyaAfterAuto is 1, this property is ignored. By default, the space after a paragraph is zero twips.  |
| sprmPChgTabs<br>(0xC615)     | 0x15   | A <a href="#">PChgTabsOperand</a> value that specifies custom tab stops that are added or ignored. By default, custom tab stops are neither added nor ignored.   |
| sprmPFInTable<br>(0x2416)    | 0x16   | A Bool8 value that specifies whether this paragraph is in a table. The value <b>MUST</b> be 1 any time the table depth is greater than zero. See section 2.4.3, <a href="#">Overview of Tables</a> . By default, paragraphs are not in tables.   |
| sprmPFTtp<br>(0x2417)        | 0x17   | A Bool8 that, when set to 1, specifies that the cell mark it is applied to is a Table Terminating Paragraph (TTP) mark. The TTP mark <b>MUST</b> be  |

| sprm                      | ispmid | Operand  |
|---------------------------|--------|--|
|                           |        | immediately preceded by a cell mark. See Overview of Tables. By default, a cell mark is not a Table Terminating Paragraph Mark.  |
| sprmPDxaAbs<br>(0x8418)   | 0x18   | <p>A <a href="#">XAS_plusOne</a> that specifies the logical left horizontal position relative to the horizontal anchor of the <b>frame</b>. See sprmPPc for the frame anchor. If the value is any of the those that follow, the operand specifies a special descriptive, relative position. The meanings that are provided correspond to the values that are specified in [ECMA-376] Part 4, Section 2.18.114 ST_XAlign (Horizontal Alignment Location):</p> <p style="padding-left: 40px;">0x0000 - left<br/>0xFFFC - center<br/>0xFFF8 - right<br/>0xFFF4 - inside<br/>0xFFFF0 - outside</p> <p>By default, the relative horizontal position is <b>Left</b>.</p>           |
| sprmPDyaAbs<br>(0x8419)   | 0x19   | <p>A <a href="#">YAS_plusOne</a> value that specifies downward vertical position relative to the vertical anchor of the frame. See sprmPPc for the frame anchor. If the value is any of those that follow, the operand specifies a special descriptive, relative position. The meanings that are provided correspond to the values that are specified in [ECMA-376] Part 4, Section 2.18.115 ST_YAlign (Vertical Alignment Location).</p> <p style="padding-left: 40px;">0x0000 - inline<br/>0xFFFC - top<br/>0xFFF8 - center<br/>0xFFF4 - bottom<br/>0xFFFF0 - inside<br/>0xFFEC - outside</p> <p>By default, the relative vertical position is 0x0000 (<b>Inline</b>).</p> |
| sprmPDxaWidth<br>(0x841A) | 0x1A   | A <a href="#">XAS_nonNeg</a> value that specifies the width of the frame. If the operand value is 0, the width of the frame is automatically determined by the maximum line width of the content that is within the frame. By default, the width of the frame is automatically determined by the maximum line width of the content the frame contains.   |
| sprmPPc<br>(0x261B)       | 0x1B   | A <a href="#">PositionCodeOperand</a> that specifies the anchor from which the frame position is calculated.   |

| sprm                          | ispmid | Operand   |
|-------------------------------|--------|---|
| sprmPWr<br>(0x2423)           | 0x23   | <p>A 1-byte integer that specifies how text is wrapped around a frame. Its value <b>MUST</b> be one of those that follow, corresponding to the values of <b>ST_Wrap</b> that are specified in [ECMA-376] Part 4, Section 2.18.113 ST_Wrap (Text Wrapping around Text Frame type).</p> <p><b>0x00</b><br/><b>ST_Wrap: auto</b><br/>This value specifies automatic text wrapping.</p> <p><b>0x01</b><br/><b>ST_Wrap: notBeside</b><br/>This value specifies that there is no text wrapping to either side of the frame.</p> <p><b>0x02</b><br/><b>ST_Wrap: around</b><br/>This value specifies that text is wrapped around the frame.</p> <p><b>0x03</b><br/><b>ST_Wrap: none</b><br/>Text is not wrapped around the frame.</p> <p><b>0x04</b><br/><b>ST_Wrap: tight</b><br/>This value specifies that text is tightly wrapped around the frame.</p> <p><b>0x05</b><br/><b>ST_Wrap: through</b><br/>This value specifies that text is wrapped through the frame, to the contours of the contents of the frame.</p> <p>By default, text is automatically wrapped around a frame.</p> |
| sprmPBrctop80<br>(0x6424)     | 0x24   | <p>A <a href="#">Brc80</a> value that specifies the top border of the paragraph. This border is hidden if the previous paragraph is identical to this one in terms of its top, bottom, left, and right borders; its left and right indents; its table depth; and its sprmPIpgp value.<br/>By default, paragraphs have no top border.</p>  |
| sprmPBrclft80<br>(0x6425)     | 0x25   | <p>A Brc80 value that specifies the logical left border of the paragraph. By default, paragraphs have no logical left border.</p>   |
| sprmPBrcBottom80<br>(0x6426)  | 0x26   | <p>A Brc80 value that specifies the bottom border of the paragraph. This border is hidden if the next paragraph is identical to this one in terms of its top, bottom, left, and right borders; its left and right indents; its table depth; and its sprmPIpgp value.<br/>By default, paragraphs have no bottom border.</p>  |
| sprmPBrcRight80<br>(0x6427)   | 0x27   | <p>A Brc80 value that specifies the logical right border of the paragraph. By default, paragraphs have no logical right border.</p>   |
| sprmPBrcBetween80<br>(0x6428) | 0x28   | <p>A Brc80 value that specifies the border between this paragraph and the next. This border is hidden unless the next paragraph is identical to this one in terms of its top, bottom, left, and right borders; its left and right indents; its table depth; and its sprmPIpgp value.<br/>By default, paragraphs have no borders between them.</p>   |
| sprmPBrctopBar80<br>(0x6629)  | 0x29   | <p>A Brc80 value that has no effect.</p>  |
| sprmPFNoAutoHyph<br>(0x242A)  | 0x2A   | <p>A Bool8 value that specifies whether this paragraph is <b>auto-hyphenated</b> when hyphenation is enabled for the document. A value of 1 specifies that this paragraph is not auto-hyphenated when hyphenation is enabled for the document. A value of 0 specifies that this paragraph is auto-hyphenated when hyphenation is enabled for the document. By default, paragraphs are auto-hyphenated when</p>  |

| sprm                            | ispmid | Operand   |
|---------------------------------|--------|---|
|                                 |        | hyphenation is enabled for the document.<br>Document hyphenation is enabled when the <b>fAutoHyphen</b> field of the <a href="#">DopBase</a> structure is 1.  |
| sprmPWHeightAbs<br>(0x442B)     | 0x2B   | A <a href="#">WHeightAbs</a> value that specifies the height of the frame. By default, the height of a frame height is automatically determined based on the height of its contents.  |
| sprmPDcs<br>(0x442C)            | 0x2C   | A <a href="#">DCS</a> value that specifies the properties, if any, of the drop cap for this paragraph. By default, paragraphs do not have a drop cap.   |
| sprmPShd80<br>(0x442D)          | 0x2D   | A <a href="#">Shd80</a> structure that specifies the background shading for the paragraph. By default, paragraphs are not shaded.   |
| sprmPDyaFromText<br>(0x842E)    | 0x2E   | A <a href="#">YAS_nonNeg</a> value that specifies the minimum vertical distance between the edge of the frame and the edge of <a href="#">main document</a> text that wraps around the frame. By default, the minimum vertical distance is 0 twips.   |
| sprmPDxaFromText<br>(0x842F)    | 0x2F   | A <a href="#">XAS_nonNeg</a> value that specifies the minimum horizontal distance between the edge of the frame and the edge of main document text that wraps around the frame. By default, the minimum horizontal distance is 0 twips.   |
| sprmPFLocked<br>(0x2430)        | 0x30   | A Bool8 value that specifies whether the anchor of the frame which contains this paragraph is locked to its current location. By default, the frame anchor is not locked. This <a href="#">Sprm</a> corresponds to the <b>anchorLock</b> attribute as specified in [ECMA-376] Part 4, Section 2.3.1.11 framePr (Text Frame Properties)  |
| sprmPFWidowControl<br>(0x2431)  | 0x31   | A Bool8 value that specifies whether widow and orphan control is enabled for this paragraph. An orphaned line is the first line of a paragraph when it is displayed by itself at the bottom of a page. A widowed line is the last line of a paragraph when it is displayed by itself at the top of a page. When widow and orphan control is enabled, the application attempts to eliminate widowed and orphaned lines. By default, widow and orphan control is enabled. |
| sprmPFKinsoku<br>(0x2433)       | 0x33   | A Bool8 value that specifies whether this paragraph uses East Asian typography and line-breaking rules to determine the valid characters that are allowed to begin and end each line of East Asian text. These rules are specified in [ECMA-376] Part 4, Section 2.3.1.16 kinsoku paragraph property. By default, paragraphs use East Asian rules to determine the allowed values for the first and last characters of each line of text.                               |
| sprmPFWordWrap<br>(0x2434)      | 0x34   | A Bool8 value that, when equal to 0, specifies a preference to break Latin text that exceeds text line limits by breaking a word across two lines (breaking on the character level). If the language used is Korean, this property affects Korean text instead of Latin text. By default, the word is placed on the following line (breaking on the word level).  |
| sprmPFOverflowPunct<br>(0x2435) | 0x35   | A Bool8 value that, when equal to 0, specifies a preference against allowing a punctuation character that follows a word at the end of a line to appear beyond the extent of that line of text. By default, a single punctuation character that follows a word can appear beyond the extent of a line.  |
| sprmPFTopLinePunct<br>(0x2436)  | 0x36   | A Bool8 value that specifies a preference to render punctuation characters at the beginning of a line so that they appear to be closer to both the beginning of the line and to the next character, regardless of the amount of whitespace in the glyph as defined by the font. By default, punctuation is rendered normally.   |
| sprmPFAutoSpaceDE<br>(0x2437)   | 0x37   | A Bool8 value that specifies whether space is automatically inserted between East Asian and Latin text. By default, this option is enabled.   |
| sprmPFAutoSpaceDN<br>(0x2438)   | 0x38   | A Bool8 value that specifies whether space is automatically inserted between East Asian text and numbers. By default, this option is enabled.   |

| sprm                           | ispmid | Operand   |
|--------------------------------|--------|---|
| sprmPWAlignFont<br>(0x4439)    | 0x39   | <p>A 16-bit unsigned integer that specifies vertical font alignment for East Asian languages. This Sprm corresponds to the <b>textAlignment</b> paragraph property that is specified in [ECMA-376] Part 4, Section 2.3.1.39. This value MUST be one of the following, corresponding to the values of ST_TextAlignment that are specified in [ECMA-376] Part 4, Section 2.18.98.</p> <p><b>0x0000</b><br/><b>ST_TextAlignment: top</b><br/>This value specifies that characters are aligned based on the top of each character.</p> <p><b>0x0001</b><br/><b>ST_TextAlignment: center</b><br/>This value specifies that characters are centered on the line.</p> <p><b>0x0002</b><br/><b>ST_TextAlignment: baseline</b><br/>This value specifies that characters are aligned based on their baseline. This is how standard Latin text is displayed.</p> <p><b>0x0003</b><br/><b>ST_TextAlignment: bottom</b><br/>This value specifies that characters are aligned based on the bottom of each character.</p> <p><b>0x0004</b><br/><b>ST_TextAlignment: auto</b><br/>This value specifies that alignment is automatically determined by the application.</p> <p>By default, font alignment is automatically determined by the application.</p> |
| sprmPFrameTextFlow<br>(0x443A) | 0x3A   | <p>A <a href="#">FrameTextFlowOperand</a> that specifies the direction of text flow in the frame. If this property is set, then at least one of the following paragraph properties MUST be set with a non-default value:</p> <ul style="list-style-type: none"> <li>▪ sprmPDxaAbs</li> <li>▪ sprmPDyaAbs</li> <li>▪ sprmPDxaWidth</li> <li>▪ sprmPPc</li> <li>▪ sprmPWl</li> <li>▪ sprmPWHeightAbs</li> </ul> <p>By default, paragraph text flows horizontally, without rotation.</p>   |
| sprmPOutLvl<br>(0x2640)        | 0x40   | <p>An unsigned 8-bit integer value that specifies the outline level of the paragraph. This value MUST be one of the following.</p> <p><b>0x0 - 0x8</b><br/>The value is the zero-based outline level that this paragraph is in.</p> <p><b>0x9</b><br/>The paragraph at any outline level; instead, the paragraph is body text.</p> <p>This MUST be ignored if the paragraph has an <b>istd</b> that is greater than or equal to 0x1 and less than or equal to 0x9. By default, paragraphs are body text, and are therefore not in any outline level.</p>  |
| sprmPFBiDi<br>(0x2441)         | 0x41   | <p>A Bool8 value that specifies whether the paragraph uses right-to-left layout.</p> <p>By default, a paragraph does not use right-to-left layout.</p>  |
| sprmPFNumRMIns                 | 0x43   | <p>A Bool8 value that specifies whether a numbered list was applied to</p>  |

| <b>sprm</b>                       | <b>ispmid</b> | <b>Operand</b>  |
|-----------------------------------|---------------|---|
| (0x2443)                          |               | this paragraph after the previous revision. By default, paragraphs do not have numbered lists applied.  |
| sprmPNumRM<br>(0xC645)            | 0x45          | A <a href="#">NumRMOperand</a> value that specifies a numbering revision mark for this paragraph. By default, paragraphs do not have numbering revision marks.  |
| sprmPHugePapx<br>(0x6646)         | 0x46          | <p>A 4-byte unsigned integer that specifies a location in the <a href="#">Data Stream</a>. A <a href="#">PrcData</a> structure begins at this offset and specifies additional properties for the paragraph. The <b>cbGrpprl</b> member of the referenced PrcData structure MUST NOT be less than 10. If an application processes this PrcData, then it MUST NOT process any more Prl elements in the array that contained the sprmPHugePapx.</p> <p>If a Prl with a <b>sprm</b> of <b>sprmPHugePapx</b> is in an array of Prl elements and is not the first element of the array, then that Prl MUST be ignored. If a Prl with a <b>sprm</b> of <b>sprmPHugePapx</b> is contained in the <b>grpprl</b> array of a <a href="#">GrpPrlAndIstd</a> structure, then it MUST be the only Prl in that array and the <b>istd</b> member of that GrpPrlAndIstd structure MUST be zero.</p> <p>The <b>sprmPHugePapx</b> and sprmPTableProps values can refer to PrcDatas containing each other, but the chain MUST eventually terminate in a PrcData structure does not contain a <b>sprmPHugePapx</b> value or a sprmPTableProps value.</p> |
| sprmPFUsePgsuSettings<br>(0x2447) | 0x47          | A Bool8 value that specifies whether the paragraph adheres to the vertical components of the document grid. By default, text uses the document grid if one is defined. (See <a href="#">sprmSCLm</a> for more details about the document grid.)   |
| sprmPFAdjustRight<br>(0x2448)     | 0x48          | A Bool8 value that specifies whether this paragraph is set to automatically adjust the right indent when a document grid for <b>East Asian characters</b> is defined. This Sprm is the same as the <b>adjustRightInd</b> paragraph property specified in [ECMA-376] Part 4, Section 2.3.1.1. By default, this option is enabled.  |
| sprmPItap<br>(0x6649)             | 0x49          | An integer value that specifies the table depth of this paragraph. See the Overview of Tables (section 2.4.3) for the rules that this value follows. This value, when present, MUST be a non-negative number. By default, paragraphs are not in tables.   |
| sprmPDtap<br>(0x664A)             | 0x4A          | <p>A signed integer that specifies an addition or subtraction to the existing table depth of this paragraph. It provides an alternate way of specifying table depth to sprmPItap or a way to increment or decrement any value that was already set by sprmPItap or <b>sprmPDtap</b>.</p> <p>The resultant table depth MUST be non-negative and MUST obey the rules described in Overview of Tables (section 2.4.3). By default, paragraphs are not in tables.</p>   |
| sprmPFInnerTableCell<br>(0x244B)  | 0x4B          | <p>A Bool8 value that specifies whether this paragraph is the final paragraph in a nested table cell.</p> <p>When <b>true</b>, the nesting level of this paragraph MUST be greater than 1, indicating that this paragraph is in a table which is nested within another table.</p> <p>When <b>true</b>, this is the last paragraph of a nested table cell and its paragraph mark is treated as if it were an end of cell mark. By default, paragraphs are not the last paragraph of a nested table cell. See the Overview of Tables (section 2.4.3) for more information about nested tables.</p>  |
| sprmPFInnerTtp<br>(0x244C)        | 0x4C          | A Bool8 value that specifies whether this paragraph is the final paragraph in a nested table row. When 1, the table depth of this paragraph MUST be greater than 1, indicating that this paragraph is in a table that is nested within another table. When 1, this is the last paragraph of a nested table row and its paragraph mark is treated as if it were a TTP mark. By default, paragraphs are not the last paragraph of a nested table row. See the Overview of Tables for more information   |



| sprm                            | ispmid | Operand  |
|---------------------------------|--------|--|
|                                 |        | about nested tables.   |
| sprmPShd<br>(0xC64D)            | 0x4D   | A <a href="#">SHDOperand</a> value that specifies the background shading for the paragraph. By default, paragraphs are not shaded.   |
| sprmPBrcTop<br>(0xC64E)         | 0x4E   | A <a href="#">BrcOperand</a> value which specifies the top border of the paragraph. This border is hidden if the previous paragraph is identical to this one in terms of its top, bottom, left, and right borders; its left and right indents; its table depth; and its sprmPIpgp value.<br>By default, paragraphs have no top border. |
| sprmPBrcLeft<br>(0xC64F)        | 0x4F   | A BrcOperand value that specifies the logical left border of the paragraph. By default, paragraphs have no logical left border.  |
| sprmPBrcBottom<br>(0xC650)      | 0x50   | A BrcOperand value that specifies the bottom border of the paragraph. This border is hidden if the next paragraph is identical to this one in terms of its top, bottom, left, and right borders; its left and right indents; its table depth; and its sprmPIpgp value.<br>By default, paragraphs have no bottom border.                |
| sprmPBrcRight<br>(0xC651)       | 0x51   | A BrcOperand value that specifies the logical right border of the paragraph. By default, paragraphs have no logical right border.  |
| sprmPBrcBetween<br>(0xC652)     | 0x52   | A BrcOperand value that specifies the border between this paragraph and the next. This border is hidden unless the next paragraph is identical to this one in terms of its top, bottom, left, and right borders, left and right indents, table depth, and sprmPIpgp value.<br>By default, paragraphs have no borders between them.     |
| sprmPBrcBar<br>(0xC653)         | 0x53   | A BrcOperand value that has no effect.   |
| sprmPDxcRight<br>(0x4455)       | 0x55   | A signed 16-bit integer value that specifies the logical right indent of the paragraph in hundredths of <b>character units</b> . By default, there is no right indentation.  |
| sprmPDxcLeft<br>(0x4456)        | 0x56   | A signed 16-bit integer value that specifies the logical left indent of the paragraph in hundredths of character units. By default, there is no left indentation.  |
| sprmPDxcLeft1<br>(0x4457)       | 0x57   | A signed 16-bit integer value that specifies the logical left indent of the first line of the paragraph, in hundredths of character units, relative to the rest of the paragraph. By default, the first line is not indented relative to the rest of the paragraph.  |
| sprmPDylBefore<br>(0x4458)      | 0x58   | A signed 16-bit integer value that specifies the spacing before the paragraph, in 1/100 <b>line units</b> . This value MUST be at least -20 and MUST NOT exceed 31680. By default, paragraphs do not have spacing before them.   |
| sprmPDylAfter<br>(0x4459)       | 0x59   | A signed 16-bit integer that specifies the spacing after the paragraph, in 1/100 line units. MUST be at least -20 and MUST NOT exceed 31680. By default, paragraphs do not have spacing after them.  |
| sprmPFOpenTch<br>(0x245A)       | 0x5A   | A Bool8 value that specifies whether this table cell mark was being displayed when this file was last saved, even though it immediately follows a nested table.  |
| sprmPFDyaBeforeAuto<br>(0x245B) | 0x5B   | A Bool8 value that specifies whether the space displayed before this paragraph uses auto spacing. A value of 1 specifies that the sprmPDyaBefore value MUST be ignored when the application supports auto spacing. By default, auto spacing is disabled for paragraphs.  |
| sprmPFDyaAfterAuto<br>(0x245C)  | 0x5C   | A Bool8 value that specifies whether the space displayed after this paragraph uses auto spacing. A value of 1 specifies that sprmPDyaAfter MUST be ignored if the application supports auto spacing. By default, auto spacing is disabled for paragraphs.  |
| sprmPDxaRight<br>(0x845D)       | 0x5D   | An XAS value that specifies the logical right indent of the paragraph, in twips. By default, there is no right indentation.  |
| sprmPDxaLeft                    | 0x5E   | An XAS value that specifies the logical left indent of the paragraph, in   |

| sprm                             | ispmid | Operand  |
|----------------------------------|--------|--|
| (0x845E)                         |        | twips. By default, there is no left indentation.   |
| sprmPNest<br>(0x465F)            | 0x5F   | An XAS value that is added to the sprmPDxaLeft value to determine the final indent of a paragraph. By default, there is no additional space added to sprmPDxaLeft to determine the final indent of a paragraph. When present, this Sprm supersedes any value for sprmPNest80.  |
| sprmPDxaLeft1<br>(0x8460)        | 0x60   | An XAS value that specifies the logical left indent of the first line of the paragraph, in twips, relative to the rest of the paragraph. By default, the first line is not indented relative to the rest of the paragraph.   |
| sprmPJc<br>(0x2461)              | 0x61   | <p>An unsigned 8-bit integer value that specifies the logical justification of the paragraph. The value MUST be one of those listed following. Some of the values also correspond to the <b>ST_Jc</b> enumeration values that are specified in [ECMA-376] Part 4, Section 2.18.50 ST_Jc (Horizontal Alignment Type).</p> <p><b>0</b><br/><b>St_Jc: left</b><br/>Paragraph is logical left justified</p> <p><b>1</b><br/><b>St_Jc: center</b><br/>Paragraph is centered</p> <p><b>2</b><br/><b>St_Jc: right</b><br/>Paragraph is logical right justified</p> <p><b>3</b><br/><b>St_Jc: both</b><br/>Paragraph is justified to both right and left</p> <p><b>4</b><br/><b>St_Jc:distribute</b><br/>Paragraph characters are distributed to fill the entire width of the paragraph</p> <p><b>5</b><br/><b>St_Jc: mediumKashida</b><br/>If the language is Arabic, the paragraph uses medium-length Kashida. In other languages, text is justified with a medium character compression ratio.</p> <p><b>6</b><br/>Paragraph is indented</p> <p><b>7</b><br/><b>St_Jc: highKashida</b><br/>If the language is Arabic, the paragraph uses longer length Kashida. In other languages, text is justified with a high character compression ratio.</p> <p><b>8</b><br/><b>St_Jc: lowKashida</b><br/>If the language is Arabic, the paragraph uses small length Kashida. In other languages, text is justified with a high character compression ratio.</p> <p><b>9</b><br/><b>St_Jc:thaiDistribute</b><br/>If the language of the paragraph is Thai, the text is justified with Thai distributed justification. In other languages, text is justified with a low character compression ratio.</p> <p>The default is logical left justification.</p> |
| sprmPFNoAllowOverlap<br>(0x2462) | 0x62   | A Bool8 value that specifies whether the frame of this paragraph can overlap with other frames. A value of 1 specifies that frames MUST NOT overlap. By default, frames can overlap with other frames.   |
| sprmPWall<br>(0x2664)            | 0x64   | A Bool8 value that specifies whether the values of paragraph properties are preserved for revision marking purposes until the modifications are accepted or rejected by the user.  |

| sprm                                | ispmid | Operand  |
|-------------------------------------|--------|--|
|                                     |        | <p>A value of 1 specifies that the property values were preserved. All SPRMs that are encountered before the <b>sprmPWall</b> in the property evaluation of the paragraph specify the state of properties before revision marking was enabled, whereas all SPRMs following the <b>sprmPWall</b> specify the property modifications that occur after revision marking was enabled.</p> <p>A value of 0 specifies that no values were preserved (overriding any previously encountered sprmPWall SPRMs that specify the contrary). Neither SPRMs that were encountered before the sprmPWall, nor subsequent SPRMs (until another sprmPWall, if any), are treated in any special way with regard to revision marking.</p> <p>By default, property values are not preserved.</p>   |
| sprmPIpgp<br>(0x6465)               | 0x65   | <p>An unsigned integer value that specifies the PGPIInfo.<b>ipgpSelf</b> value of the PGPIInfo data that is applied to this paragraph. The table depth of the paragraph (see Overview of Tables) MUST match PGPIInfo.<b>itap</b> unless the paragraph is a table terminating mark, in which case PGPIInfo.<b>itap</b> MUST be 1 less than the paragraph table depth.</p> <p>PGPIInfo.<b>ipgpSelf</b> values MUST NOT be applied in such a way as to break the hierarchy that is implied by the PGPIInfo structures themselves. Given that the application of a particular PGPIInfo.<b>ipgpSelf</b> value implies the application of all of the PGPIInfo.<b>ipgpParent</b> values that are encountered by ascending the PGPIInfo chain, ensuring that all occurrences of any PGPIInfo.<b>ipgpSelf</b> are on adjacent paragraphs of the same table depth ensures that the hierarchy is not broken.</p> <p>By default, a paragraph has no associated PGPIInfo.</p> |
| sprmPCnf<br>(0xC666)                | 0x66   | <p>A <a href="#">CNFOperand</a> value that specifies conditional paragraph formatting for a specific condition of a table style. The <b>grpri</b> member of the CNFOperand value specifies the paragraph formatting properties and MUST NOT contain any Sprms that are disallowed in the <b>grpriPapx</b> member of <a href="#">UpxPapx</a>.</p> <p>This sprm MUST only be specified within the <b>grpriPapx</b> member of a UpxPapx within a table style definition (<a href="#">LPStd</a>).</p> <p>By default, a table style definition does not include conditional formatting.</p>   |
| sprmPRsid<br>(0x6467)               | 0x67   | <p>An integer value that specifies a revision save ID, as specified in [ECMA-376] Part 4, Section 2.15.1.70 rsid (Single Session Revision Save ID), associated with paragraph formatting. If not present, then no revision save ID is specified for this formatting.</p>   |
| sprmPIstdListPermute<br>(0xC669)    | 0x69   | <p>An SPPOperand value that has no effect and MUST be ignored.</p>   |
| sprmPTableProps<br>(0x646B)         | 0x6B   | <p>An unsigned integer value that specifies a location in the Data Stream. A PrcData structure begins at this offset and specifies additional properties for the paragraph. The <b>cbGrpri</b> member of the referenced PrcData structure MUST NOT be less than 10. If an application processes this PrcData structure, then it MUST NOT process anymore Pri elements in the array that contained the <b>sprmPTableProps</b> value.</p> <p><a href="#">SprmPHugePapx</a> and <b>sprmPTableProps</b> values can refer to PrcData structures containing each other, but the chain MUST eventually terminate in a PrcData that contains neither sprmPHugePapx nor sprmPTableProps.</p>  |
| sprmPTIstdInfo<br>(0xC66C)          | 0x6C   | <p>A <a href="#">PTIstdInfoOperand</a> value that has no effect and MUST be ignored.</p>   |
| sprmPFContextualSpacing<br>(0x246D) | 0x6D   | <p>A Bool8 value that specifies whether contextual spacing is enabled for this paragraph. A value of 0x01 specifies that any space before this paragraph (sprmPDyaBefore) MUST be ignored if the preceding paragraph is of the same paragraph style and any space after this paragraph (sprmPDyaAfter) MUST be ignored if the following paragraph is of the same paragraph style. By default, paragraphs do not use contextual spacing.</p>  |

| <b>sprm</b>                     | <b>ispmid</b> | <b>Operand</b>  |
|---------------------------------|---------------|---|
| sprmPPropRMark<br>(0xC66F)      | 0x6F          | A <a href="#">PropRMarkOperand</a> value that specifies whether the paragraph has an associated property revision mark, as well as its author and the date and time. By default, paragraphs have no property revision marks.  |
| sprmPFMirrorIndents<br>(0x2470) | 0x70          | A Bool8 value that specifies whether the left and right indents that are set for this paragraph are interpreted as inside and outside margins for odd and even numbered pages. For specifications of the display behavior, see [ECMA-376] Part 4, Section 2.3.1.18 mirrorIndents (use Left/Right Indents as Inside/Outside Indents). By default, paragraph indents are not swapped.   |
| sprmPTtwo<br>(0x2471)           | 0x71          | <p>A 1-byte integer that specifies text wrapping options for a text box when tight wrapping is set for the text box. This option is the same as [ECMA-376] Part 4, Section 2.3.1.40 textboxTightWrap (Allow Surrounding Paragraphs to Tight Wrap to Text Box Contents) The value MUST be one of the following, which correspond to values specified in [ECMA-376] Part 4, Section 2.18.99 ST_TextboxTightWrap (Lines To Tight Wrap Within Text Box).</p> <p><b>0x00</b><br/><b>ST_TextboxTightWrap: none</b><br/>No lines of the paragraph allow the surrounding text to tightly wrap around their edges.</p> <p><b>0x01</b><br/><b>ST_TextboxTightWrap: allLines</b><br/>All lines of the paragraph allow the surrounding text to tightly wrap to their edges.</p> <p><b>0x02</b><br/><b>ST_TextboxTightWrap: firstAndLastLine</b><br/>Only the first and last lines of the paragraph allow the surrounding text to tightly wrap around their edges.</p> <p><b>0x03</b><br/><b>ST_TextboxTightWrap: firstLineOnly</b><br/>Only the first line of the paragraph allows the surrounding text to tightly wrap around its edges.</p> <p><b>0x04</b><br/><b>ST_TextboxTightWrap: lastLineOnly</b><br/>Only the last line of the paragraph allows the surrounding text to tightly wrap around its edges.</p> <p>By default, the surrounding text is not allowed to tightly wrap to the edges of the lines of a paragraph in a textbox.</p> |

### 2.6.3 Table Properties

A [Prl](#) with a **sprm.sgc** of 5 modifies a table property.

The following table specifies the table property modifiers, including the valid **sprm** values, their function, and the corresponding **operand** type and meaning.

| <b>Sprm</b>                     | <b>ispmid</b> | <b>Operand</b>   |
|---------------------------------|---------------|--|
| sprmTJc90<br>(0x5400)           | 0x00          | <p>An unsigned 16-bit integer value that specifies the physical justification of the table. The valid values and their meanings are as follows.</p> <p>0 - The table is physical left justified.<br/> 1 - The table is centered.<br/> 2 - The table is physical right justified.</p> <p>Tables do not have a default physical justification. Their default justification is logical left.</p>  |
| sprmTDxaLeft<br>(0x9601)        | 0x01          | <p>An <a href="#">XAS</a> value that, combined with sprmTDxaGapHalf, specifies the location of the horizontal origin of the table relative to the logical left margin. That is, the origin is the logical left margin, indented by this value minus the value of sprmTDxaGapHalf.</p> <p>The actual logical left edge of the table can be offset from the origin after also considering cell spacing, margins, and the line width of the border. The default logical left indent is 0.</p>   |
| sprmTDxaGapHalf<br>(0x9602)     | 0x02          | <p>An XAS value that specifies the average width, in twips, between the left and right default cell margins for the first cell in the row. The actual cell margins are stored in sprmTCellPaddingDefault. This value is not used to layout cell contents within a cell. Rather, this value is used as an offset to the value in sprmTDxaLeft when positioning the logical left outer edge of the table. This value MUST be non-negative.</p> <p>By default, no offset is applied to sprmTDxaLeft when positioning the table.</p>   |
| sprmTFCantSplit90<br>(0x3403)   | 0x03          | <p>A <a href="#">Bool8</a> value. If this property is "true" (0x01) then table rows SHOULD NOT <a href="#">&lt;151&gt;</a> be split across page breaks. By default, rows can be split across page breaks. Whenever cells are merged this property SHOULD <a href="#">&lt;152&gt;</a> be set with a value of 0x01 for each row involved in the merge.</p> <p>This property SHOULD <a href="#">&lt;153&gt;</a> be ignored and sprmTFCantSplit SHOULD <a href="#">&lt;154&gt;</a> be used instead.</p>  |
| sprmTTableHeader<br>(0x3404)    | 0x04          | <p>A Bool8 value that specifies that the current table row is a header row. If the value is 0x01 but sprmTTableHeader is not applied with a value of 0x01 for a previous row in the same table, then this property MUST be ignored.</p> <p>By default, a table row is not a header row.</p>  |
| sprmTTableBorders80<br>(0xD605) | 0x05          | <p>A <a href="#">TableBordersOperand80</a> value that specifies border information for the cells in a table row. By default, table rows have no borders.</p>   |
| sprmTDyaRowHeight<br>(0x9407)   | 0x07          | <p>A <a href="#">YAS</a> value that specifies the height of the row.</p> <p>If this value is zero, the height of a row is derived from the height of the contents of the cells that the row contains.</p> <p>If this value is positive, then the value is treated as "at least", meaning the row is larger if the contents need more space.</p> <p>If this value is negative, then the absolute value is used, and the size is treated as "exact". The row does not grow to accommodate large contents.</p> <p>By default, table row heights are derived from the heights of the contents of the cells in the row.</p> |
| sprmTDefTable<br>(0xD608)       | 0x08          | <p>A <a href="#">TDefTableOperand</a> value that specifies the number of columns in the table row, the width of each column, border attributes, and a variety of other settings.</p> <p>By default, a table row has zero columns. In order for a table to have columns, the file MUST provide a sprmTDefTable or a sprmTInsert for each table row.</p>   |
| sprmTDefTableShd80<br>(0xD609)  | 0x09          | <p>A <a href="#">DefTableShd80Operand</a> value that specifies the default shading applied to each cell in a row. By default, no cells are shaded.</p>   |

| Sprm                            | ispmid | Operand  |
|---------------------------------|--------|--|
|                                 |        | If the <a href="#">nFib</a> value is greater than 0x00D9 and the application can interpret table styles, then this Sprm MUST be ignored.   |
| sprmTTlp<br>(0x740A)            | 0x0A   | A <a href="#">TLP</a> structure that specifies the table style options for this table. By default, tables have no table style associated with them and all optional table styles are disabled.   |
| sprmTFBiDi<br>(0x560B)          | 0x0B   | A <a href="#">Bool16</a> value that specifies whether this table is right-to-left. A table is right-to-left if either this <a href="#">Sprm</a> or sprmTFBiDi90 is set to "true". By default, tables are <b>left-to-right</b> .  |
| sprmTDefTableShd3rd<br>(0xD60C) | 0x0C   | A <a href="#">DefTableShdOperand</a> that specifies the default shading for cells 45 to 63 in the row, or all remaining cells in the row beginning with cell 45 if the row contains fewer than 63 cells. <b>cb</b> MUST NOT exceed 190 and <b>rgShd</b> MUST NOT exceed 19 elements. Non-shaded cells in <b>rgShd</b> are set to <b>ShdAuto</b> . By default, no cells are shaded. Cells 1 – 22 are shaded by sprmTDefTableShd, and cells 23 – 44 are shaded by sprmTDefTableShd2nd.<br><br>If the nFib value is greater than 0x00D9 and the application can interpret table styles, then this <b>Sprm</b> MUST be ignored.  |
| sprmTPc<br>(0x360D)             | 0x0D   | A <a href="#">PositionCodeOperand</a> structure that specifies the origin that is used to calculate the table position when it is absolutely positioned. By default, tables are not absolutely positioned. By default, when a table is absolutely positioned, its position is relative to the top margin of the page, and to the left edge of the current column.  |
| sprmTDxaAbs<br>(0x940E)         | 0x0E   | A <a href="#">XAS_plusOne</a> value that specifies the horizontal position of the table relative to the horizontal anchor of the table. See sprmTPc for the table anchor.<br><br>Except for the reserved values that are listed in the following table, the sprmTDxaAbs specifies the position of the physical left origin of the table. It MUST be less than or equal to 31681 (22 inches) and greater than or equal to -31679 (-22 inches). Furthermore, after accounting for the basis specified in sprmTPc, the absolute position MUST be greater than or equal to 0 inches.<br><br>Several values of sprmTDxaAbs have special meanings as specified by <a href="#">[ECMA-376]</a> Part 4, Section 2.18.114. These values are specified as follows.<br><br>0x0000 - Left aligned<br>0xFFFC - Centered<br>0xFFFF8 - Right aligned<br>0xFFFF4 - Inside<br>0xFFFF0 - Outside<br><br>By default, the relative horizontal position is left aligned. |
| sprmTDyaAbs<br>(0x940F)         | 0x0F   | A <a href="#">YAS_plusOne</a> value that specifies downward vertical position relative to the vertical anchor of the table. See sprmTPc for the table anchor. If the value is any of the those that follow, the operand specifies a special descriptive relative position. The meanings that are provided correspond to values that are defined in <a href="#">[ECMA-376]</a> Part 4, Section 2.18.115 ST_YAlign (Vertical Alignment Location).<br><br>0x0000 - inline<br>0xFFFC - top<br>0xFFFF8 - center<br>0xFFFF4 - bottom<br>0xFFFF0 - inside<br>0xFFEC - outside<br><br>By default, the relative vertical position is 0x0000 (inline).   |

| Sprm                              | ispmid | Operand   |
|-----------------------------------|--------|---|
| sprmTDxaFromText<br>(0x9410)      | 0x10   | An <a href="#">XAS_nonNeg</a> value that specifies the minimum horizontal distance between the physical left edge of the table and the physical right edge of the text that wraps around the table. By default, the minimum horizontal distance between a table and wrapping text is 0 twips.   |
| sprmTDyaFromText<br>(0x9411)      | 0x11   | A <a href="#">YAS_nonNeg</a> value that specifies the minimum vertical distance between the top edge of the table and the bottom edge of text that wraps around the table. By default, the minimum vertical distance between a table and wrapping text is 0 twips.  |
| sprmTDefTableShd<br>(0xD612)      | 0x12   | A DefTableShdOperand value that specifies the default shading for cells 1 – 22 in the row, or all cells in the row if the row contains fewer than 22 cells. Non-shaded cells in <b>rgShd</b> are set to <b>SdhAuto</b> . By default, no cells are shaded. Cells 23 – 44 are shaded by sprmTDefTableShd2nd, and cells 45 – 63 are shaded by sprmTDefTableShd3rd.<br><br>If nFib is greater than 0x00D9 and the application understands table styles, then this Sprm MUST be ignored.                         |
| sprmTTableBorders<br>(0xD613)     | 0x13   | A <a href="#">TableBordersOperand</a> value that specifies the borders for this row unless modified by other Sprms applied to the cells. By default, table rows have no borders.  |
| sprmTTableWidth<br>(0xF614)       | 0x14   | An <a href="#">FtsWWidth_Table</a> structure that specifies the preferred total width of the table of which this row is a part.<br>By default, tables have no preferred width.  |
| sprmTFAutofit<br>(0x3615)         | 0x15   | A Bool8 value that specifies whether the table column widths are to be automatically resized to best fit the contents of the whole table. By default, table column widths are not automatically resized.  |
| sprmTDefTableShd2nd<br>(0xD616)   | 0x16   | A DefTableShdOperand that specifies the default shading for cells 23 – 44 in the row, or all remaining cells in the row beginning with cell 23 if the row contains fewer than 44 cells. Non-shaded cells in <b>rgShd</b> are set to <b>SdhAuto</b> . By default, no cells are shaded. Cells 1 – 22 are shaded by sprmTDefTableShd, and cells 45 – 63 are shaded by sprmTDefTableShd3rd.<br><br>If nFib is greater than 0x00D9 and the application understands table styles, then this Sprm MUST be ignored. |
| sprmTWidthBefore<br>(0xF617)      | 0x17   | An <a href="#">FtsWWidth_TablePart</a> structure that specifies the preferred additional leading indent of the first cell of the row, relative to the leading edge of the table as a whole.<br>By default, table rows have no preferred additional leading indent.  |
| sprmTWidthAfter<br>(0xF618)       | 0x18   | An <a href="#">FtsWWidth_TablePart</a> structure that specifies the preferred trailing indent following the last cell of the row. The indent is inward from the outer edge of the table as a whole.<br>By default, table rows have no preferred additional trailing indent.   |
| sprmTFKeepFollow<br>(0x3619)      | 0x19   | A Bool8 value that specifies whether page breaks are avoided between the rows of this table, if possible. By default, tables are allowed to have page breaks.   |
| sprmTBrctopCv<br>(0xD61A)         | 0x1A   | A <a href="#">BrcCvOperand</a> value that specifies the color of the top border for each cell in a table row. By default, each color is <b>cvAuto</b> .   |
| sprmTBrclftCv<br>(0xD61B)         | 0x1B   | A BrcCvOperand value that specifies the color of the logical left border for each cell in a table row. By default, each color is <b>cvAuto</b> .  |
| sprmTBrctomCv<br>(0xD61C)         | 0x1C   | A BrcCvOperand value that specifies the color of the bottom border for each cell in a table row. By default, each color is <b>cvAuto</b> .  |
| sprmTBrcrihtCv<br>(0xD61D)        | 0x1D   | A BrcCvOperand value that specifies the color of the logical right border for each cell in a table row. By default, each color is <b>cvAuto</b> .   |
| sprmTDxaFromTextRight<br>(0x941E) | 0x1E   | An XAS_nonNeg value that specifies the minimum horizontal distance between the physical right edge of the table and the physical left edge of the text that wraps around the table. By default, the minimum horizontal distance between a table and wrapping text is 0 twips.   |
| sprmTDyaFromTextBottom            | 0x1F   | A YAS_nonNeg value that specifies the minimum vertical distance between   |



| <b>Sprm</b>                  | <b>ispmid</b> | <b>Operand</b>  |
|------------------------------|---------------|---|
| (0x941F)                     |               | the bottom edge of the table and the top edge of text that wraps around the table. By default, the minimum vertical distance between a table and wrapping text is 0 twips.  |
| sprmTSetBrc80<br>(0xD620)    | 0x20          | A <a href="#">TableBrc80Operand</a> value that specifies the borders of a set of cells in the table row. By default, cells have no borders.   |
| sprmTInsert<br>(0x7621)      | 0x21          | A <a href="#">TInsertOperand</a> value that specifies a range of new table cell definitions to insert into the table row. The new cells have properties that are defined by the table style of the row.<br><br>Each table row MUST specify at least one cell using sprmTInsert or sprmTDefTable, or a combination thereof.  |
| sprmTDelete<br>(0x5622)      | 0x22          | An <a href="#">ItcFirstLim</a> value that specifies a range of table cell definitions to delete from the table row. These cell definitions MUST have been inserted by a previous application of sprmTInsert or sprmTDefTable. The table row MUST have at least one cell remaining after the deletion.   |
| sprmTDxaCol<br>(0x7623)      | 0x23          | A <a href="#">TDxaColOperand</a> value that specifies the width of a range of cells in this table. By default, the column width is specified when the column is created in either sprmTInsert or sprmTDefTable.   |
| sprmTMerge<br>(0x5624)       | 0x24          | An <a href="#">ItcFirstLim</a> structure that specifies a set of cells in the current table row that are to be merged. The first cell in the range is considered the primary cell, and its contents and formatting flow into the layout region of the other cells. The contents and formatting of the other cells are not applied. By default, cells are not merged.  |
| sprmTSplit<br>(0x5625)       | 0x25          | An <a href="#">ItcFirstLim</a> structure that specifies a set of cells in the current table row that are not to be merged. All cells in the specified range render their own contents and formatting. Neighboring cells that are set to merge do not flow into these cells.<br><br>The function of this <a href="#">Sprm</a> is to undo the effects of sprmTMerge. When applied to cells that are not merged, nothing is changed. By default, cells are not merged.   |
| sprmTTextFlow<br>(0x7629)    | 0x29          | A <a href="#">CellRangeTextFlow</a> value that specifies a set of cells in the current table row and the text flow model for each cell.<br><br>By default, the text flow of each cell in the row is <b>grpFTFirtb</b> .   |
| sprmTVertMerge<br>(0xD62B)   | 0x2B          | A <a href="#">VertMergeOperand</a> value that specifies a cell in the current row, and whether that cell is vertically merged with the cell above or below it.<br><br>By default, cells are not merged with other cells.  |
| sprmTVertAlign<br>(0xD62C)   | 0x2C          | A <a href="#">CellRangeVertAlign</a> value that specifies a set of cells in the current table row and the vertical alignment of cell contents in each cell.<br><br>By default, cell contents are vertically aligned to the top of the cell.   |
| sprmTSetShd<br>(0xD62D)      | 0x2D          | A <a href="#">TableShadeOperand</a> value that specifies a set of cells in a table row and the background shading for each cell.<br><br>If the nFib value is greater than 0x00D9 and the application can interpret table styles, this Sprm MUST be ignored.<br><br>By default, the background shading of table cells is <b>ShdAuto</b> .  |
| sprmTSetShdOdd<br>(0xD62E)   | 0x2E          | A <a href="#">TableShadeOperand</a> value that specifies a set of cells in a table row and the background shading for odd numbered cells in that set. That is, if the set of cells is 0 through 5, then this sets the background shading for cells 0, 2 and 4. To set background shading for even numbered cells, specify a set of cells starting on the even numbered cell.<br><br>If nFib is greater than 0x00D9 and the application can interpret table styles, then this Sprm MUST be ignored.<br><br>By default, the background shading of table cells is <b>ShdAuto</b> . |
| sprmTSetBrc<br>(0xD62F)      | 0x2F          | A <a href="#">TableBrcOperand</a> value that specifies the border type of a set of cells in a table row. By default, the border type is inherited from the table border properties.   |
| sprmTCellPadding<br>(0xD632) | 0x32          | A <a href="#">CSSAOperand</a> value that specifies the <b>cell margin</b> for one or more cell sides. <b>cssa.ftsWidth</b> MUST be ftsNil (0x00) or ftsDxa (0x03). If   |



| Sprm                                | ispmid | Operand  |
|-------------------------------------|--------|--|
|                                     |        | <p><b>cssa.ftsWidth</b> is ftsDxa (0x03), then <b>cssa.wWidth</b> MUST be nonnegative and MUST NOT exceed 31680. By default, cell margins are specified by sprmTCellPaddingDefault.</p>  |
| sprmTCellSpacingDefault<br>(0xD633) | 0x33   | <p>A CSSAOperand that specifies the <b>cell spacing</b> for each cell in the entire row. <b>cssa.itc.itcFirst</b> MUST be 0, <b>cssa.itc.itcLim</b> MUST be 1, <b>cssa.grfbrc</b> MUST be fbrcSidesOnly (0x0F), <b>cssa.ftsWidth</b> MUST be ftsNil (0x00) or ftsDxa (0x03) or ftsDxaSys (0x13), and <b>cssa.wWidth</b> MUST be nonnegative and MUST NOT exceed 15840 (11"). By default, cells do not have cell spacing.</p>   |
| sprmTCellPaddingDefault<br>(0xD634) | 0x34   | <p>A CSSAOperand that specifies the cell margin for one or more cell sides for each cell in the entire row. <b>cssa.itc.itcFirst</b> MUST be 0, <b>cssa.itc.itcLim</b> MUST be 1, <b>cssa.ftsWidth</b> MUST be ftsNil (0x00) or ftsDxa (0x03), and <b>cssa.wWidth</b> MUST be nonnegative and MUST NOT exceed 31680.</p> <p>By default, rows use two sprmTCellPaddingDefault properties: the first to specify left and right cell margins, and the second to specify top and bottom cell margins. By default, left and right cell margins use the following <a href="#">CSSA</a>.</p> <p style="margin-left: 40px;"><b>itcFirst:</b> 0<br/><b>itcLim:</b> 1<br/><b>grfbrc:</b> fbrcLeft   fbrcRight (0x0A)<br/><b>ftsWidth:</b> ftsDxa (0x03)<br/><b>wWidth:</b> 108</p> <p>By default, top and bottom cell margins use the following CSSA.</p> <p style="margin-left: 40px;"><b>itcFirst:</b> 0<br/><b>itcLim:</b> 1<br/><b>grfbrc:</b> fbrcTop   fbrcBottom (0x05)<br/><b>ftsWidth:</b> ftsDxa (0x03)<br/><b>wWidth:</b> 0</p> |
| sprmTCellWidth<br>(0xD635)          | 0x35   | <p>A <a href="#">TableCellWidthOperand</a> value that specifies the preferred width of one or more table cells. By default, table cells do not have a preferred width.</p>   |
| sprmTFitText<br>(0xF636)            | 0x36   | <p>A <a href="#">CellRangeFitText</a> value that specifies a set of cells in a table row and whether their contents are to be stretched or compressed to exactly fill their widths.</p> <p>By default the contents of table cells are not stretched or compressed.</p>   |
| sprmTFCellNoWrap<br>(0xD639)        | 0x39   | <p>A <a href="#">CellRangeNoWrap</a> value that specifies a set of cells in a table row and whether their contents wrap over multiple lines.</p> <p>By default, the contents of table cells wrap over multiple lines.</p>  |
| sprmTlstd<br>(0x563A)               | 0x3A   | <p>An unsigned integer value that specifies the <b>lstd</b> value of a table style to apply.</p> <p>To apply the <b>lstd</b> value, fetch the complete set of table properties from that style (see <a href="#">Applying Properties</a> for instructions.) Apply those properties to the current table, while preserving the previous values of the following:</p> <ul style="list-style-type: none"> <li>▪ Whether the values of table properties have been preserved for revision marking purposes (for example, by sprmTWall).</li> <li>▪ Whether the table row has an associated property revision mark, as well as its author and the date and time (for example, by sprmTPropRMark).</li> <li>▪ Whether this table is right-to-left (for example, by sprmTFBiDi).</li> <li>▪ The revision save ID that is associated with table formatting (sprmTRsid).</li> <li>▪ The <a href="#">PositionCodeOperand</a> structure that specifies the origin used to</li> </ul>  |

| Sprm   | ispmid | Operand  |
|--|--------|--|
|  |        | <p>calculate the table position when it is absolutely positioned (for example, by <code>sprmTPC</code>).</p> <ul style="list-style-type: none"> <li>▪ The horizontal position of the table relative to the horizontal anchor of the table (for example, by <code>sprmTDxaAbs</code>).</li> <li>▪ The downward vertical position relative to the vertical anchor of the tables (for example, by <code>sprmTDyaAbs</code>).</li> <li>▪ The minimum horizontal distance between the physical left edge of the table and the physical right edge of text that wraps around the table (for example, by <code>sprmTDxaFromText</code>).</li> <li>▪ The minimum vertical distance between the top edge of the table and the bottom edge of text that wraps around the table (for example, by <code>sprmTDyaFromText</code>).</li> <li>▪ The minimum horizontal distance between the physical right edge of the table and the physical left edge of text that wraps around the table (for example, by <code>sprmTDxaFromTextRight</code>).</li> <li>▪ The minimum vertical distance between the bottom edge of the table and the top edge of text that wraps around the table (for example, by <code>sprmTDyaFromTextBottom</code>).</li> <li>▪ The average width between the left and right default cell margins for the first cell in the row (for example, by <code>sprmTDxaGapHalf</code>).</li> <li>▪ The height of the row (for example, by <code>sprmTDyaRowHeight</code>).</li> <li>▪ The preferred total width of the table (for example, by <code>sprmTTableWidth</code>).</li> <li>▪ Whether the table column widths are to be automatically resized to best fit the contents of the whole table (for example, by <code>sprmTFAutoFit</code>).</li> <li>▪ The <b>grfatl</b> member of the TLP structure that specifies the settings that are used when the current table row was last auto-formatted (for example, by <code>sprmTTlp</code>).</li> </ul> <p>This sprm also specifies that the current table has the table style that is specified by this <b>istd</b>. When computing paragraph or character properties inside the table, the current table style needs to be taken into account (see Applying Properties). When <code>sprmTIstd</code> is applied, the paragraph and character properties of the text within the table need to be recomputed.</p> <p>If the <b>istd</b> refers to an empty or non-existent style, or a style of a different type, a later Prl such as <code>sprmTIstd</code> MUST change the <b>istd</b> to a valid value. Applying an <b>istd</b> value that refers to an empty or nonexistent style, or a style of a different type, is equivalent to applying a <code>sprmTIstd</code> with an <b>istd</b> value of 0x000B (the default).</p> |
| <code>sprmTCellPaddingStyle</code><br>(0xD63E) | 0x3E   | A <b>CSSAOperand</b> value that specifies the cell margin that is applied to one or more cell sides for each cell in the entire row defined by a Table style. <b>cssa.itc.itcFirst</b> MUST be 0, <b>cssa.itc.itcLim</b> MUST be 1, <b>cssa.ftsWidth</b> MUST be <code>ftsDxa</code> (0x03) and <b>cssa.wWidth</b> MUST be nonnegative and MUST NOT exceed 31680. By default, cell margins are set as specified by <code>sprmTCellPaddingDefault</code> .  |
| <code>sprmTCellFHideMark</code><br>(0xD642)    | 0x42   | A <a href="#">CellHideMarkOperand</a> that specifies that table cell content is rendered with no height if all cells in the row are empty; however, cells have a visible height if they have nonzero cell borders, cell margins, or cell spacing. By default, cell heights are rendered based on the paragraph and character properties of the cell, regardless of whether they contain content.   |
| <code>sprmTSetShdTable</code><br>(0xD660)      | 0x60   | A <a href="#">SHDOperand</a> value that specifies the background shading for the entire table. By default, tables are not shaded.  |
| <code>sprmTWidthIndent</code><br>(0xF661)      | 0x61   | An <a href="#">FtsWWidth_Indent</a> structure that specifies the preferred leading indent of the table where the row resides.<br>By default, tables have no preferred indent.  |
| <code>sprmTCellBrcType</code><br>(0xD662)      | 0x62   | A <a href="#">TCellBrcTypeOperand</a> value that specifies the border type for the first several consecutive cells in a table row. By default, the border type is inherited from the table style of the whole table.   |

| <b>Sprm</b>                      | <b>ispmid</b> | <b>Operand</b>   |
|----------------------------------|---------------|--|
| sprmTFBiDi90<br>(0x5664)         | 0x64          | A Bool16 value that specifies whether this table is right-to-left. A table is right-to-left if either this Sprm or sprmTFBiDi is set to true.<br>By default, tables are left-to-right.   |
| sprmTFNoAllowOverlap<br>(0x3465) | 0x65          | A Bool8 value that specifies whether the table is allowed to overlap other tables. A value of 0x01 specifies that the table is not allowed to overlap.<br>By default, tables are allowed to overlap with other tables.   |
| sprmTFCantSplit<br>(0x3466)      | 0x66          | A Bool8 value. If this property is "true" (1), table rows MUST NOT be split across page breaks. By default, rows can be split across page breaks.  |
| sprmTPropRMark<br>(0xD667)       | 0x67          | A <a href="#">PropRMarkOperand</a> that specifies whether the table row has an associated property revision mark, as well as its author and date/time.<br>By default, table rows have no property revision marks.  |
| sprmTWall<br>(0x3668)            | 0x68          | A Bool8 value that specifies whether the values of table properties are preserved for revision marking purposes until the modifications are accepted or rejected by the user.<br><br>A value of 1 specifies that the values of properties are preserved. All SPRMs encountered before the sprmTWall in the property evaluation of the table row specify the state of properties before revision marking was enabled, whereas all SPRMs following the sprmTWall specify the property modifications that occurred afterwards.<br><br>A value of 0 specifies that no values are preserved (overriding any previously encountered sprmTWall SPRMs that specify the contrary). Neither SPRMs encountered before the sprmTWall, nor subsequent SPRMs (until another sprmTWall, if any), are treated in any special way with regard to revision marking.<br>By default, property values are not preserved.  |
| sprmTIpgp<br>(0x7469)            | 0x69          | An unsigned integer value that specifies the <a href="#">PGPInfo.ipgpSelf</a> value of the PGPInfo data to be applied to this table row. The table depth of the table row (see <a href="#">Overview of Tables</a> ) MUST be 1 greater than PGPInfo.itap.<br><br><b>ipgpSelf</b> values MUST NOT be applied in such a way as to break the hierarchy that is implied by the PGPInfo structures themselves. Given that the application of a particular PGPInfo.ipgpSelf value implies the application of all of the PGPInfo.ipgpParent values encountered ascending the PGPInfo chain, then ensuring that all occurrences of any PGPInfo.ipgpSelf are on adjacent rows of the same table depth or paragraphs of one table depth less than an adjacent row ensures that the hierarchy is not broken.<br><br>There MUST be a corresponding <a href="#">sprmPIpgp</a> with the same PGPInfo.ipgpSelf value applied to the table terminating mark of this row (See Overview of Tables).<br>By default, a table row has no associated PGPInfo. |
| sprmTCnf<br>(0xD66A)             | 0x6A          | A <a href="#">CNFOperand</a> that specifies conditional table formatting for a specific condition of a table style. The <b>grppl</b> member of CNFOperand specifies the table/cell/row formatting properties and MUST NOT contain any Sprms that are disallowed in the <b>grpplTapx</b> member of <a href="#">UpxTapx</a> , with the exception of the following Sprms that are allowed: <ul style="list-style-type: none"> <li>▪ sprmTCellBrcTopStyle</li> <li>▪ sprmTCellBrcBottomStyle</li> <li>▪ sprmTCellBrcLeftStyle</li> <li>▪ sprmTCellBrcRightStyle</li> <li>▪ sprmTCellBrcInsideHStyle</li> <li>▪ sprmTCellBrcInsideVStyle</li> </ul><br>This sprm MUST only be specified within the <b>grpplTapx</b> member of a UpxTapx within a table style definition ( <a href="#">LPStd</a> ).<br>By default, a table style definition does not include conditional formatting.   |
| sprmTDefTableShdRaw<br>(0xD670)  | 0x70          | A DefTableShdOperand value that specifies the default shading for cells 1 to 22 in the row, or all cells in the row if the row contains fewer than 22 cells. If a cell is set to ShdAuto in <b>rgShd</b> , the cell is not shaded. If a cell is  |

| Sprm                                 | ispmid | Operand   |
|--------------------------------------|--------|---|
|                                      |        | set to ShdNil in <b>rgShd</b> , the cell is shaded according to the table style. By default, cells are shaded according to the table style. Cells 23 to 44 are shaded by sprmTDefTableShdRaw2nd, and cells 45 to 63 are shaded by sprmTDefTableShdRaw3rd.   |
| sprmTDefTableShdRaw2nd<br>(0xD671)   | 0x71   | A DefTableShdOperand value that specifies the default shading for cells 23 to 44 in the row, or all remaining cells in the row beginning with cell 23 if the row contains fewer than 44 cells. If a cell is set to ShdAuto in <b>rgShd</b> , the cell is not shaded. If a cell is set to ShdNil in <b>rgShd</b> , the cell is shaded according to the table style. By default, cells are shaded according to the table style. Cells 1 to 22 are shaded by sprmTDefTableShdRaw, and cells 45 to 63 are shaded by sprmTDefTableShdRaw3rd.   |
| sprmTDefTableShdRaw3rd<br>(0xD672)   | 0x72   | A DefTableShdOperand that specifies the default shading for cells 45 to 63 in the row, or all remaining cells in the row beginning with cell 45 if the row contains fewer than 63 cells. <b>cb</b> MUST NOT exceed 190 and <b>rgShd</b> MUST NOT exceed 19 elements. If a cell is set to ShdAuto in <b>rgShd</b> , the cell is not shaded. If a cell is set to ShdNil in <b>rgShd</b> , the cell is shaded according to the table style. By default, cells are shaded according to the table style. Cells 1 to 22 are shaded by sprmTDefTableShdRaw, and cells 23 to 44 are shaded by sprmTDefTableShdRaw2nd. |
| sprmTRsid<br>(0x7479)                | 0x79   | An integer value that specifies a revision save ID, as specified in [ECMA-376] Part 4, Section 2.15.1.70 rsid (Single Session Revision Save ID), associated with table formatting. If not present, then no revision save ID is specified for this formatting.   |
| sprmTCellVertAlignStyle<br>(0x347C)  | 0x7C   | A <a href="#">VerticalAlign</a> value that specifies the vertical alignment of content within cells as defined by a Table style. By default, the value is vaTop.  |
| sprmTCellNoWrapStyle<br>(0x347D)     | 0x7D   | A Bool8 value that specifies whether content within cells MAY<155> <b>word wrap</b> . This Sprm is used by table styles and MUST NOT appear outside of the <b>grpprlTapx</b> array of UpTapx. If this property is "true" (1), content SHOULD NOT<156> word wrap. By default, content MAY<157> word wrap. This property is ignored if the cell has an absolute width set by using sprmTCellWidth with <b>ftsWidth</b> equal to ftsDxa (0x03)—cell content wraps if it cannot fit on a single line.   |
| sprmTCellBrcTopStyle<br>(0xD47F)     | 0x7F   | A <a href="#">BrcOperand</a> value that specifies the top border for cells that are affected by a CNFOperand value. This Sprm MUST NOT appear outside of the <b>grpprl</b> array of a CNFOperand value. By default, cells have no top border.   |
| sprmTCellBrcBottomStyle<br>(0xD680)  | 0x80   | A BrcOperand value that specifies the bottom border for cells that are affected by a CNFOperand value. This Sprm MUST NOT appear outside of the <b>grpprl</b> array of a CNFOperand. By default, cells have no bottom border.   |
| sprmTCellBrcLeftStyle<br>(0xD681)    | 0x81   | A BrcOperand value that specifies the logical left border for cells that are affected by a CNFOperand value. This Sprm MUST NOT appear outside of the <b>grpprl</b> array of a CNFOperand. By default, cells have no logical left border.   |
| sprmTCellBrcRightStyle<br>(0xD682)   | 0x82   | A BrcOperand value that specifies the logical right border for cells that are affected by a CNFOperand value. This Sprm MUST NOT appear outside of the <b>grpprl</b> array of a CNFOperand. By default, cells have no logical right border.   |
| sprmTCellBrcInsideHStyle<br>(0xD683) | 0x83   | A BrcOperand value that specifies the border between a table row that is affected by a CNFOperand value and the following table row. This Sprm MUST NOT appear outside of the <b>grpprl</b> array of a CNFOperand. By default, table rows have no borders between them.   |
| sprmTCellBrcInsideVStyle<br>(0xD684) | 0x84   | A BrcOperand value that specifies the border between cells of a table row that are affected by a CNFOperand. This Sprm MUST NOT appear outside of the <b>grpprl</b> array of a CNFOperand. By default, cells have no border between them.   |
| sprmTCellBrcTL2BRStyle<br>(0xD685)   | 0x85   | A BrcOperand value that specifies a diagonal border from the top, logical left corner to the bottom, logical right corner of each cell that is affected by a CNFOperand. This Sprm MUST NOT appear outside of the <b>grpprl</b> array of a CNFOperand. By default, cells have no diagonal border.   |

| <b>Sprm</b>                        | <b>ispmid</b> | <b>Operand</b>  |
|------------------------------------|---------------|---|
| sprmTCellBrcTR2BLStyle<br>(0xD686) | 0x86          | A BrcOperand value that specifies a diagonal border from the top, logical right corner to the bottom, logical left corner of each cell that is affected by a CNFOperand. This Sprm MUST NOT appear outside of the <b>grpri</b> array of a CNFOperand. By default, cells have no diagonal border.  |
| sprmTCellShdStyle<br>(0xD687)      | 0x87          | A SHDOperand value that specifies the background shading to be applied to an entire table defined by a Table style. By default, tables are not shaded.  |
| sprmTCHorzBands<br>(0x3488)        | 0x88          | An unsigned 8-bit integer value that specifies the number of rows in a horizontal band that is used for conditional formatting as defined by a Table style. This value MUST be at least 1 and MUST NOT exceed 3. By default, tables are not shaded with horizontal bands.   |
| sprmTCVertBands<br>(0x3489)        | 0x89          | An unsigned 8-bit integer value that specifies the number of columns in a vertical band that is used for conditional formatting as defined by a Table style. This value MUST be at least 1 and MUST NOT exceed 3. By default, tables are not shaded with vertical bands.  |
| sprmTJc<br>(0x548A)                | 0x8A          | An unsigned 16-bit integer value that specifies the logical justification of the table. The following shows the valid values and their meanings. <ul style="list-style-type: none"> <li>0 - The table is logical left-justified</li> <li>1 - The table is centered</li> <li>2 - The table is logical right-justified</li> </ul> <p>By default, tables are logical left justified.</p> |

## 2.6.4 Section Properties

A [Prl](#) structure with a **sprm.sgc** of 4 modifies a section property.

The following table specifies the section property modifiers, including the valid **sprm** values, their function, and the corresponding **operand** type and meaning.

| <b>sprm</b>                    | <b>ispmid</b> | <b>Operand</b>  |
|--------------------------------|---------------|---|
| sprmScnsPgn<br>(0x3000)        | 0x00          | A <a href="#">CNS</a> indicating the number separator used between the chapter number and the page number for purpose of <b>chapter numbering</b> in page number fields (that is, when <b>sprmSiHeadingPgn</b> specifies a value other than 0).<br>By default, the chapter number separator is a hyphen (see <b>cnsHyphen</b> ).  |
| sprmSiHeadingPgn<br>(0x3001)   | 0x01          | An unsigned 8-bit integer value that specifies which heading level starts new chapters for the purposes of chapter numbering in page number fields. The value MUST be in the interval [0, 9]. A value of 0 specifies that chapter numbers are not shown in page number fields, whereas values from 1 to 9 specify corresponding heading levels (1 specifies Heading 1, 2 specifies Heading 2, and so forth).<br>By default, chapter numbers are not shown in page number fields.<br>In the event that the style corresponding to the indicated heading level does not have associated numbering, chapter numbers are not shown in page number fields. |
| sprmSDxaColWidth<br>(0xF203)   | 0x03          | An <a href="#">SDxaColWidthOperand</a> that specifies the width of a particular column, in case columns are not evenly spaced as specified by <b>sprmSFEvenlySpaced</b> .   |
| sprmSDxaColSpacing<br>(0xF204) | 0x04          | An <a href="#">SDxaColSpacingOperand</a> that specifies the spacing between two columns in case columns are not evenly spaced (as instructed by <b>sprmSFEvenlySpaced</b> ).<br>The <b>iCol</b> field of the <b>SDxaColSpacingOperand</b> structure specifies the index of the first of the two columns.<br>By default there is no spacing between columns.   |
| sprmSFEvenlySpaced             | 0x05          | A <a href="#">Bool8</a> value that specifies whether the space between page margins is  |

| <b>sprm</b>                 | <b>ispmid</b> | <b>Operand</b>   |
|-----------------------------|---------------|--|
| (0x3005)                    |               | distributed evenly between all columns (after subtracting the space between columns, as instructed by sprmSDxaColumns). A value of 1 specifies that space is distributed evenly; a value of 0 specifies that column widths and inter-column spacing MUST be specified by sprmSDxaColWidth and sprmSDxaColSpacing.<br>By default, columns are evenly spaced.  |
| sprmSFProtected<br>(0x3006) | 0x06          | A Bool8 value that specifies whether the section is unprotected in case document editing is restricted to <b>form fields</b> only (see <a href="#">DopBase.fProtEnabled</a> ). A value of 1 indicates that the section is unprotected, whereas a value of 0 indicates that the section is protected.<br>By default, the protection status of a section is specified by DopBase.fProtEnabled.   |
| sprmSDmBinFirst<br>(0x5007) | 0x07          | A <a href="#">SDmBinOperand</a> that specifies the paper source used by the printer for the first page of the section.<br>By default, no paper source is specified.  |
| sprmSDmBinOther<br>(0x5008) | 0x08          | An SDmBinOperand that specifies the paper source used by the printer for all pages in the section except the first.<br>By default, no paper source is specified.   |
| sprmSBkc<br>(0x3009)        | 0x09          | An <a href="#">SBkcOperand</a> that specifies what kind of section break terminates the section.<br>By default, section breaks are of type "Next Page" (see bkcNewPage).   |
| sprmSFTitlePage<br>(0x300A) | 0x0A          | A Bool8 value that specifies whether the section has a different first page (a "title page"). A value of 1 indicates that the first page is separate, having its own header and footer. A value of 0 indicates that there is no title page.<br>By default, a section does not have a separate first page.  |
| sprmSCcolumns<br>(0x500B)   | 0x0B          | An unsigned 16-bit integer whose value is one less than the number of columns in this section. MUST be less than or equal to 43. A value of zero specifies a section with a single column.<br>By default, a section has a single column.<br>If the value is larger than zero, and the columns are not evenly spaced (as instructed by sprmSFEvenlySpaced), then there MUST be the same number of sprmSDxaColWidth as the columns, each specifying the width of a different column.<br>An end-of-column character (0xE) at a particular <a href="#">CP</a> specifies a manual column break at that CP.  |
| sprmSDxaColumns<br>(0x900C) | 0x0C          | An <a href="#">XAS_nonNeg</a> that specifies the space between columns, in case columns are evenly spaced (as instructed by sprmSFEvenlySpaced).<br>By default, spacing between columns varies depending on implementation and system settings, so implementations SHOULD <a href="#">write this Sprm</a> out to ensure interoperability even if the value does not differ from the default.<br>The default values are dependent on the installation language of the application. The installation LCID values and their corresponding defaults are shown following.<br><br>LCID 1025: 720 twips<br>LCID 1026: 708 twips<br>LCID 1027: 708 twips<br>LCID 1028: 720 twips<br>LCID 1029: 708 twips<br>LCID 1030: 708 twips<br>LCID 1031: 720 twips<br>LCID 1032: 720 twips<br>LCID 1033: 720 twips<br>LCID 1034: 720 twips |

| sprm                         | ispmid | Operand   |
|------------------------------|--------|---|
|                              |        | LCID 1035: 708 twips<br>LCID 1036: 720 twips<br>LCID 1037: 720 twips<br>LCID 1038: 708 twips<br>LCID 1039: 708 twips<br>LCID 1040: 720 twips<br>LCID 1041: 720 twips<br>LCID 1042: 720 twips<br>LCID 1043: 708 twips<br>LCID 1044: 708 twips<br>LCID 1045: 708 twips<br>LCID 1046: 720 twips<br>LCID 1048: 708 twips<br>LCID 1049: 720 twips<br>LCID 1050: 720 twips<br>LCID 1051: 708 twips<br>LCID 1053: 720 twips<br>LCID 1055: 708 twips<br>LCID 1058: 720 twips<br>LCID 1059: 720 twips<br>LCID 1060: 708 twips<br>LCID 1061: 708 twips<br>LCID 1062: 720 twips<br>LCID 1063: 1296 twips<br>LCID 1067: 720 twips<br>LCID 1068: 720 twips<br>LCID 1069: 708 twips<br>LCID 1078: 708 twips<br>LCID 1079: 720 twips<br>LCID 1086: 720 twips<br>LCID 1087: 720 twips<br>LCID 1088: 708 twips<br>LCID 1089: 708 twips<br>LCID 1092: 720 twips<br>LCID 1104: 720 twips<br>LCID 2052: 720 twips<br>LCID 2070: 720 twips<br>LCID 2074: 708 twips |
| sprmSNfcPgn<br>(0x300E)      | 0x0E   | An 8-bit MSONFC (as specified in <a href="#">[MS-OSHARED]</a> section 2.2.1.3) that specifies the numbering format used for page numbers.<br>An application MAY <a href="#">&lt;159&gt;</a> fall back to a different MSONFC if the format specified by the value is not a counting number format—for example, if it is <b>msonfcBullet</b> .<br>By default, page numbers use the <b>msonfcArabic</b> numbering format.  |
| sprmSFPgnRestart<br>(0x3011) | 0x11   | A Bool8 value that specifies whether the section starts with a new page number. A value of 1 indicates that the section starts with a new page number as specified by sprmSPgnStart97 or sprmSPgnStart. A value of 0 indicates that page numbers continue from the previous section (or begin at 1, if this is the first section).  |



| sprm                       | ispmid | Operand  |
|----------------------------|--------|--|
|                            |        | By default, page numbers continue from the previous section (or begin at 1, if this is the first section).   |
| sprmSFEndnote<br>(0x3012)  | 0x12   | <p>A Bool8 value that specifies whether <b>endnotes</b> are shown at the end of the section. This SPRM is only considered when endnotes are set to show at the ends of sections (see DOPBASE.<b>epc</b>).</p> <p>A value of 1 specifies that endnotes are shown at the end of the section.</p> <p>A value of 0 specifies that endnotes are suppressed for the current section, and they are shown at the end of the next section for which endnotes are not suppressed. If such a section does not exist, the endnotes are shown at the end of the last section of the document.</p> <p>By default, endnotes are not suppressed, and they show at the end of a section.</p>  |
| sprmSLnc<br>(0x3013)       | 0x13   | <p>An <a href="#">SLncOperand</a> that specifies the line numbering mode to use in case line numbers are enabled (see sprmSNLnnMod).</p> <p>By default, line numbers restart every page.</p>   |
| sprmSNLnnMod<br>(0x5015)   | 0x15   | <p>An unsigned 16-bit integer that specifies the distance in the number of lines between line number labels. For example, a value of 1 indicates that every line displays a line number, whereas a value of 3 indicates that only every third line shows a line number.</p> <p>The value MUST be in the interval [0, 100]. A value of 0 specifies that line numbers are disabled.</p> <p>By default, line numbers are disabled.</p>  |
| sprmSDxaLnn<br>(0x9016)    | 0x16   | <p>An XAS_nonNeg that specifies the distance between line numbers and the lines of text to which they apply. A value of 0 indicates that the application MUST automatically determine positioning.</p> <p>By default, the positioning of line numbers is automatically determined.</p>   |
| sprmSDyaHdrTop<br>(0xB017) | 0x17   | <p>A <a href="#">YAS_nonNeg</a> that specifies the header distance, in twips, from the top edge of the page.</p> <p>Because the default distance is dependent on the implementation and system settings, implementations SHOULD <a href="#">&lt;160&gt;</a> write this Sprm out even if the value does not differ from the default.</p> <p>The default values are dependent on the install language of the application. The installation LCID values and their corresponding defaults are shown following.</p> <p>LCID 1025: 720 twips<br/> LCID 1026: 708 twips<br/> LCID 1027: 708 twips<br/> LCID 1028: 720 twips<br/> LCID 1029: 708 twips<br/> LCID 1030: 708 twips<br/> LCID 1031: 720 twips<br/> LCID 1032: 720 twips<br/> LCID 1033: 720 twips<br/> LCID 1034: 720 twips<br/> LCID 1035: 708 twips<br/> LCID 1036: 720 twips<br/> LCID 1037: 720 twips<br/> LCID 1038: 708 twips<br/> LCID 1039: 708 twips<br/> LCID 1040: 720 twips<br/> LCID 1041: 720 twips<br/> LCID 1042: 720 twips<br/> LCID 1043: 708 twips</p> |



| sprm                          | ispmid | Operand  |
|-------------------------------|--------|--|
|                               |        | LCID 1044: 708 twips<br>LCID 1045: 708 twips<br>LCID 1046: 720 twips<br>LCID 1048: 708 twips<br>LCID 1049: 720 twips<br>LCID 1050: 720 twips<br>LCID 1051: 708 twips<br>LCID 1053: 720 twips<br>LCID 1055: 708 twips<br>LCID 1058: 708 twips<br>LCID 1059: 708 twips<br>LCID 1060: 708 twips<br>LCID 1061: 708 twips<br>LCID 1062: 720 twips<br>LCID 1063: 567 twips<br>LCID 1067: 708 twips<br>LCID 1068: 708 twips<br>LCID 1069: 708 twips<br>LCID 1078: 708 twips<br>LCID 1079: 708 twips<br>LCID 1086: 720 twips<br>LCID 1087: 708 twips<br>LCID 1088: 708 twips<br>LCID 1089: 708 twips<br>LCID 1092: 708 twips<br>LCID 1104: 720 twips<br>LCID 2052: 720 twips<br>LCID 2070: 720 twips<br>LCID 2074: 708 twips |
| sprmSDyaHdrBottom<br>(0xB018) | 0x18   | An YAS_nonNeg that specifies the footer distance, in twips, from the bottom edge of the page.<br>Implementations SHOULD <a href="#">&lt;161&gt;</a> write this Sprm out to ensure interoperability because the footer distance from the bottom is dependent on the implementation and system settings.<br>The default values are the same as listed for sprmSDyaHdrTop.  |
| sprmSLBetween<br>(0x3019)     | 0x19   | A Bool8 value that specifies whether lines are drawn between columns of text.<br>By default, lines are not drawn between columns of text.  |
| sprmSVjc<br>(0x301A)          | 0x1A   | A <a href="#">Vjc</a> value that specifies the vertical justification of the section.<br>By default, sections are top-aligned (vjctop).  |
| sprmSLnnMin<br>(0x501B)       | 0x1B   | An unsigned 16-bit integer whose value is one less than the starting value for line numbers. The value SHOULD <a href="#">&lt;162&gt;</a> be less than or equal to 32766.<br>By default, line numbers begin at 1.  |
| sprmSPgnStart97<br>(0x501C)   | 0x1C   | An unsigned 16-bit integer that specifies the starting value for page numbers when the section has page number restart enabled (as specified by sprmSFPgnRestart). This value MUST be ignored if the section does not have page number restart enabled.<br>The value of the operand SHOULD <a href="#">&lt;163&gt;</a> be less than or equal to 32766.<br>By default, page numbers restart at 0.   |
| sprmSBOrientation             | 0x1D   | An <a href="#">SBOrientationOperand</a> that specifies the page orientation of the section.  |

| sprm                         | ispmid | Operand  |
|------------------------------|--------|--|
| (0x301D)                     |        | By default, the page orientation is portrait.  |
| sprmSXaPage<br>(0xB01F)      | 0x1F   | An unsigned 16-bit integer that specifies the page width of the section in twips. The value of the operand MUST be in the interval [144, 31680].<br>By default, the page width is 215.9 mm (8.5 inches, or 12240 twips).   |
| sprmSYaPage<br>(0xB020)      | 0x20   | An unsigned 16-bit integer that specifies the page height of the section, in twips. The value of the operand MUST be in the interval [144, 31680].<br>By default, the page height is 279.4 mm (11 inches, or 15840 twips).   |
| sprmSDxaLeft<br>(0xB021)     | 0x21   | An XAS_nonNeg that specifies the width, in twips, of the left margin.<br>By default, the width of the left margin varies depending on the implementation and the system settings, so implementations MUST use this SPRM to specify the left margin of each section.  |
| sprmSDxaRight<br>(0xB022)    | 0x22   | An XAS_nonNeg that specifies the width, in twips, of the right margin.<br>By default, the width of the right margin varies depending on the implementation and the system settings, so implementations MUST use this SPRM to specify the right margin of each section.   |
| sprmSDyaTop<br>(0x9023)      | 0x23   | A YAS that specifies the height of the top margin, in twips. A positive value indicates a minimum top margin; this margin MUST be grown to avoid overlapping the space that is occupied by <b>headers</b> . A negative value indicates a fixed margin; the top margin MUST be the absolute value of the value that is specified by this SPRM regardless of the space that is occupied by headers.<br>Each section MUST specify a top margin. The top margin MUST be less than or equal to 31665 and greater than or equal to -31665.   |
| sprmSDyaBottom<br>(0x9024)   | 0x24   | A YAS that specifies the height of the bottom margin, in twips. A positive value specifies a minimum bottom margin; this margin MUST be grown to avoid overlapping the space that is occupied by <b>footers</b> or <b>footnotes</b> . A negative value specifies a fixed margin; the bottom margin MUST be the absolute value of the value that is specified by this SPRM regardless of the space that is occupied by footers or footnotes.<br>Each section MUST specify a bottom margin. The bottom margin MUST be less than or equal to 31665 and greater than or equal to -31665. |
| sprmSDzaGutter<br>(0xB025)   | 0x25   | An unsigned 16-bit integer that specifies the size of the <b>gutter</b> margin, in twips.<br>By default, there is no <b>gutter margin</b> .  |
| sprmSDmPaperReq<br>(0x5026)  | 0x26   | A 16-bit unsigned integer that specifies a tie-breaker value to be used when more than one available paper format ("Letter Matte", "Letter Gloss", "Letter w/ Letterhead", "Letter Pink", and so on) matches the page dimensions as specified by sprmSXaPage and sprmSYaPage. This tie-breaker value MAY <a href="#">&lt;164&gt;</a> be ignored.<br><br>The determination and interpretation of this value is implementation-specific.<br>The determination of the paper sizes for an application is implementation-specific   |
| sprmSFBiDi<br>(0x3228)       | 0x28   | A Bool8 value that specifies whether the section uses right-to-left layout; that is, line numbers are displayed on the right side of text and columns are populated from right to left.<br>By default, sections do not use right-to-left layout.   |
| sprmSFRTLgutter<br>(0x322A)  | 0x2A   | A Bool8 value that specifies whether the gutter margin requires right-to-left layout. A value of 1 indicates a right-to-left gutter margin.<br>By default, gutter margins are not right-to-left.   |
| sprmSBrctop80<br>(0x702B)    | 0x2B   | A <a href="#">Brc80</a> that specifies the top page border.<br>By default, pages have no top border.   |
| sprmSBrclft80<br>(0x702C)    | 0x2C   | A <a href="#">Brc80</a> that specifies the left page border.<br>By default, pages have no left border.   |
| sprmsbrcbottom80<br>(0x702D) | 0x2D   | A <a href="#">Brc80</a> that specifies the bottom page border.<br>By default, pages have no bottom border.   |
| sprmsbrcrght80               | 0x2E   | A <a href="#">Brc80</a> that specifies the right page border.  |

| sprm                          | ispmid | Operand  |
|-------------------------------|--------|--|
| (0x702E)                      |        | By default, pages have no right border.  |
| sprmSPgbProp<br>(0x522F)      | 0x2F   | An <a href="#">SPgbPropOperand</a> that specifies page border properties.<br>By default, page borders apply to all pages of the section (pgbAllPages), they are displayed in front of text and other content (pgbAtFront), and their distance is measured from text (pgbFromText).   |
| sprmSDxtCharSpace<br>(0x7030) | 0x30   | A signed 32-bit integer that specifies the difference between the desired <b>character pitch</b> for the document grid, if enabled (see sprmSClm), and the pitch of the font that is specified by the Normal style. The resolution of the operand is 4096/pt. That is, a 1-pt difference between the desired character pitch and the font size as specified by the Normal style would affect the operand by 4096. For example, if the Normal style specified a font size of 11 pt, an operand value of 6144 would specify a desired character pitch for document grid of 12.5 pt (because 6144 / 4096 = 1.5 pt, so 11 pt + 1.5 pt = 12.5 pt).<br>By default, there is no difference between the desired character pitch for the document grid and the pitch of the font that is specified by the Normal style.<br>This value MUST be greater than or equal to -670925 and MUST be less than or equal to 6488064. |
| sprmSDyaLinePitch<br>(0x9031) | 0x31   | A YAS that specifies, in twips, the line height that is used for document grid, if enabled (see sprmSClm). This line height does not apply to lines within table cells in case the fDontAdjustLineHeightInTable flag is set in the document <a href="#">Dop2000</a> .<br>If the document grid is enabled (see sprmSClm), a section MUST specify the line height that is used for the document grid.<br>This value MUST be greater than or equal to 1, and MUST be less than or equal to 31680.   |
| sprmSClm<br>(0x5032)          | 0x32   | An <a href="#">SClmOperand</a> that specifies the document grid mode that is in use for the section.<br>By default, document grid is disabled (clmUseDefault).   |
| sprmSTextFlow<br>(0x5033)     | 0x33   | A MSOTXFL that specifies the text flow of the section, as specified in <a href="#">[MS-ODRAW]</a> section 2.4.5.   |
| sprmSBrcTop<br>(0xD234)       | 0x34   | A <a href="#">BrcOperand</a> that specifies the top page border.<br>By default, pages have no top border.  |
| sprmSBrcLeft<br>(0xD235)      | 0x35   | A BrcOperand that specifies the left page border.<br>By default, pages have no left border.  |
| sprmSBrcBottom<br>(0xD236)    | 0x36   | A BrcOperand that specifies the bottom page border.<br>By default, pages have no bottom border.  |
| sprmSBrcRight<br>(0xD237)     | 0x37   | A BrcOperand that specifies the right page border.<br>By default, pages have no right border.  |
| sprmSWall<br>(0x3239)         | 0x39   | A Bool8 value that specifies whether the values of section properties are preserved for revision marking purposes until the modifications are accepted or rejected by the user.<br>A value of 1 specifies that the values of properties are preserved. All SPRMs that are encountered before the sprmSWall in the property evaluation of the section specify the state of properties before revision marking was enabled, whereas all SPRMs following the sprmSWall specify the property modifications that occurred afterwards.<br>A value of 0 specifies that no values are preserved (overriding any previously encountered sprmSWall SPRMs that specify the contrary). Neither SPRMs encountered before the sprmSWall, nor subsequent SPRMs (until another sprmSWall, if any), are treated in any special way with regard to revision marking.<br>By default, the values of properties are not preserved.    |
| sprmSRsid<br>(0x703A)         | 0x3A   | An integer that specifies a revision save ID, as specified in <a href="#">[ECMA-376]</a> Part 4, Section 2.15.1.70 rsid (Single Session Revision Save ID), associated with section formatting. If this value is not present, no revision save ID is specified  |

| <b>sprm</b>                | <b>ispmid</b> | <b>Operand</b>   |
|----------------------------|---------------|--|
|                            |               | for this formatting.   |
| sprmSFpc<br>(0x303B)       | 0x3B          | An <a href="#">SFpcOperand</a> that specifies the footnote positioning for the section.<br>By default, footnotes are positioned at the bottom of the page (see <a href="#">fpcBottomPage</a> ).  |
| sprmSRncFtn<br>(0x303C)    | 0x3C          | An <a href="#">Rnc</a> that specifies whether and when footnote numbering is restarted. All possible values of the Rnc enumeration are allowed.<br>By default, footnotes are numbered continuously (see <a href="#">rncCont</a> ).   |
| sprmSRncEdn<br>(0x303E)    | 0x3E          | An Rnc value that specifies whether and when endnote numbering is restarted. The value MUST be either <a href="#">rncCont</a> or <a href="#">rncRstSect</a> , as <a href="#">rncRstPage</a> does not apply to endnotes.<br>By default, endnotes are numbered continuously (see <a href="#">rncCont</a> ).  |
| sprmSNFtn<br>(0x503F)      | 0x3F          | An unsigned 16-bit integer that specifies an offset to add to footnote numbers in this section.<br><br>If this section has continuous footnote numbering (as specified by <a href="#">sprmSRncFtn</a> ), then the value of the sprm minus one MUST be added to every footnote number. (For example, with an offset of 6, a footnote that would have been numbered 2 is now numbered 2+5=7.) The sprm value MUST be less than or equal to 16383. If this section does not have continuous footnote numbering, the value of this sprm MUST be ignored.<br><br>By default, no offset is added to footnote numbers.    |
| sprmSNfcFtnRef<br>(0x5040) | 0x40          | A 16-bit MSONFC (as specified in [MS-OSHARED] section 2.2.1.3) that specifies the numbering format used for footnotes.<br>By default, footnotes use the <b>msonfcArabic</b> numbering format.  |
| sprmSNEdn<br>(0x5041)      | 0x41          | An unsigned 16-bit integer that specifies an offset to add to endnote numbers in this section.<br><br>If this section has continuous endnote numbering (as specified by <a href="#">sprmSRncEdn</a> ), then every endnote number in this section is offset by the value of this operand minus one. (For example, with an offset of 6, a endnote that would have been numbered 2 is now numbered 2+5=7.) The operand value MUST be less than or equal to 16383. If this section does not have continuous endnote numbering, this operand MUST be ignored.<br><br>By default, no offset is added to endnote numbers. |
| sprmSNfcEdnRef<br>(0x5042) | 0x42          | A 16-bit MSONFC (as specified in [MS-OSHARED] section 2.2.1.3) that specifies the numbering format used for endnotes.<br>By default, endnotes use the <b>msonfcLCRoman</b> numbering format.   |
| sprmSPropRMark<br>(0xD243) | 0x43          | A <a href="#">PropRMarkOperand</a> that specifies whether the section has an associated property revision mark, as well as its author and date/time.<br>By default, sections have no property revision marks.  |
| sprmSPgnStart<br>(0x7044)  | 0x44          | An unsigned 32-bit integer that specifies the starting value for page numbers when the section has page number restart enabled (as specified by <a href="#">sprmSFPgnRestart</a> ). MUST be ignored if the section does not have page number restart enabled.<br><br>The value of the operand MUST be less than or equal to 2147483646.<br>By default, page numbers restart at 0.  |

## 2.6.5 Picture Properties

A [PrI](#) with a **sprm.sgc** of 3 modifies a picture property.

The following table specifies the picture property modifiers, including the valid **sprm** values, their function, and the corresponding **operand** type and meaning.

| Sprm                           | ispmid | Operand   |
|--------------------------------|--------|---|
| sprmPicBrcTop80<br>(0x6C02)    | 0x02   | A <a href="#">Brc80</a> that specifies the top border of the inline picture. The <code>Brc80.brcType</code> field MUST be less than or equal to 0x19. By default, inline pictures do not have borders.                  |
| sprmPicBrcLeft80<br>(0x6C03)   | 0x03   | A <a href="#">Brc80</a> that specifies the left border of the inline picture. The <code>Brc80.brcType</code> field MUST be less than or equal to 0x19. By default, inline pictures do not have borders.                 |
| sprmPicBrcBottom80<br>(0x6C04) | 0x04   | A <a href="#">Brc80</a> that specifies the bottom border of the inline picture. The <code>Brc80.brcType</code> field MUST be less than or equal to 0x19. By default, inline pictures do not have borders.               |
| sprmPicBrcRight80<br>(0x6C05)  | 0x05   | A <a href="#">Brc80</a> that specifies the right border of the inline picture. The <code>Brc80.brcType</code> field MUST be less than or equal to 0x19. By default, inline pictures do not have borders.                |
| sprmPicBrcTop<br>(0xCE08)      | 0x08   | A <a href="#">BrcOperand</a> that specifies the top border of the inline picture. The <code>BrcOperand.Brc.brcType</code> field MUST be less than or equal to 0x1B. By default, inline pictures do not have borders.    |
| sprmPicBrcLeft<br>(0xCE09)     | 0x09   | A <a href="#">BrcOperand</a> that specifies the left border of the inline picture. The <code>BrcOperand.Brc.brcType</code> field MUST be less than or equal to 0x1B. By default, inline pictures do not have borders.   |
| sprmPicBrcBottom<br>(0xCE0A)   | 0x0A   | A <a href="#">BrcOperand</a> that specifies the bottom border of the inline picture. The <code>BrcOperand.Brc.brcType</code> field MUST be less than or equal to 0x1B. By default, inline pictures do not have borders. |
| sprmPicBrcRight<br>(0xCE0B)    | 0x0B   | A <a href="#">BrcOperand</a> that specifies the right border of the inline picture. The <code>BrcOperand.Brc.brcType</code> field MUST be less than or equal to 0x1B. By default, inline pictures do not have borders.  |

## 2.7 Document Properties

### 2.7.1 Dop

The Dop structure contains the document and compatibility settings for the document.

Based on the value of [Fib.cswNew](#), the Dop is a structure from the following table.

| Value     | Meaning   |
|-----------|---|
| 0         | <a href="#">Dop97</a>   |
| otherwise | <p>Based on the value of <a href="#">FibRgCswNew.nFibNew</a> the Dop is a structure from the following:</p> <ul style="list-style-type: none"> <li>▪ 0x00D9 <a href="#">Dop2000</a></li> <li>▪ 0x0101 <a href="#">Dop2002</a></li> <li>▪ 0x010C <a href="#">Dop2003</a></li> <li>▪ 0x0112 if <a href="#">FibRgFclCb97.lcbDop</a> is 674, then the Dop is a <a href="#">Dop2007</a>. If <a href="#">FibRgFclCb97.lcbDop</a> is 690, then the Dop is a <a href="#">Dop2010</a>. If <a href="#">FibRgFclCb97.lcbDop</a> is 694, then the Dop is a section <a href="#">Dop2013</a>. <a href="#">FibRgFclCb97.lcbDop</a> MUST be one of these three values.</li> </ul> |

### 2.7.2 DopBase

The **DopBase** structure contains document and compatibility settings that are common to all versions of the binary document. These settings influence the appearance and behavior of the current document and store document-level state.

|                   |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
|-------------------|------|---|---|-----|---|---------|---|---|---|----|----|----|----|----|---------|-----|-------------------|-------------|----|----|---|---|---|---|---|---|---|---|---|----|---|--|---|---|---|
| 0                 | 1    | 2 | 3 | 4   | 5 | 6       | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15      | 16  | 17                | 18          | 19 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |   |   |   |
| A                 | B    | C | D | fpc | E | unused4 |   |   |   |    |    |    |    |    |         | F   | nFtn              |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| G                 | H    | I | J | K   | L | M       | N | O | P | Q  | R  | S  | T  | U  | V       | W   | X                 | Y           | Z  | a  | b | c | d | e | f | g | h | i | j | k  | l |  |   |   |   |
| copts60           |      |   |   |     |   |         |   |   |   |    |    |    |    |    | dxaTab  |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| cpgWebOpt         |      |   |   |     |   |         |   |   |   |    |    |    |    |    | dxaHotZ |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| cConsecHypLim     |      |   |   |     |   |         |   |   |   |    |    |    |    |    | wSpare2 |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| dtmCreated        |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| dtmRevised        |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| dtmLastPrint      |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| nRevision         |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     | tmEdited          |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| ...               |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     | cWords            |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| ...               |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     | cCh               |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| ...               |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     | cPg               |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| cParas            |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| m                 | nEdn |   |   |     |   |         |   |   |   |    |    |    |    |    |         | epc | n                 | o           | p  | q  | r | s | t | u |   |   |   |   |   |    |   |  |   |   |   |
| cLines            |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| cWordsWithSubdocs |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| cChWithSubdocs    |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     |                   |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| cPgWithSubdocs    |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     | cParasWithSubdocs |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| ...               |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     | cLinesWithSubdocs |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| ...               |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     | lKeyProtDoc       |             |    |    |   |   |   |   |   |   |   |   |   |    |   |  |   |   |   |
| ...               |      |   |   |     |   |         |   |   |   |    |    |    |    |    |         |     | v                 | pctWwdSaved |    |    |   |   |   |   |   |   |   |   |   |    |   |  | w | x | y |

**A - fFacingPages (1 bit):** A bit that specifies whether even and odd pages have different headers and footers as specified in [\[ECMA-376\]](#) Part4, Section 2.10.1 evenAndOddHeaders, where **titlePg** corresponds to the section property [sprmSFTitlePage](#).

**B - unused1 (1 bit):** This value is undefined and MUST be ignored.

**C - fPMHMainDoc (1 bit):** A bit that specifies whether this document is a **mail merge main document**.

**D - unused2 (2 bits):** This value is undefined and MUST be ignored.

**fpc (2 bits):** Specifies where footnotes are placed on the page when they are referenced by text in the current document for documents that have an **nFib** value that is less than or equal to 0x00D9. This MUST be one of the following values.

| Value | Meaning  |
|-------|--|
| 0     | Specifies that all footnotes are placed at the end of the section in which they are referenced.  |
| 1     | Specifies that footnotes are displayed at the bottom margin of the page on which the note reference mark appears.                        |
| 2     | Specifies that footnotes are displayed immediately following the last line of text on the page on which the note reference mark appears. |

**E - unused3 (1 bit):** This value is undefined and MUST be ignored.

**unused4 (8 bits):** This value is undefined and MUST be ignored.

**F - rncFtn (2 bits):** Specifies when all automatic numbering for the footnote reference marks is restarted for documents that have an **nFib** value that is less than or equal to 0x00D9. For those documents that rely on **rncFtn**, when restarted, the next automatically numbered footnote in the document restarts to the specified **nFtn** value. This MUST be one of the following values.

| Value | Meaning   |
|-------|---|
| 0     | Specifies that the numbering of footnotes continues from the previous section in the document.                    |
| 1     | Specifies that the numbering of footnotes is reset to the starting value for each unique section in the document. |
| 2     | Specifies that the numbering of footnotes is reset to the starting value for each unique page in the document.    |

**nFtn (14 bits):** For those documents that have an **nFib** value that is less than or equal to 0x00D9, this element specifies the starting number for the first automatically numbered footnotes in the document, and the first automatically numbered footnotes after each restart point that is specified by the **rncFtn** element.

**G - unused5 (1 bit):** This value is undefined and MUST be ignored.

**H - unused6 (1 bit):** This value is undefined and MUST be ignored.

**I - unused7 (1 bit):** This value is undefined and MUST be ignored.

**J - unused8 (1 bit):** This value is undefined and MUST be ignored.

**K - unused9 (1 bit):** This value is undefined and MUST be ignored.

**L - unused10 (1 bit):** This value is undefined and MUST be ignored.

**M - fSplAllDone (1 bit):** Specifies whether all content in this document was already checked by the spelling checker.

**N - fSplAllClean (1 bit):** Specifies whether all content in this document can be considered to be spelled correctly.

- O - fSplHideErrors (1 bit):** Specifies whether visual cues are not displayed around content contained in a document which is flagged as a possible spelling error.
- P - fGramHideErrors (1 bit):** Specifies whether visual cues are not displayed around content that is contained in a document and flagged as a possible grammar error.
- Q - fLabelDoc (1 bit):** Specifies whether the document is a mail merge **labels document**.  
When the value is 1, the document was created as a labels document.
- R - fHyphCapitals (1 bit):** Specifies whether words that are composed of all capital letters are hyphenated in a given document when **fAutoHyphen** is set to 1.
- S - fAutoHyphen (1 bit):** Specifies whether text is hyphenated automatically, as needed, when displayed as specified in [ECMA-376] Part4, section 2.15.1.10 autoHyphenation.
- T - fFormNoFields (1 bit):** Specifies that there are no editable regions in a document that is currently protected for form field fill-in (**fProtEnabled** is 1). This value MUST be 0 if **fProtEnabled** is 0.
- U - fLinkStyles (1 bit):** Specifies whether the styles of the document are updated to match those of the attached template as specified in [ECMA-376] Part4, Section 2.15.1.55 linkStyles, where the attachedTemplate value refers to entry 0x01 in [SttbfAssoc](#).
- V - fRevMarking (1 bit):** Specifies whether edits are tracked as revisions. If the value of **fLockRev** is set to 1, the value of **fRevMarking** MUST also be set to 1, as specified in [ECMA-376] Part4, Section 2.15.1.90 trackRevisions.
- W - unused11 (1 bit):** This value is undefined and MUST be ignored.
- X - fExactCWords (1 bit):** In conjunction with **fIncludeSubdocsInStats**, this bit specifies whether the values stored in **cCh**, **cChWS**, **cWords**, **cParas**, **cLines**, **cDBC**, **cChWithSubdocs**, **cChWSWithSubdocs**, **cWordsWithSubdocs**, **cParasWithSubdocs**, **cLinesWithSubdocs**, or **cDBCWithSubdocs** accurately reflect the current state of the document. When the value of **fExactCWords** is 0, none of the mentioned fields contain accurate values. When the value of **fExactCWords** is 1, the value of **fIncludeSubdocsInStats** determines which set of fields contains accurate values.
- Y - fPagHidden (1 bit):** Specifies whether text to which [sprmCFVanish](#) was applied was displayed when the document was last saved.
- Z - fPagResults (1 bit):** A value of 0 specifies that field codes were displayed at the time the document was last saved. A value of 1 specifies that the field results were displayed instead.
- a - fLockAtn (1 bit):** Specifies whether protection for comments was applied to the document or, if [Dop2003.fTreatLockAtnAsReadOnly](#) has a value of 1, whether read-only protection was applied to the document. These restrictions are used to prevent unintentional changes to all or part of a document. Because this protection does not encrypt the document, malicious applications can circumvent its use. This protection is not intended as a security feature and can be ignored. When **fLockAtn** is 1, **fLockRev** MUST be 0 and **fProtEnabled** SHOULD [<165>](#) be 0. **fLockAtn** can be one of the following.

| Value | Meaning  |
|-------|--|
| 0     | Specifies that the edits made to this document are restricted to the following: <ul style="list-style-type: none"> <li>The insertion and deletion of comments within the document.</li> <li>The editing of the regions that are delimited by range permissions matching the editing rights of the user account that is being used to perform the editing.</li> </ul> |
| 1     | Specifies that the edits made to this document are restricted to the following: <ul style="list-style-type: none"> <li>The editing of the regions that are delimited by range permissions matching the editing rights of the user account that is being used to perform the editing.</li> </ul>  |



| Value | Meaning |
|-------|---------|
|       |         |

- b - fMirrorMargins (1 bit):** Specifies that the left and right margins that are defined in the section properties are swapped on facing pages.
- c - fWord97Compat (1 bit):** Specifies that this document was in **Word97 compatibility mode** when last saved.
- d - unused12 (1 bit):** This value is undefined and MUST be ignored.
- e - unused13 (1 bit):** This value is undefined and MUST be ignored.
- f - fProtEnabled (1 bit):** Specifies that the edits that are made to this document are restricted to the editing of form fields in sections that are protected (see sprmSFProtected). All other sections have no editing restrictions resulting from this setting. When **fProtEnabled** is 1, both **fLockAtn** and **fLockRev** SHOULD [<166>](#) be 0.
- g - fDispFormFldSel (1 bit):** If the document is currently protected for form field fill-in (**fProtEnabled** is 1), this bit specifies that the selection was within a display form field (check box or list box) the last time that the document was saved.
- h - fRMView (1 bit):** Specifies whether to show any revision markup that is present in this document.
- i - fRMPrint (1 bit):** Specifies whether to print any revision markup that is present in the document. SHOULD [<167>](#) be the same value as **fRMView**.
- j - fLockVbaProj (1 bit):** Specifies whether the Microsoft Visual Basic project is locked from editing and viewing.
- k - fLockRev (1 bit):** Specifies whether to track all edits made to this document as revisions. Additionally specifies that **fRevMarking** MUST be 1 for the duration that **fLockRev** is 1. When **fLockRev** is 1, **fLockAtn** MUST be 0 and **fProtEnabled** SHOULD [<168>](#) be 0.
- l - fEmbedFonts (1 bit):** Specifies that TrueType fonts are embedded in the document when the document is saved as specified in [ECMA-376] Part4, Section 2.8.2.8 embedTrueTypeFonts.
- copts60 (2 bytes):** A [copts60](#) that specifies compatibility options.
- dxatab (2 bytes):** Specifies the default tab stop interval, in twips, to use when generating automatic tab stops as specified in [ECMA-376] Part4, Section 2.15.1.24 defaultTabStop.
- cpgWebOpt (2 bytes):** Specifies the **code page** to use when saving to HTML.
- dxahotZ (2 bytes):** Specifies the maximum amount of white space, in twips, allowed at the end of the line before attempting to hyphenate the next word as specified in [ECMA-376] Part4, Section 2.15.1.53 hyphenationZone.
- cConsecHypLim (2 bytes):** Specifies the maximum number of consecutive lines that can end in a hyphenated word before ignoring automatic hyphenation rules for one line as specified in [ECMA-376] Part4, Section 2.15.1.21 consecutiveHyphenLimit.
- wSpare2 (2 bytes):** This value MUST be zero, and MUST be ignored.
- dtmCreated (4 bytes):** A [DTTM](#) that MAY [<169>](#) specify the date and time at which the document was created.

**dtmRevised (4 bytes):** A **DTTM** that specifies the date and time at which the document was last saved.

**dtmLastPrint (4 bytes):** A **DTTM** that MAY [<170>](#) specify the date and time at which the document was last printed.

**nRevision (2 bytes):** A signed integer that MAY [<171>](#) specify the number of times that this document was resaved. This MUST be a value between 0 and 0x7FFF.

**tmEdited (4 bytes):** A signed integer value that MAY [<172>](#) specify the time it took, in minutes, for the document to be opened for editing and then subsequently saved.

**cWords (4 bytes):** A signed integer value that specifies the last calculated or the estimated count of words in the main document, depending on **fExactCWords** and **fIncludeSubdocsInStats**.

**cCh (4 bytes):** A signed integer value that specifies the last calculated or estimated count of characters in the main document, depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**. The character count excludes whitespace.

**cPg (2 bytes):** A signed integer value that specifies the last calculated or estimated count of pages in the main document, depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**.

**cParas (4 bytes):** A signed integer value that specifies the last calculated or estimated count of paragraphs in the main document, depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**.

**m - rncEdn (2 bits):** Specifies when automatic numbering for the endnote reference marks is reset to the beginning number for documents that have an nFib value that is less than or equal to 0x00D9. For those documents that rely on **rncEdn**, when restarted, the next automatically numbered endnote in the document is reset to the specified **nEdn** value. This value MUST be one of the following.

| Value | Meaning  |
|-------|--|
| 0     | Specifies that the numbering of endnotes continues from the previous section in the document.                    |
| 1     | Specifies that the numbering of endnotes is reset to its starting value for each unique section in the document. |
| 2     | Specifies that the numbering of endnotes is reset to its starting value for each unique page in the document.    |

**nEdn (14 bits):** For those documents that have an nFib value that is less than or equal to 0x00D9, this element specifies the starting number for the first automatically numbered endnote in the document, and the first automatically numbered endnote after each restart point that is specified by the **rncEdn** element.

**epc (2 bits):** Specifies where endnotes are placed on the page when they are referenced by text in the current document. This value MUST be one of the following.

| Value | Meaning  |
|-------|--|
| 0     | Specifies that endnotes are placed at the end of the section in which they are referenced.   |
| 3     | Specifies that all endnotes are placed at the end of the current document, regardless of the section within which they are referenced. |

**n - unused14 (4 bits):** This value is undefined and MUST be ignored.

- o - unused15 (4 bits):** This value is undefined and MUST be ignored.
  - p - fPrintFormData (1 bit):** Specifies whether to print only form field results, as specified in [ECMA-376] Part4, Section 2.15.1.61 printFormsData.
  - q - fSaveFormData (1 bit):** Specifies whether the application SHOULD [<173>](#) only save form field contents into a comma-delimited text file and ignore all other content in the document as specified in [ECMA-376] Part4, Section 2.15.1.73 saveFormsData.
  - r - fShadeFormData (1 bit):** Specifies whether to display visual cues around form fields as specified in [ECMA-376] Part4, Section 2.15.1.38 doNotShadeFormData, where the meaning of the **doNotShadeFormData** element is the opposite of **fShadeFormData**.
  - s - fShadeMergeFields (1 bit):** Specifies whether to display visual cues around mail merge fields.
  - t - reserved2 (1 bit):** This value MUST be zero, and MUST be ignored.
  - u - fIncludeSubdocsInStats (1 bit):** Specifies whether **cCh**, **cChWS**, **cWords**, **cParas**, **cLines**, **cDBC**, **cChWithSubdocs**, **cChWSWithSubdocs**, **cWordsWithSubdocs**, **cParasWithSubdocs**, **cLinesWithSubdocs**, or **cDBCWithSubdocs** are calculated and displayed, or estimated.
- cLines (4 bytes):** A signed integer that specifies the last calculated or estimated count of lines in the main document, depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**.
- cWordsWithSubdocs (4 bytes):** A signed integer that specifies the last calculated or estimated count of words in the main document, footnotes, endnotes, and text boxes in the main document, depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**.
- cChWithSubdocs (4 bytes):** A signed integer that specifies the last calculated or estimated count of characters, excluding whitespace, in the main document, footnotes, endnotes, and text boxes in the main document, depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**.
- cPgWithSubdocs (2 bytes):** A signed integer that specifies the last calculated or estimated count of pages in the main document, footnotes, endnotes, and text boxes that are anchored in the main document, depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**.
- cParasWithSubdocs (4 bytes):** A signed integer that specifies the last calculated or estimated count of paragraphs in the main document, footnotes, endnotes, and text boxes that are anchored in the main document, depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**.
- cLinesWithSubdocs (4 bytes):** A signed integer that specifies the last calculated or estimated count of lines in the main document, footnotes, endnotes, and text boxes that are anchored in the main document, depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**.
- lKeyProtDoc (4 bytes):** A signed integer that specifies the hash of the password that is used with document protection (**fLockRev**, **fProtEnabled**, **fLockAtn** and **fRevMarking**), as specified in [ECMA-376] Part4, Section 2.15.1.28 documentProtection.
- v - wvkoSaved (3 bits):** Specifies the viewing mode that was in use when the document was last saved. If the viewing mode that was in use cannot be represented by a valid value, an alternate view mode is specified. See [ECMA-376] Part4, section 2.15.1.93 view; the values are mapped as follows.

| wvkoSaved value | ECMA attribute value |
|-----------------|----------------------|
| 0               | none                 |
| 1               | print                |
| 2               | outline              |
| 3               | masterPages          |
| 4               | normal               |
| 5               | web                  |

A value of 0 specifies the default view mode of the application.

**pctWwdSaved (9 bits):** Specifies the zoom percentage that was in use when the document was saved. A value of 0 specifies the default zoom percentage of the application. This value MUST be 0 or a value between 10 and 500.

**w - zkSaved (2 bits):** Specifies the zoom type that was in use when the document was saved. See [ECMA-376] Part4, Section 2.18.116 ST\_Zoom; the values are mapped as follows.

| zkSaved value | ECMA attribute value |
|---------------|----------------------|
| 0             | none                 |
| 1             | fullPage             |
| 2             | bestFit              |
| 3             | textFit              |

**x - unused16 (1 bit):** This value is undefined and MUST be ignored.

**y - iGutterPos (1 bit):** Specifies whether the document gutter shall be positioned at the top of the pages of the document when the document is displayed. See [ECMA-376] Part4, Section 2.15.1.49 gutterAtTop, where **mirrorMargins** corresponds to **fMirrorMargins**, **bookFoldPrinting** corresponds to [Dop2002.fFolioPrint](#), **bookFoldRevPrinting** corresponds to [Dop2002.fReverseFolio](#) and **printTwoOnOne** corresponds to [DopTypography.f2on1](#).

### 2.7.3 Dop95

The **Dop95** structure contains document and compatibility settings. These settings influence the appearance and behavior of the current document and store document-level state.

| 0                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|--------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| dopBase (84 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| copts80            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dopBase (84 bytes):** A [DopBase](#) structure that specifies document and compatibility settings.

**copts80 (4 bytes):** A [copts80](#) specifying compatibility options. **Copts80.copts60** components MUST be equal to **DopBase.copts60**.

## 2.7.4 Dop97

The **Dop97** structure contains document and compatibility settings. These settings influence the appearance and behavior of the current document and store the document-level state.

|                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------------------------|-------|-------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                        | 17    | 18                | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| dop95 (88 bytes)      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| adt                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | do typography (310 bytes) |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| dogrid                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | A                         | lvDop | B                 | C  | D  | E  | F  | G  | H  | I  | J  | K  | L  |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| unused5               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | asumi                     |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cChWS                     |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cChWSWithSubdocs          |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | grfDocEvents              |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | M                         | N     | KeyVirusSession30 |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | space (30 bytes)          |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| cpMaxListCacheMainDoc |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |       |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                    |                    |
|--------------------|--------------------|
| iffoLastBulletMain | iffoLastNumberMain |
| cDBC               |                    |
| cDBCWithSubdocs    |                    |
| reserved3a         |                    |
| nfcFtnRef          | nfcEdnRef          |
| hpsZoomFontPag     | dywDispPag         |

**dop95 (88 bytes):** A [Dop95](#) that specifies document and compatibility settings.

**adt (2 bytes):** Specifies the document classification as specified in [\[ECMA-376\]](#) Part 4, Section 2.15.1.29 documentType; the values are mapped as follows.

| adt value | ECMA attribute value |
|-----------|----------------------|
| 0x0000    | notSpecified         |
| 0x0001    | letter               |
| 0x0002    | eMail                |

**doptygraphy (310 bytes):** A [DopTypography](#) that specifies typography settings.

**dogrid (10 bytes):** A [Dogrid](#) that specifies the draw object grid settings.

**A - unused1 (1 bit):** This bit is undefined and MUST be ignored.

**lvlDop (4 bits):** This value SHOULD [<174>](#) specify which outline levels were showing in outline view at the time of the last save operation. This MUST be a value between 0 and 9, inclusive, or this value MUST be 15.

| Value | Levels showing                        |
|-------|---------------------------------------|
| 0x0   | Heading 1                             |
| 0x1   | Headings 1 and 2                      |
| 0x2   | Headings 1, 2 and 3                   |
| 0x3   | Headings 1, 2, 3 and 4                |
| 0x4   | Headings 1, 2, 3, 4 and 5             |
| 0x5   | Headings 1, 2, 3, 4, 5 and 6          |
| 0x6   | Headings 1, 2, 3, 4, 5, 6 and 7       |
| 0x7   | Headings 1, 2, 3, 4, 5, 6, 7 and 8    |
| 0x8   | Headings 1, 2, 3, 4, 5, 6, 7, 8 and 9 |
| 0x9   | All levels                            |
| 0xF   | All levels                            |

**B - fGramAllDone (1 bit):** Specifies whether the grammar of all content in this document was checked.

**C - fGramAllClean (1 bit):** Specifies whether all content in this document can be considered grammatically correct.

**D - fSubsetFonts (1 bit):** Specifies whether to subset fonts when embedding as specified in [ECMA-376] Part 4, Section 2.8.2.15 saveSubsetFonts, where **embedTrueTypeFonts** refers to [DopBase.fEmbedFonts](#).

**E - unused2 (1 bit):** This value is undefined and MUST be ignored.

**F - fHtmlDoc (1 bit):** This value SHOULD [<175>](#) be 0.

**G - fDiskLvcInvalid (1 bit):** This bit MAY [<176>](#) specify whether the saved **ListNum** field cache contains valid information. The **ListNum** field cache is specified by [FibRgFcLcb97.fcPlcfBteLvc](#).

**H - fSnapBorder (1 bit):** Specifies whether to align paragraph and table borders with the page border, as specified in [ECMA-376] Part 4, Section 2.15.1.2 alignBordersAndEdges.

**I - fIncludeHeader (1 bit):** Specifies whether to draw the page border so that it includes the header area.

**J - fIncludeFooter (1 bit):** Specifies whether to draw the page border so that it includes the footer area.

**K - unused3 (1 bit):** This value is undefined and MUST be ignored.

**L - unused4 (1 bit):** This value is undefined and MUST be ignored.

**unused5 (2 bytes):** This value is undefined and MUST be ignored.

**asumyi (12 bytes):** An [Asumyi](#) that specifies the **AutoSummary** settings.

**cChWS (4 bytes):** Specifies the last calculated or estimated count of characters in the main document depending on the values of **fExactCWords** and **fIncludeSubdocsInStats**. The count of characters includes whitespace.

**cChWSWithSubdocs (4 bytes):** Specifies the last calculated or estimated count of characters in the main document, footnotes, endnotes, and text boxes that are anchored in the main document, depending on **fExactCWords** and **fIncludeSubdocsInStats**. The count of characters includes whitespace.

**grfDocEvents (4 bytes):** A bit field that specifies which document events are fired. The individual bits and their meanings are as follows.

| Bit Mask   | Event           |
|------------|-----------------|
| 0x00000001 | New             |
| 0x00000002 | Open            |
| 0x00000004 | Close           |
| 0x00000008 | Sync            |
| 0x00000010 | XMLAfterInsert  |
| 0x00000020 | XMLBeforeDelete |
| 0x00000100 | BBAfterInsert   |
| 0x00000200 | BBBeforeDelete  |
| 0x00000400 | BBOntExit       |
| 0x00000800 | BBOntEnter      |
| 0x00001000 | StoreUpdate     |
| 0x00002000 | BBContentUpdate |
| 0x00004000 | LegoAfterInsert |

All other bits MUST be set to 0.

**M - fVirusPrompted (1 bit):** Specifies whether the macro security prompt is shown in this session for this document.

**N - fVirusLoadSafe (1 bit):** Specifies whether to disable macros for this session.

**KeyVirusSession30 (30 bits):** A random value to match against the current session key. If they match, this is the same session.

**space (30 bytes):** This value is undefined and MUST be ignored.

**cpMaxListCacheMainDoc (4 bytes):** This value MAY<177> specify the maximum CP value for which the ListNum field cache contains valid information. The ListNum field cache is specified by FibRgFcLcb97.fcPlcfBtelvc.

**ilfoLastBulletMain (2 bytes):** Specifies the index of the last LFO structure that was used for bullets in the document before the save operation. This value MUST be between 0 and a number that is one less than the number of entries in FibRgFcLcb97.fcPlfLfo, unless there are 0 entries, in which case this value MUST be 0.

**ilfoLastNumberMain (2 bytes):** Specifies the index of the last LFO structure that was used for list numbering in the document before the save operation. This value MUST be between 0 and a number that is one less than the number of entries in FibRgFcLcb97.fcPlfLfo, unless there are 0 entries, in which case this value MUST be 0.

**cDBC (4 bytes):** Specifies the last calculated or estimated count of double-byte characters in the main document, depending on the values of DopBase.fExactCWords and DopBase.fIncludeSubdocsInStats. The count of characters includes whitespace.

**cDBCWithSubdocs (4 bytes):** Specifies the last calculated or estimated count of double-byte characters in the main document, footnotes, endnotes, and text boxes anchored in the main document depending on DopBase.fExactCWords and DopBase.fIncludeSubdocsInStats. The character count includes whitespace.

**reserved3a (4 bytes):** This value is undefined and MUST be ignored.

**nfcFtnRef (2 bytes):** An MSONFC (as specified in [MS-OSHARED] section 2.2.1.3) that, for those documents that have an nFib which is less than or equal to 0x00D9, specifies the numbering format code to use for footnotes in the document.

**nfcEdnRef (2 bytes):** An MSONFC (as specified in [MS-OSHARED] section 2.2.1.3) that, for those documents that have an nFib which is less than or equal to 0x00D9, specifies the numbering format code to use for endnotes in the document.

**hpsZoomFontPag (2 bytes):** Specifies the size, in half points, of the maximum font size to be enlarged in the view "online layout" at the time the document was last paginated. This value SHOULD<178> be ignored.

**dywDispPag (2 bytes):** Height of the screen, in pixels, at the time that the document was last paginated. This value SHOULD<179> be ignored.

## 2.7.5 Dop2000

A structure that contains document and compatibility settings. These settings influence the appearance and behavior of the current document and store document-level state.

|                   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |
|-------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |
| dop97 (500 bytes) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |



|                    |   |   |   |                    |  |  |  |                   |   |   |   |   |   |   |   |                       |   |   |   |   |   |   |   |   |   |   |   |
|--------------------|---|---|---|--------------------|--|--|--|-------------------|---|---|---|---|---|---|---|-----------------------|---|---|---|---|---|---|---|---|---|---|---|
| ...                |   |   |   |                    |  |  |  |                   |   |   |   |   |   |   |   |                       |   |   |   |   |   |   |   |   |   |   |   |
| ...                |   |   |   |                    |  |  |  |                   |   |   |   |   |   |   |   |                       |   |   |   |   |   |   |   |   |   |   |   |
| ilvlLastBulletMain |   |   |   | ilvlLastNumberMain |  |  |  | istdClickParaType |   |   |   |   |   |   |   |                       |   |   |   |   |   |   |   |   |   |   |   |
| A                  | B | C | D | empty1             |  |  |  | E                 | F | G | H | I |   | J | K | iPixelsPerInch_WebOpt |   |   |   | L | M | N | O |   |   |   |   |
| copts (32 bytes)   |   |   |   |                    |  |  |  |                   |   |   |   |   |   |   |   |                       |   |   |   |   |   |   |   |   |   |   |   |
| ...                |   |   |   |                    |  |  |  |                   |   |   |   |   |   |   |   |                       |   |   |   |   |   |   |   |   |   |   |   |
| ...                |   |   |   |                    |  |  |  |                   |   |   |   |   |   |   |   |                       |   |   |   |   |   |   |   |   |   |   |   |
| verCompatPre10     |   |   |   |                    |  |  |  |                   |   |   |   | P | Q | R | S | T                     | U | V | W | X | Y | Z | a | b | c | d | e |

**dop97 (500 bytes):** A [Dop97](#) that specifies document and compatibility settings.

**ilvlLastBulletMain (1 byte):** SHOULD<[180](#)> specify the last bullet level applied via the toolbar before saving. MUST be between 0 and 9. Default is 0.

**ilvlLastNumberMain (1 byte):** SHOULD<[181](#)> specify the last list numbering level applied via the toolbar before saving. MUST be between 0 and 9. Default is 0.

**istdClickParaType (2 bytes):** Specifies the [ISTD](#) of the paragraph style to use for paragraphs that are automatically created by the click and type feature to place the cursor where the user clicked. Default value is 0 (Normal paragraph style).

**A - fLADAllDone (1 bit):** Specifies whether **language auto-detection** has run to completion for the document. Default is 0.

**B - fEnvelopeVis (1 bit):** Specifies whether to show the E-Mail message header as specified in [\[ECMA-376\]](#) Part 4, Section 2.15.1.80 showEnvelope. Default is 0.

**C - fMaybeTentativeListInDoc (1 bit):** Specifies whether the document potentially contains tentative lists<[182](#)>. Default is 0. See [LVLF.fTentative](#).

**D - fMaybeFitText (1 bit):** If this is 0, then there MUST NOT be any fit text (see [sprmCFitText](#)) in the document. Default is 0.

**empty1 (4 bits):** MUST be zero, and MUST be ignored.

**E - fFCCAllDone (1 bit):** Specifies whether the **format consistency checker** has run to completion for the document. Default is 0.

**F - fRelyOnCSS\_WebOpt (1 bit):** Specifies whether to rely on **CSS** for font face formatting when saving as a Web page as specified in [\[ECMA-376\]](#) Part 4, Section 2.15.2.11 doNotRelyOnCSS, where the meaning is the opposite of **fRelyOnCSS\_WebOpt**. The default is 1.

**G - fRelyOnVML\_WebOpt (1 bit):** Specifies whether to use **VML** when saving as a Web page as specified in [\[ECMA-376\]](#) Part 4, Section 2.15.2.34 relyOnVML. The default is 0.

**H - fAllowPNG\_WebOpt (1 bit):** Specifies whether to allow Portable Network Graphics (PNG) format as a graphic format when saving as a Web page as specified in [\[ECMA-376\]](#) Part 4, Section 2.15.2.1 allowPNG. Default value is 0.

**I - screenSize\_WebOpt (4 bits):** Specifies what the target screen size for the Web page is as specified in [ECMA-376] Part 4, Section 2.15.2.41 targetScreenSz, where **screenSize\_WebOpt** value maps to **ST\_TargetScreenSz** types as follows

| Value       | ST_TargetScreenSz string |
|-------------|--------------------------|
| 0           | 544x376                  |
| 1           | 640x480                  |
| 2           | 720x512                  |
| 3 (default) | 800x600                  |
| 4           | 1024x768                 |
| 5           | 1152x882                 |
| 6           | 1152x900                 |
| 7           | 1280x1024                |
| 8           | 1600x1200                |
| 9           | 1800x1440                |
| 10          | 1920x1200                |

**J - fOrganizeInFolder\_WebOpt (1 bit):** Specifies whether to place supporting files in a subdirectory when saving as a Web page as specified in [ECMA-376] Part 4, Section 2.15.2.10 doNotOrganizeInFolder, where the meaning is the opposite of **fOrganizeInFolder\_WebOpt**. The default is 1.

**K - fUseLongFileNames\_WebOpt (1 bit):** Specifies whether to use file names longer than 8.3 characters when saving as a Web page as specified in [ECMA-376] Part 4, Section 2.15.2.13 doNotUseLongFileNames, where the meaning is the opposite of **fUseLongFileNames\_WebOpt**. The default is 1.

**iPixelsPerInch\_WebOpt (10 bits):** Specifies the pixels per inch for graphics/images when saving as a Web page as specified in [ECMA-376] Part 4, Section 2.15.2.33 pixelsPerInch. If **fWebOptionsInit** is 1 then this MUST be between 19 and 480; otherwise, this is ignored. The default is 96.

**L - fWebOptionsInit (1 bit):** Specifies whether **fRelyOnCSS\_WebOpt**, **fRelyOnVML\_WebOpt**, **fAllowPNG\_WebOpt**, **screenSize\_WebOpt**, **fOrganizeInFolder\_WebOpt**, **fUseLongFileNames\_WebOpt** and **iPixelsPerInch\_WebOpt** contain valid data. When **fWebOptionsInit** is set to 0, the value of all those fields MUST be ignored. The default is 0.

**M - fMaybeFEL (1 bit):** If this is 0, then there MUST NOT be any **Warichu**, **Tatenakayoko**, **Ruby**, **Kumimoji** or EncloseText in the document. Enclose Text is a layout feature that uses EQ fields ([ECMA-376] part 4, section 2.16.5.22) to enclose characters in circles or other characters. The default is 0.

**N - fCharLineUnits (1 bit):** If this is 0, then there MUST NOT be any character unit indents (**sprmPDxcLeft**, **sprmPDxcLeft1**, **sprmPDxcRight**) or line units (**sprmPDylBefore**, **sprmPDylAfter**) in use. The default is 0.

**O - unused1 (1 bit):** Undefined and MUST be ignored.

**copts (32 bytes):** A **copts** that specifies compatibility options. Components of **Copts.copts80** MUST be equal to components of **Dop97.copts80**.

**verCompatPre10 (16 bits):** A bit field that specifies the desired feature set to use for the document. This overrides **DopBase.fWord97Compat**. Values are composed from the following table:

| Bit Value        | Meaning   |
|------------------|---|
| 0x0000 (default) | No Restrictions on feature use  |
| 0x0004           | Use only features available in Microsoft Word for Windows 95.                 |
| 0x0008           | Use only features available in Microsoft Word 97.                             |
| 0x0040           | Use only features available in the East Asian release of Word for Windows 95. |
| 0x0800           | Use only features available in Microsoft Office Word 2003.                    |

All other bits are undefined and MUST be ignored.

- P - fNoMargPgvwSaved (1 bit):** Specifies whether to suppress the display of the header and footer area when in print layout view so that the main text area of one page is displayed adjacent to the main text area of the next page as specified in [ECMA-376] Part 4, Section 2.15.1.34 doNotDisplayPageBoundaries. Default is 0.
- Q - unused2 (1 bit):** Undefined and MUST be ignored.
- R - unused3 (1 bit):** Undefined and MUST be ignored.
- S - unused4 (1 bit):** Undefined and MUST be ignored.
- T - fBulletProofed (1 bit):** Specifies that this document was produced by the Open and Repair feature. Default is 0.
- U - empty2 (1 bit):** MUST be zero, and MUST be ignored.
- V - fSaveUim (1 bit):** Specifies whether to save **UIM** data in the document. Default is 1.
- W - fFilterPrivacy (1 bit):** Specifies whether to remove personal information from the document properties on save as specified in [ECMA-376] Part 4, Section 2.15.1.68 removePersonalInformation. Default is 0.
- X - empty3 (1 bit):** MUST be zero, and MUST be ignored.
- Y - fSeenRepairs (1 bit):** Specifies whether the user has seen any repairs made by the Open and Repair feature. Default is 0.
- Z - fHasXML (1 bit):** Specifies whether the document has any form of **structured document tags** in it. Default is 0.
- a - unused5 (1 bit):** Undefined and MUST be ignored.
- b - fValidateXML (1 bit):** Specifies whether to validate custom XML markup against any attached schemas as specified in [ECMA-376] Part 4, Section 2.15.1.42 doNotValidateAgainstSchema, where the meaning is the opposite of **fValidateXML**. Default is 1
- c - fSaveInvalidXML (1 bit):** Specifies whether to allow saving the document as an XML file when the custom XML markup is invalid with respect to the attached schemas as specified in [ECMA-376] Part 4, Section 2.15.1.74 saveInvalidXml. Default is 0.
- d - fShowXMLErrors (1 bit):** Specifies whether to show a visual indicator for invalid custom XML markup as specified in [ECMA-376] Part 4, Section 2.15.1.33 doNotDemarcateInvalidXml, where the meaning is the opposite of **fShowXMLErrors**.
- e - fAlwaysMergeEmptyNamespace (1 bit):** Specifies whether to consider custom XML elements with no namespace as valid on open as specified in [ECMA-376] Part 4, Section 2.15.1.3 alwaysMergeEmptyNamespace. Default is 0.

## 2.7.6 Dop2002

A structure that contains document and compatibility settings. These settings influence the appearance and behavior of the current document and store document-level state.

|                     |   |   |   |   |   |   |   |   |   |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14             | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dop2000 (544 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| unused              |   |   |   |   |   |   |   |   |   |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A                   | B | C | D | E | F | G | H | I | J | K  | L  | M  | N  | istdTableDflt  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| verCompat           |   |   |   |   |   |   |   |   |   |    |    |    |    | grfFmtFilter   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| iFolioPages         |   |   |   |   |   |   |   |   |   |    |    |    |    | cpgText        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    | cpMinRMText    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    | cpMinRMFtn     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    | cpMinRMHdd     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    | cpMinRMAtn     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    | cpMinRMEdn     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    | cpMinRmTxbx    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    | cpMinRmHdrTxbx |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    | rsidRoot       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dop2000 (544 bytes):** A [Dop2000](#) that specifies document and compatibility settings.

**unused (4 bytes):** Undefined and MUST be ignored.

**A - fDoNotEmbedSystemFont (1 bit):** Specifies whether common system fonts are not to be embedded as specified in [\[ECMA-376\]](#) Part 4, Section 2.8.2.7 embedSystemFonts, where the meaning is the opposite of **fDoNotEmbedSystemFont** and the **embedTrueTypeFonts** element refers to [DopBase.fEmbedFonts](#). Default is 1.

**B - fWordCompat (1 bit):** Specifies that features not compatible with the settings specified in **verCompat** will be disabled or removed when saving. Default is 0.

- C - fLiveRecover (1 bit):** Specifies that this file is a recovered document from after a crash. Default is 0.
- D - fEmbedFactoids (1 bit):** Specifies whether smart tags are to remain in the document when saving. Smart tags are to be removed when **fEmbedFactoids** is set to 0. See [ECMA-376] Part 4, Section 2.15.1.35 doNotEmbedSmartTags, where the meaning is the opposite of **fEmbedFactoids**. Default is 1.
- E - fFactoidXML (1 bit):** Specifies whether to save smart tag data as an XML-based property bag at the head of the HTML page when saving as HTML as specified in [ECMA-376] Part 4, Section 2.15.2.36 saveSmartTagsAsXml. Default is 0.
- F - fFactoidAllDone (1 bit):** Specifies whether the document has been completely scanned for all possible smart tag creations. Default is 0.
- G - fFolioPrint (1 bit):** Specifies whether to use book fold printing as specified in [ECMA-376] Part 4, Section 2.15.1 11 bookFoldPrinting. Default is 0.
- H - fReverseFolio (1 bit):** Specifies whether to use reverse book fold printing as specified in [ECMA-376] Part 4, Section 2.15.1.13 bookFoldRevPrinting. If this is 1 then **fFolioPrint** MUST be 1. Default is 0.
- I - iTextLineEnding (3 bits):** Specifies what to end a line of text with when saving as a text file via automation. It MUST be one of the values in the following table:

| Value          | Meaning   |
|----------------|---|
| 0<br>(default) | Carriage return (0x0D) followed by line feed (0x0A).  |
| 1              | Carriage return (0x0D).   |
| 2              | Line feed (0x0A).   |
| 3              | Line feed (0x0A) followed by carriage return (0x0D).  |
| 4              | <p>If the code page supports it, Line Separator (U+2028) or Paragraph Separator (U+2029) otherwise behave as follows:</p> <ul style="list-style-type: none"> <li>▪ If the codepage is CP_JAPANEUC, CP_CHINAEUC, CP_KOREAEUC or CP_TAIWANEUC treat as if the value were 2.</li> <li>▪ If the code page is greater than or equal to 10000 and less than 20000, then treat as if the value were 1.</li> <li>▪ If neither of those apply, then treat as if the value were 0.</li> </ul> |

- J - fHideFcc (1 bit):** Specifies whether to refrain from showing a visual cue around ranges flagged by the format consistency checker as suspect. Default is 0.
- K - fAcetateShowMarkup (1 bit):** Specifies whether to visually indicate any additional nonprinting area used to display annotations when the annotations in this document are displayed. Default is 1.
- L - fAcetateShowAtn (1 bit):** Specifies if comments are included when the contents of this document are displayed. Default is 1.
- M - fAcetateShowInsDel (1 bit):** Specifies if revisions to content are included when the contents of this document are displayed. Default is 1.
- N - fAcetateShowProps (1 bit):** Specifies whether property revision marks are included when the contents of this document are displayed. Default is 1.
- istdTableDflt (16 bits):** An [istd](#) that specifies the default table style for newly inserted tables.

**verCompat (16 bits):** A bit field that specifies the desired feature set to use for the document. This overrides `DopBase.fWord97Compat` and `Dop2000.verCompatPre10`. The bit values are as follows:

| Value  | Meaning   |
|--------|---|
| 0x0000 | No restrictions on feature use.                                       |
| 0x0001 | Use features supported by Microsoft® Internet Explorer® 4.0.          |
| 0x0002 | Use features supported by Microsoft® Internet Explorer® 5.0.          |
| 0x0004 | Use features supported by Word for Windows 95.                        |
| 0x0008 | Use features supported by Word 97.                                    |
| 0x0010 | Use features supported by the Word HTML format.                       |
| 0x0020 | Use features supported by the Word RTF format.                        |
| 0x0040 | Use features supported by East Asian versions of Word for Windows 95. |
| 0x0080 | Use features supported by plain text e-mail messages.                 |
| 0x0100 | Use features supported by Internet Explorer 6.0.                      |
| 0x0200 | Use features supported by the Word XML format.                        |
| 0x0400 | Use features supported by RTF e-mail messages.                        |
| 0x0800 | Do not use features introduced in Microsoft Office Word 2007.         |
| 0x1000 | Use features supported by plain text.                                 |

Default is 0.

**grfFmtFilter (2 bytes):** Specifies the suggested filtering for the list of document styles as specified in [ECMA-376] Part 4, Section 2.15.1.86 `stylePaneFormatFilter`. Default is 0x5024.

**iFolioPages (2 bytes):** Specifies the number of pages per booklet as specified in [ECMA-376] Part 4, Section 2.15.1.12 `bookFoldPrintingSheets`, where `bookFoldPrinting` refers to **fFolioPrint** and `bookFoldRevPrinting` refers to **fReverseFolio**. Default is 0.

**cpgText (4 bytes):** Specifies the code page to use when saving as encoded text. Default is the current Windows ANSI code page for the system.

**cpMinRMText (4 bytes):** A CP in the [main document](#) before which there are no revisions. Default is 0.

**cpMinRMFtn (4 bytes):** A CP in the [footnote document](#) before which there are no revisions. Default is 0.

**cpMinRMHdd (4 bytes):** A CP in the [header document](#) before which there are no revisions. Default is 0.

**cpMinRMAtn (4 bytes):** A CP in the [comment document](#) before which there are no revisions. Default is 0.

**cpMinRMEdn (4 bytes):** A CP in the [endnote document](#) before which there are no revisions. Default is 0.

**cpMinRmTxbx (4 bytes):** A CP in the [textbox document](#) for the main document before which there are no revisions. Default is 0.

**cpMinRmHdrTxbx (4 bytes):** A CP in the [header textbox document](#) before which there are no revisions. Default is 0.

**rsidRoot (4 bytes):** Specifies the original document revision save ID as specified in [ECMA-376] Part 4, Section 2.15.1.71 rsidRoot. By default the **rsidRoot** is not that of the currently running session.

## 2.7.7 Dop2003

The **Dop2003** structure contains document and compatibility settings. These settings influence the appearance and behavior of the current document and store document-level state.

|                     |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |        |   |   |   |   |   |   |  |  |  |  |  |  |
|---------------------|---|---|---|---|---|---|---|---|---|--------|----|----|----|----|----|----|----|----|----|------------------|----|----|----|----|----|----|----|----|----|----|--------|---|---|---|---|---|---|--|--|--|--|--|--|
| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20               | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31     |   |   |   |   |   |   |  |  |  |  |  |  |
| dop2002 (594 bytes) |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |        |   |   |   |   |   |   |  |  |  |  |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |        |   |   |   |   |   |   |  |  |  |  |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |        |   |   |   |   |   |   |  |  |  |  |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |                  |    |    |    | A  | B  | C  | D  | E  | F  | G  | H      | I | J | K | L | M | N |  |  |  |  |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |                  |    |    |    | O  | P  | Q  | R  | S  |    | T  | empty2 |   |   |   |   |   |   |  |  |  |  |  |  |
| dxaPageLock         |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |        |   |   |   |   |   |   |  |  |  |  |  |  |
| dyaPageLock         |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |        |   |   |   |   |   |   |  |  |  |  |  |  |
| pctFontLock         |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |        |   |   |   |   |   |   |  |  |  |  |  |  |
| grfitbid            |   |   |   |   |   |   |   |   |   | empty3 |    |    |    |    |    |    |    |    |    | ilfoMacAtCleanup |    |    |    |    |    |    |    |    |    |    |        |   |   |   |   |   |   |  |  |  |  |  |  |

**dop2002 (594 bytes):** A [Dop2002](#) that specifies document and compatibility settings.

- A - fTreatLockAtnAsReadOnly (1 bit):** Specifies whether [DopBase.fLockAtn](#) means read-only protection instead of protect for comments. By default, this value is 0.
- B - fStyleLock (1 bit):** Specifies whether the styles available to use in the document are restricted to those styles with [STD.Stdf.StdfBase.GRFSTD.fLocked](#) set to 1 when style lock is enforced (**fStyleLockEnforced** is 1). By default, this value is 0.
- C - fAutoFmtOverride (1 bit):** Specifies whether to allow automatic formatting to override the **fStyleLock** setting as specified in [ECMA-376] Part 4, Section 2.15.1.9 autoFormatOverride. By default, this value is 0.
- D - fRemoveWordML (1 bit):** Specifies whether to save only custom XML markup when saving to XML as specified in [ECMA-376] Part 4, Section 2.15.1.77 saveXmlDataOnly. By default, this value is 0.
- E - fApplyCustomXForm (1 bit):** Specifies whether to save the document through the custom XML transform specified via [FibRgFcLcb2003.fcCustomXForm](#) and [FibRgFcLcb2003.lcbCustomXForm](#) when saving to XML as specified in [ECMA-376] Part 4, Section 2.15.1.92 useXSLTWhenSaving. By default, this value is 0.
- F - fStyleLockEnforced (1 bit):** Specifies whether to actively enforce the style restriction as specified by **fStyleLock**. If **fStyleLockEnforced** is 1, **fStyleLock** MUST be 1. By default, this value is 0.

- G - fFakeLockAtn (1 bit):** Specifies that the DopBase.fLockAtn setting is to be honored only if the application does not support fStyleLock. By default, this value is 0.
- H - fIgnoreMixedContent (1 bit):** Specifies whether to ignore all text not in leaf nodes of the custom XML when validating custom XML markup as specified in [ECMA-376] Part 4, Section 2.15.1.54 ignoreMixedContent. By default, this value is 0.
- I - fShowPlaceholderText (1 bit):** Specifies whether to show some form of in-document placeholder text when custom XML markup contains no content and the custom XML tags are not being displayed as specified in [ECMA-376] Part 4, Section 2.15.1.4 alwaysShowPlaceholderText. By default, this value is 0.
- J - unused (1 bit):** This value is undefined and MUST be ignored.
- K - fWord97Doc (1 bit):** Specifies whether to disable UI for features incompatible with the Word Binary File Format as specified in [ECMA-376] Part 4, Section 2.15.3.54 uiCompat97To2003. By default, this value is 0.
- L - fStyleLockTheme (1 bit):** Specifies whether to prevent modification of the document theme information as specified in [ECMA-376] Part 4, Section 2.15.1.85 styleLockTheme. By default, this value is 0.
- M - fStyleLockQFSet (1 bit):** Specifies whether to prevent the replacement of style sets as specified in [ECMA-376] Part 4, Section 2.15.1.84 styleLockQFSet. By default, this value is 0.
- N - empty1 (19 bits):** This value MUST be zero, and MUST be ignored.
- O - fReadingModeInkLockDown (1 bit):** Specifies whether to permanently set the layout to the specific set of page and text-sizing parameters specified by **dxPageLock**, **dyaPageLock** and **pctFontLock** as specified in [ECMA-376] Part 4, Section 2.15.1.66 readModeInkLockDown. By default, this value is 0.
- P - fAcetateShowInkAtn (1 bit):** Specifies whether to include ink annotations when the contents of this document are displayed. By default, this value is 1.
- Q - fFilterDttm (1 bit):** Specifies whether to remove date and time information from annotations as specified in [ECMA-376] Part 4, Section 2.15.1.67 removeDateAndTime. By default, this value is 0.
- R - fEnforceDocProt (1 bit):** Specifies whether to enforce the document protection mode that is specified by **iDocProtCur**. By default, this value is 0.
- S - iDocProtCur (3 bits):** Specifies the document protection mode that is in effect when **fEnforceDocProt** is set to 1. This MUST be set to one of the following values.

| Value          | Meaning   |
|----------------|---|
| 0              | Track all edits that are made to the document as revisions.   |
| 1              | Comments are permitted to be inserted or deleted, and regions that are delimited by range permissions can be edited if they match the editing rights of the user account which is performing the editing. See <a href="#">PRTI</a> .    |
| 2              | Edits are restricted to the editing of form fields in sections where <a href="#">sprmSFProtected</a> results in a value of "true". Edits are not restricted in sections where sprmSFProtected is not present or has a value of "false". |
| 3<br>(Default) | Edits are restricted to regions delimited by range permissions which match the editing rights of the user account which is performing the editing. See <a href="#">PRTI</a> .   |
| 7              | There are no editing restrictions.  |



**T - fDispBkSpSaved (1 bit):** Specifies whether to display background objects when displaying the document in print layout view as specified in [ECMA-376] Part 4, Section 2.15.1.25 displayBackgroundShape. By default, this value is 0.

**empty2 (8 bits):** This value MUST be zero, and MUST be ignored.

**dxaPageLock (4 bytes):** Specifies the width, in twips, of the virtual pages that are used in this document when **fReadingModeInkLockDown** is 1. By default, this value is 0.

**dyaPageLock (4 bytes):** Specifies the height, in twips, of the virtual pages that are used in this document when **fReadingModeInkLockDown** is 1. By default, this value is 0.

**pctFontLock (4 bytes):** Specifies the percentage to which text in the document is scaled before it is displayed on a virtual page when **fReadingModeInkLockDown** is 1. By default, this value is 0.

**grfitbid (1 byte):** A bit field that specifies what toolbars were shown because of document state rather than explicit user action at the moment of saving. This value MUST be composed of the following bit values.

| Value          | Meaning   |
|----------------|---|
| 0x00 (default) | No toolbar was shown because of document state. |
| 0x01           | The reviewing toolbar was shown.                |
| 0x02           | The Web toolbar was shown.                      |
| 0x04           | The mail merge toolbar was shown.               |

**empty3 (1 byte):** This value MUST be zero, and MUST be ignored.

**ilfoMacAtCleanup (2 bytes):** Specifies the largest **ilfo** value (index into [PifLfo](#)) such that all PifLfo entries from 0 to **ilfoMacAtCleanup** are searched for unused values to be pruned as specified in [ECMA-376] Part 4, Section 2.9.20 numIdMacAtCleanup. By default, this value is 0.

### 2.7.8 Dop2007

The **Dop2007** structure contains document and compatibility settings. These settings influence the appearance and behavior of the current document and store document-level state.

|                     |   |   |   |   |     |   |   |   |   |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|---------------------|---|---|---|---|-----|---|---|---|---|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| 0                   | 1 | 2 | 3 | 4 | 5   | 6 | 7 | 8 | 9 | 10 | 11 | 12        | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |
| dop2003 (616 bytes) |   |   |   |   |     |   |   |   |   |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| ...                 |   |   |   |   |     |   |   |   |   |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| ...                 |   |   |   |   |     |   |   |   |   |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| reserved1           |   |   |   |   |     |   |   |   |   |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| A                   | B | C | D | E | ssm |   |   |   |   | F  | G  | reserved3 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| empty3              |   |   |   |   |     |   |   |   |   |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| empty4              |   |   |   |   |     |   |   |   |   |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

|                   |
|-------------------|
| empty5            |
| empty6            |
| dopMth (34 bytes) |
| ...               |
| ...               |
| ...               |

**dop2003 (616 bytes):** A [Dop2003](#) that specifies document and compatibility settings.

**reserved1 (4 bytes):** This value is undefined, and MUST be ignored.

**A - fRMTrackFormatting (1 bit):** Specifies whether to track format changes when tracking for revisions ([DopBase.fRevMarking](#)). By default, this value is 1.

**B - fRMTrackMoves (1 bit):** Specifies whether to track moved text when tracking for revisions ([DopBase.fRevMarking](#)) instead of tracking for the deletions and insertions that are made. By default, this value is 1.

**C - reserved2 (1 bit):** This value MUST be 0, and MUST be ignored.

**D - empty1 (1 bit):** This value MUST be 0, and MUST be ignored.

**E - empty2 (1 bit):** This value MUST be 0, and MUST be ignored.

**ssm (4 bits):** An unsigned integer that specifies the sorting method to use when displaying document styles. This value MUST be one of the following.

| Value       | Meaning   |
|-------------|---|
| 0           | Styles are sorted by name.  |
| 1 (default) | Styles are sorted by the default sorting method of the application.               |
| 2           | Styles are sorted based on the font that they apply.                              |
| 3           | Styles are sorted by the style on which they are based.                           |
| 4           | Styles are sorted by their style types (character, linked, paragraph, and so on). |

**F - fReadingModeInkLockDownActualPage (1 bit):** Specifies whether to render the document with actual pages or virtual pages as specified in [\[ECMA-376\]](#) Part 4, Section 2.15.1.66 [readModeInkLockDown](#). By default, this value is 0.

**G - fAutoCompressPictures (1 bit):** Specifies whether pictures in the document are automatically compressed when the document is saved as specified in [\[ECMA-376\]](#) Part 4, Section 2.15.1.32 [doNotAutoCompressPictures](#), where the meaning is the opposite of **fAutoCompressPictures**. By default, this value is 1.

**reserved3 (21 bits):** This value MUST be 0, and MUST be ignored.

**empty3 (4 bytes):** This value MUST be 0, and MUST be ignored.

**empty4 (4 bytes):** This value MUST be 0, and MUST be ignored.

**empty5 (4 bytes):** This value MUST be 0, and MUST be ignored.

**empty6 (4 bytes):** This value MUST be 0, and MUST be ignored.

**dopMth (34 bytes):** A [DopMth](#) that specifies various math properties.

### 2.7.9 Dop2010

The **Dop2010** structure contains document and compatibility settings. These settings influence the appearance and behavior of the current document and store document-level state.

|                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |           |       |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|---------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|-----------|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17        | 18    | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |
| dop2007 (674 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |           |       |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |           |       |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |           |       |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    | docid     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    | reserved  |       |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    | A         | empty |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    | iImageDPI |       |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |           |       |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |

**dop2007 (674 bytes):** A **Dop2007** structure (section [2.7.8](#)) that specifies document and compatibility settings.

**docid (4 bytes):** An unsigned integer that specifies an arbitrary identifier for the context of the paragraph identifiers in the document, as specified in [\[MS-DOCX\]](#) section 2.6.1.14 (**docId**). MUST be greater than 0 and less than 0x80000000

**reserved (4 bytes):** This value is undefined and MUST be ignored.

**A - fDiscardImageData (1 bit):** Specifies whether the cropped-out areas of images are to be discarded when the document is saved as specified in [\[MS-DOCX\]](#) section 2.6.1.13 (**discardImageEditingData**).

**empty (31 bits):** This value MUST be 0 and MUST be ignored.

**iImageDPI (4 bytes):** An unsigned integer that specifies the resolution at which to save images in the document, as specified in [\[MS-DOCX\]](#) section 2.6.1.12 (**defaultImageDpi**).

### 2.7.10 Dop2013

The **Dop2013** structure contains document and compatibility settings. These settings influence the appearance and behavior of the current document and store document-level state.

|                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |
|---------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|----|----|----|
| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21    | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dop2010 (690 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    | A  | empty |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |

**dop2010 (690 bytes):** A **Dop2010** structure (section [2.7.9](#)) that specifies document and compatibility settings.

**A - fChartTrackingRefBased (1 bit):** Specifies how the data point properties and data labels in all charts in this document behave, as specified in [\[MS-DOCX\]](#) section 2.5.1.2 (**chartTrackingRefBased**).

**empty (31 bits):** This value MUST be 0 and MUST be ignored.

### 2.7.11 Copts60

The **Copts60** structure specifies compatibility options.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | C | D | E | F | G | H | I | J | K  | L  | M  | N  | O  | P  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fNoTabForInd (1 bit):** Specified in [\[ECMA-376\]](#) Part 4, Section 2.15.3.37 noTabHangInd.

**B - fNoSpaceRaiseLower (1 bit):** Specified in [\[ECMA-376\]](#) Part 4, Section 2.15.3.36 noSpaceRaiseLower.

**C - fSuppressSpBfAfterPgBrk (1 bit):** Specified in [\[ECMA-376\]](#) Part 4, Section 2.15.3.49 suppressSpBfAfterPgBrk.

**D - fWrapTrailSpaces (1 bit):** Specified in [\[ECMA-376\]](#) Part 4, Section 2.15.3.67 wrapTrailSpaces.

**E - fMapPrintTextColor (1 bit):** Specified in [\[ECMA-376\]](#) Part 4, Section 2.15.3.39 printColBlack.

**F - fNoColumnBalance (1 bit):** Specified in [\[ECMA-376\]](#) Part 4, Section 2.15.3.33 noColumnBalance.

**G - fConvMailMergeEsc (1 bit):** Specified in [\[ECMA-376\]](#) Part 4, Section 2.15.3.10 convMailMergeEsc.

**H - fSuppressTopSpacing (1 bit):** Specified in [\[ECMA-376\]](#) Part 4, Section 2.15.3.50 suppressTopSpacing.

**I - fOrigWordTableRules (1 bit):** Specified in [\[ECMA-376\]](#) Part 4, Section 2.15.3.62 useSingleBorderforContiguousCells.

- J - unused14 (1 bit):** This value is undefined and MUST be ignored.
- K - fShowBreaksInFrames (1 bit):** Specified in [ECMA-376] Part 4, Section 2.15.3.42 showBreaksInFrames.
- L - fSwapBordersFacingPgs (1 bit):** Specified in [ECMA-376] Part 4, Section 2.15.3.52 swapBordersFacingPages.
- M - fLeaveBackslashAlone (1 bit):** Specified in [ECMA-376] Part 4, Section 2.15.3.16 doNotLeaveBackslashAlone, where the meaning of the element is the opposite of **fLeaveBackslashAlone**
- N - fExpShRtn (1 bit):** Specified in [ECMA-376] Part 4, Section 2.15.3.15 doNotExpandShiftReturn, where the meaning is the opposite of **fExpShRtn**.
- O - fDntULTrISpc (1 bit):** Specified in [ECMA-376] Part 4, Section 2.15.3.55 ulTrailSpace, where the meaning of the element is the opposite of **fDntULTrISpc**.
- P - fDntBlInSbDbWid (1 bit):** Specified in [ECMA-376] Part 4, Section 2.15.3.7 balanceSingleByteDoubleByteWidth, where the meaning of the element is the opposite of **fDntBlInSbDbWid**.

## 2.7.12 Copts80

The **Copts80** structure specifies compatibility options.

|         |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|---------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| copts60 |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   | A | B | C | D | E  | F | G | H | I | J | K | L | M | N | O  | P |

**copts60 (2 bytes):** A [Copts60](#) that specifies additional compatibility options.

- A - fSuppressTopSpacingMac5 (1 bit):** Specifies whether the minimum line height for the first line on the page is ignored as specified in [ECMA-376] Part 4, Section 2.15.3.48 suppressSpacingAtTopOfPage, where a **spacing** element with a **lineRule** attribute value of **atLeast** refers to [sprmPDyaLine](#) with a **LSPD.fMultLinespace** of 0 and **LSPD.dyaline** greater than 0.
- B - fTruncDxaExpand (1 bit):** Specifies whether text is expanded or condensed by whole points as specified in [ECMA-376] Part 4, Section 2.15.3.44 spacingInWholePoints, where spacing refers to sprmPDyaBefore and sprmPDyaAfter.
- C - fPrintBodyBeforeHdr (1 bit):** Specifies whether body text is printed before header and footer contents as specified in [ECMA-376] Part 4, Section 2.15.3.38 printBodyTextBeforeHeader.
- D - fNoExtLeading (1 bit):** Specifies whether leading is not added between lines of text as specified in [ECMA-376] Part 4, Section 2.15.3.35 noLeading.
- E - fDontMakeSpaceForUL (1 bit):** Specifies whether additional space is not added below the baseline for underlined East Asian characters as specified in [ECMA-376] Part 4, Section 2.15.3.43 spaceForUL, where u is [sprmCKul](#) and **textAlignment** with **val** of **baseline** is sprmPWAlignFont with a value of 2 and the overall meaning is the opposite of **fDontMakeSpaceForUL**.
- F - fMWSmallCaps (1 bit):** Specifies whether Word 5.x for the Macintosh small caps formatting is to be used as specified in [ECMA-376] Part 4, Section 2.15.3.32 mwSmallCaps.

- G - f2ptExtLeadingOnly (1 bit):** Specifies whether line spacing emulates WordPerfect 5.x line spacing as specified in [ECMA-376] Part 4, Section 2.15.3.51 suppressTopSpacingWP.
- H - fTruncFontHeight (1 bit):** Specifies whether font height calculation emulates WordPerfect 6.x font height calculation as specified in [ECMA-376] Part 4, Section 2.15.3.53 truncateFontHeightsLikeWP6.
- I - fSubOnSize (1 bit):** Specifies whether the priority of font size is increased during font substitution as specified in [ECMA-376] Part 4, Section 2.15.3.46 subFontBySize.
- J - fLineWrapLikeWord6 (1 bit):** Specifies whether line wrapping emulates Microsoft® Word 6.0 line wrapping for East Asian characters as specified in [ECMA-376] Part 4, Section 2.15.3.31 lineWrapLikeWord6.
- K - fWW6BorderRules (1 bit):** Specifies whether the paragraph borders next to frames are not suppressed as specified in [ECMA-376] Part 4, Section 2.15.3.19 doNotSuppressParagraphBorders.
- L - fExactOnTop (1 bit):** Specifies whether content on lines with exact line height is not to be centered as specified in [ECMA-376] Part 4, Section 2.15.3.34 noExtraLineSpacing, where exact line height using the **spacing** element refers to sprmPDyaLine with LSPD.fMultLinespace of 0 and LSPD.dyaline is less than 0.
- M - fExtraAfter (1 bit):** Specifies whether the exact line height for the last line on a page is ignored as specified in [ECMA-376] Part 4, Section 2.15.3.47 suppressBottomSpacing, where exact line height has using the **spacing** element refers to sprmPDyaLine with LSPD.fMultLinespace of 0 and LSPD.dyaline is less than 0.
- N - fWPSpace (1 bit):** Specifies whether the width of a space emulates WordPerfect 5.x space width as specified in [ECMA-376] Part 4, Section 2.15.3.66 wpSpaceWidth.
- O - fWPJust (1 bit):** Specifies whether paragraph justification emulates WordPerfect 6.x paragraph justification as specified in [ECMA-376] Part 4, Section 2.15.3.65 wpJustification, where the **val** attribute value of **both** on the **jc** element refers to sprmPjC with a value of 3.
- P - fPrintMet (1 bit):** Specifies whether printer metrics are used to display documents as specified in [ECMA-376] Part 4, Section 2.15.3.61 usePrinterMetrics.

### 2.7.13 Copts

A structure that specifies compatibility options.

|         |        |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|--------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0       | 1      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| copts80 |        |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A       | B      | C | D | E | F | G | H | I | J | K  | L  | M  | N  | O  | P  | Q  | R  | S  | T  | U  | V  | W  | X  | Y  | Z  | a  | b  | c  | d  | e  | f  |
| g       | empty1 |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| empty2  |        |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| empty3  |        |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|        |
|--------|
| empty4 |
| empty5 |
| empty6 |

**copts80 (4 bytes):** A [Copts80](#) that specifies additional compatibility options.

- A - fSpLayoutLikeWW8 (1 bit):** Specifies whether to emulate Word 97 text wrapping around floating objects. Specified in [\[ECMA-376\]](#) part 4, 2.15.3.41 (shapeLayoutLikeWW8).
- B - fFtnLayoutLikeWW8 (1 bit):** Specifies whether to emulate Microsoft® Word 6.0, Word for Windows 95, or Word 97 footnote placement. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.26 (footnoteLayoutLikeWW8).
- C - fDontUseHTMLParagraphAutoSpacing (1 bit):** Specifies whether to use fixed paragraph spacing for paragraphs specifying auto spacing. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.21 (doNotUseHTMLParagraphAutoSpacing).
- D - fDontAdjustLineHeightInTable (1 bit):** Prevents lines within tables from having their heights adjusted to comply with the document grid. See [sprmSDyaLinePitch](#) and [\[ECMA-376\]](#) Part 4, 2.15.3.1 (adjustLineHeightInTable) where the meaning is the opposite of **fDontAdjustLineHeightInTable**.
- E - fForgetLastTabAlign (1 bit):** Specifies whether to ignore width of the last tab stop when aligning a paragraph if the tab stop is not left aligned. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.27 (forgetLastTabAlignment) where **jc** refers to [sprmPjc](#) and the **tab** element refers to either [sprmPChgTabs](#) or [sprmPChgTabsPapx](#).
- F - fUseAutospaceForFullWidthAlpha (1 bit):** Specifies whether to emulate Word for Windows 95 full-width character spacing. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.6 (autoSpaceLikeWord for Windows 95).
- G - fAlignTablesRowByRow (1 bit):** Specifies whether to align table rows independently. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.2 (alignTablesRowByRow) where the **jc** element refers to [sprmTJc](#) or [sprmTJc90](#).
- H - fLayoutRawTableWidth (1 bit):** Specifies whether to ignore space before tables when deciding if a table wraps a floating object. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.29 (layoutRawTableWidth).
- I - fLayoutTableRowsApart (1 bit):** Specifies whether to allow table rows to wrap inline objects independently. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.30 (layoutTableRowsApart).
- J - fUseWord97LineBreakingRules (1 bit):** Specifies whether to emulate Word 97 **East Asian line breaking rules**. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.64 (useWord97LineBreakRules).
- K - fDontBreakWrappedTables (1 bit):** Specifies whether to prevent floating tables from breaking across pages. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.14 (doNotBreakWrappedTables) where the **tblpPr** element refers to any of [sprmTDxaAbs](#), [sprmTDyaAbs](#), [sprmTPc](#), [sprmTDyaFromTextBottom](#), [sprmTDyaFromText](#), [sprmTDxaFromTextRight](#), or [sprmTDxaFromText](#) with a nondefault value specified.
- L - fDontSnapToGridInCell (1 bit):** Specifies whether to not snap to the document grid in table cells with objects. Specified in [\[ECMA-376\]](#) Part 4, 2.15.3.17 (doNotSnapToGridInCell) where the **docGrid** element refers to any of [sprmSCLm](#), [sprmSDyaLinePitch](#) or [sprmSDxtCharSpace](#) with a nondefault value specified.

- M - fDontAllowFieldEndSelect (1 bit):** Specifies whether to select an entire field when the first or last character of the field is selected. Specified in [ECMA-376] Part 4, 2.15.3.40 (selectFldWithFirstOrLastChar).
- N - fApplyBreakingRules (1 bit):** Specifies whether to use legacy Ethiopic and Amharic line breaking rules. Specified in [ECMA-376] Part 4, 2.15.3.4 (applyBreakingRules).
- O - fDontWrapTextWithPunct (1 bit):** Specifies whether to prevent hanging punctuation with the character grid. Specified in [ECMA-376] Part 4, 2.15.3.25 (doNotWrapTextWithPunct) where the **docGrid** element refers to any of sprmSCLm, sprmSDyaLinePitch or sprmSDxtCharSpace with a nondefault value specified and the **overflowPunct** element refers to sprmPFOverflowPunct.
- P - fDontUseAsianBreakRules (1 bit):** Specifies whether to disallow the compressing of compressible characters when using the document grid. Specified in [ECMA-376] Part 4, 2.15.3.20 (doNotUseEastAsianBreakRules) where the **docGrid** element refers to any of sprmSCLm, sprmSDyaLinePitch, or sprmSDxtCharSpace with a nondefault value specified
- Q - fUseWord2002TableStyleRules (1 bit):** Specifies whether to emulate Microsoft Word 2002 table style rules. Specified in [ECMA-376] Part 4, 2.15.3.63 (useWord2002TableStyleRules).
- R - fGrowAutoFit (1 bit):** Specifies whether to allow tables to autofit into the page margins. Specified in [ECMA-376] Part 4, 2.15.3.28 (growAutofit).
- S - fUseNormalStyleForList (1 bit):** Specifies whether to not automatically apply the list paragraph style to bulleted or numbered text. Specified in [ECMA-376] Part 4, 2.15.3.60 (useNormalStyleForList). MAY <183> be ignored.
- T - fDontUseIndentAsNumberingTabStop (1 bit):** Specifies whether to ignore the hanging indent when creating a tab stop after numbering. Specified in [ECMA-376] Part 4, 2.15.3.22 (doNotUseIndentAsNumberingTabStop). MAY <184> be ignored.
- U - fFELineBreak11 (1 bit):** Specifies whether to use an alternate set of East Asian line breaking rules. Specified in [ECMA-376] Part 4, 2.15.3.57 (useAltKinsokuLineBreakRules). MAY <185> be ignored.
- V - fAllowSpaceOfSameStyleInTable (1 bit):** Specifies whether to allow contextual spacing of paragraphs in tables. Specified in [ECMA-376] Part 4, 2.15.3.3 (allowSpaceOfSameStyleInTable) where the **contextualSpacing** element refers to sprmPFContextualSpacing. MAY <186> be ignored.
- W - fWW11IndentRules (1 bit):** Specifies whether to not ignore floating objects when calculating paragraph indentation. Specified in [ECMA-376] Part 4, 2.15.3.18 (doNotSuppressIndentation). MAY <187> be ignored.
- X - fDontAutofitConstrainedTables (1 bit):** Specifies whether to not autofit tables such that they fit next to wrapped objects. Specified in [ECMA-376] Part 4, 2.15.3.12 (doNotAutofitConstrainedTables). MAY <188> be ignored.
- Y - fAutofitLikeWW11 (1 bit):** Specifies whether to allow table columns to exceed the preferred widths of the constituent cells. Specified in [ECMA-376] Part 4, 2.15.3.5 (autofitToFirstFixedWidthCell). MAY <189> be ignored.
- Z - fUnderlineTabInNumList (1 bit):** Specifies whether to underline the tab following numbering when both the numbering and the first character of the numbered paragraph are underlined. Specified in [ECMA-376] Part 4, 2.15.3.56 (underlineTabInNumList). MAY <190> be ignored.
- a - fHangulWidthLikeWW11 (1 bit):** Specifies whether to use fixed width for Hangul characters. Specified in [ECMA-376] Part 4, 2.15.3.11 (displayHangulFixedWidth). MAY <191> be ignored.



- b - fSplitPgBreakAndParaMark (1 bit):** Specifies whether to move paragraph marks to the page after a page break. Specified in [ECMA-376] Part 4, 2.15.3.45 (splitPgBreakAndParaMark). MAY <192> be ignored.
  - c - fDontVertAlignCellWithSp (1 bit):** Specifies whether to not vertically align cells containing floating objects. Specified in [ECMA-376] Part 4, 2.15.3.23 (doNotVertAlignCellWithSp). MAY <193> be ignored.
  - d - fDontBreakConstrainedForcedTables (1 bit):** Specifies whether to not break table rows around floating tables. Specified in [ECMA-376] Part 4, 2.15.3.13 (doNotBreakConstrainedForcedTable) where **cantSplit** element refers to either sprmTFCantSplit or sprmTFCantSplit90 and **tblpPr** element refers to any of sprmTDxaAbs, sprmTDyaAbs, sprmTPc, sprmTDyaFromTextBottom, sprmTDyaFromText, sprmTDxaFromTextRight, or sprmTDxaFromText with a nondefault value specified. MAY <194> be ignored.
  - e - fDontVertAlignInTxbx (1 bit):** Specifies whether to ignore vertical alignment in text boxes. Specified in [ECMA-376] Part 4, 2.15.3.24 (doNotVertAlignInTxbx). MAY <195> be ignored.
  - f - fWord11KerningPairs (1 bit):** Specifies whether to use ANSI kerning pairs from fonts instead of the Unicode kerning pair info. Specified in [ECMA-376] Part 4, 2.15.3.58 (useAnsiKerningPairs). MAY <196> be ignored.
  - g - fCachedColBalance (1 bit):** Specifies whether to use cached paragraph information for column balancing. Specified in [ECMA-376] Part 4, 2.15.3.8 (cachedColBalance). MAY <197> be ignored.
- empty1 (31 bits):** Undefined, and MUST be ignored.
- empty2 (4 bytes):** Undefined, and MUST be ignored.
- empty3 (4 bytes):** Undefined, and MUST be ignored.
- empty4 (4 bytes):** Undefined, and MUST be ignored.
- empty5 (4 bytes):** Undefined, and MUST be ignored.
- empty6 (4 bytes):** Undefined, and MUST be ignored.

### 2.7.14 Asumyi

The **Asumyi** structure specifies AutoSummary state information

|               |   |   |   |          |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------|---|---|---|----------|---|---|---|---|---|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0             | 1 | 2 | 3 | 4        | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16        | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A             | B | C | D | reserved |   |   |   |   |   |    |    |    |    |    |    | wDlgLevel |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lHighestLevel |   |   |   |          |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lCurrentLevel |   |   |   |          |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

- A - fValid (1 bit):** Specifies whether the rest of the information in the Asumyi is currently valid.
- B - fView (1 bit):** Specifies whether the AutoSummary view is currently active.
- C - iViewBy (2 bits):** Specifies the type of AutoSummary to use. This value MUST be one of the following.

| Value | Meaning   |
|-------|---|
| 0     | Highlight the text that is to be included in the summary. |
| 1     | Hide all text that is not part of the summary             |
| 2     | Insert the summary at the top of the document.            |
| 3     | Create a new document that contains the summary.          |

**D - fUpdateProps (1 bit):** Specifies whether to update the document summary information to reflect the AutoSummary results after the next summarization.

**reserved (11 bits):** This value MUST be zero, and MUST be ignored.

**wDlgLevel (2 bytes):** Specifies the desired size of the summary. This value SHOULD <198> either be between 0 and 100, expressing the percentage of the original document size, or be one of the following values.

| Value  | Meaning                                   |
|--------|---|
| 0xFFFE | 10 sentences.                             |
| 0xFFFD | 20 sentences.                             |
| 0xFFFC | 100 words.                                |
| 0xFFFB | 500 words.                                |
| 0xFFFA | 10 percent of the original document size. |
| 0xFFF9 | 25 percent of the original document size. |
| 0xFFF8 | 50 percent of the original document size. |
| 0xFFF7 | 75 percent of the original document size. |

**lHighestLevel (4 bytes):** If **fValid** is set to 1, this value MUST be greater than or equal to the highest value of **ASUMY.lLevel**.

**lCurrentLevel (4 bytes):** If **fValid** is set to 1, this value MUST be equal to the following.

$$\frac{wDlgLevel \times lHighestLevel + 50}{100}$$

If **wDlgLevel** is between 0xFFF7 and 0xFFFE, the value to use for **wDlgLevel** is the equivalent percentage to maintain the meaning of **wDlgLevel**. This value is compared to **ASUMY.lLevel** to see if it is to be part of the summary. If **ASUMY.lLevel** is less than or equal to **lCurrentLevel**, it is to be part of the summary.

### 2.7.15 Dogrid

The **Dogrid** structure specifies parameters for the drawn object properties of the document.

|         |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |         |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|---------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---------|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6       | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| xaGrid  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   | yaGrid  |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| dxaGrid |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   | dyaGrid |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

|               |   |               |   |
|---------------|---|---------------|---|
| dyGridDisplay | A | dxGridDisplay | B |
|---------------|---|---------------|---|

**xaGrid (2 bytes):** An [XAS\\_nonNeg](#) that specifies horizontal origin point of the drawing grid. See [ECMA-376] Part 4, Section 2.15.1.43 (drawingGridHorizontalOrigin), where **doNotUseMarginsForDrawingGridOrigin** has the opposite meaning of **fFollowMargins**. The default value is 1701.

**yaGrid (2 bytes):** A [YAS\\_nonNeg](#) that specifies the vertical origin point of the drawing grid. See [ECMA-376] Part 4, Section 2.15.1.45 (drawingGridVerticalOrigin), where **doNotUseMarginsForDrawingGridOrigin** has the opposite meaning of **fFollowMargins**. The default value is 1984.

**dxGrid (2 bytes):** An [XAS\\_nonNeg](#) that specifies the horizontal grid unit size of the drawing grid. See [ECMA-376] Part 4, Section 2.15.1.44 (drawingGridHorizontalSpacing). The default value is 180.

**dyaGrid (2 bytes):** A [YAS\\_nonNeg](#) that specifies the vertical grid unit size of the drawing grid. See [ECMA-376] Part 4, Section 2.15.1.46 (drawingGridVerticalSpacing). The default value is 180.

**dyGridDisplay (7 bits):** A positive value, in units specified by **dyaGrid**, that specifies the distance between vertical gridlines. See [ECMA-376] Part 4, Section 2.15.1.27 (displayVerticalDrawingGridEvery) where drawingGridVerticalSpacing refers to **dyaGrid**. The default value is 1.

**A - unused (1 bit):** This value is undefined, and MUST be ignored.

**dxGridDisplay (7 bits):** A positive value, in units specified by **dxGrid**, that specifies the distance between horizontal gridlines. See [ECMA-376] Part 4, Section 2.15.1.26 (displayHorizontalDrawingGridEvery) where drawingGridHorizontalSpacing refers to **dxGrid**. The default value is 1.

**B - fFollowMargins (1 bit):** A value that specifies whether to use margins for drawing grid origin. See [ECMA-376] Part 4, Section 2.15.1.41 (doNotUseMarginsForDrawingGridOrigin), where the meaning is the opposite of **fFollowMargins**. The default is 1.

### 2.7.16 DopTypography

The **DopTypography** structure contains East Asian language typography settings.

|                         |   |   |   |   |   |   |          |   |   |    |                         |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|-------------------------|---|---|---|---|---|---|----------|---|---|----|-------------------------|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| 0                       | 1 | 2 | 3 | 4 | 5 | 6 | 7        | 8 | 9 | 10 | 11                      | 12 | 13 | 14 | 15 | 16  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |
| A                       | B | C | D | E | F | G | reserved |   |   |    | cchFollowingPunct       |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| cchLeadingPunct         |   |   |   |   |   |   |          |   |   |    | rgxchFPunct (202 bytes) |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                     |   |   |   |   |   |   |          |   |   |    |                         |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                     |   |   |   |   |   |   |          |   |   |    |                         |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                     |   |   |   |   |   |   |          |   |   |    |                         |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| rgxchLPunct (102 bytes) |   |   |   |   |   |   |          |   |   |    |                         |    |    |    |    | ... |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |



**E - unused (1 bit):** This value is undefined and MUST be ignored.

**F - iCustomKsu (3 bits):** This value specifies for what language the characters in **rgxchFPunct** are **kinsoku** overrides <200>. All other languages act according to the description of **iLevelOfKinsoku** with a value of 0. This MUST be one of the following values.

| Value       | Language identifier   |
|-------------|-----------------------|
| 0 (default) | No language           |
| 1           | Japanese              |
| 2           | Chinese (Simplified)  |
| 3           | Korean                |
| 4           | Chinese (Traditional) |

**G - fJapaneseUseLevel2 (1 bit):** This value specifies that line breaking rules for Japanese acts according to the description of **iLevelOfKinsoku** with a value of 1 <201>. The default value is 0.

**reserved (5 bits):** This value MUST be zero, and MUST be ignored.

**cchFollowingPunct (2 bytes):** A signed integer that specifies the number of characters in **rgxchFPunct**. This MUST be a value between 0x0000 and 0x0064 inclusive. By default, this value is 0x0000.

**cchLeadingPunct (2 bytes):** A signed integer that specifies the number of characters in **rgxchLPunct**. This MUST be a value between 0x0000 and 0x0032, inclusive. By default, this value is 0x0000.

**rgxchFPunct (202 bytes):** An array of **cchFollowingPunct** Unicode characters that cannot start a line if the language of the text matches the language specified in **iCustomKsu**. If **iCustomKsu** has a value of 0, this array has no effect on the document.

**rgxchLPunct (102 bytes):** An array of **cchLeadingPunct** Unicode characters that cannot end a line if the language of the text matches the language specified in **iCustomKsu**. If **iCustomKsu** has a value of 0, this array has no effect on the document.

### 2.7.17 DopMth

The **DopMth** structure specifies document-wide math settings.

|         |   |   |   |   |   |   |   |   |   |    |    |                |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|---|---|---|---|---|---|---|---|---|----|----|----------------|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12             | 13        | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A       |   | B |   | C |   |   | D | E | F | G  | H  | I              | reserved2 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ftcMath |   |   |   |   |   |   |   |   |   |    |    | dxaLeftMargin  |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...     |   |   |   |   |   |   |   |   |   |    |    | dxaRightMargin |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...     |   |   |   |   |   |   |   |   |   |    |    | empty1         |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...     |   |   |   |   |   |   |   |   |   |    |    | empty2         |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...     |   |   |   |   |   |   |   |   |   |    |    | empty3         |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|     |                  |
|-----|------------------|
| ... | empty4           |
| ... | dxaIndentWrapped |
| ... |                  |

**A - mthbrk (2 bits):** Specifies how to break on binary operators as specified in [\[ECMA-376\]](#) Part 4, Section 7.1.2.16 brkBin. This MUST be one of the following values.

| Value          | Meaning   |
|----------------|---|
| 0<br>(default) | Before.<br>In line wrapping, breaks occur on binary operators, so the binary operator appears before the break.           |
| 1              | After.<br>In line wrapping, breaks occur on binary operators, so the binary operator appears after the break.             |
| 2              | Repeat.<br>In line wrapping, breaks occur on binary operators, so the binary operator appears on both sides of the break. |

**B - mthbrkSub (2 bits):** Specifies how to break on binary subtraction when **mthbrk** is 2 as specified in [\[ECMA-376\]](#) Part 4, Section 7.1.2.17 brkBinSub. This value MUST be one of the following.

| Value          | Meaning   |
|----------------|---|
| 0<br>(default) | Minus Minus.<br>Repetition of a subtraction sign after a line-wrapping break is minus on the first and second lines.                |
| 1              | Plus Minus.<br>Repetition of a subtraction sign after a line-wrapping break is plus on the first line and minus on the second line. |
| 2              | Minus Plus.<br>Repetition of a subtraction sign after a line-wrapping break is minus on the first line and plus on the second line. |

**C - mthbpic (3 bits):** Specifies the default justification of math as specified in [\[ECMA-376\]](#) Part 4, Section 7.1.2.25 defJc. This MUST be one of the following values.

| Value          | Meaning   |
|----------------|---|
| 1<br>(default) | Centered as Group.<br>Justifies equations with respect to each other and centers the group of equations with respect to the page. |
| 2              | Center.<br>Centers each equation individually with respect to margins.  |
| 3              | Left.<br>Left justification of the paragraph containing only math.  |
| 4              | Right.<br>Right justification of the paragraph containing only math.  |

**D - reserved1 (1 bit):** This value is undefined and MUST be ignored.

- E - fMathSmallFrac (1 bit):** Specifies whether to use a reduced fraction size when displaying math that contains fractions as specified in [ECMA-376] Part 4, Section 7.1.2.98 smallFrac. By default, this value is 0.
- F - fMathIntLimUndOvr (1 bit):** Specifies that the default placement of integral limits when converting from a linear format is directly above and below the base as opposed to on the side of the base as specified in [ECMA-376] Part 4, Section 7.1.2.49 intLim. By default, this value is 0.
- G - fMathNaryLimUndOvr (1 bit):** Specifies that the default placement of n-ary limits other than integrals is directly above and below the base, as opposed to on the side of the base, as specified in [ECMA-376] Part 4, Section 7.1.2.71 naryLim. By default, this value is 0.
- H - fMathWrapAlignLeft (1 bit):** Specifies the left justification of the wrapped line of an equation as opposed to right justification of the wrapped line of an equation as specified in [ECMA-376] Part 4, Section 7.1.2.121 wrapRight where the meaning is the opposite of **fMathWrapAlignLeft**. By default, this value is 1.
- I - fMathUseDispDefaults (1 bit):** Specifies whether to use display math defaults as specified in [ECMA-376] Part 4, Section 7.1.2.30 dispDef. By default, this value is 1.
- reserved2 (19 bits):** This value MUST be zero, and MUST be ignored.
- ftcMath (2 bytes):** An index into an [SttbFFn](#) structure that specifies the font to use for new equations in the document. The default font is Cambria Math.
- dxaLeftMargin (4 bytes):** A signed integer, in twips, that specifies the left margin for math. MUST be greater than or equal to 0 and less than or equal to 31680 as specified in [ECMA-376] Part 4, Section 7.1.2.59 lMargin. By default, this value is 0.
- dxaRightMargin (4 bytes):** A signed integer in twips that specifies the right margin for math. This value MUST be greater than or equal to 0 and less than or equal to 31680, as specified in [ECMA-376] Part 4, Section 7.1.2.90 rMargin. By default, this value is 0.
- empty1 (4 bytes):** This value MUST be 120, and MUST be ignored.
- empty2 (4 bytes):** This value MUST be 120, and MUST be ignored.
- empty3 (4 bytes):** This value MUST be zero, and MUST be ignored.
- empty4 (4 bytes):** This value MUST be zero, and MUST be ignored.
- dxaIndentWrapped (4 bytes):** A signed integer, in twips, that specifies the indentation of the wrapped line of an equation. This value MUST be greater than or equal to 0 and less than or equal to 31680 as specified in [ECMA-376] Part 4, Section 7.1.2.120 wrapIndent. By default, this value is 1440.

## 2.8 PLCs

### 2.8.1 Plcbkf

The **Plcbkf** structure is a [PLC](#) whose data elements are [BKF](#) structures (6 bytes each). Each [CP](#) in the [PLCBKF](#), with the exception of the last CP, represents the character position of the start of a bookmark in a [Document Part](#). For every [PLCBKF](#), there is a corresponding [PLCBKL](#). Each data element in the [PLCBKF](#) is associated in a one-to-one correlation with a data element in that [PLCBKL](#), whose corresponding CP represents the character position of the end of the same bookmark. Constraints on the CPs inside a [PLCBKF](#) as they relate to the CPs in its corresponding [PLCBKL](#) can be found in the description of [PLCFBKF](#), which shares the same constraints in relation to its corresponding [PLCFBKL](#).

The only type of bookmark found in a PLCBKF is a range-level protection bookmark. The largest valid value for a CP marking the start or end of a range-level protection bookmark is the CP representing the end of all document parts.

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aCP (variable)  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aBKF (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of CPs. Each CP in the array specifies the start of a bookmark in the document.

**aBKF (variable):** An array of BKFs (6 bytes each), each of which specifies additional information about the bookmark starting at the corresponding CP in **aCP**.

### 2.8.2 Plcbkfd

The **Plcbkfd** structure is a [PLC](#) whose data elements are [BKFD](#) structures (10 bytes each). Each [CP](#) in the PLCBKFD that is not the last CP represents the character position of the start of a bookmark in a [Document Part](#). For every PLCBKFD, there is a corresponding [PLCBKLD](#). Each data element in the PLCBKFD is associated in a one-to-one correlation with a data element in the corresponding PLCBKLD. The CP corresponding to the data element in the PLCBKLD represents the character position of the end of the same bookmark. Constraints upon the CPs inside a PLCBKFD as they relate to the CPs in its corresponding PLCBKLD can be found with the description of [PLCFBKF](#), which shares the same constraints in relation to its corresponding [PLCFBKL](#).

The only type of bookmark found in a PLCBKFD is a structured document tag bookmark. When a structured document tag bookmark is created, a character demarcating the start of an arbitrary XML range (see [sprmCFSpec](#)) is inserted into the CP stream at the start of the bookmark range. The CP defining the start of a structured document tag bookmark MUST be the offset of that character. As a result, the start CPs of structured document tag bookmarks MUST be unique within their containing PLC.

When a structured document tag bookmark is created, a character demarcating the end of an arbitrary XML range (see [sprmCFSpec](#)) is inserted into the CP stream at the end of the bookmark range. The CP defining the limit of a structured document tag bookmark MUST be 1 greater than the CP of that character. As a result, the limit CPs of structured document tag bookmarks MUST be unique within their containing PLC, and the CP specifying the start of a structured document tag bookmark MUST be less than the CP specifying the end of the bookmark by at least 2.

If the range of text spanned by a structured document tag bookmark's CPs contains the CP defining the start or end of another structured document tag bookmark, then it MUST contain the entire range of text spanned by that other bookmark. If the range of text spanned by a structured document tag bookmark's CPs contains content from inside a table and content from outside that table, then it MUST contain the entire table, with possible omission of the table's final end of cell mark and TTP mark. In such case, the final end of cell and TTP mark MUST be omitted if and only if the structured document tag bookmark's range does not include text following the table's final TTP mark.

The largest value that a CP marking the start or end of a structured document tag bookmark is allowed to have is the CP representing the end of all document parts.



|                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| aCP (variable)   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| aBKFD (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

**aCP (variable):** An array of CPs, each indicating the start of a bookmark in the document.

**aBKFD (variable):** An array of BKFDs (10 bytes each), each of which specifies additional information about the bookmark starting at the corresponding CP in **aCP**.

### 2.8.3 Plcbkl

A **PLCBKL** is a [PLC](#) that contains only [CPs](#) and no additional data. It is thus equivalent to a [PlcfBkl](#). Each CP in the PLCBKL that is not the last CP represents the character position marking the first character beyond the end of a bookmark in a [Document Part](#). Additional constraints upon the CPs inside a PLCBKL can be found in the specification of [PLCBKF](#).

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| aCP (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

**aCP (variable):** An array of CPs, each indicating the first character beyond the end of a bookmark in the document.

### 2.8.4 Plcbkld

A **PLCBKLD** is a [PLC](#) whose data elements are [BKLD](#) structures (8 bytes each). Each [CP](#) in the PLCBKLD, with the exception of the last CP, represents the character position of the first character following the end of a bookmark in a [Document Part](#). Additional constraints on the CPs inside a PLCBKLD can be found in the description of [PLCBKFD](#).

|                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| aCP (variable)   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| aBKLD (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

**aCP (variable):** An array of CPs. Each CP in the array indicates the first character following the end of a bookmark in the document.

**aBKLD (variable):** An array of BKLDs (8 bytes each), each of which specifies additional information about the bookmark ending at the corresponding CP in **aCP**.

### 2.8.5 PlcBteChpx

The **PlcBteChpx** structure is a [PLC](#) that maps the offsets of text in the [WordDocument stream](#) to the character properties of that text. Where most PLCs map [CPs](#) to data, the **PlcBteChpx** maps stream offsets to data instead. A **PlcBteChpx** MUST NOT contain duplicate stream offsets.

|                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aFC (variable)        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aPnBteChpx (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aFC (variable):** An array of unsigned integers. Each element in this array specifies an offset in the WordDocument stream where text begins. The end of each range is the beginning of the next range. As with all PLCs, the elements of **aFC** MUST be sorted in ascending order.

**aPnBteChpx (variable):** An array of [PnFkpChpx](#) (4 bytes each). Each element of this array specifies the location in the WordDocument stream of a [ChpxFkp](#). That ChpxFkp contains the character properties for the text at the corresponding offset in **aFC**.

### 2.8.6 PlcBtePapx

The **PlcBtePapx** structure is a [PLC](#) that specifies paragraph, table row, or table cell properties as described later. Where most PLCs map [CPs](#) to data, the **PlcBtePapx** maps stream offsets to data instead. The offsets in **aFC** partition a portion of the [WordDocument stream](#) into adjacent ranges.

Consider the collection of paragraphs, table rows, and table cells whose last character occurs at an offset in the WordDocument stream larger than or equal to **aFC**[*i*] but smaller than **aFC**[*i*+1]. Then, **aPnBtePapx**[*i*] specifies the properties of these paragraphs, table rows, or table cells.

A **PlcBtePapx** MUST NOT contain duplicate stream offsets. Each data element of **PlcBtePapx** is 4 bytes long.

|                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aFC (variable)        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aPnBtePapx (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aFC (variable):** An array of unsigned integers. Each element in this array specifies an offset in the WordDocument stream. The elements of **aFC** MUST be sorted in ascending order, and there MUST NOT be any duplicate entries.

**aPnBtePapx (variable):** An array of [PnFkpPapx](#). The *i*th entry in **aPnBtePapx** is a PnFkpPapx that specifies the properties of all paragraphs, table rows, and table cells whose last character occurs at an offset in the WordDocument stream larger than or equal to **aFC**[*i*] but smaller than **aFC**[*i*+1]; **aPnBtePapx** MUST contain one less entry than **aFC**.

### 2.8.7 PlcfandRef

The **PlcfandRef** structure is a [PLC](#) whose data elements are [ATRDPRe10](#) structures (30 bytes each).

|                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| aCP (variable)        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| aATRDPRe10 (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**aCP (variable):** An array of [CPs](#), all but the last of which specify the location of comment references in the [main document](#). All but the last CP MUST be greater than or equal to zero and less than [FibRgLw97.ccpText](#). Each position in the main document specified by one of these CPs MUST be character 0x05 and have [sprmCFSpec](#) applied with a value of 1. The last CP MUST be ignored. A **PlcfandRef** MUST NOT contain duplicate CPs.

**aATRDPRe10 (variable):** An array of [ATRDPRe10](#) structures (30 bytes each) that associate data with a comment located at the corresponding CP. Each [ATRDPRe10](#) structure contains the initials of the user who made the comment, an index into a string table of authors, and a bookmark index. See [ATRDPRe10](#) and [ATRDPPost10](#) for more information about data associated with comments.

### 2.8.8 PlcfandTxt

The **PlcfandTxt** structure is a [PLC](#) that contains only [CPs](#) and no additional data. This means that the size of the data is 0 bytes.

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| aCP (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**aCP (variable):** An array of [CPs](#) that specifies positions in the [comment document](#). Each CP except the last two specifies the beginning of a range of text to appear in a comment indicated by the corresponding [PlcfandRef](#) CPs. The range of text MUST begin with character 0x0005 with [sprmCFSpec](#) applied with a value of 1, and MUST end with a paragraph mark (Unicode 0x000D) at table depth zero immediately before the next CP. Each range MUST be a [valid selection](#). Except for the last CPs, each CP MUST be greater than or equal to zero and less than [FibRgLw97.ccpAtn](#). The second-to-last CP only ends the last text range and MUST be equal to [FibRgLw97.ccpAtn](#)

decremented by 1. The last CP is undefined and MUST be ignored. A PlcfandTxt MUST NOT contain duplicate CPs.

### 2.8.9 PlcfAsumy

The **PlcfAsumy** structure is a [PLC](#) whose data elements are [ASUMY](#) (4 bytes each).

|                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aCP (variable)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aASUMY(variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of [CPs](#). CPs are positions in the set of all [document parts](#). CPs are relative to the start of the [main document](#), but can extend into any of the document parts.

Each CP specifies the beginning of a range of text to which the corresponding ASUMY structure applies. The range of text ends immediately prior to the next CP. A PlcfAsumy MUST NOT contain duplicate CPs.

The last CP does not begin a new text range; it only terminates the previous one.

**aASUMY (variable):** An array of ASUMY that indicates the priority of the corresponding text range for purposes of AutoSummary.

### 2.8.10 Plcfbkf

A **PLCFBKF** is a [PLC](#) whose data elements are [FBKF](#) structures (4 bytes each). Each [CP](#) in the PLCFBKF that is not the last CP represents the character position of the start of a bookmark in a [document part](#). For every PLCFBKF, there is a corresponding [PLCFBKL](#). Each data element in the PLCFBKF is associated in a one-to-one correlation with a data element in that PLCFBKL, whose corresponding CP represents the character position of the end of the same bookmark.

The following constraints apply to CPs in all bookmark PLCs.

The last CP in a bookmark PLC MUST have a value that is one greater than the largest CP that a bookmark of the type associated with the PLC is allowed to have and MUST be ignored. Unless otherwise specified by a particular type of bookmark, bookmark PLCs can contain duplicate CPs because bookmarks can overlap. The CP defining the start of a bookmark MUST be less than or equal in value to the CP defining the limit of the bookmark. The range of text spanned by a bookmark's (1) CPs MUST obey all constraints, excluding those concerning tables, upon [valid selections](#) defined in section 2.2.3. The following constraints reference entities defined in section 2.4.3 Overview of Tables. For bookmark types whose **BKC.fCol** MUST be 0, the following rule 1 MUST apply. Otherwise, the following rule 2 MUST apply:

1. If the range of text spanned by a bookmark's (1) CPs contains a table cell mark, then its start CP MUST be less than or equal to the CP of the beginning of the cell in question and its limit CP MUST either be one less than the CP of a cell mark in that table, one greater than the CP of a TTP mark in that table, or outside the table. If the range of text spanned by a bookmark's (1) CPs contains a TTP mark in a table, then its start CP MUST be outside the table, or the first character of a row in the table. If the range of text spanned by a bookmark's (1) CPs contains a TTP mark in a table,

then its limit CP MUST be outside the table, or two less than the CP of a TTP mark in the table, or one greater than the CP of a TTP mark in the table.

2. If the range of text spanned by a bookmark's (1) CPs contains content from a cell in a table and content from outside that table, then it MUST contain only whole rows of the table containing that cell. If the range of text spanned by a bookmark's (1) CPs contains a table cell mark or TTP mark, then it MUST NOT span partial rows of the table containing that cell or TTP.

| 0                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| aCP (variable)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aFBKF (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of CPs, each indicating the start of a bookmark (1) in the document.

**aFBKF (variable):** An array of FBKFs (4 bytes each), each of which specifies additional information about the bookmark starting at the corresponding CP in **aCP**.

### 2.8.11 Plcfbkfd

The **Plcfbkfd** structure is a [PLC](#) whose data elements are [FBKFD](#) structures (6 bytes each). Each [CP](#) in the **PLCFBKFD**, with the exception of the last CP, represents the character position of the start of a bookmark in a [document part](#). For every **PLCFBKFD**, there is a corresponding [PLCFBKLD](#). Each data element in the **PLCFBKFD** is associated in a one-to-one correlation with a data element in that **PLCFBKLD**, whose corresponding CP represents the character position of the end of the same bookmark. Constraints on the CPs inside a **PLCFBKFD** as they relate to the CPs in its corresponding **PLCFBKLD** can be found in the description of [PLCFBKE](#), which shares the same constraints in relation to its corresponding [PLCFBKL](#).

The only types of bookmark found in a **PLCFBKFD** are format consistency-checker bookmarks and smart tag bookmarks. The largest value that a CP marking the start or end of a format consistency-checker bookmark or a smart tag bookmark is allowed to have is the CP representing the end of all document parts.

| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| aCP (variable)    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aFBKFD (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of CPs. Each CP in the array indicates the start of a bookmark in the document.

**aFBKFD (variable):** An array of FBKFDs (6 bytes each), each of which specifies additional information about the bookmark starting at the corresponding CP in **aCP**.

### 2.8.12 Plcfbkl

The **Plcfbkl** structure is a [PLC](#) that contains only [CPs](#) and no additional data. Thus, a **Plcfbkl** is equivalent to a [PlcBkl](#). Each CP in the PLCFBKL, with the exception of the last CP, represents the character position marking the first character following the end of a bookmark in a [document part](#). Further constraints on the CPs inside a PLCFBKL can be found in the description of [PLCFBKE](#).

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| aCP (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**aCP (variable):** An array of CPs. Each CP in the array indicates the first character following the end of a bookmark in the document.

### 2.8.13 Plcfbkld

The **Plcfbkld** structure is a [PLC](#) whose data elements are [FBKLD](#) structures (4 bytes each). Each [CP](#) in the PLCFBKLD that is not the last CP represents the character position of the first character following the end of a bookmark in a [document part](#). Further constraints on the CPs inside a PLCFBKLD can be found in the description of [PLCFBKFD](#).

|                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| aCP (variable)    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| aFBKLD (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**aCP (variable):** An array of CPs. Each CP in the array indicates the first character following the end of a bookmark in the document.

**aFBKLD (variable):** An array of FBKLDs (4 bytes each), each of which specifies additional information about the bookmark ending at the corresponding CP in **aCP**.

### 2.8.14 Plcfcookie

The **Plcfcookie** structure is a [PLC](#) whose data elements are [FCKS](#) structures (10 bytes).

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| aCP (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                  |
|------------------|
| ...              |
| aFCKS (variable) |
| ...              |

**aCP (variable):** An array of [CPs](#) specifying the starting points of text ranges associated with **grammar checker cookie** data. The last CP in the array MUST be ignored. CPs are positions in the set of all [document parts](#). CPs are relative to the start of the [main document](#), but can extend into any of the document parts. A **Plcfcookie** MAY contain duplicate CP values if the corresponding **grammar checker** chose to store more than one grammar checker cookie at the same CP.

**aFCKS (variable):** An array of FCKS structures (10 bytes each). Each **FCKS** specifies information about a grammar checker cookie which applies to text starting at the corresponding CP value.

### 2.8.15 PlcfcookieOld

The **PlcfcookieOld** structure is a [PLC](#) whose data elements are [FCKSOLD](#) structures (16 bytes).

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| aCP (variable)      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| aFCKSOLD (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**aCP (variable):** An array of [CPs](#) specifying the starting points of text ranges associated with grammar checker cookie data. The last CP in the array MUST be ignored. CPs are positions in the set of all [document parts](#). CPs are relative to the start of the [main document](#), but can extend into any of the document parts. A **PlcfcookieOld** MAY contain duplicate CP values if the corresponding grammar checker chose to store more than one grammar checker cookie at the same CP.

**aFCKSOLD (variable):** An array of FCKSOLD structures (16 bytes each). Each FCKSOLD specifies information about a grammar checker cookie which applies to text starting at the corresponding CP value.

### 2.8.16 PlcfendRef

The **PlcfendRef** is a [PLC](#) whose data elements are integers of 2 bytes each.

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| aCP (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                    |
|--------------------|
| aEndIdx (variable) |
| ...                |

**aCP (variable):** An array of [CPs](#), all but the last of which specify the location of endnote references in the [main document](#). All but the last CP MUST be greater than or equal to zero and less than [FibRgLw97.ccpText](#). The last CP MUST be ignored. A **PlcfendRef** MUST NOT contain duplicate CPs.

**aEndIdx (variable):** An array of 2-byte integers that specifies whether each endnote is automatically numbered or uses a custom symbol. If equal to zero, the endnote reference uses a custom symbol; otherwise, it is automatically numbered. If the endnote reference is automatically numbered, the character in the main document at the position specified by the corresponding CP MUST equal 0x02 and have [sprmCFSpec](#) applied with a value of 1. See [sprmCSymbol](#) for more information about custom symbols and [sprmSRncEdn](#), [sprmSNEdn](#), and [sprmSNfcEdnRef](#) for more information about automatically numbered endnotes.

### 2.8.17 PlcfendTxt

The **PlcfendTxt** structure is a [PLC](#) that contains only [CPs](#) and no additional data. The data thus has a size of zero bytes.

|                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aCP (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of CPs that specifies offsets into the [endnote document](#). Each CP except the last two specifies the beginning of a range of text to appear in an endnote. The range of text MUST end in character 0x0D immediately before the next CP. Except for the last CP, each CP MUST be greater than or equal to zero and less than [FibRgLw97.ccpEdn](#). The second-to-last CP only ends the last text range and MUST be equal to [FibRgLw97.ccpEdn](#) - 1. The last CP is undefined and MUST be ignored. A **PlcfendTxt** MUST NOT contain duplicate CPs.

### 2.8.18 Plcffactoid

The **Plcffactoid** structure is a [PLC](#) structure where the data elements are [FactoidSpls](#) structures of 2 bytes each.

|                         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aCP (variable)          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aFactoidSpls (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



**aCP (variable):** An array of [CPs](#). CPs are positions in the set of all [document parts](#). CPs are relative to the start of the [main document](#), but can extend into any of the document parts.

Each CP specifies the beginning of a range of text where the state in the corresponding [FactoidSpls](#) structure applies. The range of text ends immediately prior to the next CP.

A **Plcfactoid** can contain duplicate CPs. Duplicate CPs specify an **insertion point** or a **deletion point** at that CP and the corresponding FactoidSpls state applies to that point.

The last CP does not begin a new text range; it only terminates the previous one.

**aFactoidSpls (variable):** An array of 2-byte FactoidSpls structures. Each FactoidSpls structure contains the state of the smart tag recognizer for the corresponding text range.

### 2.8.19 PlcffndRef

The **PlcffndRef** structure is a [PLC](#) whose data elements are integers of 2 bytes each.

|                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| aCP (variable)     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| aFtnIdx (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

**aCP (variable):** An array of [CPs](#), all but the last of which specify the location of footnote references in the [main document](#). All but the last CP MUST be greater than or equal to zero and less than [FibRgLw97.ccpText](#). The last CP MUST be ignored. A **PlcffndRef** MUST NOT contain duplicate CPs.

**aFtnIdx (variable):** An array of 2-byte integers that specifies whether each footnote is automatically numbered or uses a custom symbol. If equal to zero, the footnote reference uses a custom symbol; otherwise, it is automatically numbered. If the footnote reference is automatically numbered, the character in the main document at the position specified by the corresponding CP MUST equal 0x02 and have [sprmCFSpec](#) applied with a value of 1. See [sprmCSymbol](#) for more information about custom symbols and [sprmSRncFtn](#), [sprmSNFtn](#), and [sprmSNfcFtnRef](#) for more information about automatically numbered footnotes.

### 2.8.20 PlcffndTxt

The **PlcffndTxt** structure is a [PLC](#) that contains only [CPs](#) and no additional data. The data thus has a size of 0 bytes.

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| aCP (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

**aCP (variable):** An array of CPs that specifies offsets into the [footnote document](#). Each CP except the last two specifies the beginning of a range of text to appear in a footnote. The range of text MUST end in character 0x0D immediately before the next CP. Except for the last CP, each CP MUST be greater than or equal to zero and less than **FibRgLw97.ccpFtn**. The second-to-last CP only ends the last text range and MUST be equal to **FibRgLw97.ccpFtn** - 1. The last CP is undefined and MUST be ignored. A **PicfndTxt** MUST NOT contain duplicate CPs.

### 2.8.21 Plcgram

The **Picgram** structure is a [PLC](#) structure where the data elements are [GrammarSpls](#) structures (2 bytes each).

| 0                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| aCP (variable)          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aGrammarSpls (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of [CPs](#). CPs are positions in the set of all [document parts](#). CPs are relative to the start of the [main document](#) but can extend into any of the document parts.

Each CP specifies the beginning of a range of text where the state in the corresponding GrammarSpls structure applies. The range of text ends immediately prior to the next CP.

A **Picgram** can contain duplicate CPs. Duplicate CPs specify an insertion point or a deletion point at that CP and the corresponding GrammarSpls state applies to that point.

The last CP does not begin a new text range; it only terminates the previous one.

**aGrammarSpls (variable):** An array of 2-byte GrammarSpls structures. Each GrammarSpls structure contains the state of the grammar checker for the corresponding text range.

### 2.8.22 Plcfhdd

The **Picfhdd** structure is a [PLC](#) that contains only [CPs](#) and no additional data. It specifies where [header document](#) stories begin and end.

| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| aCP (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of CPs. Each CP except the last two specifies the beginning of a story in the header document. Each story ends immediately prior to the next CP. If the next CP in **Picfhdd** has the same value as a CP specifying the beginning of a story, then the story is considered empty.

Except for the last CP, each CP of **Picfhdd** MUST be greater than or equal to 0 and less than [FibRgLw97.ccpHdd](#). The second-to-last CP only ends the last story and MUST be equal to [FibRgLw97.ccpHdd](#) minus 1. The last CP is undefined and MUST be ignored.

### 2.8.23 PicfHdrtxbxTxt

The **PicfHdrtxbxTxt** structure is a [PLC](#) structure in which the data elements are [FTXBXS](#) structures (22 bytes each).

|                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| aCP (variable)     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| aFTXBXS (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

**aCP (variable):** An array of [CPs](#). CPs are positions in the [header textboxes document](#).

Each CP specifies the beginning of a range of text to appear in a text box indicated by the corresponding FTXBXS structure. The range of text ends immediately prior to the next CP. The last CP does not begin a new text range; it only terminates the previous one.

A **PicfHdrtxbxTxt** MUST NOT contain duplicate CPs. The text ranges for each FTXBXS structure are separated by 0x0D characters that MUST be the last character in each range. The last text range is an exception. The text in the last range is ignored, and the 0x0D character is not required.

**aFTXBXS (variable):** An array of FTXBXS (22 bytes each) structures that associate the text ranges with shape objects.

### 2.8.24 Picflad

The **Picflad** structure is a [PLC](#) structure where the data elements are [LadSpls](#) structures (2 bytes each).

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| aCP (variable)      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| aLadSpls (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

**aCP (variable):** An array of [CPs](#). CPs are positions in the set of all [document parts](#). CPs are relative to the start of the [main document](#), but can extend into any of the document parts.

Each CP specifies the beginning of a range of text where the state in the corresponding LadSpls structure applies. The range of text ends immediately prior to the next CP.

A **Picflad** can contain duplicate CPs. Duplicate CPs specify an insertion point or a deletion point at that CP and the corresponding LadSpls state applies to that point.

The last CP does not begin a new text range; it only terminates the previous one.

**aLadSpls (variable)**: An array of 2-byte LadSpls structures. Each LadSpls structure contains the state of language auto-detection for the corresponding text range.

### 2.8.25 Picfld

The **Picfld** structure is a [PLC](#) whose data elements are [Flds](#) (2 bytes each). It specifies the location of **fields** in the document.

A field consists of two parts: field instructions and, optionally, a result. All fields MUST begin with Unicode character 0x0013 with [sprmCFSpec](#) applied with a value of 1. This is the *field begin character*. All fields MUST end with a Unicode character 0x0015 with [sprmCFSpec](#) applied with a value of 1. This is the *field end character*. If the field has a result, then there MUST be a Unicode character 0x0014 with [sprmCFSpec](#) applied with a value of 1 somewhere between the field begin character and the field end character. This is the *field separator*. The *field result* is the content between the field separator and the field end character. The *field instructions* are the content between the field begin character and the field separator, if one is present, or between the field begin character and the field end character if no separator is present. The field begin character, field end character, and field separator are collectively referred to as *field characters*.

The field instructions and field result MUST each be a [valid selection](#).

The [CPs](#) of a **PicFld** specify the location of the field characters. A **PicFld** MUST NOT contain duplicate CPs. Each [document part](#) has its own **PicFld**, with CPs relative to the start of that document part.

The last CP in **aCP** does not specify the location of a field character. Because a **PicFld** is a PLC, **aCP** MUST be sorted. Because **aCP** MUST NOT contain duplicate CPs, the last CP MUST be the largest in **aCP**. Other than those constraints, the last CP in **aCP** is undefined and MUST be ignored.

The Flds MUST be arranged such that the sequence of Fld.fldch.ch is a valid **FieldList** according to the following **Augmented Backus-Naur Form (ABNF)** rulelist. ABNF is specified in [\[RFC4234\]](#).

```
Begin      = 0x13
Sep         = 0x14
End        = 0x15
Field      = <Begin> *<Field> [Sep] *<Field> <End>
FieldList  = *<Field>
```

Additionally, the field characters of the following five field types MUST NOT appear in **aFld**.

1. XE, as specified in [\[ECMA-376\]](#) Part 4, Section 2.16.5.79
2. TC, as specified in [\[ECMA-376\]](#) Part 4, Section 2.16.5.70
3. RD, as specified in [\[ECMA-376\]](#) Part, Section 2.16.5.57
4. TA, as specified in [\[ECMA-376\]](#) Part, Section 2.16.5.79
5. PRIVATE, as specified in [\[ECMA-376\]](#) Part 4, Section 2.16.5.55

|                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |  |
| aCP (variable)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| ...             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| aFld (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| ...             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |

**aCP (variable):** An array of CPs. Specifies the positions of field characters in the document.

**aFld (variable):** An array of **Fld**. Specifies properties for the field character at the corresponding CP. Fldch.ch of each **Fld** MUST be equal to the character at the corresponding CP.

### 2.8.26 PlcfSed

The **PlcfSed** structure is a **PLC** structure where the data elements are **Sed** structures (12 bytes each).

|                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |  |
| aCP (variable)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| ...             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| aSed (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| ...             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |

**aCP (variable):** An array of **CPs**. Each CP specifies the beginning of a range of text in the **main document** that constitutes a section. The range of text ends immediately prior to the next CP. A **PlcfSed** MUST NOT contain duplicate CPs. There MUST also be an end-of-section character (0x0C) as the final character in the text range of all but the last section. An end-of-section character (0x0C) which occurs at a CP and which is not the last character in a section specifies a manual page break.

The last CP does not begin a new section. It MUST be at or beyond the end of the main document. Sections only contain text from the main document, so even when the last CP comes after text in other **document parts**, that text is not part of the last section.

**aSed (variable):** An array of 12-byte Sed structures. Each Sed structure contains the location of properties pertaining to the section that begins at the corresponding CP.

### 2.8.27 PlcfSpa

The **PlcfSpa** structure is a **PLC** structure in which the data elements are **SPA** structures (26 bytes each).

|                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |
| aCP (variable)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| aSpa (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**aCP (variable):** An array of [CPs](#). Each CP specifies the position in the [document part](#) of the anchor for a shape. This array MUST NOT contain duplicate CPs. The characters at all but the last CP MUST be 0x08 and MUST have [sprmCFSpec](#) applied with a value of 1. See [sprmCFSpec](#) for more information.

**aSpa (variable):** An array of SPAs (26 bytes each) that specify properties for the shape at the corresponding CP.

### 2.8.28 Plcfspl

The **Plcfspl** structure is a [Plc](#) structure whose data elements are [SpellingSpIs](#) structures (2 bytes each).

|                          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |
| aCP (variable)           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| aSpellingSpIs (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**aCP (variable):** An array of [CPs](#). CPs are positions in the set of all [document parts](#). CPs are relative to the start of the [main document](#) but can extend into any of the document parts.

Each CP specifies the beginning of a range of text where the state in the corresponding [SpellingSpIs](#) structure applies. The range of text ends immediately prior to the next CP.

A **Plcfspl** can contain duplicate CPs. Duplicate CPs specify an insertion point or a deletion point at that CP and the corresponding [SpellingSpIs](#) state applies to that point.

The last CP does not begin a new text range; it only terminates the previous one.

**aSpellingSpIs (variable):** An array of 2-byte [SpellingSpIs](#) structures. Each [SpellingSpIs](#) structure contains the state of the spelling checker for the corresponding text range.

### 2.8.29 PlcFTch

The **PlcFTch** structure is a [PLC](#) whose data elements are [Tch](#) structures (4 bytes each). The count of [CPs](#) MUST be equal to one more than the count of **Tch**. Each pair of CPs represents a range of text in the [main document](#) described by the corresponding **Tch**.

|                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |
| aCP (variable)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| aTCH (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

This information is a deprecated cache of table characters that SHOULD [<202>](#) be ignored. The following three CPs and the following two **Tch** structures SHOULD [<203>](#) be written to specify that this cache is undefined.

|                                       |
|---------------------------------------|
| <b>CP</b>                             |
| 0                                     |
| <a href="#">FibRgLw97.ccpText</a>     |
| <a href="#">FibRgLw97.ccpText</a> + 2 |

The following specifies the values for the fields of the first **Tch** structure.

| Field   | Value |
|---------|-------|
| fUnk    | 0     |
| fUnused | 0     |

The following specifies the values for the fields of the second **Tch** structure.

| Field   | Value |
|---------|-------|
| fUnk    | 1     |
| fUnused | 0     |

**aCP (variable):** An array of CPs. Each CP specifies the beginning of a range of text where a table character cache is stored. The last CP denotes the end of the last range of text. The range of text ends immediately prior to the next CP. MUST NOT contain duplicate CPs.

**aTCH (variable):** An array of Tch structures (4 bytes each) that each specifies a table character cache at the corresponding CP in **aCP**.

### 2.8.30 PlcFTxbxBkd

The **PlcFTxbxBkd** structure is a [PLC](#) structure where the data elements are [Tbkd](#) structures (6 bytes each).

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |
| aCP (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                  |
|------------------|
| ...              |
| aTbkd (variable) |
| ...              |

**aCP (variable):** An array of [CPs](#). CPs are positions in the [textboxes document](#).

Each CP specifies the beginning of a range of text to appear in a textbox specified in the corresponding **Tbkd** structure. The range of text ends immediately prior to the next CP. The last CP does not begin a new text range; it only terminates the previous one.

A **PlcFTxbxBkd** MUST NOT contain duplicate CPs.

**aTbkd (variable):** An array of 6-byte **Tbkd** structures that associate the text ranges with [FTXBXS](#) objects from [PlcftxbxTxt](#).

### 2.8.31 PlcFTxbxHdrBkd

The **PlcFTxbxHdrBkd** structure is a [PLC](#) structure where the data elements are [Tbkd](#) structures (6 bytes each).

|                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| aCP (variable)   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| aTbkd (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**aCP (variable):** An array of [CPs](#). CPs are positions in the [header textboxes document](#).

Each CP specifies the beginning of a range of text to appear in a textbox specified in the corresponding **Tbkd** structure. The range of text ends immediately prior to the next CP. The last CP does not begin a new text range; it only terminates the previous one.

A **PlcFTxbxHdrBkd** MUST NOT contain duplicate CPs.

**aTbkd (variable):** An array of 6-byte **Tbkd** structures that associates the text ranges with [FTXBXS](#) objects from [PlcHdrtxbxTxt](#).

### 2.8.32 PlcftxbxTxt

The **PlcftxbxTxt** structure is a [PLC](#) structure where the data elements are [FTXBXS](#) structures (22 bytes each).

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| aCP (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |



|                    |
|--------------------|
| ...                |
| aFTXBXS (variable) |
| ...                |

**aCP (variable):** An array of [CPs](#). CPs are positions in the [textboxes document](#).

Each CP specifies the beginning of a range of text to appear in a textbox indicated by the corresponding FTXBXS structure. The range of text ends immediately prior to the next CP. The last CP does not begin a new text range. It only terminates the previous one.

A **PlcftxbxTxt** MUST NOT contain duplicate CPs. The text ranges for each FTXBXS structure are separated by 0x0D characters that MUST be the last character in each range. The last text range is an exception. The text in the last range is ignored, and the 0x0D character is not required.

**aFTXBXS (variable):** An array of FTXBXS structures (22-bytes each) that associates the text ranges with shape objects.

### 2.8.33 Plcfuim

A **Plcfuim** structure is a [PLC](#) whose data elements are [UIMs](#) (20 bytes each), with the exception that the elements are not sorted according to their [CPs](#).

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aCP (variable)  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aUIM (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of CPs. CPs are positions in the set of all [document parts](#). CPs are relative to the start of the [main document](#) but can extend into any of the document parts. Each CP in the **Plcfuim**, except the last one, represents the starting position of a range of text specified in the corresponding UIM. The last CP is undefined and MUST be ignored. Duplicate CPs are valid in a **Plcfuim**.

**aUIM (variable):** An array of UIMs.

### 2.8.34 PlcfWKB

The **PlcfWKB** is a [PLC](#) whose data elements are [WKB](#) structures (12 bytes each). Each **subdocument** is assigned one **WKB** structure.

|                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aCP (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                 |
|-----------------|
| ...             |
| aWKB (variable) |
| ...             |

**aCP (variable):** An array of [CPs](#). CPs are relative to the start of the [main document](#). Each CP in the **PlcfWKB**, except the last, specifies the location in the main document where a subdocument begins. The CPs, except for the last, **MUST** be unique, greater than or equal to zero, and less than [FibBase.ccpText](#). The last CP **MUST** be **FibBase.ccpText** incremented by 2.

**aWKB (variable):** An array of WKBs. Each WKB contains information about a subdocument.

### 2.8.35 PlcPcd

The **PlcPcd** structure is a [PLC](#) whose data elements are [Pcds](#) (8 bytes each). A **PlcPcd** **MUST NOT** contain duplicate [CPs](#).

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aCP (variable)  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| aPcd (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of CPs that specifies the starting points of text ranges. The end of each range is the beginning of the next range. All CPs **MUST** be greater than or equal to zero. If any of the fields **ccpFtn**, **ccpHdd**, **ccpMcr**, **ccpAtn**, **ccpEdn**, **ccpTxbx**, or **ccpHdrTxbx** from [FibRgLw97](#) are nonzero, then the last CP **MUST** be equal to the sum of those fields plus **ccpText**+1. Otherwise, the last CP **MUST** be equal to **ccpText**.

**aPcd (variable):** An array of Pcds (8 bytes each) that specify the location of text in the [WordDocument stream](#) and any additional properties of the text. If **aPcd[i].fc.fCompressed** is 1, then the byte offset of the last character of the text referenced by **aPcd[i]** is given by the following.

$$\frac{\text{aPcd}[i].\text{fc.fc}}{2} + \text{aCP}[i + 1] - \text{aCP}[i] - 1$$

Otherwise, the byte offset of the last character of the text referenced by **aPcd[i]** is given by the following.

$$\text{aPcd}[i].\text{fc.fc} + 2(\text{aCP}[i + 1] - \text{aCP}[i] - 1)$$

Because **aCP** **MUST** be sorted in ascending order and **MUST NOT** contain duplicate CPs,  $(\text{aCP}[i+1] - \text{aCP}[i]) > 0$ , for all valid indexes  $i$  of **aPcd**. Because a PLC **MUST** contain one more CP than a data element,  $i+1$  is a valid index of **aCP** if  $i$  is a valid index of **aPcd**.

## 2.9 Basic Types

### 2.9.1 Acd

The **Acd** structure specifies an **allocated command**.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16         | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ibst |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | fciBasedOn |    |    |    |    |    |    |    |    |    |    | A  | B  | C  |    |    |

**ibst (2 bytes):** Index in the Command [String Table \(TcgSttbf.sttbf\)](#) where a string representation of the argument to the allocated command is specified.

**fciBasedOn (13 bits):** An [Fci](#) that identifies the allocated command. MUST be one of the following Fci values. Each item specifies what the value of the argument as specified by **ibst** is.

- **ApplyStyleName.** The argument specifies the style to apply. The argument MUST be at least 2 characters long. The 16-bit value of the first character MUST be either 0x0001 or 0x0002.
- If the 16-bit value of the first character is 0x0001, then the argument MUST be exactly 3 characters long. The second and third characters specify the **sti** of the style to apply (see [StdBase.sti](#)). The **sti** is given by  $(c_2 \& 0x00FF) * 256 + (c_3 \& 0x00FF)$  where  $c_2$  and  $c_3$  represent the character codes of the second and third characters. The **sti** value MUST be less than 267.
- If the 16-bit value of the first character is 0x0002, then the remaining characters in the argument specify the name of the style to apply.
- **ApplyFontName.** The argument is the name of the font to apply when this command is executed.
- **ApplyAutoTextName.** The argument is the name of the AutoText entry to insert when this command is executed.
- **Columns.** The argument specifies the number of columns to apply. The number of columns is the character code of the first character in the string.
- **Condensed.** The argument specifies the amount to condense by. The amount is specified in twips and is given by  $(c_1 \& 0x00FF) * 256 + (c_2 \& 0x00FF)$  where  $c_1$  and  $c_2$  represent the character codes of the first and second characters in the argument string.
- **Expanded.** The argument specifies the amount to expand by. The amount is specified in twips and is given by  $(c_1 \& 0x00FF) * 256 + (c_2 \& 0x00FF)$  where  $c_1$  and  $c_2$  represent the character codes of the first and second characters in the argument string.
- **FontSize.** The argument specifies the font size. The amount is specified in half points and is given by  $(c_1 \& 0x00FF) * 256 + (c_2 \& 0x00FF)$  where  $c_1$  and  $c_2$  represent the 16-bit values of the first and second characters in the argument string.
- **Lowered.** The argument specifies the amount to lower the text by. The amount is specified in half points and is given by  $(c_1 \& 0x00FF) * 256 + (c_2 \& 0x00FF)$  where  $c_1$  and  $c_2$  represent the 16-bit values of the first and second characters in the argument string.
- **Raised.** The argument specifies the amount to raise the text by. The amount is specified in half points and is given by  $(c_1 \& 0x00FF) * 256 + (c_2 \& 0x00FF)$  where  $c_1$  and  $c_2$  represent the 16-bit values codes of the first and second characters in the argument string.
- **FileOpenFile.** The argument specifies the file name to open.

- Shading. The argument specifies which shading pattern to apply. The 16-bit value of the first character of the argument is an [IPat](#).
- Borders. The argument specifies which border to apply. The 16-bit value of the first character of the argument MUST be one of the following values, and specifies which border to apply.

| Value | Meaning               |
|-------|-----------------------|
| 0     | Clear all borders.    |
| 1     | Apply top border.     |
| 2     | Apply bottom border.  |
| 3     | Apply left border.    |
| 4     | Apply right border.   |
| 5     | Apply inside borders. |
| 6     | Apply box borders.    |
| 7     | Apply grid borders.   |

The weight and style of the border applied is that of the last border applied by the user during the editing session, or a single, black border if no border has been applied in this session.

- Color. The argument specifies the color to apply. The 16-bit value of the first character of the argument is an [Ico](#).
- Symbol. The argument specifies the symbol character and font to insert. The first character of the argument is the symbol character to insert. If there are more characters in the argument, they form the name of the font to apply to the newly inserted character. If the **character set** of the font to use is the SYMBOL\_CHARSET then the symbol character to insert is given by (*C<sub>1</sub>* & 0x00FF).

**A - reserved (1 bit):** This value MUST be 1.

**B - fFree (1 bit):** Specifies whether the current Acid is an unused slot in [PifAcid.rgacd](#). A value of 1 specifies that the current Acid is unused. A value of 0 specifies that the current Acid is valid and used.

**C - fRef (1 bit):** Specifies whether the current Acid is being referenced by a command. If **fFree** is 1, **fRef** MUST be 0; if **fFree** is 0, **fRef** MUST be 1.

## 2.9.2 Afd

The **AFD** structure is an array of indices into the author list that specifies whose revisions and comments were being hidden when this document was last saved.

|                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| iMac                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AuthorArray (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**iMac (4 bytes):** A signed integer that specifies the number of elements in **AuthorArray**. This value MUST be a non-negative number.

**AuthorArray (variable):** An array of 16-bit integers that specifies the indexes in [SttbfRMark](#) of authors whose revisions and comments were being hidden from view when this document was last saved.

### 2.9.3 ASUMY

The **ASUMY** structure indicates the priority of a text range for AutoSummary.

|        |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|--------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| ILevel |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**ILevel (4 bytes):** An integer that specifies the priority of the corresponding text range for AutoSummary. A smaller number implies greater importance of a text range to the summary. ILevel MUST be greater than 0, and MUST be less than or equal to the **asumi.IHighestLevel** field of the [Dop97](#).

### 2.9.4 ATNBE

The **ATNBE** structure contains information about an annotation bookmark in the document.

|     |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |         |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|-----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---------|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6       | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| bmc |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   | ITag    |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| ... |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   | ITagOld |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| ... |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |         |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**bmc (2 bytes):** An unsigned integer specifying the bookmark (1) class that MUST be 0x0100, for annotation.

**ITag (4 bytes):** An unsigned integer that specifies a unique value used by the **ITagBkmk** member of [ATRDPRE10](#) structures inside the [PlcfandRef](#) at offset **fcPlcfandRef** in **ITag**'s nearest parent [FibRgFcLcb97](#) to reference the annotation associated with this ATNBE. This MUST be unique for all ATNBEs inside a given [SttbfAtnBkmk](#).

**ITagOld (4 bytes):** Unused. This value MUST be -1, and MUST be ignored.

### 2.9.5 AtrdExtra

The **AtrdExtra** structure is an array of information about comments that are kept parallel to the array of [ATRDPRE10s](#) in the [PlcfandRef](#) specified by **fcPlcfandRef** in [FibRgFcLcb97](#).

|                        |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|------------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| commentTree (variable) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| ...                    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**commentTree (variable):** An array of [ATRDPst10s](#). The number of elements in this array MUST be equal to the number of [ATRDPst10s](#) in the [PlcfandRef](#) referenced by the **fcPlcfandRef** member of [FibRgFclCb97](#). This array is a tree that contains information about the comments in the document. The order of the comments in this array is determined by a pre-order traversal of the comment tree. A comment is considered a parent of a second comment if the second is a comment on the first. The depth of the comment in the tree is specified by **cDepth** in [ATRDPst10](#). The location of the parent comment is specified by **diatrdParent** in [ATRDPst10](#).

## 2.9.6 ATRDPst10

The **ATRDPst10** structure represents information about a comment that includes a date and time stamp, information about whether the comment was inked, and the tree structure of the comments. See the description of [AtrdExtra](#) for more about the tree layout. The location of the comment about which an **ATRDPst10** contains information is specified by the [CP](#) corresponding to the [ATRDPst10](#) in the [PlcfandRef](#) specified by **fcPlcfandRef** in [FibRgFclCb97](#) with the same index as the **ATRDPst10**.

|          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16           | 17 | 18       | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |
| dttm     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |
| padding1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cDepth       |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |
| ...      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | diatrdParent |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |
| ...      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | A            | B  | padding2 |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |
| ...      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |

**dttm (4 bytes):** A [DTTM](#) specifying the date and time on which this comment was last created or modified.

**padding1 (16 bits):** This value MUST be zero, and MUST be ignored.

**cDepth (4 bytes):** The depth of this comment in the tree. If **cDepth** is 0, this comment has no parent and **diatrdParent** MUST be equal to zero. If this comment has a parent then **cDepth** MUST be equal to the **cDepth** value of the parent incremented by 1.

**diatrdParent (4 bytes):** The offset in the [Table Stream](#) of the parent of this comment in the tree. The parent is located 18\***diatrdParent** bytes from the position of this comment. If **diatrdParent** is negative, the parent is located earlier in the stream; if **diatrdParent** is positive, the parent is located later in the stream. If **diatrdParent** is 0, this comment has no parent and **cDepth** MUST be equal to zero.

**A - fOWSDiscussionItem (1 bit):** This value MUST be zero, and MUST be ignored.

**B - fInkAtn (1 bit):** Denotes whether this comment is an ink annotation comment.

**padding2 (30 bits):** This value MUST be zero, and MUST be ignored.

## 2.9.7 ATRDPst10

The **ATRDPst10** structure contains information about a comment in the document including the initials of the author, an index to a string table with the name of the author, and a bookmark (1) identifier. More information about the comment can be specified in a corresponding [ATRDPst10](#) in the [AtrdExtra](#) at position **fcAtrdExtra**.

|                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16          | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| xstUsrInitl (20 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ibst                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | bitsNotUsed |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| grfNotused             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ITagBkmk    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**xstUsrInitl (20 bytes):** An [LPXCharBuffer9](#) containing the initials of the user who left the annotation.

**ibst (2 bytes):** An index into the string table of comment author names. MUST be greater than or equal to zero, and MUST be less than the number of [XSTs](#) at position **fcGrpXstAtnOwners**.

**bitsNotUsed (2 bytes):** This value MUST be zero, and MUST be ignored.

**grfNotused (2 bytes):** This value MUST be zero, and MUST be ignored.

**ITagBkmk (4 bytes):** A 4-byte value that identifies a bookmark (1) identifier. This value MUST be equal to -1 if and only if this comment is on a length zero text range in the Main Document. Otherwise MUST be equal to the **ITag** of one of the [ATNBE](#) structures in the [SttbfAtnBkmk](#) structure at position **fcSttbfAtnBkmk**.

## 2.9.8 BKC

The **BKC** structure contains information about how a bookmark interacts with tables.

|          |   |   |   |   |   |   |   |        |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|--------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8      | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| itcFirst |   |   |   |   |   |   | A | itcLim |   |    |    |    |    | B  | C  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**itcFirst (7 bits):** If **fCol** is zero, this value MUST be ignored. Otherwise, this value is an unsigned integer specifying the zero-based index of the table column that is the start of the table column range associated with the bookmark described by this BKC. See **itcLim** for additional constraints on the value of **itcFirst**.

**A - fPub (1 bit):** This value MUST be zero, and MUST be ignored.

**itcLim (6 bits):** If **fCol** is zero, this value MUST be ignored. Otherwise, this value is an unsigned integer specifying the zero-based index of the first column beyond the end of the table column range associated with the bookmark described by this BKC.

For all bookmark types, **itcFirst** MUST be less than **itcLim** if **fCol** is not zero.

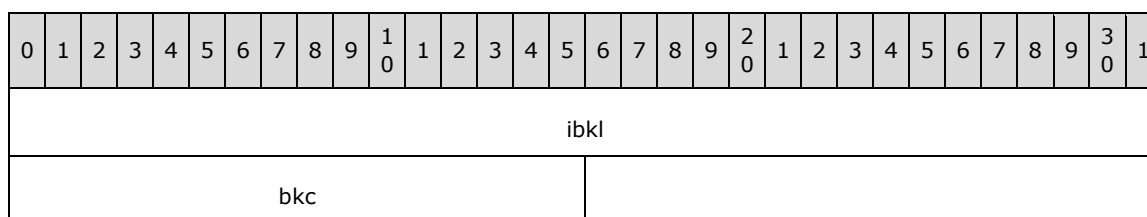
For range-level protection bookmarks, **itcLim** MUST be exactly 1 greater than **itcFirst** if **fCol** is not zero.

**B - fNative (1 bit):** A bit flag that specifies whether an application is expected to include the bookmark described by this BKC when saving its file as RTF (**Rich text** Format), HTML, or XML. If **fNative** is zero, the bookmark is no longer needed and is a disposable item that was generated by the application to act as a temporary placeholder at run time. The bookmark is not expected to be included if the file is saved as RTF, HTML, or XML.

**C - fCol (1 bit):** For structured document tag bookmarks and annotation bookmarks, **fCol** MUST be zero. Otherwise, if the lowest table depth within the span of text defined by the [CPs](#) of a bookmark is greater than zero, and the span of text defined by the CPs of that bookmark contains a table cell mark from that table and nothing outside that table, then the **fCol** member of the bookmark's (1) BKC MUST be 1. Otherwise, it MUST be zero. If the **fCol** member of the BKC of a range-level protection bookmark is set to 1, the span of text that is defined by the CPs of that bookmark MUST NOT include more than one table terminating paragraph mark. Further constraints upon the span of text defined by the CPs of a bookmark can be found in section [PlcfBkf](#).

## 2.9.9 BKF

The **BKF** structure contains information about a bookmark.

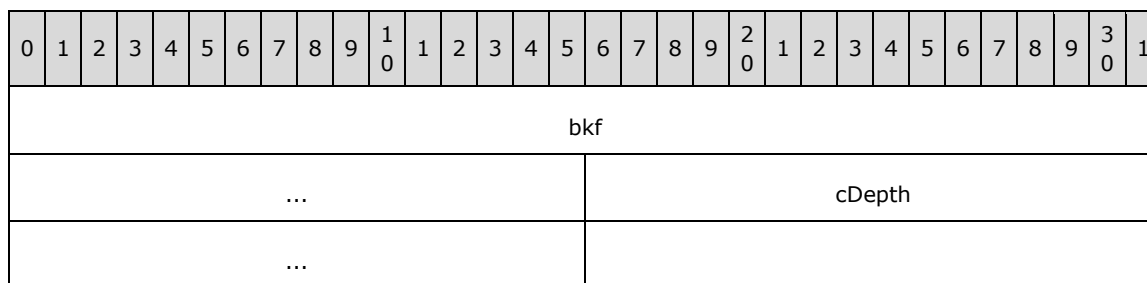


**ibkl (4 bytes):** An unsigned integer that specifies a zero-based index into the [PlcBkl](#) or [PlcBkld](#) that is paired with the [PlcBkf](#) or [PlcBkfd](#) containing this BKF. The entry found at that index specifies the location of the end of the bookmark that is associated with this BKF. **ibkl** MUST be unique for all BKFs in a given [PlcBkf](#) or [PlcBkfd](#).

**bkc (2 bytes):** A [BKC](#) that specifies further information about the bookmark.

## 2.9.10 BKFD

The **BKFD** structure is a [BKF](#) with additional information used for structured document tag bookmarks.



**bkf (6 bytes):** A BKF specifying further information about the bookmark.

**cDepth (4 bytes):** An integer specifying the number of bookmarks in the document of the same type as the bookmark associated with this BKFD, the ranges of which overlap the beginning of the range of this bookmark. To increment the count, a bookmark MUST meet the following constraints:

1. The BKFD of the bookmark occupies the [PlcBkfd](#) containing this BKFD



- The start [CP](#) (cpS) and limit CP (cpL) of the bookmark, as defined in the prose for that [PlcBkfd](#) and the [PlcBkld](#) it is paired with, satisfy the following in relation to the CP (cpCur) marking the beginning of the bookmark of this BKFD:  $cpS == cpCur == cpL \ || \ cpS \leq cpCur < cpL$

Because BKFD is associated only with structured document tag bookmarks, **cDepth** can be rephrased more simply as the one-based count of other structured document tag bookmarks in the file that contain the bookmark associated with this BKFD.

### 2.9.11 BKL

The **BKL** structure links the end of a bookmark to the beginning of the same bookmark.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ibkf |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ibkf (4 bytes):** An unsigned integer that specifies a zero-based index into the [PlcBkfd](#) that is paired with the [PlcBkld](#) containing this BKL. The entry found at this index specifies the location of the beginning of the bookmark associated with this BKL. **ibkf** MUST be unique for all BKLs in a given [PlcBkld](#).

### 2.9.12 BKLD

The **BKLD** structure is a [BKL](#) with additional information used for structured document tag bookmarks.

|        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| bkl    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cDepth |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**bkl (4 bytes):** A BKL specifying further information about the bookmark.

**cDepth (4 bytes):** An integer specifying the number of bookmarks in the document of the same type as the bookmark associated with this **BKLD**, the ranges of which overlap the limit of this bookmark range. To increment the count, a bookmark MUST meet the following constraints:

- The bookmark **BKLD** occupies the [PlcBkld](#) containing this **BKLD**
- The bookmark limit [CP](#) (cpL) and start CP (cpS), as defined in the specification of that [PlcBkld](#) and the [PlcBkfd](#) it is paired with, satisfy the following in relation to the CP (cpCur) marking the limit of the bookmark of this **BKLD**

$$cpS \neq cpL$$

$$cpS \leq cpCur < cpL$$

Because **BKLD** is only associated with structured document tag bookmarks, cDepth can be rephrased more simply as the zero-based count of other structured document tag bookmarks in the file that contain the bookmark associated with this **BKLD**.

### 2.9.13 BlockSel

The **BlockSel** structure is used by [Selsf](#) to specify the left and right boundaries of a text block selection. The values are pixels at the zoom level in which the selection was made.

|         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16    | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| zpFirst |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | zpLim |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**zpFirst (2 bytes):** A signed integer that specifies the physical left boundary of the selection, in pixels. The physical left page margin is at pixel zero.

**zpLim (2 bytes):** A signed integer that specifies the physical right boundary of the selection, in pixels. **zpLim** MUST be greater than or equal to **zpFirst**.

### 2.9.14 Bool16

The **Bool16** structure is a 16-bit unsigned integer. This value MUST be either 0x0000 ("false") or 0x0001 ("true").

### 2.9.15 Bool8

The **Bool8** structure is an 8-bit unsigned integer. This value MUST be either 0x00 ("false") or 0x01 ("true").

### 2.9.16 Brc

The **Brc** structure specifies a border.

|              |   |   |   |   |   |   |   |         |   |    |    |    |    |    |    |          |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
|--------------|---|---|---|---|---|---|---|---------|---|----|----|----|----|----|----|----------|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|
| 0            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8       | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16       | 17 | 18 | 19 | 20 | 21 | 22        | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cv           |   |   |   |   |   |   |   |         |   |    |    |    |    |    |    |          |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
| dptLineWidth |   |   |   |   |   |   |   | brcType |   |    |    |    |    |    |    | dptSpace |    |    |    | A  | B  | fReserved |    |    |    |    |    |    |    |    |    |

**cv (4 bytes):** A [COLORREF](#) that specifies the color of this border.

**dptLineWidth (8 bits):** Specifies the width of the border. Different meanings based on **brcType**.

| brcType         | Meaning   |
|-----------------|---|
| brcType < 0x40  | An unsigned integer that specifies the width of the border in 1/8-point increments. Values of less than 2 are considered to be equivalent to 2. |
| brcType >= 0x40 | An unsigned integer that specifies the width of the border in 1-point increments. This value MUST be less than 32.                              |

**brcType (1 byte):** A [BrcType](#) that specifies the type of this border.

**dptSpace (5 bits):** An unsigned integer that specifies the distance from the text to the border, in points. For page borders, [sprmSPgbProp](#) can specify that this value shall specify the distance from the edge of the page to the border.

**A - fShadow (1 bit):** If this bit is set, the border has an additional shadow effect. For top, logical left, and between borders, this has no visual effect.

**B - fFrame (1 bit):** If this bit is set, then the border has a three-dimensional effect. For top, logical left, and between borders, this has no visual effect. For visually symmetric border types, this has no visual effect.

**fReserved (9 bits):** This value is unused and MUST be ignored.

### 2.9.17 Brc80

The **Brc80** structure describes a border.

|              |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |          |    |  |  |  |   |   |   |
|--------------|---|---|---|---|---|---|---|---|---|---------|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----------|----|--|--|--|---|---|---|
| 0            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10      | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20  | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30       | 31 |  |  |  |   |   |   |
| dptLineWidth |   |   |   |   |   |   |   |   |   | brcType |    |    |    |    |    |    |    |    |    | ico |    |    |    |    |    |    |    |    |    | dptSpace |    |  |  |  | A | B | C |

**dptLineWidth (8 bits):** An unsigned integer that specifies the width of the border in 1/8-point increments. Values of less than 2 are considered to be equivalent to 2.

**brcType (1 byte):** A [BrcType](#) that specifies the type of this border. This value MUST not be 0x1A or 0x1B.

**ico (1 byte):** An [Ico](#) that specifies the color of this border.

**dptSpace (5 bits):** An unsigned integer that specifies the distance from the text to the border, in points.

**A - fShadow (1 bit):** If this bit is set, the border has an additional shadow effect. For top and logical left borders, this bit has no visual effect.

**B - fFrame (1 bit):** Specifies whether the specified border is modified to create a frame effect by reversing the appearance of the border from the edge nearest the text to the edge furthest from the text. The frame effect shall only be applied to right and bottom borders.

**C - reserved (1 bit):** This bit MUST be zero, and MUST be ignored.

### 2.9.18 Brc80MayBeNil

The **Brc80MayBeNil** structure is a [Brc80](#) structure. When all bits are set (0xFFFFFFFF when interpreted as a 4-byte unsigned integer), this structure specifies that the region in question has no border.

### 2.9.19 BrcCvOperand

The **BrcCvOperand** structure specifies border colors.

|    |   |   |   |   |   |   |   |   |   |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|----|---|---|---|---|---|---|---|---|---|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10              | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| cb |   |   |   |   |   |   |   |   |   | rgcv (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

...

**cb (1 byte):** An unsigned integer value that specifies the size, in bytes, of **rgcv**. This value MUST be  $4*n$ , where  $n$  is the number of cells in the table row.

**rgcv (variable):** An array of [COLORREF](#). Each COLORREF specifies the color of the border for the corresponding cell in the table row, starting from the logical, left-most cell. If any of the COLORREFs in this array have the following value, it specifies that there is no corresponding border.

| Member | Value |
|--------|-------|
| Red    | 0xFF  |
| Green  | 0xFF  |
| Blue   | 0xFF  |
| fAuto  | 0xFF  |

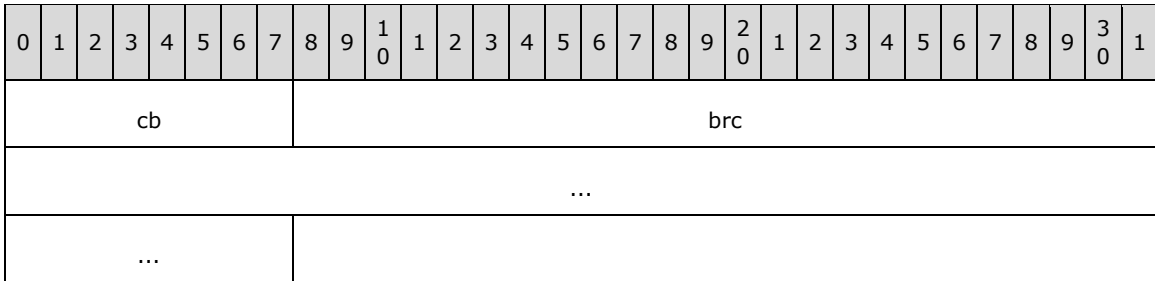
### 2.9.20 BrcMayBeNil

The **BrcMayBeNil** structure is either a [NilBrc](#) or [Brc](#) structure, depending on the value of the last four bytes of the structure.

If the last four bytes are 0xFFFFFFFF, the **BrcMayBeNil** is a **NilBrc** that specifies that the table cells in question have no border. Otherwise, it is a **Brc** structure that specifies the border type of table cells.

### 2.9.21 BrcOperand

The **BrcOperand** structure is the operand to several [SPRM](#)s that control borders.



**cb (1 byte):** An unsigned integer value that specifies the size of this BrcOperand, not including this byte. The cb MUST be 8.

**brc (8 bytes):** A [BRC](#) that specifies the border to be applied.

### 2.9.22 BrcType

**brcType (8 bits):** An unsigned integer that specifies the type of border. Values that are larger than 0x1B are not valid unless they describe a page border, in which case they can be a value in the range of 0x40 to 0xE3, inclusive.

Values MUST be from the following table. The reference column specifies for each **brcType** value the ST\_Border enumeration value in [ECMA-376](#) part 4, section 2.18.4, that further specifies the meaning of the border type.

| <b>Value</b> | <b>Meaning</b>  | <b>Reference</b>       |
|--------------|---|------------------------|
| 0x00         | No border.  | none                   |
| 0x01         | A single line.  | single                 |
| 0x03         | A double line.  | double                 |
| 0x05         | A thin single solid line.   |                        |
| 0x06         | A dotted border.  | dotted                 |
| 0x07         | A dashed border with large gaps between the dashes.   | dashed                 |
| 0x08         | A border of alternating dots and dashes.  | dotDash                |
| 0x09         | A border of alternating sets of two dots and one dash.  | dotDotDash             |
| 0x0A         | A triple line border.   | triple                 |
| 0x0B         | A thin outer border and a thick inner border with a small gap between them.   | thinThickSmallGap      |
| 0x0C         | A thin outer border and thick inner border with a small gap between them.   | thickThinSmallGap      |
| 0x0D         | A thin outer border, a thick middle border, and a thin inner border with a small gap between them.                          | thinThickThinSmallGap  |
| 0x0E         | A thin outer border and a thick inner border with a medium gap between them.  | thinThickMediumGap     |
| 0x0F         | A thin outer border and a thick inner border and a medium gap between them.   | thickThinMediumGap     |
| 0x10         | A thin outer border, a thick middle border, and a thin inner border with a medium gaps between them.                        | thinThickThinMediumGap |
| 0x11         | A thick outer border and a thin inner border with a large gap between them.   | thinThickLargeGap      |
| 0x12         | A thin outer border and a thick inner border with a large gap between them.   | thickThinLargeGap      |
| 0x13         | A thin outer border, a thick middle border, and a thin inner border with large gaps between them.                           | thinThickThinLargeGap  |
| 0x14         | A single wavy line.   | wave                   |
| 0x15         | A double wavy line.   | doubleWave             |
| 0x16         | A dashed border with small gaps between the dashes.   | dashSmallGap           |
| 0x17         | A border consisting of alternating groups of 5 and 1 thin diagonal lines.   | dashDotStroked         |
| 0x18         | A thin light gray outer border, a thick medium gray middle border, and a thin black inner border with no gaps between them. | threeDEmboss           |
| 0x19         | A thin black outer border, a thick medium gray middle border, and a thin light gray inner border with no gaps between them. | threeDEngrave          |
| 0x1A         | A thin light gray outer border and a thin medium gray inner border with a large gap between them.                           | outset                 |

| <b>Value</b> | <b>Meaning</b>  | <b>Reference</b>  |
|--------------|---|-------------------|
| 0x1B         | A thin medium gray outer border and a thin light gray inner border with a large gap between them. | inset             |
| 0x40         | An image border.  | apples            |
| 0x41         | An image border.  | archedScallops    |
| 0x42         | An image border.  | babyPacifier      |
| 0x43         | An image border.  | babyRattle        |
| 0x44         | An image border.  | balloons3Colors   |
| 0x45         | An image border.  | balloonsHotAir    |
| 0x46         | An image border.  | basicBlackDashes  |
| 0x47         | An image border.  | basicBlackDots    |
| 0x48         | An image border.  | basicBlackSquares |
| 0x49         | An image border.  | basicThinLines    |
| 0x4A         | An image border.  | basicWhiteDashes  |
| 0x4B         | An image border.  | basicWhiteDots    |
| 0x4C         | An image border.  | basicWhiteSquares |
| 0x4D         | An image border.  | basicWideInline   |
| 0x4E         | An image border.  | basicWideMidline  |
| 0x4F         | An image border.  | basicWideOutline  |
| 0x50         | An image border.  | bats              |
| 0x51         | An image border.  | birds             |
| 0x52         | An image border.  | birdsFlight       |
| 0x53         | An image border.  | cabins            |
| 0x54         | An image border.  | cakeSlice         |
| 0x55         | An image border.  | candyCorn         |
| 0x56         | An image border.  | celticKnotwork    |
| 0x57         | An image border.  | certificateBanner |
| 0x58         | An image border.  | chainLink         |
| 0x59         | An image border.  | champagneBottle   |
| 0x5A         | An image border.  | checkedBarBlack   |
| 0x5B         | An image border.  | checkedBarColor   |
| 0x5C         | An image border.  | checkered         |
| 0x5D         | An image border.  | christmasTree     |

| <b>Value</b> | <b>Meaning</b>   | <b>Reference</b>   |
|--------------|------------------|--------------------|
| 0x5E         | An image border. | circlesLines       |
| 0x5F         | An image border. | circlesRectangles  |
| 0x60         | An image border. | classicalWave      |
| 0x61         | An image border. | clocks             |
| 0x62         | An image border. | compass            |
| 0x63         | An image border. | confetti           |
| 0x64         | An image border. | confettiGrays      |
| 0x65         | An image border. | confettiOutline    |
| 0x66         | An image border. | confettiStreamers  |
| 0x67         | An image border. | confettiWhite      |
| 0x68         | An image border. | cornerTriangles    |
| 0x69         | An image border. | couponCutoutDashes |
| 0x6A         | An image border. | couponCutoutDots   |
| 0x6B         | An image border. | crazyMaze          |
| 0x6C         | An image border. | creaturesButterfly |
| 0x6D         | An image border. | creaturesFish      |
| 0x6E         | An image border. | creaturesInsects   |
| 0x6F         | An image border. | creaturesLadyBug   |
| 0x70         | An image border. | crossStitch        |
| 0x71         | An image border. | cup                |
| 0x72         | An image border. | decoArch           |
| 0x73         | An image border. | decoArchColor      |
| 0x74         | An image border. | decoBlocks         |
| 0x75         | An image border. | diamondsGray       |
| 0x76         | An image border. | doubleD            |
| 0x77         | An image border. | doubleDiamonds     |
| 0x78         | An image border. | earth1             |
| 0x79         | An image border. | earth2             |
| 0x7A         | An image border. | eclipsingSquares1  |
| 0x7B         | An image border. | eclipsingSquares2  |
| 0x7C         | An image border. | eggsBlack          |
| 0x7D         | An image border. | fans               |

| <b>Value</b> | <b>Meaning</b>   | <b>Reference</b>  |
|--------------|------------------|-------------------|
| 0x7E         | An image border. | film              |
| 0x7F         | An image border. | firecrackers      |
| 0x80         | An image border. | flowersBlockPrint |
| 0x81         | An image border. | flowersDaisies    |
| 0x82         | An image border. | flowersModern1    |
| 0x83         | An image border. | flowersModern2    |
| 0x84         | An image border. | flowersPansy      |
| 0x85         | An image border. | flowersRedRose    |
| 0x86         | An image border. | flowersRoses      |
| 0x87         | An image border. | flowersTeacup     |
| 0x88         | An image border. | flowersTiny       |
| 0x89         | An image border. | gems              |
| 0x8A         | An image border. | gingerbreadMan    |
| 0x8B         | An image border. | gradient          |
| 0x8C         | An image border. | handmade1         |
| 0x8D         | An image border. | handmade2         |
| 0x8E         | An image border. | heartBalloon      |
| 0x8F         | An image border. | heartGray         |
| 0x90         | An image border. | hearts            |
| 0x91         | An image border. | heebieJeebies     |
| 0x92         | An image border. | holly             |
| 0x93         | An image border. | houseFunky        |
| 0x94         | An image border. | hypnotic          |
| 0x95         | An image border. | iceCreamCones     |
| 0x96         | An image border. | lightBulb         |
| 0x97         | An image border. | lightning1        |
| 0x98         | An image border. | lightning2        |
| 0x99         | An image border. | mapPins           |
| 0x9A         | An image border. | mapleLeaf         |
| 0x9B         | An image border. | mapleMuffins      |
| 0x9C         | An image border. | marquee           |
| 0x9D         | An image border. | marqueeToothed    |



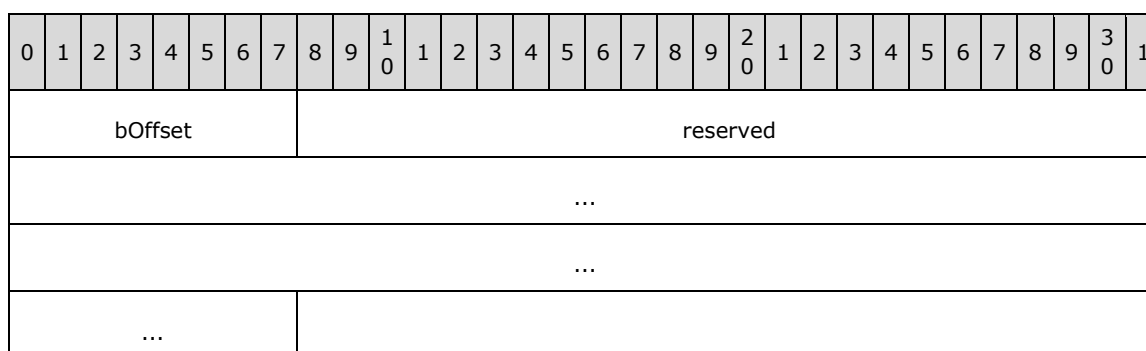
| <b>Value</b> | <b>Meaning</b>   | <b>Reference</b> |
|--------------|------------------|------------------|
| 0x9E         | An image border. | moons            |
| 0x9F         | An image border. | mosaic           |
| 0xA0         | An image border. | musicNotes       |
| 0xA1         | An image border. | northwest        |
| 0xA2         | An image border. | ovals            |
| 0xA3         | An image border. | packages         |
| 0xA4         | An image border. | palmsBlack       |
| 0xA5         | An image border. | palmsColor       |
| 0xA6         | An image border. | paperClips       |
| 0xA7         | An image border. | papyrus          |
| 0xA8         | An image border. | partyFavor       |
| 0xA9         | An image border. | partyGlass       |
| 0xAA         | An image border. | pencils          |
| 0xAB         | An image border. | people           |
| 0xAC         | An image border. | peopleWaving     |
| 0xAD         | An image border. | peopleHats       |
| 0xAE         | An image border. | poinsettias      |
| 0xAF         | An image border. | postageStamp     |
| 0xB0         | An image border. | pumpkin1         |
| 0xB1         | An image border. | pushPinNote2     |
| 0xB2         | An image border. | pushPinNote1     |
| 0xB3         | An image border. | pyramids         |
| 0xB4         | An image border. | pyramidsAbove    |
| 0xB5         | An image border. | quadrants        |
| 0xB6         | An image border. | rings            |
| 0xB7         | An image border. | safari           |
| 0xB8         | An image border. | sawtooth         |
| 0xB9         | An image border. | sawtoothGray     |
| 0xBA         | An image border. | scaredCat        |
| 0xBB         | An image border. | seattle          |
| 0xBC         | An image border. | shadowedSquares  |
| 0xBD         | An image border. | sharksTeeth      |

| <b>Value</b> | <b>Meaning</b>   | <b>Reference</b> |
|--------------|------------------|------------------|
| 0xBE         | An image border. | shorebirdTracks  |
| 0xBF         | An image border. | skyrocket        |
| 0xC0         | An image border. | snowflakeFancy   |
| 0xC1         | An image border. | snowflakes       |
| 0xC2         | An image border. | sombrero         |
| 0xC3         | An image border. | southwest        |
| 0xC4         | An image border. | stars            |
| 0xC5         | An image border. | starsTop         |
| 0xC6         | An image border. | stars3d          |
| 0xC7         | An image border. | starsBlack       |
| 0xC8         | An image border. | starsShadowed    |
| 0xC9         | An image border. | sun              |
| 0xCA         | An image border. | swirligig        |
| 0xCB         | An image border. | tornPaper        |
| 0xCC         | An image border. | tornPaperBlack   |
| 0xCD         | An image border. | trees            |
| 0xCE         | An image border. | triangleParty    |
| 0xCF         | An image border. | triangles        |
| 0xD0         | An image border. | tribal1          |
| 0xD1         | An image border. | tribal2          |
| 0xD2         | An image border. | tribal3          |
| 0xD3         | An image border. | tribal4          |
| 0xD4         | An image border. | tribal5          |
| 0xD5         | An image border. | tribal6          |
| 0xD6         | An image border. | twistedLines1    |
| 0xD7         | An image border. | twistedLines2    |
| 0xD8         | An image border. | vine             |
| 0xD9         | An image border. | waveline         |
| 0xDA         | An image border. | weavingAngles    |
| 0xDB         | An image border. | weavingBraid     |
| 0xDC         | An image border. | weavingRibbon    |
| 0xDD         | An image border. | weavingStrips    |

| Value | Meaning               | Reference     |
|-------|-----------------------|---------------|
| 0xDE  | An image border.      | whiteFlowers  |
| 0xDF  | An image border.      | woodwork      |
| 0xE0  | An image border.      | xIllusions    |
| 0xE1  | An image border.      | zanyTriangles |
| 0xE2  | An image border.      | zigZag        |
| 0xE3  | An image border.      | zigZagStitch  |
| 0xFF  | This MUST be ignored. |               |

### 2.9.23 BxPap

The **BxPap** structure specifies the offset of a [PapxFkp](#) in [PapxFkp](#).

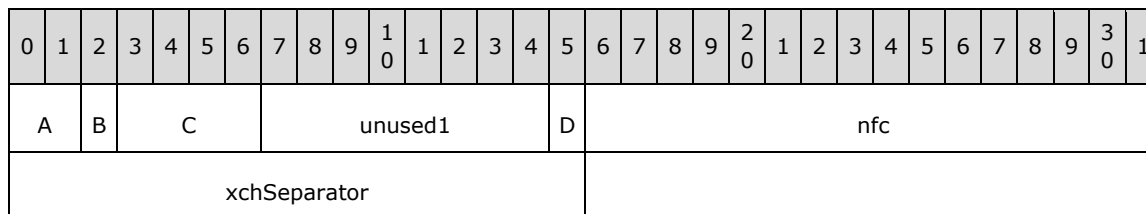


**bOffset (1 byte):** An unsigned integer that specifies the offset of a **PapxFkp** in a **PapxFkp**. The offset of the **PapxFkp** is **bOffset**\*2. If **bOffset** is 0 then there is no **PapxFkp** for this paragraph and this paragraph has the default properties as specified in section [2.6.2](#).

**reserved (12 bytes):** Specifies version-specific paragraph height information. This value SHOULD [<204>](#) be 0 and SHOULD [<205>](#) be ignored.

### 2.9.24 CAPI

The **CAPI** structure contains information about a caption.



**A - iLocation (2 bits):** An unsigned integer that specifies the insert location for the caption. This MUST be one of the following values.

| Value | Meaning                                     |
|-------|---|
| 0x0   | Insert the caption below the selected item. |

| Value | Meaning                                     |
|-------|---|
| 0x1   | Insert the caption above the selected item. |

**B - fChapNum (1 bit):** A bit that specifies whether or not to include a chapter number in the caption.

**C - iHeading (4 bits):** An unsigned integer that specifies which **heading style** marks the beginning of a new chapter for the purpose of chapter numbering in this caption. This value **MUST** be one of the following.

| Value | Meaning   |
|-------|---|
| 0x1   | Heading 1 marks the beginning of a new chapter. |
| 0x2   | Heading 2 marks the beginning of a new chapter. |
| 0x3   | Heading 3 marks the beginning of a new chapter. |
| 0x4   | Heading 4 marks the beginning of a new chapter. |
| 0x5   | Heading 5 marks the beginning of a new chapter. |
| 0x6   | Heading 6 marks the beginning of a new chapter. |
| 0x7   | Heading 7 marks the beginning of a new chapter. |
| 0x8   | Heading 8 marks the beginning of a new chapter. |
| 0x9   | Heading 9 marks the beginning of a new chapter. |

If **fChapNum** is zero, this field **MUST** be ignored.

**unused1 (8 bits):** This field is undefined and **MUST** be ignored.

**D - fNoLabel (1 bit):** A bit that specifies whether or not to include the label in the caption. This bit **MAY** [<206>](#) be ignored.

**nfc (2 bytes):** An MSONFC, as specified in [\[MS-OSHARED\]](#) section 2.2.1.3, that specifies the formatting of the caption number.

**xchSeparator (2 bytes):** A Unicode character that specifies the character that separates the chapter number and caption number of the caption. This value **MUST** be one of the following.

| Value  | Meaning   |
|--------|---|
| 0x001E | A hyphen (-) separates the chapter number and caption number.       |
| 0x002E | A period (.) separates the chapter number and the caption number.   |
| 0x003A | A colon (:) separates the chapter number and the caption number.    |
| 0x2013 | An en-dash (–) separates the chapter number and the caption number. |
| 0x2014 | An em-dash (—) separates the chapter number and the caption number. |

If **fChapNum** is zero, this value **MUST** be ignored.

## 2.9.25 CDB

The **CDB** structure contains implementation-specific binary data that represents a grammar checker cookie that is stored by the given grammar checker.

|                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbData                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rgbCookieData (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

...

**cbData (4 bytes):** An unsigned integer value that specifies the length of **rgbCookieData**, in bytes.

**rgbCookieData (variable):** An array of BYTE. The grammar checker cookie data.

**2.9.26 CellHideMarkOperand**

The **CellHideMarkOperand** structure is an operand that is used by [sprmTCellHideMark](#). This operand specifies which cells are rendered with no height when cells are empty.

|    |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |
|----|---|---|---|---|---|---|---|---|---|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|----|----|----|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27   | 28 | 29 | 30 | 31 |
| cb |   |   |   |   |   |   |   |   |   | itc |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | bArg |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size of this operand in bytes, not including **cb**. **cb** MUST be 3.

**itc (2 bytes):** An [ItcFirstLim](#) that specifies which cells this **CellHideMarkOperand** applies to.

**bArg (1 byte):** A [Bool8](#) that specifies whether cells **itc.itcFirst** through **itc.itcLim**, decremented by 1, are rendered with no height if all cells in the row are empty.

**2.9.27 CellRangeFitText**

The **CellRangeFitText** structure is an operand that is used by [sprmTFitText](#). This operand specifies a set of cells in a table row, and whether their contents stretch or compress to fill their widths.

|     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17       | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| itc |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    | fFitText |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**itc (2 bytes):** A [ItcFirstLim](#) structure that specifies a cell range in the table row.

**fFitText (1 byte):** A [Bool8](#). When set, the contents of each table cell only line wrap at the end of a paragraph, or at a line break character. Furthermore, the application SHOULD apply other properties as necessary to cause the contents of the first line in each cell to stretch or compress such that they exactly fill the width of the table cell.

**2.9.28 CellRangeNoWrap**

The **CellRangeNoWrap** structure is an operand that is used by [sprmTFCellNoWrap](#). This operand specifies a set of cells in a table row and the preferred line wrapping layout of each.

|    |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |
|----|---|---|---|---|---|---|---|---|---|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------|----|----|----|----|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27      | 28 | 29 | 30 | 31 |
| cb |   |   |   |   |   |   |   |   |   | itc |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | fNoWrap |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size in bytes of the remainder of this structure. MUST be 3.

**itc (2 bytes):** A [ItcFirstLim](#) structure that specifies a cell range to which **fNoWrap** applies.

**fNoWrap (1 byte):** A [Bool8](#). When set, the preferred layout of the contents of each cell is a single line. This preference is ignored when the preferred width of the cell is set to [ftsDxa](#).

### 2.9.29 CellRangeTextFlow

The **CellRangeTextFlow** structure specifies a range of cells in a table row, and the text flow model of the cell contents.

|     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| itc |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | tf |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**itc (2 bytes):** An [ItcFirstLim](#) that specifies a cell range in the table row.

**tf (2 bytes):** A [TextFlow](#) that specifies how contents in each cell flow, and how text is rotated.

### 2.9.30 CellRangeVertAlign

The **CellRangeVertAlign** structure specifies a range of cells in a table row, and the vertical alignment of the cell contents.

|    |   |   |     |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |    |    |    |
|----|---|---|-----|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|----|----|----|----|
| 0  | 1 | 2 | 3   | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27     | 28 | 29 | 30 | 31 |
| cb |   |   | itc |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | valign |    |    |    |    |

**cb (1 byte):** Specifies the byte count of the remainder of this structure. The value MUST be 3.

**itc (2 bytes):** An [ItcFirstLim](#) that specifies a cell range in the table row.

**valign (1 byte):** A [VerticalAlign](#) that specifies how contents inside each cell in the range are aligned.

### 2.9.31 CFitTextOperand

The **CFitTextOperand** structure is an operand that is used by [sprmCFitText](#) to specify how text runs are formatted to fit a particular width.

|     |   |   |            |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|-----|---|---|------------|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0   | 1 | 2 | 3          | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| cb  |   |   | dxaFitText |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   | FitTextID  |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |            |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**cb (1 byte):** The number of bytes that this operand occupies. This value MUST be 0x08.

**dxaFitText (4 bytes):** A 32-bit signed integer value that specifies, in twips, the size of the space in which to fit the text. Text that would occupy a smaller width than specified has space added between characters. Text that would occupy a greater width than specified is compressed proportionally. A value of zero specifies that the [Sprm](#) is ignored. A value representing a width that is too large for the text run is also ignored. A negative value or a value representing a width that is too small for the text run specifies the minimum width.

**FitTextID (4 bytes):** A 32-bit signed integer that uniquely identifies a fit text region across multiple character runs and instances of sprmCFitText. Contiguous character runs that share a common **FitTextID** are part of the same fit text region. If the runs are not contiguous, the **FitTextID** is ignored and they are not linked.

### 2.9.32 Chpx

The **Chpx** structure specifies a set of properties for text.

|     |   |   |   |   |   |   |   |   |   |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10               | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | grppl (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size of **grppl**, in bytes.

**grppl (variable):** An array of [Prl](#). Specifies the properties. This array MUST contain a whole number of Prls.

### 2.9.33 ChpxFkp

The **ChpxFkp** structure maps text to its character properties. A **ChpxFkp** structure is 512 bytes in size, with **crun** in the last byte. The elements of **rgb** point to [Chpxs](#) that start at offsets between **crun** and the end of **rgb**.

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| rgfc (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rgb (variable)  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| crun            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**rgfc (variable):** An array of 4-byte unsigned integers. Each element of this array specifies an offset in the [WordDocument Stream](#) where a run of text begins. This array MUST be sorted in ascending order and MUST NOT contain duplicates. Each run ends at the beginning of the next run. This array contains **crun**+1 elements, where the last element specifies the end of the last run.

**rgb (variable):** An array of 1-byte unsigned integers, followed by an array of Chpx structures. The elements of this array, which has **crun** elements and parallels **rgfc**, each specify the offset of one of the Chpxs within this ChpxFkp. The offset is computed by multiplying the value of the byte by 2.

For each *i* from 0 to **crun**, **rgb**[*i*] $\times$ 2 MUST either specify an offset, in bytes, between the end of the array and **crun**, or be equal to zero, which specifies that there is no Chpx associated with this element of **rgb**.

Each Chpx specifies the character properties for the run of text that is indicated by the corresponding element of **rgfc**.

**crun (1 byte):** An unsigned integer that specifies the number of runs of text this ChpxFkp describes. **Crun** is the last byte of the ChpxFkp. **Crun** MUST be at least 0x01, and MUST NOT exceed 0x65, as that would cause **rgfc** and **rgb** to grow too large for the ChpxFkp to be 512 bytes.

### 2.9.34 Cid

The **Cid** structure is a command identifier—a 4-byte structure that specifies a command. This element is used in other structures to identify a particular command to be executed.

The 3 least significant bits of the first byte of the structure together form a **Cmt** value which specifies the command type; the whole structure MUST be interpreted according to this command type, as follows.

| Value        | Meaning  |
|--------------|--|
| cmtFci       | This structure is a <a href="#">CidFci</a> .   |
| cmtMacro     | This structure is a <a href="#">CidMacro</a> .   |
| cmtAllocated | This structure is a <a href="#">CidAllocated</a> .   |
| cmtNil       | Specifies that the command identifier is empty and does not specify a command. If the first 3 bits of this command identifier are cmtNil, the value of the entire command identifier MUST be 0xFFFFFFFF. |

### 2.9.35 CidAllocated

The **CidAllocated** structure specifies an allocated command.

|     |   |   |          |   |   |   |   |   |   |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|----------|---|---|---|---|---|---|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3        | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16   | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cmt |   |   | reserved |   |   |   |   |   |   |    |    |    |    |    |    | iacd |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cmt (3 bits):** A [Cmt](#) value that specifies the command type. This value MUST be cmtAllocated.

**reserved (13 bits):** This value MUST be ignored.

**iacd (2 bytes):** An unsigned integer that is an index of the [Acid](#) structure in [PlfAcid.rgacd](#) and that specifies the allocated command to be executed.

### 2.9.36 CidFci

The **CidFci** structure is a command identifier that specifies a built-in command.

|     |   |   |     |   |   |   |   |   |   |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|-----|---|---|---|---|---|---|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3   | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16    | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cmt |   |   | fci |   |   |   |   |   |   |    |    |    |    |    |    | swArg |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cmt (3 bits):** A [Cmt](#) value that specifies the command type. MUST be cmtFci.

**fci (13 bits):** An unsigned integer that specifies the command. The integer MUST be either a valid [Fci](#) value, or 0x0193. The value also MUST be one of the following:



- Less than 0x049D
- Greater than or equal to 0x0FA0, and less than 0x1011
- Greater than 0x1388

When emitting, the following special rules apply.

- If the intended command is OfficeDrawingCommand and the argument to the OfficeDrawingCommand (the value of **swArg**) is not in the intervals:
  - Greater than or equal to 0x0002, and less than 0x012C.
  - Greater than or equal to 0x1001, and less than 0x10CB.
  - Greater than or equal to 0x2001, and less than 0x20CB.
  - Greater than or equal to 0x3000, and less than 0x3011.
- Then **fci** MUST be FileAOCEAddMailer; otherwise, OfficeDrawingCommand MUST be emitted.
- If the intended command is any of the following, **fci** MUST be 0x0193 AND the intended command MUST be in swArg:
  - ToolsWordCountList
  - OutlineLevel
  - ShowLevel
- If the intended command is ToolsFixHHC then **fci** MUST be MenuFormatBackground AND swArg MUST be ToolsFixHHC.
- If the intended command is any of the following, **fci** MUST be ToolsTranslateChinese AND the intended command MUST be in swArg.
  - FileNewContext
  - LineSpacing
  - AcceptChangesSelected
  - RejectChangesSelected
  - InsertNewComment
- If the intended command is not one of the following:
  - ToolsWordCountList
  - OutlineLevel
  - ShowLevel
  - OfficeDrawingCommand
  - FileNewContext
  - LineSpacing
  - AcceptChangesSelected
  - RejectChangesSelected

- InsertNewComment
- ToolsFixHHC

AND the intended command is a valid Fci value AND it is NOT one of the following:

- Less than 0x049D.
- Greater than or equal to 0x0FA0 and less than 0x1011.
- Greater than 0x1388.

Then, fci MUST be Bold.

The following special meaning applies:

- If the value of fci is FileAOCEAddMailer and the value of swArg is not 0, the CidFci SHOULD [<207>](#) have the same meaning as if fci were OfficeDrawingCommand.
- If the value of **fci** is either 0x0193, MenuFormatBackground, ToolsTranslateChinese, or Bold, and the value of **swArg** is a valid Fci value that is not allowed in **fci**, the CidFci SHOULD [<208>](#) have the same meaning as if **fci** was the Fci specified in **swArg** and the value of **swArg** is 0.

**swArg (2 bytes):** Depends on the value of **fci** as follows:

- If the value of **fci** is OfficeDrawingCommand (or FileAOCEAddMailer instead of OfficeDrawingCommand, as specified in the special rules for **fci**), then **swArg** is a MSODGCID, as specified in [\[MS-ODRAW\]](#) section 2.4.2, that specifies a drawing command.
- If the value of **fci** is 0x0193, then **swArg** is an Fci value that specifies the command. It MUST be either ToolsWordCountList, OutlineLevel, or ShowLevel.
- If the value of **fci** is MenuFormatBackground, ToolsTranslateChinese, or Bold, then **swArg** MUST be either an Fci value that is allowed as specified in the special rules for **fci**, or 0, which specifies that the special rules do not apply and the command is actually what **fci** indicates.
- If the value of **fci** is FormatDrawingObject, then **swArg** is an unsigned integer that specifies which tab of the Format Object dialog is selected by default. The value of **swArg** MUST be one of the following:
  - 0x0000 – no preference.
  - 0x0046 – the tab which contains line width options.
  - 0x0047 – the tab which contains arrow options.
  - 0x0245 – the tab which contains color and line options.
  - 0x0249 – the tab which contains size options.
- If the value of **fci** is FontColor, ShadingColor, Highlight, BorderLineColor, UnderlineColor, or UnderlineStyle, then **swArg** is an unsigned integer that specifies whether a whole or partial control is needed. If valid, **swArg** MUST be one of the following:
  - 0x0000 – whole control.
  - 0x03E8 (not valid for UnderlineStyle) – only the portion that contains "Automatic" or "No Color" / "No Fill".
  - 0x03E9 (not valid for UnderlineStyle) – only the portion that contains a grid of pre-defined colors.

- 0x03EA (not valid for Highlight) – only the portion that contains "More Colors" or "More Underlines".
- If the value of **fci** is either FixSpellingChange or SpellingAndAutoCorrect, then **swArg** is a signed integer that specifies the 0-based index of the spelling suggestion being chosen by the command. Negative values MUST be ignored.
- If the value of **fci** is FileMru, then **swArg** is an unsigned integer that specifies the 0-based index in the "Most Recently Used" list of the file to be open.
- If the value of **fci** is ToolsAutoManager, then **swArg** is an unsigned integer that specifies which variant of the Auto options dialog is needed. It MUST be one of the following:
  - 0x0000 – generic Auto options dialog (AutoCorrect, AutoFormat, and so on).
  - 0x017A – dialog geared towards editing AutoCorrect options.
  - 0x03D9 – dialog geared towards editing AutoText entries.
- If the value of **fci** is FormatObjectCore, then **swArg** is an unsigned integer that specifies whether the intention of the command is formatting the borders of the object. It MUST be either of the following:
  - 0x0000 – formatting the object.
  - 0x00BD – formatting the borders.
  - If the value of **fci** is RunToggle, then **swArg** is a signed integer that MUST be either of the following:
    - 0x0000 – toggles between right-to-left and left-to-right input.
    - Greater than 0 – specifies a 1-based index of a keyboard layout to switch to. The availability of keyboard layouts is implementation-specific.
- If the value of **fci** is FixSynonymMenu, then **swArg** MUST be ignored.
- If the value of **fci** is ToolbarLabel, then **swArg** specifies the **toolbar control identifier (TCID)** of the label. A list of possible values can be found in [\[MS-CTDOC\]](#) section 2.2.
- For all other values of **fci**, the value of **swArg** MUST be 0.

### 2.9.37 CidMacro

The **CidMacro** structure is a command identifier that specifies a command based on a macro.

|     |   |   |          |   |   |   |   |   |   |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|----------|---|---|---|---|---|---|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3        | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16   | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cmt |   |   | reserved |   |   |   |   |   |   |    |    |    |    |    |    | ibst |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cmt (3 bits):** This value MUST be [cmtMacro](#).

**reserved (13 bits):** This field MUST be ignored.

**ibst (2 bytes):** An unsigned integer that specifies the name of the macro to be executed. The macro name is specified by [MacroName.xstz](#) of the MacroName entry in the [MacroNames](#) such that MacroName.**ibst** equals **ibst**. MacroNames MUST contain such an entry.

## 2.9.38 Clx

The **Clx** structure is an array of zero, 1, or more [Prcs](#) followed by a [Pcdt](#).

|                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| RgPrc (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Pcdt (variable)  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**RgPrc (variable):** An array of Prc. If this array is empty, the first byte of the Clx MUST be 0x02. 0x02 is invalid as the first byte of a Prc, but required for the Pcdt.

**Pcdt (variable):** A Pcdt.

## 2.9.39 CMajorityOperand

The **CMajorityOperand** structure is used by [sprmCMajority](#) to specify which character properties of the text to reset to match that of the underlying paragraph style.

|     |   |   |   |   |   |   |   |                  |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|------------------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8                | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   | grppl (variable) |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |                  |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned 8-bit integer that specifies the size, in bytes, of **grppl**.

**grppl (variable):** An array of [Prl](#). Specifies character property [Sprms](#) which, when combined with default values for non-specified properties, give a set of character properties to compare against. For a specific set of properties, if the properties of the current text match those of the combined set, the value for the property is set to that of the current paragraph style (taking style hierarchy into account.) Details and exceptions are specified in [sprmCMajority](#).

## 2.9.40 Cmt

The **Cmt** enumeration provides an unsigned 3-bit integer that specifies the type of a command; see [Cid](#) for more details. The valid values are as follows.

| Name                | Value | Meaning   |
|---------------------|-------|---|
| <b>cmtFci</b>       | 0x1   | Command based on a built-in command. See <a href="#">CidFci</a> . |
| <b>cmtMacro</b>     | 0x2   | Macro command. See <a href="#">CidMacro</a> .                     |
| <b>cmtAllocated</b> | 0x3   | Allocated command. See <a href="#">CidAllocated</a> .             |
| <b>cmtNil</b>       | 0x7   | No command. See <a href="#">Cid</a> .                             |

## 2.9.41 CNFOperand

The **CNFOperand** structure provides conditional formatting for a table style.

|     |   |   |   |   |   |   |   |   |   |      |    |    |    |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|------|----|----|----|----|----|----|----|----|----|------------------|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10   | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20               | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | cnfc |    |    |    |    |    |    |    |    |    | grppl (variable) |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |      |    |    |    |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size, in bytes, of this CNFOperand, excluding the **cb** member.

**cnfc (2 bytes):** A signed integer that specifies the condition for which the formatting in **grppl** applies.

| Value  | Meaning              |
|--------|----------------------|
| 0x0001 | Header row.          |
| 0x0002 | Footer row.          |
| 0x0004 | First column.        |
| 0x0008 | Last column.         |
| 0x0010 | Banded columns.      |
| 0x0020 | Even column banding. |
| 0x0040 | Banded rows.         |
| 0x0080 | Even row banding.    |
| 0x0100 | Top right cell.      |
| 0x0200 | Top left cell.       |
| 0x0400 | Bottom right cell.   |
| 0x0800 | Bottom left cell.    |

The value of **cnfc** MUST be one of these values.

**grppl (variable):** An array of [PrL](#). Specifies the formatting to apply (on top of the non-conditional formatting specified in the table style) when the condition is satisfied (see section 2.4.6 Applying Properties).

## 2.9.42 CNS

The **CNS** enumeration provides an unsigned 8-bit integer that specifies the separator character to be used between the chapter number and the page number when chapter numbering is enabled in page number fields.

| Name             | Value | Meaning   |
|------------------|-------|---|
| <b>cnsHyphen</b> | 0x00  | Specifies that the separator character is a hyphen ("-").   |
| <b>cnsPeriod</b> | 0x01  | Specifies that the separator character is a period (".").   |
| <b>cnsColon</b>  | 0x02  | Specifies that the separator character is a colon (":").    |
| <b>cnsEmDash</b> | 0x03  | Specifies that the separator character is an em dash ("—"). |
| <b>cnsEnDash</b> | 0x04  | Specifies that the separator character is an en dash ("–"). |

## 2.9.43 COLORREF

The **COLORREF** structure specifies a color in terms of its red, green, and blue components.

|     |   |   |   |   |   |   |   |   |   |       |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |       |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|-------|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|-------|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10    | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20   | 21 | 22 | 23 | 24 | 25 | 26    | 27 | 28 | 29 | 30 | 31 |
| red |   |   |   |   |   |   |   |   |   | green |    |    |    |    |    |    |    |    |    | blue |    |    |    |    |    | fAuto |    |    |    |    |    |

**red (1 byte):** An unsigned integer that specifies the intensity of the color red. A value of zero specifies that there is no red. Larger numbers specify a more intense red than smaller numbers.

**green (1 byte):** An unsigned integer that specifies the intensity of the color green. A value of zero specifies that there is no green. Larger numbers specify a more intense green than smaller numbers.

**blue (1 byte):** An unsigned integer that specifies the intensity of the color blue. A value of zero specifies that there is no blue. Larger numbers specify a more intense blue than smaller numbers.

**fAuto (1 byte):** An unsigned integer whose value MUST be either 0xFF or 0x00. If the value is 0xFF, the values of red, green, and blue in this COLORREF SHOULD [<209>](#) all be 0x00. If fAuto is 0xFF, this COLORREF designates the default color for the application. An application MAY [<210>](#) use different default colors based on context. This documentation refers to the COLORREF with fAuto set to 0xFF as cvAuto.

## 2.9.44 COSL

The **COSL** structure specifies the option set to use for a grammar checker implementing the **NLCheck** interface, as well as information to identify the corresponding grammar checker.

|           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cos       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | lid |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| dwVersion |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ceid      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cos (2 bytes):** An unsigned integer that specifies a NLCheck option set, which is implementation-specific to the grammar checker that is identified by **lid**, **dwVersion**, and **ceid**.

The **cos** values for English, Spanish, French, German and Japanese MUST be one of the following values.

| Language | Value  | Meaning         |
|----------|--------|-----------------|
| English  | 0x0000 | Grammar & Style |
| English  | 0x0001 | Grammar         |
| Spanish  | 0x0000 | Grammar & Style |
| Spanish  | 0x0001 | Grammar         |
| French   | 0x0000 | Grammar & Style |
| French   | 0x0001 | Grammar         |
| German   | 0x0000 | User-defined    |
| German   | 0x0001 | Grammar         |
| Japanese | 0x0000 | Casual Style    |

| Language | Value  | Meaning                    |
|----------|--------|----------------------------|
| Japanese | 0x0001 | Normal Style               |
| Japanese | 0x0002 | Normal Style (editorial)   |
| Japanese | 0x0003 | Official Style (editorial) |
| Japanese | 0x0004 | User-defined 1             |
| Japanese | 0x0005 | User-defined 2             |
| Japanese | 0x0006 | User-defined 3             |

By default, the value is 0x0001.

**lid (2 bytes):** A [LID](#) that specifies the language of the associated grammar checker.

**dwVersion (4 bytes):** An unsigned integer value that is the version number of the associated grammar checker, as specified through NLCheck.

**ceid (2 bytes):** An unsigned integer value that is the company identifier of the associated grammar checker, as specified through NLCheck.

### 2.9.45 CSSA

The **CSSA** structure specifies a cell spacing SPRM argument used by many [Table SPRMs](#) to define table cell margins and cell spacing.

|        |   |   |   |   |   |   |   |   |   |    |        |    |    |    |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |
|--------|---|---|---|---|---|---|---|---|---|----|--------|----|----|----|----|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|
| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11     | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21       | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| itc    |   |   |   |   |   |   |   |   |   |    | grfbrc |    |    |    |    |    |    |    |    |    | ftsWidth |    |    |    |    |    |    |    |    |    |    |
| wWidth |   |   |   |   |   |   |   |   |   |    |        |    |    |    |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |

**itc (2 bytes):** An [ItcFirstLim](#) that specifies which cells this CSSA structure applies to.

**grfbrc (1 byte):** A bit field that specifies which cell sides this cell margin or cell spacing applies to. The bit values and their meanings are as follows.

| Name       | Bit Mask | Meaning                    |
|------------|----------|----------------------------|
| fbrcTop    | 0x01     | Specifies the top side.    |
| fbrcLeft   | 0x02     | Specifies the left side.   |
| fbrcBottom | 0x04     | Specifies the bottom side. |
| fbrcRight  | 0x08     | Specifies the right side.  |

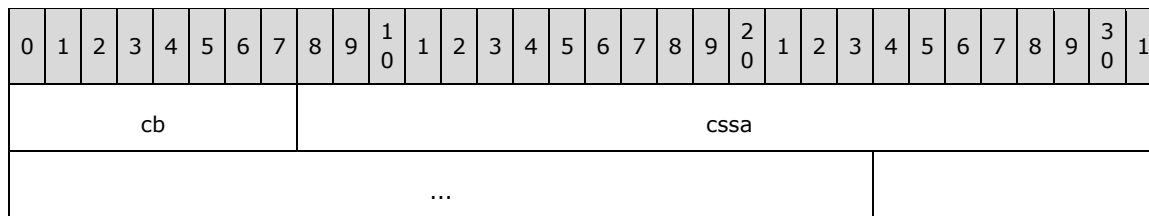
Setting all four side bits results in fBrcSidesOnly (0x0F). All other bits MUST be 0.

**ftsWidth (1 byte):** An [Fts](#) that specifies how **wWidth** is defined.

**wWidth (2 bytes):** An unsigned integer value that specifies the cell margin or cell spacing that is applied to cells **itc.itcFirst** through **itc.itcLim** - 1. The interpretation of this value depends on the value of **ftsWidth**. If **ftsWidth** is ftsNil (0x00), then **wWidth** MUST be zero.

### 2.9.46 CSSAOperand

The **CSSAOperand** structure is an operand that is used by several [Table SPRMs](#) to specify a table cell margin or cell spacing.

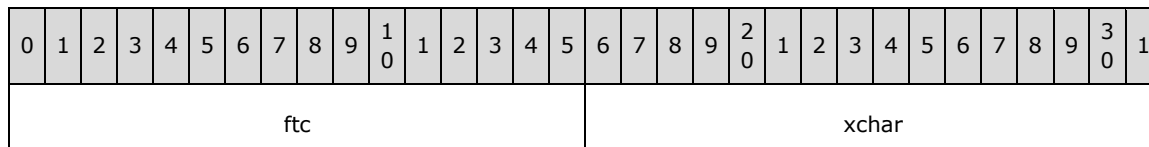


**cb (1 byte):** An unsigned integer value that specifies the size of this operand in bytes, not including **cb**. The **cb** MUST be 6.

**cssa (6 bytes):** A [CSSA](#) that specifies the cell margin or cell spacing to apply.

### 2.9.47 CSymbolOperand

The **CSymbolOperand** structure specifies the properties of a symbol character.

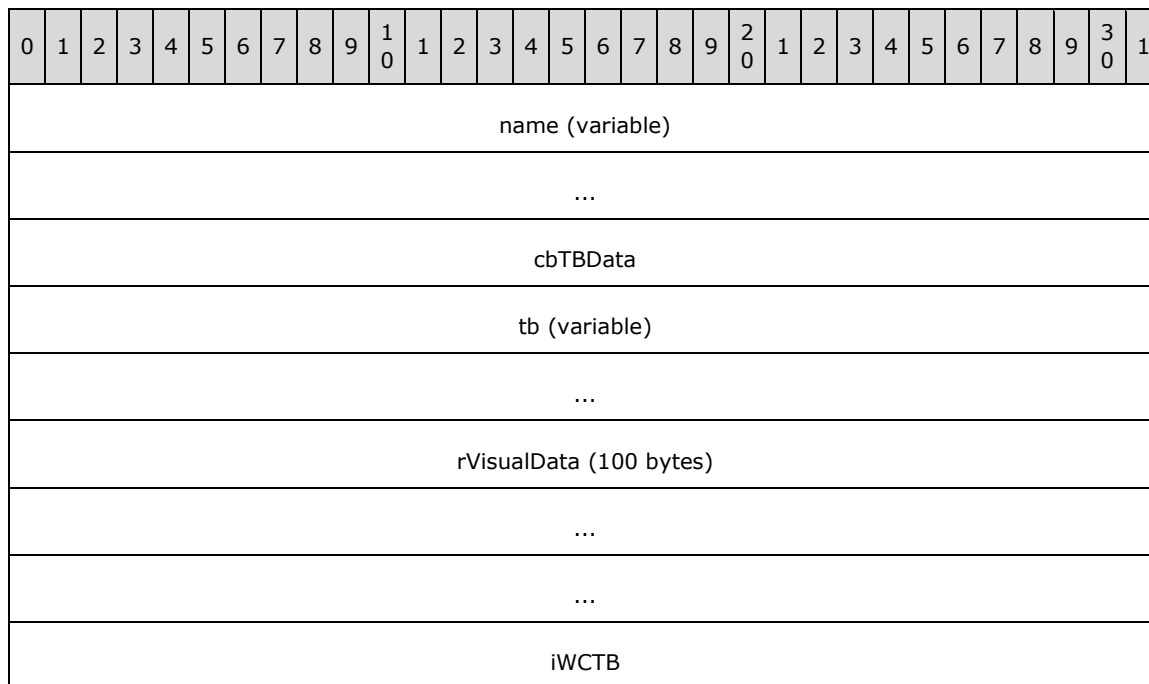


**ftc (2 bytes):** A 16-bit unsigned integer that is an index into the font table [SttbFfn](#) and that specifies the font for this symbol.

**xchar (2 bytes):** A 16-bit unsigned integer that specifies the Unicode character code of the specified font.

### 2.9.48 CTB

The **CTB** structure specifies a **custom toolbar**.





|                 |        |
|-----------------|--------|
| reserved        | unused |
| cCtls           |        |
| rTBC (variable) |        |
| ...             |        |

**name (variable):** A structure of type [Xst](#) that specifies the name of this custom toolbar.

**cbTBData (4 bytes):** A signed integer value that specifies the size, in bytes, of this structure excluding the **name**, **cCtls**, and **rTBC** fields. The value is given by the following formula.

$$\text{cbTBData} = \text{sizeof}(\text{tb}) + \text{sizeof}(\text{rVisualData}) + 12$$

**tb (variable):** A structure of type **TB**, as specified in [\[MS-OSHARED\]](#). This structure contains toolbar data.

**rVisualData (100 bytes):** A zero-based index array of **TBVisualData**, as specified in [\[MS-OSHARED\]](#) structures. The number of elements in this array MUST be 5. The index of each structure in the array corresponds to a Word view number. Refer to the following table for the meaning of each TBVisualData, as defined in [\[MS-OSHARED\]](#) structures, according to its position in this array.

| Array index of structure | Meaning of TBVisualData  |
|--------------------------|--|
| 0                        | Contains the visual information for this toolbar to be used when the application is in <b>Normal view</b> .                                |
| 1                        | Contains the visual information for this toolbar to be used when the application is in <b>Print Preview view</b> .                         |
| 2                        | Contains the visual information for this toolbar to be used when the application is in <b>full screen view</b> .                           |
| 3                        | Contains the visual information for this toolbar to be used when the application is in both Print Preview view and full screen view.       |
| 4                        | Contains the visual information for this toolbar to be used when the application is in <b>Hyperlink view</b> <a href="#">&lt;211&gt;</a> . |

**iWCTB (4 bytes):** A signed integer that specifies the zero-based index of the [Customization](#) structure that contains this structure in the **rCustomizations** array that contains the Customization structure that contains this structure. The value MUST be greater or equal to 0x00000000 and MUST be less than the value of the **cCust** field of the [CTBWRAPPER](#) structure that contains the **rCustomizations** array that contains the Customization structure that contains this structure.

**reserved (2 bytes):** This MUST be 0x0000 and MUST be ignored.

**unused (2 bytes):** This is undefined and MUST be ignored.

**cCtls (4 bytes):** A signed integer that specifies the number of **toolbar controls** in this toolbar.

**rTBC (variable):** A zero-based index array of [TBC](#) structures. The number of elements in this array MUST equal **cCtls**.

## 2.9.49 CTBWRAPPER

The **CTBWRAPPER** structure is a custom toolbar wrapper. This structure contains the custom toolbars and **toolbar deltas** that are saved to the file.

|                            |   |   |   |   |   |   |   |   |   |           |    |           |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
|----------------------------|---|---|---|---|---|---|---|---|---|-----------|----|-----------|----|----|----|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|
| 0                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10        | 11 | 12        | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22        | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| reserved1                  |   |   |   |   |   |   |   |   |   | reserved2 |    |           |    |    |    |    |    |    |    |    |    | reserved3 |    |    |    |    |    |    |    |    |    |
| reserved4                  |   |   |   |   |   |   |   |   |   |           |    | reserved5 |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
| cbTBD                      |   |   |   |   |   |   |   |   |   |           |    | cCust     |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
| cbDTBC                     |   |   |   |   |   |   |   |   |   |           |    |           |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
| rtbdc (variable)           |   |   |   |   |   |   |   |   |   |           |    |           |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
| ...                        |   |   |   |   |   |   |   |   |   |           |    |           |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
| rCustomizations (variable) |   |   |   |   |   |   |   |   |   |           |    |           |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
| ...                        |   |   |   |   |   |   |   |   |   |           |    |           |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |

**reserved1 (1 byte):** This value MUST be 0x12.

**reserved2 (2 bytes):** This value MUST be 0x0000.

**reserved3 (1 byte):** This value MUST be 0x07.

**reserved4 (2 bytes):** This value MUST be 0x0006.

**reserved5 (2 bytes):** This value MUST be 0x000C.

**cbTBD (2 bytes):** A signed integer that specifies the size, in bytes, of a [TBDelta](#) structure. This value MUST be 0x0012.

**cCust (2 bytes):** A signed integer that specifies the number of elements in the **rCustomizations** array. This value MUST be greater than 0x0000.

**cbDTBC (4 bytes):** A signed integer that specifies the size, in bytes, of the **rtbdc** array. This value MUST be greater or equal to 0x00000000.

**rtbdc (variable):** An array of [TBC](#) structures. The total size of this array, in bytes, MUST be equal to the value of **cbDTBC**. The TBC structures in this array specify toolbar controls that are associated with TBDelta structures.

**rCustomizations (variable):** A zero-based index array of [Customization](#) structures. The number of elements MUST be equal to **cCust**.

## 2.9.50 Customization

The **Customization** structure specifies either a custom toolbar or toolbar delta values.

|                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16    | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| tbidForTBD                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved1                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ctbds |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| customizationData (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**tbidForTBD (4 bytes):** A signed integer that specifies if **customizationData** contains a [CTB](#) structure or an array of [TBDelta](#) structures. This value MUST be greater than or equal to 0x00000000. If this value equals 0x00000000, **customizationData** MUST contain a CTB structure. If this value does not equal 0x00000000, **customizationData** MUST contain an array of TBDelta structures and the value of this field specifies the **toolbar** identifier of the toolbar affected by the TBDelta structures contained in the array.

**reserved1 (2 bytes):** This MUST be 0x0000 and MUST be ignored.

**ctbds (2 bytes):** A signed integer that specifies, if **tbidForTBD** is not equal to 0x00000000, the number of TBDelta structures that are contained in the **customizationData** array. This MUST be 0x0000 if **tbidForTBD** equals 0x00000000.

**customizationData (variable):** The type of this structure depends on the value of **tbidForTBD**. The types of this structure are shown following.

| Value of <b>tbidForTBD</b> | Type of <b>customizationData</b>  |
|----------------------------|---|
| 0x00000000                 | CTB   |
| not 0x00000000             | A zero-based index array of TBDelta structures. The number of elements in the array MUST be equal to <b>ctbds</b> . |

## 2.9.51 DCS

The **DCS** structure specifies the drop cap properties for a paragraph.

|      |   |   |    |   |   |   |   |          |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|----|---|---|---|---|----------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3  | 4 | 5 | 6 | 7 | 8        | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fdct |   |   | cl |   |   |   |   | reserved |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**fdct (3 bits):** An integer that specifies the drop cap type. This MUST be one of the following values.

| Value | Meaning  |
|-------|--|
| 1     | Regular drop cap, which is a single letter beginning at the leading edge of the paragraph. |
| 2     | A drop cap which is in the margin of the page, outside of the paragraph.                   |

**cl (5 bits):** An unsigned integer that specifies the number of lines to drop. This determines the size of the drop cap letter. The value MUST be between 1 and 10, inclusive.

**reserved (8 bits):** Undefined and MUST be ignored.

### 2.9.52 DefTableShd80Operand

The **DefTableSdh800Operand** structure is an operand that is used by several [Table Sprms](#) to specify each style of background shading that is applied to each of the cells in a single row.

|     |   |   |   |   |   |   |   |   |   |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | rgShd80 (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size in bytes of this operand, not including **cb**. **cb** MUST be a multiple of 2 (the size of [Shd80](#)).

**rgShd80 (variable):** An array of Shd80. The number of elements is equal to **cb** divided by 2 and MUST NOT exceed the number of cells in the row. Each Shd80 structure is applied sequentially to each cell in the row, beginning with the first cell.

### 2.9.53 DefTableShdOperand

The **DefTableShdOperand** structure is an operand that is used by several [Table Sprms](#) to specify each style of background shading that is applied to each of the cells in a single row.

|     |   |   |   |   |   |   |   |   |   |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10               | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | rgShd (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size in bytes of this operand, not including **cb**. The **cb** value MUST be a multiple of 10, the size of [Shd](#), and MUST NOT exceed 220.

**rgShd (variable):** An array of Shd. The number of elements is equal to **cb** / 10 and MUST NOT exceed 22. Each Shd structure is applied sequentially to each cell in the row. The first cell **rgShd** applies to is either 1, 23, or 45, depending on which Table Sprm is applying this operand. **rgShd** only contains elements necessary to define all shaded cells in the row. Non-shaded cells that follow the last shaded cell in the row are omitted from the array. Non-shaded cells that precede the last shaded cell in the row are set to ShdAuto or ShdNil, depending on which Table Sprm is applying this operand.

### 2.9.54 DispFldRmOperand

The **DispFldRmOperand** structure is an operand that is used by [sprmCDispFldRMark](#) and specifies whether the result of a LISTNUM display field contains a revision.

|    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20        | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb |   |   |   |   |   |   |   |   |   | f  |    |    |    |    |    |    |    |    |    | ibstshort |    |    |    |    |    |    |    |    |    |    |    |

|                |
|----------------|
| dtm            |
| xst (32 bytes) |
| ...            |
| ...            |

**cb (1 byte):** An unsigned integer that specifies the size, in bytes, of the remainder of this structure. This value MUST be 39.

**f (1 byte):** An unsigned integer that specifies whether there is a revision in the result of this LISTNUM display field. Any nonzero value specifies that there is a revision. A value of zero specifies that there are no revisions in the result of this field.

**ibstshort (2 bytes):** An unsigned integer that specifies the index into [SttbfRMark](#). The value in the string table at index **istbshort** specifies the author who made this revision.

**dtm (4 bytes):** A [DTTM](#) that specifies the time of the revision.

**xst (32 bytes):** A 15-character [XST](#) that specifies the previous result of this LISTNUM display field.

### 2.9.55 Dofr

The **Dofr** structure is a type that wraps a different data type for each type of record specified by [Dofrh.dofrt](#). When **Dofrh.dofrt** specifies doftrFs, this type is not applicable, and MUST be left out.

| Value                    | Meaning                                  |
|--------------------------|--|
| <a href="#">dofrtFsn</a> | Contains a <a href="#">DofrFsn</a> .     |
| dofrtFsnp                | Contains a <a href="#">DofrFsnp</a> .    |
| dofrtFsnName             | Contains a <a href="#">DofrFsnName</a> . |
| dofrtFsnFnm              | Contains a <a href="#">DofrFsnFnm</a> .  |
| dofrtFsnSpbd             | Contains a <a href="#">DofrFsnSpbd</a> . |
| dofrtRglstsf             | Contains a <a href="#">DofrRglstsf</a> . |

### 2.9.56 DofrFsn

The **DofrFsn** structure specifies the properties of a frame. There can be multiple **DofrFsn** records for a particular frame. If **fsnk** is [fsnkFrame](#), this record introduces a new frame. Otherwise this record applies to the frame that is associated with the previous **DofrFsn** with **fsnk** equal to **fsnkFrame**, unless it appears before the first **DofrFsn** with **fsnk** equal to **fsnkFrame**. In that case, this record applies to the outermost frame.

|      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| fssd |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

|            |   |          |
|------------|---|----------|
| tCols      |   |          |
| fsnk       |   |          |
| dxMargin   |   |          |
| dyMargin   |   |          |
| iidsScroll |   |          |
| A          | B | fUnused1 |
| fUnused2   |   |          |

**fssd (8 bytes):** An [Fssd](#) that specifies the position of the divider. If **fsnk** is not **fsnkFrame**, this value MUST be ignored.

**tCols (4 bytes):** A signed integer value that specifies whether the child frames are displayed horizontally or vertically. This field MUST contain one of the following values.

| Value      | Meaning                           |
|------------|-----------------------------------|
| 0xFFFFFFFF | No child frames                   |
| 0x00000000 | Arrange child frames into rows    |
| 0x00000001 | Arrange child frames into columns |

**fsnk (4 bytes):** A **Fsnk** that specifies the type of **DofrFsn** that contains this field.

**dxMargin (4 bytes):** A signed integer that specifies the left and right margins, in pixels, for this frame.

**dyMargin (4 bytes):** A signed integer that specifies the top and bottom margins, in pixels, for this frame.

**iidsScroll (4 bytes):** An [IScrollType](#) that specifies the scroll bar behavior for this frame.

**A - fLinked (1 bit):** Specifies whether the frame is linked to an external file.

**B - fNoResize (1 bit):** Specifies whether the size of the frame is locked and cannot be changed.

**fUnused1 (30 bits):** This value is undefined and MUST be ignored.

**fUnused2 (32 bits):** This value is undefined and MUST be ignored.

### 2.9.57 DofrFsnFnm

The **DofrFsnFnm** structure is an [Xstz](#) that specifies the file name of the file that is loaded into the frame. **DofrFsnFnm** applies to the frame that is associated with the most recently read [DofrFsn](#) record.

|                         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| xstzFilename (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|     |
|-----|
| ... |
|-----|

**xstzFilename (variable):** An **Xstz** that specifies the file name and path of the frame. The string MUST be between 0 and 258 characters in length.

**2.9.58 DofrFsnName**

The **DofrFsnName** structure is a type that specifies the name of the frame. **DofrFsnName** applies to the frame that is associated with the most recently read **DofrFsn** record.

|                         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| xstzFilename (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**xstzFilename (variable):** An **Xstz** that specifies the name of the frame. The name MUST be between 0 and 255 characters in length.

**2.9.59 DofrFsnP**

The **DofrFsnP** structure marks the beginning or end of a group of child frames. In the first marker, **fPush** is set to "true"; in the ending marker, **fPush** is set to "false". The enclosed child frames belong to the frame associated with the record that appears immediately before the **DofrFsnP**, with **fPush** set to "true".

**DofrFsnP** records can be nested. While loading the child nodes of frame A there appears another **DofrFsnP** with **fPush** set to "true". This means that the most recently loaded child record B does have child nodes. All the nodes between that **DofrFsnP** and the corresponding **DofrFsnP** with **fPush** set to "false" are the child nodes of frame B. This is how frame records support an arbitrary level of nesting within the frame set.

**DofrFsnP** records MUST be equally matched. There MUST be as many records with **fPush** set to "false" as there are records with **fPush** set to "true".

|   |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | fUnused |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fPush (1 bit):** Specifies if this marker indicates the beginning or end of a group of frames. A value of 1 specifies the beginning of a set of child frames. A value of 0 specifies the end of the child frames.

**fUnused (31 bits):** This value is unused and MUST be ignored.

**2.9.60 DofrFsnSpbd**

The **DofrFsnSpbd** structure specifies borders and divider (splitter bar) properties for the entire frame set.

|        |   |         |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---|---------|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0      | 1 | 2       | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dzaSpb |   |         |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cvSpb  |   |         |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A      | B | fUnused |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dzaSpb (4 bytes):** A signed integer that specifies the width, in twips, of the borders and dividers. This value MUST be between 0 and 31,680. If this value is 0, the default border size is used.

**cvSpb (4 bytes):** A [COLORREF](#) that specifies the color of the borders and dividers.

**A - fNoBorder (1 bit):** Specifies whether the frame set has visible borders. If this value is zero, it displays borders. If this value is 1, it does not.

**B - f3DBorder (1 bit):** Specifies whether the frame set border uses a raised style.

**fUnused (30 bits):** This value MUST be zero and MUST be ignored.

### 2.9.61 Dofrh

The **Dofrh** structure is the general record header that wraps each record type specified in the section [Dofr](#). Every record begins with this header.

Records that specify a frame set MUST begin with a record containing a **dofrt** equal to **dofrtFs**, followed by any number of records of other types, according to the rules defined in the section for each record type. Each frame MUST have one or more records that specify the attributes of the frame.

Similarly, an array of list specifications MUST begin with a record containing a **dofrt** equal to **dofrtRglstsf**, followed by any number of list records.

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| dofrt           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| dofr (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (4 bytes):** An unsigned integer that specifies the size of the **Dofrh**, including all contained variable or optional data such as the **dofr**.

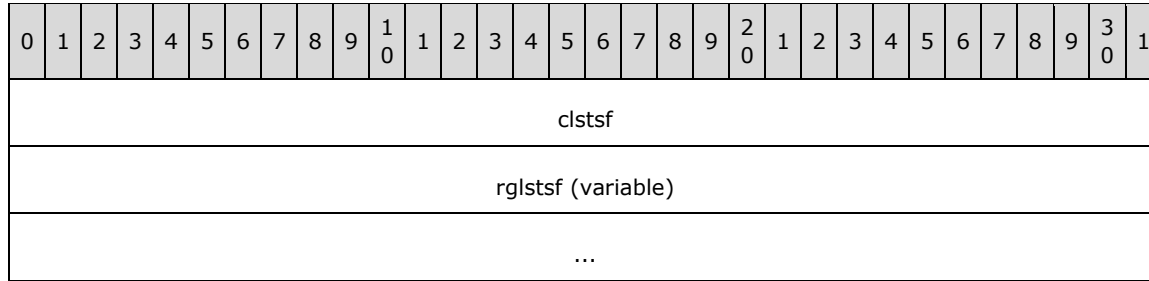
**dofrt (4 bytes):** A [Dofrt](#) that specifies the type of data contained in **dofr**.

**dofr (variable):** A **Dofr** that contains data for each record type. If **dofrt** is **dofrtFs**, this field MUST NOT exist. For all other records, this field MUST exist.

### 2.9.62 DofrRglstsf

The **DofrRglstsf** structure specifies the list styles that are used in the document.





**clstsf (4 bytes):** A signed integer that specifies the count of the items in **rglstsf**.

**rglstsf (variable):** An array of [Lstsf](#) that specifies the list styles used in the document.

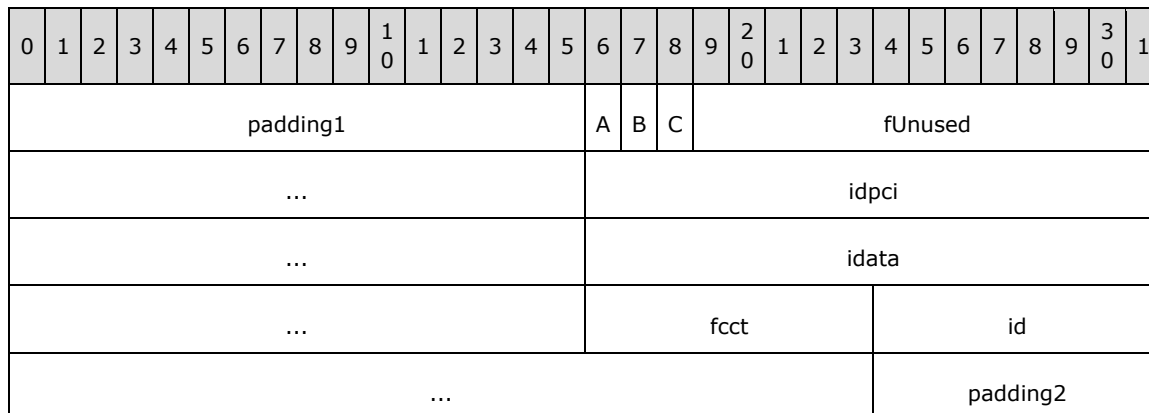
### 2.9.63 Dofrt

The **Dofrt** enumeration provides a 32-bit unsigned integer that specifies the type of record contained in a [Dofrh](#). A field of this type MUST contain one of the following values.

| Name                | Value      | Meaning                                       |
|---------------------|------------|---|
| <b>dofrtFs</b>      | 0x00000000 | Frame set root record.                        |
| <b>dofrtFsn</b>     | 0x00000001 | Frame record.                                 |
| <b>dofrtFsnp</b>    | 0x00000002 | Frame child marker.                           |
| <b>dofrtFsnName</b> | 0x00000003 | Frame name.                                   |
| <b>dofrtFsnFnm</b>  | 0x00000004 | Frame file path.                              |
| <b>dofrtFsnSpbd</b> | 0x00000005 | Frame border attributes.                      |
| <b>dofrtRglstsf</b> | 0x00000006 | An array of list styles used in the document. |

### 2.9.64 DPCID

The **DPCID** structure contains information about a format consistency-checker bookmark in the document.



**padding1 (2 bytes):** Two bytes that are used for padding. This MUST be ignored.

- A - fSquiggle (1 bit):** A bit flag that specifies whether an application is expected to display a squiggle under the region of text denoted by the bookmark associated with this DPCID. If the region of text is inside the [Main Document Part](#), **fSquiggle** MUST be 0.
- B - fIgnored (1 bit):** A bit flag that specifies whether the user requested that the flagging of the region of text by the format consistency checker that is denoted by the bookmark associated with this DPCID be ignored. If the region of text is inside the Main Document Part, **fIgnored** MUST be 1.
- C - fSquiggleChanged (1 bit):** A bit flag that specifies whether the squiggle under the region of text denoted by the bookmark associated with this DPCID has recently been changed. If the region of text is inside the Main Document Part, **fSquiggleChanged** MUST be 1.

**fUnused (29 bits):** This value MUST be 0 and MUST be ignored.

**idpci (4 bytes):** An [IDPCI](#) that specifies the kind of formatting that the format consistency checker flagged, within the range of text that is covered by the format consistency-checker bookmark associated with this DPCID. If the range of text is inside the Main Document Part, **idpci** MUST be idpciFmt, idpciPapc, or idpciLvl.

**idata (4 bytes):** This value is undefined and MUST be ignored.

**fcct (1 byte):** An [FCCT](#) that contains further information about the format consistency-checker bookmark associated with this DPCID.

**id (4 bytes):** An unsigned integer that specifies a unique value used to reference the format consistency-checker bookmark associated with this DPCID. This value MUST be unique for all DPCIDs inside a given [SttbfBkmkFcc](#).

**padding2 (1 byte):** This value is undefined and MUST be ignored.

## 2.9.65 DTTM

The **DTTM** structure specifies date and time.

|      |   |   |   |   |   |    |   |   |   |    |     |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |
|------|---|---|---|---|---|----|---|---|---|----|-----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6  | 7 | 8 | 9 | 10 | 11  | 12 | 13 | 14 | 15 | 16  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27  | 28 | 29 | 30 | 31 |
| mint |   |   |   |   |   | hr |   |   |   |    | dom |    |    |    |    | mon |    |    |    | yr |    |    |    |    |    |    | wdy |    |    |    |    |

**mint (6 bits):** An unsigned integer that specifies the minute. This value MUST be less than or equal to 0x3B.

**hr (5 bits):** An unsigned integer that specifies the hour. This value MUST be less than or equal to 0x17.

**dom (5 bits):** An unsigned integer that specifies the day of the month. This value MUST be less than or equal to 0x1F. If this value is equal to zero, this DTTM MUST be ignored.

**mon (4 bits):** An unsigned integer that specifies the month. The values 0x1 through 0xC specify the months January through December, respectively. This value MUST be less than or equal to 0xC. If this value is equal to zero, this DTTM MUST be ignored.

**yr (9 bits):** An unsigned integer that specifies the year, offset from 1900.

**wdy (3 bits):** An unsigned integer that specifies the day of the week, starting from Sunday (0x0). This value MUST be less than or equal to 0x6.

## 2.9.66 FACTOIDINFO

The **FACTOIDINFO** structure contains information about a smart tag bookmark in the document.

|      |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dwId |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A    | fUnused |   |   |   |   |   |   |   |   |    |    |    |    |    |    | fto |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| pfpb |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dwId (4 bytes):** An unsigned integer that specifies a unique value this is used to reference the smart tag bookmark associated with this **FACTOIDINFO**. This MUST be unique for all **FACTOIDINFO** structures in all [Document Parts](#).

**A - fSubEntity (1 bit):** A bit flag that specifies whether the factoid that is marked by the smart tag bookmark associated with this **FACTOIDINFO** structure is a sub-entity of a larger smart tag from the grammar checker.

**fUnused (15 bits):** This field MUST be ignored.

**fto (2 bytes):** An [FTO](#) specifying further information about the smart tag bookmark that is associated with this **FACTOIDINFO**.

**pfpb (4 bytes):** This field MUST be ignored.

## 2.9.67 FactoidSpls

The **FactoidSpls** structure is an [SPLS](#) structure that specifies the state of the smart tag recognizer over a range of text. Some states that are possible in a generic **SPLS** are not allowed in a FactoidSpls structure.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| spls |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**spls (2 bytes):** An [SPLS](#) structure.

The **spls.fError**, **spls.fExtend**, and **spls.ftypo** fields are not used and MUST be zero.

The **spls.splf** field MUST be one of the following:

- splfPending
- splfMaybeDirty
- splfDirty
- splfEdit
- splfClean

## 2.9.68 FarEastLayoutOperand

The **FarEastLayoutOperand** structure specifies layout information for text in East Asian languages, as well as the text that is considered part of the same layout unit.

|     |   |   |   |   |   |   |   |   |   |      |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|------|----|----|----|----|----|----|----|----|----|-------------|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10   | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20          | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | ufel |    |    |    |    |    |    |    |    |    | IFELayoutID |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |      |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** The size of this structure, in bytes, not including this byte. **cb** MUST be 0x06.

**ufel (2 bytes):** A [UFEL](#) that specifies the layout information.

**IFELayoutID (4 bytes):** An integer that specifies whether the corresponding text is in the same layout unit as other text. If two adjacent text runs have the same **IFELayoutID** value applied to them, they are laid out together.

## 2.9.69 FatI

The **FatI** structure is a bit field that SHOULD [<212>](#) specify which optional formats from a table style or table auto-format are enabled.

Not all formatting categories are available for every table style or table auto-format.

|   |   |   |   |   |   |   |   |   |   |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11      | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | C | D | E | F | G | H | I | J | K  | padding |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fatIBorders (1 bit):** This bit MAY [<213>](#) specify that the border formats of a table auto-format were applied by the last table auto-format.

**B - fatIShading (1 bit):** This bit MAY [<214>](#) specify that the background shading formats of a table auto-format were applied by the last table auto-format.

**C - fatIFont (1 bit):** This bit MAY [<215>](#) specify that the text font formats of a table auto-format were applied by the last table auto-format.

**D - fatIColor (1 bit):** This bit MAY [<216>](#) specify that a color variant of a table auto-format was applied by the last table auto-format. When this bit is not set, the monochrome variant was applied.

**E - fatIBestFit (1 bit):** This bit MAY [<217>](#) specify that the columns of the table were resized to best fit their contents during the last table auto-format.

**F - fatIHdrRows (1 bit):** This bit SHOULD [<218>](#) specify that the top row of the table receives special formatting.

**G - fatILastRow (1 bit):** This bit SHOULD [<219>](#) specify that the bottom row of the table receives special formatting.

**H - fatIHdrCols (1 bit):** This bit SHOULD [<220>](#) specify that the logically leftmost column receives special formatting.

**I - fatLastCol (1 bit):** This bit SHOULD [<221>](#) specify that the logically rightmost column receives special formatting.

**J - fatNoRowBands (1 bit):** This bit SHOULD [<222>](#) specify that odd numbered rows do not receive different formatting than even numbered rows.

**K - fatNoColBands (1 bit):** This bit SHOULD [<223>](#) specify that odd numbered columns do not receive different formatting than even numbered columns.

**padding (5 bits):** This MUST be zero and MUST be ignored.

### 2.9.70 FBKF

The **FBKF** structure contains information about a bookmark.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ibkl |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | bkc |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ibkl (2 bytes):** An unsigned integer that specifies a zero-based index into the [PlcfBkl](#) or [PlcfBkld](#) that is paired with the [PlcfBkf](#) or [PlcfBkfd](#) containing this FBKF. The entry that is found at such an index specifies the location of the end of the bookmark associated with this FBKF. **ibkl** MUST be unique for all FBKFs inside a given PlcfBkf or PlcfBkfd.

**bkc (2 bytes):** A [BKC](#) that specifies further information about the bookmark associated with this FBKF.

### 2.9.71 FBKFD

The **FBKFD** structure contains information about a bookmark.

|        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fbkf   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cDepth |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**fbkf (4 bytes):** An [FBKE](#) specifying further information about the bookmark.

**cDepth (2 bytes):** An integer value that specifies the number of bookmarks in the document of the same type as the bookmark associated with this **FBKFD**, the ranges of which overlap the beginning of the range of this bookmark. To increment the count, a bookmark MUST meet the following constraints:

- The **FBKFD** of the bookmark occupies the [PlcfBkfd](#) containing this [FBKLD](#).
- The starting [CP](#) (cpS) and limit CP (cpL) of the bookmark, as defined in the specification of that [PlcfBkfd](#) and the [PlcfBkld](#) it is paired with, satisfy the following in relation to the CP (cpCur) that marks the beginning of the bookmark of this **FBKFD**.

$$cpS == cpCur == cpL \ || \ cpS <= cpCur < cpL$$

## 2.9.72 FBKLD

The **FBKLD** structure contains information about a bookmark.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16     | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ibkf |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cDepth |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ibkf (2 bytes):** An unsigned integer that specifies a zero-based index into the [PlcfBkfd](#) that is paired with the [PlcfBkld](#) containing this FBKLD. The entry that is found at the index specifies the location of the start of the bookmark. **ibkf** MUST be unique for all FBKLDs in a given PlcfBkld.

**cDepth (2 bytes):** An integer that specifies the number of bookmarks in the document of the same type as the bookmark associated with this FBKLD, the ranges of which overlap the limit of the range of this bookmark. To increment the count, a bookmark MUST meet the following constraints:

- The FBKLD of the bookmark occupies the PlcfBkld containing this FBKLD.
- The limit [CP](#) (cpL) and the start CP (cpS) of the bookmark, as specified in the PlcfBkld and the PlcfBkfd it is paired with, satisfy the following in relation to the CP (cpCur) that marks the limit of the bookmark of this FBKLD.

$$\begin{aligned} \text{cpS} &\neq \text{cpL} \\ \text{cpS} &\leq \text{cpCur} < \text{cpL} \end{aligned}$$

## 2.9.73 FcCompressed

The **FcCompressed** structure specifies the location of text in the [WordDocument Stream](#).

|    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fc |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | A  | B  |

**fc (30 bits):** An unsigned integer that specifies an offset in the WordDocument Stream where the text starts. If **fCompressed** is zero, the text is an array of 16-bit Unicode characters starting at offset **fc**. If **fCompressed** is 1, the text starts at offset **fc/2** and is an array of 8-bit Unicode characters, except for the values which are mapped to Unicode characters as follows.

| Byte | Unicode Character |
|------|-------------------|
| 0x82 | 0x201A            |
| 0x83 | 0x0192            |
| 0x84 | 0x201E            |
| 0x85 | 0x2026            |
| 0x86 | 0x2020            |
| 0x87 | 0x2021            |
| 0x88 | 0x02C6            |
| 0x89 | 0x2030            |
| 0x8A | 0x0160            |
| 0x8B | 0x2039            |
| 0x8C | 0x0152            |
| 0x91 | 0x2018            |
| 0x92 | 0x2019            |
| 0x93 | 0x201C            |
| 0x94 | 0x201D            |
| 0x95 | 0x2022            |
| 0x96 | 0x2013            |
| 0x97 | 0x2014            |
| 0x98 | 0x02DC            |
| 0x99 | 0x2122            |
| 0x9A | 0x0161            |
| 0x9B | 0x203A            |
| 0x9C | 0x0153            |
| 0x9F | 0x0178            |

**A - fCompressed (1 bit):** A bit that specifies whether the text is compressed.

**B - r1 (1 bit):** This bit MUST be zero, and MUST be ignored.

### 2.9.74 FCCT

The **FCCT** structure specifies information about a format consistency-checker bookmark.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |
| A | B | C | D | E |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

**A - fcctChp (1 bit):** A bit field specifying that the character properties associated with the region of text were flagged as inconsistent with those in other regions of text in the file.

**B - fcctPap (1 bit):** A bit field specifying that paragraph properties associated with the region of text were flagged as inconsistent with those in other regions of text in the file. This bit field MUST be 0.

**C - fcctTap (1 bit):** A bit field specifying that table properties associated with the region of text were flagged as inconsistent with those in other regions of text in the file.

**D - fcctSep (1 bit):** A bit field specifying that line-separation properties associated with the region of text were flagged as inconsistent with those in other regions of text in the file.

**E - fcctUnused (4 bits):** This MUST be zero and MUST be ignored.

## 2.9.75 Fci

The **Fci** enumeration provides a 13-bit unsigned integer that specifies a built-in command.

| Name                        | Value  | Meaning  |
|-----------------------------|--------|--|
| <b>Help</b>                 | 0x0001 | Help for the current task or command.  |
| <b>HelpTool</b>             | 0x0002 | Displays Help documentation about a command or screen region or displays a detailed breakdown of the properties of text at a location on the screen. |
| <b>HelpUsingHelp</b>        | 0x0003 | Displays instructions about how to use the Help documentation.   |
| <b>HelpActiveWindow</b>     | 0x0004 | Displays information about the active pane or document view.   |
| <b>HelpKeyboard</b>         | 0x0005 | Lists the keys and their actions.  |
| <b>HelpIndex</b>            | 0x0006 | Displays the Help index.   |
| <b>HelpQuickPreview</b>     | 0x0007 | Has no effect.   |
| <b>HelpExamplesAndDemos</b> | 0x0008 | Has no effect.   |
| <b>HelpAbout</b>            | 0x0009 | Displays the application information, version number and the copyright.  |
| <b>HelpWordPerfectHelp</b>  | 0x000A | Has no effect.   |
| <b>GrowFont</b>             | 0x000B | Increases the font size of the selection.  |
| <b>ShrinkFont</b>           | 0x000C | Decreases the font size of the selection.  |
| <b>Overtyp</b>              | 0x000D | Toggles the typing mode between replacing and inserting.   |
| <b>ExtendSelection</b>      | 0x000E | Turns on extend selection mode and then expands the selection with the direction keys.   |
| <b>Spike</b>                | 0x000F | Deletes the selection and adds it to the special AutoText entry.   |
| <b>InsertSpike</b>          | 0x0010 | Empties the spike AutoText entry and inserts all of its contents into the document.  |
| <b>ChangeCase</b>           | 0x0011 | Changes the case of the letters in the selection.  |
| <b>MoveText</b>             | 0x0012 | Moves the selection to a specified location.   |
| <b>CopyText</b>             | 0x0013 | Makes a copy of the selection at a specified location.   |
| <b>InsertAutoText</b>       | 0x0014 | Replaces the name of the AutoText entry with its contents.   |
| <b>OtherPane</b>            | 0x0015 | Switches to the other window pane.   |
| <b>NextWindow</b>           | 0x0016 | Switches to the next document window.  |
| <b>PrevWindow</b>           | 0x0017 | Switches back to the previous document window.   |



| <b>Name</b>               | <b>Value</b> | <b>Meaning</b>  |
|---------------------------|--------------|---|
| <b>RepeatFind</b>         | 0x0018       | Repeats Go To or Find to find the next occurrence.                                      |
| <b>NextField</b>          | 0x0019       | Moves to the next field.  |
| <b>PrevField</b>          | 0x001A       | Moves to the previous field.  |
| <b>ColumnSelect</b>       | 0x001B       | Selects a columnar block of text.   |
| <b>DeleteWord</b>         | 0x001C       | Deletes the next word without putting it on the Clipboard.                              |
| <b>DeleteBackWord</b>     | 0x001D       | Deletes the previous word without putting it on the Clipboard.                          |
| <b>EditClear</b>          | 0x001E       | Performs a forward delete or removes the selection without putting it on the Clipboard. |
| <b>InsertFieldChars</b>   | 0x001F       | Inserts a field with the enclosing field characters.                                    |
| <b>UpdateFields</b>       | 0x0020       | Updates and displays the results of the selected fields.                                |
| <b>UnlinkFields</b>       | 0x0021       | Permanently replaces the field codes with the results.                                  |
| <b>ToggleFieldDisplay</b> | 0x0022       | Shows the field codes or the results for the selection (toggle).                        |
| <b>LockFields</b>         | 0x0023       | Locks the selected fields to prevent updating.  |
| <b>UnlockFields</b>       | 0x0024       | Unlocks the selected fields for updating.   |
| <b>UpdateSource</b>       | 0x0025       | Copies the modified text of a linked file back to its source.                           |
| <b>Indent</b>             | 0x0026       | Moves the .logical left. indent to the next tab stop.                                   |
| <b>UnIndent</b>           | 0x0027       | Moves the .logical left. indent to the previous tab stop.                               |
| <b>HangingIndent</b>      | 0x0028       | Increases the hanging indent.   |
| <b>UnHang</b>             | 0x0029       | Decreases the hanging indent.   |
| <b>Font</b>               | 0x002A       | Changes the font of the selection.  |
| <b>FontSizeSelect</b>     | 0x002B       | Changes the font size of the selection.   |
| <b>WW2_RulerMode</b>      | 0x002C       | Makes the ruler active.   |
| <b>Bold</b>               | 0x002D       | Makes the selection bold (toggle).  |
| <b>Italic</b>             | 0x002E       | Makes the selection italic (toggle).  |
| <b>SmallCaps</b>          | 0x002F       | Makes the selection small capitals (toggle).  |
| <b>AllCaps</b>            | 0x0030       | Makes the selection all capitals (toggle).  |
| <b>Strikethrough</b>      | 0x0031       | Makes the selection strikethrough (toggle).   |
| <b>Hidden</b>             | 0x0032       | Makes the selection hidden text (toggle).   |
| <b>Underline</b>          | 0x0033       | Formats the selection with a continuous underline (toggle).                             |

| <b>Name</b>               | <b>Value</b> | <b>Meaning</b>  |
|---------------------------|--------------|---|
| <b>DoubleUnderline</b>    | 0x0034       | Double underlines the selection (toggle).                                       |
| <b>WordUnderline</b>      | 0x0035       | Underlines the words but not the spaces in the selection (toggle).              |
| <b>Superscript</b>        | 0x0036       | Makes the selection superscript (toggle).                                       |
| <b>Subscript</b>          | 0x0037       | Makes the selection subscript (toggle).   |
| <b>ResetChar</b>          | 0x0038       | Makes the selection the default character format of the applied style.          |
| <b>CharColor</b>          | 0x0039       | Changes the color of the selected text.   |
| <b>LeftPara</b>           | 0x003A       | Aligns the paragraph at the .logical left. indent.                              |
| <b>CenterPara</b>         | 0x003B       | Centers the paragraph between the indents.                                      |
| <b>RightPara</b>          | 0x003C       | Aligns the paragraph at the .logical right. indent.                             |
| <b>JustifyPara</b>        | 0x003D       | Aligns the paragraph at both the .logical left. and the .logical right. indent. |
| <b>SpacePara1</b>         | 0x003E       | Sets the line spacing to single space.  |
| <b>SpacePara15</b>        | 0x003F       | Sets the line spacing to one-and-one-half space.                                |
| <b>SpacePara2</b>         | 0x0040       | Sets the line spacing to double space.  |
| <b>CloseUpPara</b>        | 0x0041       | Removes extra spacing above the selected paragraph.                             |
| <b>OpenUpPara</b>         | 0x0042       | Sets extra spacing above the selected paragraph.                                |
| <b>ResetPara</b>          | 0x0043       | Makes the selection the default paragraph format of the applied style.          |
| <b>EditRepeat</b>         | 0x0044       | Repeats the last action.  |
| <b>GoBack</b>             | 0x0045       | Returns to the previous insertion point.  |
| <b>SaveTemplate</b>       | 0x0046       | Saves the document template of the active document.                             |
| <b>OK</b>                 | 0x0047       | Confirms a location for copying or moving the selection.                        |
| <b>Cancel</b>             | 0x0048       | Terminates an action.   |
| <b>CopyFormat</b>         | 0x0049       | Copies the formatting of the selection to a specified location.                 |
| <b>PrevPage</b>           | 0x004A       | Moves to the previous page.   |
| <b>NextPage</b>           | 0x004B       | Moves to the next page.   |
| <b>NextObject</b>         | 0x004C       | Moves to the next object on the page.   |
| <b>PrevObject</b>         | 0x004D       | Moves to the previous object on the page.                                       |
| <b>DocumentStatistics</b> | 0x004E       | Displays the statistics of the active document.                                 |
| <b>FileNew</b>            | 0x004F       | Opens New Document taskpane.  |

| Name                                    | Value  | Meaning  |
|---|--------|--|
| <b>FileOpen</b>                         | 0x0050 | Opens an existing document or template.  |
| <b>MailMergeOpenDataSource</b>          | 0x0051 | Opens a data source for mail merge or insert database.                                     |
| <b>MailMergeOpenHeaderSource</b>        | 0x0052 | Opens a header source for mail merge.  |
| <b>FileSave</b>                         | 0x0053 | Saves the active document or template.   |
| <b>FileSaveAs</b>                       | 0x0054 | Saves a copy of the document in a separate file.   |
| <b>FileSaveAll</b>                      | 0x0055 | Saves all open files, macros, and building blocks and prompts for each one separately.     |
| <b>FileSummaryInfo</b>                  | 0x0056 | Shows the summary information about the active document.                                   |
| <b>FileTemplates</b>                    | 0x0057 | Changes the active template and the template options.                                      |
| <b>FilePrint</b>                        | 0x0058 | Prints the active document.  |
| <b>FilePrintPreview</b>                 | 0x0059 | Displays full pages as they will be printed.   |
| <b>WW2_PrintMerge</b>                   | 0x005A | Performs mail merge using header and data files.   |
| <b>WW2_PrintMergeCheck</b>              | 0x005B | Performs a check on a mail merge that uses header and data files.                          |
| <b>WW2_PrintMergeToDoc</b>              | 0x005C | Performs a mail merge using header and data files and places the result into the document. |
| <b>WW2_PrintMergeToPrinter</b>          | 0x005D | Performs a mail merge using header and data files and sends the result to the printer.     |
| <b>WW2_PrintMergeSelection</b>          | 0x005E | Sets mail merge options for mail merges using header and data files.                       |
| <b>WW2_PrintMergeHelper</b>             | 0x005F | Has no effect.   |
| <b>MailMergeReset</b>                   | 0x0060 | Resets a mail merge main document to a normal document.                                    |
| <b>FilePrintSetup</b>                   | 0x0061 | Changes the printer and the printing options.  |
| <b>FileExit</b>                         | 0x0062 | Quits the application and prompts to save the documents.                                   |
| <b>FileFind</b>                         | 0x0063 | Locates the documents in any directory, drive, or folder.                                  |
| <b>FileMru</b>                          | 0x0064 | Opens a file from the list of most-recently used files.                                    |
| <b>ApplyStyleName</b>                   | 0x0065 | Applies the indicated style to the selected text.  |
| <b>FormatAddrFonts</b>                  | 0x0067 | Formats the delivery address font for envelopes.   |
| <b>MailMergeEditDataSource</b>          | 0x0068 | Opens a <b>mail merge data source</b> .  |
| <b>WW2_PrintMergeCreateDataSource</b>   | 0x0069 | Creates a data file for mail merges that use a header and data file.                       |
| <b>WW2_PrintMergeCreateHeaderSource</b> | 0x006A | Creates a header file for mail merges that use a   |

| <b>Name</b>                       | <b>Value</b> | <b>Meaning</b>   |
|-----------------------------------|--------------|--|
|                                   |              | header and data file.  |
| <b>EditUndo</b>                   | 0x006B       | Reverses the last action.  |
| <b>EditCut</b>                    | 0x006C       | Cuts the selection and puts it on the Clipboard.                                     |
| <b>EditCopy</b>                   | 0x006D       | Copies the selection and puts it on the Clipboard.                                   |
| <b>EditPaste</b>                  | 0x006E       | Inserts the Clipboard contents at the insertion point.                               |
| <b>EditPasteSpecial</b>           | 0x006F       | Inserts the Clipboard contents as a linked object, embedded object, or other format. |
| <b>EditFind</b>                   | 0x0070       | Finds the specified text or the specified formatting.                                |
| <b>EditFindFont</b>               | 0x0071       | Has no effect.   |
| <b>EditFindPara</b>               | 0x0072       | Has no effect.   |
| <b>EditFindStyle</b>              | 0x0073       | Has no effect.   |
| <b>EditFindClearFormatting</b>    | 0x0074       | Has no effect.   |
| <b>EditReplace</b>                | 0x0075       | Finds the specified text or the specified formatting and replaces it.                |
| <b>EditReplaceFont</b>            | 0x0076       | Has no effect.   |
| <b>EditReplacePara</b>            | 0x0077       | Has no effect.   |
| <b>EditReplaceStyle</b>           | 0x0078       | Has no effect.   |
| <b>EditReplaceClearFormatting</b> | 0x0079       | Has no effect.   |
| <b>WW7_EditGoTo</b>               | 0x007A       | Jumps to a specified place in the active document.                                   |
| <b>WW7_EditAutoText</b>           | 0x007B       | Inserts or defines AutoText entries.   |
| <b>EditLinks</b>                  | 0x007C       | Allows links to be viewed, updated, opened, or removed.                              |
| <b>EditObject</b>                 | 0x007D       | Opens the selected object for editing.   |
| <b>ActivateObject</b>             | 0x007E       | Activates an object.   |
| <b>TextToTable</b>                | 0x007F       | Converts the text to table form.   |
| <b>TableToText</b>                | 0x0080       | Converts a table to text.  |
| <b>TableInsertTable</b>           | 0x0081       | Inserts a table.   |
| <b>TableInsertCells</b>           | 0x0082       | Inserts one or more cells into the table.  |
| <b>TableInsertRow</b>             | 0x0083       | Inserts one or more rows into the table.   |
| <b>TableInsertColumn</b>          | 0x0084       | Inserts one or more columns into the table.  |
| <b>TableDeleteCells</b>           | 0x0085       | Deletes the selected cells from the table.   |
| <b>TableDeleteRow</b>             | 0x0086       | Deletes the selected rows from the table.  |
| <b>TableDeleteColumn</b>          | 0x0087       | Deletes the selected columns from the table.   |

| <b>Name</b>                 | <b>Value</b> | <b>Meaning</b>   |
|-----------------------------|--------------|--|
| <b>TableMergeCells</b>      | 0x0088       | Merges the selected table cells into a single cell.                                |
| <b>TableSplitCells</b>      | 0x0089       | Splits the selected table cells.   |
| <b>TableSplit</b>           | 0x008A       | Inserts a paragraph mark above the current row in the table.                       |
| <b>TableSelectTable</b>     | 0x008B       | Selects an entire table.   |
| <b>TableSelectRow</b>       | 0x008C       | Selects the current row in a table.  |
| <b>TableSelectColumn</b>    | 0x008D       | Selects the current column in a table.   |
| <b>TableRowHeight</b>       | 0x008E       | Changes the height of the rows in a table.   |
| <b>TableColumnWidth</b>     | 0x008F       | Changes the width of the columns in a table.                                       |
| <b>TableGridlines</b>       | 0x0090       | Toggles table gridlines on and off.  |
| <b>ViewNormal</b>           | 0x0091       | Changes the editing view to normal view.   |
| <b>ViewOutline</b>          | 0x0092       | Displays a document outline.   |
| <b>ViewPage</b>             | 0x0093       | Displays the page as it will be printed and allows editing.                        |
| <b>WW2_ViewZoom</b>         | 0x0094       | Scales the editing view.   |
| <b>ViewDraft</b>            | 0x0095       | Displays the document without formatting and pictures for faster editing (toggle). |
| <b>ViewFieldCodes</b>       | 0x0096       | Shows the field codes or results for all fields (toggle).                          |
| <b>Style</b>                | 0x0097       | Applies an existing style or records a style by example.                           |
| <b>ToolsCustomize</b>       | 0x0098       | Customizes the application user interface including menus, keyboard and toolbars.  |
| <b>ViewRuler</b>            | 0x0099       | Shows or hides the ruler.  |
| <b>ViewStatusBar</b>        | 0x009A       | Shows or hides the status bar.   |
| <b>NormalViewHeaderArea</b> | 0x009B       | Shows a list of headers and footers for editing.                                   |
| <b>ViewFootnoteArea</b>     | 0x009C       | Opens a pane for viewing and editing the footnotes (toggle).                       |
| <b>ViewAnnotations</b>      | 0x009D       | Show or hide comment markup balloons.  |
| <b>InsertFrame</b>          | 0x009E       | Inserts an empty frame or encloses the selected item in a frame.                   |
| <b>InsertBreak</b>          | 0x009F       | Ends a page, column, or section at the insertion point.                            |
| <b>WW2_InsertFootnote</b>   | 0x00A0       | Inserts a footnote reference at the insertion point.                               |
| <b>InsertAnnotation</b>     | 0x00A1       | Inserts a comment.   |
| <b>InsertSymbol</b>         | 0x00A2       | Inserts a special character.   |
| <b>InsertPicture</b>        | 0x00A3       | Inserts a picture from a graphics file.  |

| <b>Name</b>                     | <b>Value</b> | <b>Meaning</b>   |
|---------------------------------|--------------|--|
| <b>InsertFile</b>               | 0x00A4       | Inserts the text of another file into the active document.                             |
| <b>InsertDateTime</b>           | 0x00A5       | Inserts the current date, time, or both into the active document.                      |
| <b>InsertField</b>              | 0x00A6       | Inserts a field in the active document.  |
| <b>InsertMergeField</b>         | 0x00A7       | Inserts a mail merge field at the insertion point.                                     |
| <b>EditBookmark</b>             | 0x00A8       | Assigns a name to the selection.   |
| <b>MarkIndexEntry</b>           | 0x00A9       | Marks the text to include in the index.  |
| <b>InsertIndex</b>              | 0x00AA       | Collects the index entries into an index.  |
| <b>InsertTableOfContents</b>    | 0x00AB       | Collects the headings or the table of contents entries into a table of contents.       |
| <b>InsertObject</b>             | 0x00AC       | Inserts an equation, chart, drawing, or some other object.                             |
| <b>ToolsCreateEnvelope</b>      | 0x00AD       | Creates or prints an envelope.   |
| <b>FormatFont</b>               | 0x00AE       | Changes the appearance of the selected characters.                                     |
| <b>FormatParagraph</b>          | 0x00AF       | Changes the appearance and line numbering of the selected paragraphs.                  |
| <b>FormatSectionLayout</b>      | 0x00B0       | Changes the page format of the selected sections.                                      |
| <b>FormatColumns</b>            | 0x00B1       | Changes the column format of the selected sections.                                    |
| <b>FilePageSetup</b>            | 0x00B2       | Changes the page setup of the selected sections.                                       |
| <b>FormatTabs</b>               | 0x00B3       | Sets and clears the tab stops for the selected paragraphs.                             |
| <b>FormatStyle</b>              | 0x00B4       | Applies, creates, or modifies styles.  |
| <b>FormatDefineStyleFont</b>    | 0x00B5       | Has no effect.   |
| <b>FormatDefineStylePara</b>    | 0x00B6       | Has no effect.   |
| <b>FormatDefineStyleTabs</b>    | 0x00B7       | Has no effect.   |
| <b>FormatDefineStyleFrame</b>   | 0x00B8       | Has no effect.   |
| <b>FormatDefineStyleBorders</b> | 0x00B9       | Has no effect.   |
| <b>FormatDefineStyleLang</b>    | 0x00BA       | Has no effect.   |
| <b>FormatPicture</b>            | 0x00BB       | Changes the picture scaling, size, and cropping information.                           |
| <b>ToolsLanguage</b>            | 0x00BC       | Changes the language formatting of the selected characters.                            |
| <b>FormatBordersAndShading</b>  | 0x00BD       | Changes the borders and shading of the selected paragraphs, table cells, and pictures. |
| <b>FormatFrame</b>              | 0x00BE       | Changes the options for frame formatting.  |

| <b>Name</b>                      | <b>Value</b> | <b>Meaning</b>  |
|----------------------------------|--------------|---|
| <b>ToolsSpelling</b>             | 0x00BF       | Checks the spelling in the active document.               |
| <b>ToolsSpellSelection</b>       | 0x00C0       | Checks the spelling of the selected text.                 |
| <b>ToolsGrammar</b>              | 0x00C1       | Checks the grammar in the active document.                |
| <b>ToolsThesaurus</b>            | 0x00C2       | Finds a synonym for the selected word.                    |
| <b>ToolsHyphenation</b>          | 0x00C3       | Changes the hyphenation settings for the active document. |
| <b>ToolsBulletsNumbers</b>       | 0x00C4       | Changes the numbered and bulleted paragraphs.             |
| <b>ToolsRevisions</b>            | 0x00C5       | Sets track changes for the active document.               |
| <b>ToolsCompareVersions</b>      | 0x00C6       | Compares the active document with an earlier version.     |
| <b>TableSort</b>                 | 0x00C7       | Rearranges the selection into a specified order.          |
| <b>ToolsCalculate</b>            | 0x00C8       | Calculates expressions in the selection.                  |
| <b>ToolsRepaginate</b>           | 0x00C9       | Recalculates the page breaks.                             |
| <b>WW7_ToolsOptions</b>          | 0x00CA       | Changes various categories of the application options.    |
| <b>ToolsOptionsGeneral</b>       | 0x00CB       | Changes the general options.                              |
| <b>ToolsOptionsView</b>          | 0x00CC       | Set specific view mode options.                           |
| <b>ToolsAdvancedSettings</b>     | 0x00CE       | Changes advanced options.                                 |
| <b>ToolsOptionsPrint</b>         | 0x00D0       | Changes the printing options.                             |
| <b>ToolsOptionsSave</b>          | 0x00D1       | Changes the save settings.                                |
| <b>WW2_ToolsOptionsToolbar</b>   | 0x00D2       | Changes the buttons on the toolbar.                       |
| <b>ToolsOptionsSpelling</b>      | 0x00D3       | Changes the proofreader options.                          |
| <b>ToolsOptionsGrammar</b>       | 0x00D4       | Changes the proofreader options.                          |
| <b>ToolsOptionsUserInfo</b>      | 0x00D5       | Changes the user information options.                     |
| <b>ToolsRecordMacroToggle</b>    | 0x00D6       | Turns macro recording on or off.                          |
| <b>ToolsMacro</b>                | 0x00D7       | Runs, creates, deletes, or revises a macro.               |
| <b>PauseRecorder</b>             | 0x00D8       | Pauses the macro recorder (toggle).                       |
| <b>WindowNewWindow</b>           | 0x00D9       | Opens another window for the active document.             |
| <b>WindowArrangeAll</b>          | 0x00DA       | Arranges windows as non-overlapping tiles.                |
| <b>MailMergeEditMainDocument</b> | 0x00DB       | Switches to a mail merge main document.                   |
| <b>WindowList</b>                | 0x00DC       | Switches to the window containing the specified document. |
| <b>FormatRetAddrFonts</b>        | 0x00DD       | Formats the return address font for envelopes.            |
| <b>Organizer</b>                 | 0x00DE       | Manages AutoText entries, styles, macros, and             |

| Name                               | Value  | Meaning   |
|------------------------------------|--------|---|
|                                    |        | toolbars.   |
| <b>WW2_TableColumnWidth</b>        | 0x00DF | Changes the width of the columns in a table.                      |
| <b>ToolsOptionsEdit</b>            | 0x00E0 | Changes the editing options.                                      |
| <b>ToolsOptionsFileLocations</b>   | 0x00E1 | Changes the default locations used to find files.                 |
| <b>RecordNextCommand</b>           | 0x00E2 | Records the next command executed.                                |
| <b>ToolsAutoCorrectSmartQuotes</b> | 0x00E3 | Selects or clears the AutoCorrect SmartQuotes check box.          |
| <b>ToolsWordCount</b>              | 0x00E4 | Displays the word count statistics of the active document.        |
| <b>DocSplit</b>                    | 0x00E5 | Splits the active window horizontally and then adjusts the split. |
| <b>DocSize</b>                     | 0x00E6 | Changes the size of the active window.                            |
| <b>DocMove</b>                     | 0x00E7 | Changes the position of the active window.                        |
| <b>DocMaximize</b>                 | 0x00E8 | Enlarges the active window to full size.                          |
| <b>DocRestore</b>                  | 0x00E9 | Restores the window to normal size.                               |
| <b>DocClose</b>                    | 0x00EA | Prompts to save the document and then closes the active window.   |
| <b>ControlRun</b>                  | 0x00EB | Displays the Control Panel or the Clipboard.                      |
| <b>ShrinkSelection</b>             | 0x00EC | Shrinks the selection to the next smaller unit.                   |
| <b>EditSelectAll</b>               | 0x00ED | Selects the entire document.                                      |
| <b>InsertPageField</b>             | 0x00EF | Inserts a page number field.                                      |
| <b>InsertDateField</b>             | 0x00F0 | Inserts a date field.   |
| <b>InsertTimeField</b>             | 0x00F1 | Inserts a time field.   |
| <b>FormatHeaderFooterLink</b>      | 0x00F2 | Links this header/footer to the previous section.                 |
| <b>ClosePane</b>                   | 0x00F3 | Closes the active window pane.                                    |
| <b>OutlinePromote</b>              | 0x00F4 | Promotes the selected paragraphs one heading level.               |
| <b>OutlineDemote</b>               | 0x00F5 | Demotes the selected paragraphs one heading level.                |
| <b>OutlineMoveUp</b>               | 0x00F6 | Moves the selection above the previous item in the outline.       |
| <b>OutlineMoveDown</b>             | 0x00F7 | Moves the selection below the next item in the outline.           |
| <b>NormalStyle</b>                 | 0x00F8 | Applies the Normal style.   |
| <b>OutlineExpand</b>               | 0x00F9 | Displays the next level of subtext of the selection.              |
| <b>OutlineCollapse</b>             | 0x00FA | Hides the lowest subtext of the selection.                        |
| <b>ShowHeading1</b>                | 0x00FB | Displays the level 1 headings only.                               |



| <b>Name</b>                  | <b>Value</b> | <b>Meaning</b>  |
|------------------------------|--------------|---|
| <b>ShowHeading2</b>          | 0x00FC       | Displays the level 1 and 2 headings.  |
| <b>ShowHeading3</b>          | 0x00FD       | Displays the level 1 through 3 headings.  |
| <b>ShowHeading4</b>          | 0x00FE       | Displays the level 1 through 4 headings.  |
| <b>ShowHeading5</b>          | 0x00FF       | Displays the level 1 through 5 headings.  |
| <b>ShowHeading6</b>          | 0x0100       | Displays the level 1 through 6 headings.  |
| <b>ShowHeading7</b>          | 0x0101       | Displays the level 1 through 7 headings.  |
| <b>ShowHeading8</b>          | 0x0102       | Displays the level 1 through 8 headings.  |
| <b>ShowHeading9</b>          | 0x0103       | Displays the level 1 through 9 headings.  |
| <b>ShowAllHeadings</b>       | 0x0104       | Displays all of the heading levels and the body text.   |
| <b>OutlineShowFirstLine</b>  | 0x0105       | Toggles between showing the first line of each paragraph only or showing all of the body text in the outline. |
| <b>OutlineShowFormat</b>     | 0x0106       | Toggles the display of character formatting in outline view.  |
| <b>ShowVars</b>              | 0x0107       | Has no effect.  |
| <b>StepOver</b>              | 0x0108       | Has no effect.  |
| <b>StepIn</b>                | 0x0109       | Has no effect.  |
| <b>ContinueMacro</b>         | 0x010A       | Has no effect.  |
| <b>TraceMacro</b>            | 0x010B       | Has no effect.  |
| <b>EditObjectPrivate</b>     | 0x010C       | Opens the selected object for editing.  |
| <b>NextCell</b>              | 0x010E       | Moves to the next table cell.   |
| <b>PrevCell</b>              | 0x010F       | Moves to the previous table cell.   |
| <b>StartOfRow</b>            | 0x0110       | Moves to the first cell in the current row.   |
| <b>EndOfRow</b>              | 0x0111       | Moves to the last cell in the current row.  |
| <b>StartOfColumn</b>         | 0x0112       | Moves to the first cell in the current column.  |
| <b>EndOfColumn</b>           | 0x0113       | Moves to the last cell in the current column.   |
| <b>ShowAll</b>               | 0x0114       | Shows or hides all nonprinting characters.  |
| <b>WW7_InsertPageBreak</b>   | 0x0115       | Inserts a page break at the insertion point.  |
| <b>WW7_InsertColumnBreak</b> | 0x0116       | Inserts a column break at the insertion point.  |
| <b>AppMinimize</b>           | 0x0117       | Minimizes the application window to an icon.  |
| <b>AppMaximize</b>           | 0x0118       | Enlarges the application window to full size.   |
| <b>AppRestore</b>            | 0x0119       | Restores the application window to normal size.   |
| <b>DoFieldClick</b>          | 0x011A       | Executes the action associated with the button fields.  |

| <b>Name</b>                   | <b>Value</b> | <b>Meaning</b>  |
|-------------------------------|--------------|---|
| <b>FileClose</b>              | 0x011B       | Closes all of the windows of the active document.                       |
| <b>InsertDrawing</b>          | 0x011C       | Inserts a Microsoft Draw object.  |
| <b>InsertChart</b>            | 0x011D       | Inserts a Microsoft Graph object.                                       |
| <b>SelectCurFont</b>          | 0x011E       | Selects all characters with the same font name and point size.          |
| <b>SelectCurAlignment</b>     | 0x011F       | Selects all paragraphs with the same alignment.                         |
| <b>SelectCurSpacing</b>       | 0x0120       | Selects all paragraphs with the same line spacing.                      |
| <b>SelectCurIndent</b>        | 0x0121       | Selects all paragraphs with the same indentation.                       |
| <b>SelectCurTabs</b>          | 0x0122       | Selects all paragraphs with the same tabs.                              |
| <b>SelectCurColor</b>         | 0x0123       | Selects all characters with the same color.                             |
| <b>RemoveFrames</b>           | 0x0124       | Removes frame formatting from the selection.                            |
| <b>MenuMode</b>               | 0x0125       | Makes the menu bar active.  |
| <b>InsertPageNumbers</b>      | 0x0126       | Adds page numbers to the top or the bottom of the pages.                |
| <b>WW2_ChangeRulerMode</b>    | 0x0127       | Changes the display mode of the ruler (paragraph, table, and document). |
| <b>EditPicture</b>            | 0x0128       | Uses the specified drawing application to edit the selected picture.    |
| <b>UserDialog</b>             | 0x0129       | Has no effect.  |
| <b>FormatPageNumber</b>       | 0x012A       | Changes the appearance of page numbers.                                 |
| <b>WW2_FootnoteOptions</b>    | 0x012B       | Changes the options for footnotes.                                      |
| <b>CopyFile</b>               | 0x012C       | Copies the specified file to the specified destination.                 |
| <b>FileNewDefault</b>         | 0x012D       | Creates a new document based on the NORMAL template.                    |
| <b>FilePrintDefault</b>       | 0x012E       | Prints the active document using the current defaults.                  |
| <b>ViewZoomWholePage</b>      | 0x012F       | Scales the editing view to see the whole page in page layout view.      |
| <b>ViewZoomPageWidth</b>      | 0x0130       | Scales the editing view to see the width of the page.                   |
| <b>ViewZoom100</b>            | 0x0131       | Scales the editing view to 100% in normal view.                         |
| <b>TogglePortrait</b>         | 0x0132       | Toggles between portrait and landscape mode.                            |
| <b>ToolsBulletListDefault</b> | 0x0133       | Creates a bulleted list based on the current defaults.                  |
| <b>ToggleScribbleMode</b>     | 0x0134       | Inserts a pen comment at the location of the insertion point.           |
| <b>ToolsNumberListDefault</b> | 0x0135       | Creates a numbered list based on the current defaults.                  |
| <b>FileAOCEAddMailer</b>      | 0x0137       | Has no effect.  |

| <b>Name</b>                      | <b>Value</b> | <b>Meaning</b>   |
|----------------------------------|--------------|--|
| <b>FileAOCEDeleteMailer</b>      | 0x0138       | Has no effect.   |
| <b>FileAOCEExpandMailer</b>      | 0x0139       | Has no effect.   |
| <b>FileAOCESendMail</b>          | 0x013B       | Has no effect.   |
| <b>FileAOCEReplyMail</b>         | 0x013C       | Has no effect.   |
| <b>FileAOCEReplyAllMail</b>      | 0x013D       | Has no effect.   |
| <b>FileAOCEForwardMail</b>       | 0x013E       | Has no effect.   |
| <b>FileAOCENextLetter</b>        | 0x013F       | Has no effect.   |
| <b>DocMinimize</b>               | 0x0140       | Minimizes the active window to an icon.  |
| <b>FormatAutoFormatBegin</b>     | 0x0141       | Automatically formats a document.  |
| <b>FormatChangeCase</b>          | 0x0142       | Changes the case of the letters in the selection.                                |
| <b>ViewToolbars</b>              | 0x0143       | Shows or hides the application toolbars.   |
| <b>TableInsertGeneral</b>        | 0x0144       | Inserts rows, columns, or cells in a table.                                      |
| <b>TableDeleteGeneral</b>        | 0x0145       | Deletes rows, columns, or cells in a table.                                      |
| <b>WW2_TableRowHeight</b>        | 0x0146       | Changes the height of the rows in a table.                                       |
| <b>TableToOrFromText</b>         | 0x0147       | Converts text to a table or a table to text.                                     |
| <b>EditRedo</b>                  | 0x0149       | Redoes the last action that was undone.  |
| <b>EditRedoOrRepeat</b>          | 0x014A       | Redoes the last action that was undone or repeats the last action.               |
| <b>UpdateToc</b>                 | 0x014B       | Select method of updating a table of contents or captions.                       |
| <b>ViewEndnoteArea</b>           | 0x0152       | Opens a pane for viewing and editing the endnotes (toggle).                      |
| <b>MailMergeDataForm</b>         | 0x0154       | Edits a list or table in a form.   |
| <b>InsertDatabase</b>            | 0x0155       | Inserts information from an external data source into the active document.       |
| <b>WW2_InsertTableOfContents</b> | 0x0158       | Collects the headings or the table of contents entries into a table of contents. |
| <b>WW2_ToolsHyphenation</b>      | 0x0159       | Hyphenates the current selection.  |
| <b>FormatFrameOrFramePicture</b> | 0x015A       | Puts the selected picture in a frame or formats a frame.                         |
| <b>WW2_ToolsOptionsPrint</b>     | 0x015B       | Has no effect.   |
| <b>TableFormula</b>              | 0x015C       | Inserts a formula field into a table cell.                                       |
| <b>TextFormField</b>             | 0x015D       | Inserts a text form field.   |
| <b>CheckBoxFormField</b>         | 0x015E       | Inserts a check box form field.  |
| <b>DropDownFormField</b>         | 0x015F       | Inserts a drop-down form field.  |

| <b>Name</b>                         | <b>Value</b> | <b>Meaning</b>   |
|-------------------------------------|--------------|--|
| <b>FormFieldOptions</b>             | 0x0161       | Changes the options for a form field.  |
| <b>ProtectForm</b>                  | 0x0162       | Toggles protection for the active document.  |
| <b>ApplyFontName</b>                | 0x0164       | Applies the indicated font to the selected text.   |
| <b>InsertCaption</b>                | 0x0165       | Inserts a caption above or below a selected object.  |
| <b>InsertCaptionNumbering</b>       | 0x0166       | Sets the number for a caption type.  |
| <b>InsertAutoCaption</b>            | 0x0167       | Defines which objects are inserted with a caption.   |
| <b>HelpPSSHelp</b>                  | 0x0168       | Displays information about the support available for the application.                          |
| <b>WW7_DrawTextBox</b>              | 0x016B       | Inserts a text box drawing object.   |
| <b>WW7_ToolsOptionsAutoFormat</b>   | 0x016D       | Changes the AutoFormat options.  |
| <b>DemoteToBodyText</b>             | 0x016E       | Applies the Normal style and converts the selected headings to body text.                      |
| <b>InsertCrossReference</b>         | 0x016F       | Inserts a cross-reference.   |
| <b>InsertFootnoteNow</b>            | 0x0170       | Inserts a footnote reference at the insertion point.   |
| <b>InsertEndnoteNow</b>             | 0x0171       | Inserts an endnote reference at the insertion point.   |
| <b>InsertFootnote</b>               | 0x0172       | Inserts a footnote or endnote reference at the insertion point.                                |
| <b>NoteOptions</b>                  | 0x0175       | Changes the options for footnotes or endnotes.   |
| <b>WW2_FormatCharacter</b>          | 0x0176       | Changes the appearance of the selected characters.   |
| <b>DrawLine</b>                     | 0x0178       | Inserts a line drawing object.   |
| <b>DrawRectangle</b>                | 0x0179       | Inserts a rectangle drawing object.  |
| <b>ToolsAutoCorrect</b>             | 0x017A       | Adds or deletes AutoCorrect entries.   |
| <b>ToolsAutoCorrectReplaceText</b>  | 0x017C       | Selects or clears the AutoCorrect ReplaceText check box.                                       |
| <b>ToolsAutoCorrectInitialCaps</b>  | 0x017D       | Selects or clears the AutoCorrect InitialCaps check box.                                       |
| <b>ToolsAutoCorrectSentenceCaps</b> | 0x017F       | Selects or clears the AutoCorrect SentenceCaps check box.                                      |
| <b>ToolsAutoCorrectDays</b>         | 0x0180       | Selects or clears the AutoCorrect Days check box.  |
| <b>FormatAutoFormat</b>             | 0x0181       | Automatically formats a document.  |
| <b>ToolsOptionsRevisions</b>        | 0x0182       | Changes track changes options.   |
| <b>WW2_ToolsOptionsGeneral</b>      | 0x0183       | Has no effect.   |
| <b>ResetNoteSepOrNotice</b>         | 0x0184       | Resets a separator, continuation separator, or continuation notice to the application default. |
| <b>FormatBullet</b>                 | 0x0185       | Creates a bulleted list.   |

| <b>Name</b>                          | <b>Value</b> | <b>Meaning</b>   |
|--------------------------------------|--------------|--|
| <b>FormatNumber</b>                  | 0x0186       | Creates a numbered list.                               |
| <b>FormatMultilevel</b>              | 0x0187       | Creates a multilevel list.                             |
| <b>ConvertObject</b>                 | 0x0188       | Converts or activates an object as another type.       |
| <b>TableSortAToZ</b>                 | 0x0189       | Sorts records in ascending order (A to Z).             |
| <b>TableSortZToA</b>                 | 0x018A       | Sorts records in descending order (Z to A).            |
| <b>WW7_FormatBulletsAndNumbering</b> | 0x018D       | Creates a numbered or bulleted list.                   |
| <b>FormatSimpleNumberDefault</b>     | 0x018E       | Creates a numbered list based on the current defaults. |
| <b>FormatBulletDefault</b>           | 0x018F       | Creates a bulleted list based on the current defaults. |
| <b>InsertAddCaption</b>              | 0x0192       | Adds a new caption type.                               |
| <b>GoToNextPage</b>                  | 0x0194       | Jumps to the next page in the active document.         |
| <b>GoToPreviousPage</b>              | 0x0195       | Jumps to the previous page in the active document.     |
| <b>GoToNextSection</b>               | 0x0196       | Jumps to the next section in the active document.      |
| <b>GoToPreviousSection</b>           | 0x0197       | Jumps to the previous section in the active document.  |
| <b>GoToNextFootnote</b>              | 0x0198       | Jumps to the next footnote in the active document.     |
| <b>GoToPreviousFootnote</b>          | 0x0199       | Jumps to the previous footnote in the active document. |
| <b>GoToNextEndnote</b>               | 0x019A       | Jumps to the next endnote in the active document.      |
| <b>GoToPreviousEndnote</b>           | 0x019B       | Jumps to the previous endnote in the active document.  |
| <b>GoToNextComment</b>               | 0x019C       | Jumps to the next comment in the active document.      |
| <b>GoToPreviousComment</b>           | 0x019D       | Jumps to the previous comment in the active document.  |
| <b>WW2_FormatDefineStyleChar</b>     | 0x019E       | Has no effect.   |
| <b>WW2_EditFindChar</b>              | 0x019F       | Has no effect.   |
| <b>WW2_EditReplaceChar</b>           | 0x01A0       | Has no effect.   |
| <b>AppMove</b>                       | 0x01A2       | Changes the position of the application window.        |
| <b>AppSize</b>                       | 0x01A3       | Changes the size of the application window.            |
| <b>Connect</b>                       | 0x01A4       | Connects to a network drive.                           |
| <b>WW2_EditFind</b>                  | 0x01A5       | Has no effect.   |
| <b>WW2_EditReplace</b>               | 0x01A6       | Has no effect.   |
| <b>EditFindLang</b>                  | 0x01AC       | Has no effect.   |
| <b>EditReplaceLang</b>               | 0x01AD       | Has no effect.   |

| <b>Name</b>                     | <b>Value</b> | <b>Meaning</b>   |
|---------------------------------|--------------|--|
| <b>MailMergeViewData</b>        | 0x01AF       | Toggles between viewing merge fields and actual data.                                    |
| <b>ToolsCustomizeKeyboard</b>   | 0x01B0       | Customizes the application key assignments.  |
| <b>ToolsCustomizeMenus</b>      | 0x01B1       | Customizes the application menu assignments.   |
| <b>WW2_ToolsOptionsKeyboard</b> | 0x01B2       | Remaps keys within the document.   |
| <b>ToolsMergeRevisions</b>      | 0x01B3       | Merges changes from the active document to an earlier version.                           |
| <b>ClosePreview</b>             | 0x01B5       | Exits print preview.   |
| <b>SkipNumbering</b>            | 0x01B6       | Makes the selected paragraphs skip numbering.  |
| <b>EditConvertAllFootnotes</b>  | 0x01B7       | Converts all footnotes into endnotes.  |
| <b>EditConvertAllEndnotes</b>   | 0x01B8       | Converts all endnotes into footnotes.  |
| <b>EditSwapAllNotes</b>         | 0x01B9       | Changes all footnotes to endnotes and all endnotes to footnotes.                         |
| <b>MarkTableOfContentsEntry</b> | 0x01BA       | Marks the text to include in the table of contents.                                      |
| <b>FilePgSetupGX</b>            | 0x01BC       | Has no effect.   |
| <b>FilePrintOneGX</b>           | 0x01BD       | Has no effect.   |
| <b>EditFindTabs</b>             | 0x01BE       | Has no effect.   |
| <b>EditFindBorder</b>           | 0x01BF       | Has no effect.   |
| <b>EditFindFrame</b>            | 0x01C0       | Has no effect.   |
| <b>BorderOutside</b>            | 0x01C1       | Changes the outside borders of the selected paragraphs, table cells, and pictures.       |
| <b>BorderNone</b>               | 0x01C2       | Removes borders from the selected paragraphs, table cells, and pictures.                 |
| <b>BorderLineStyle</b>          | 0x01C3       | Changes border line styles of the selected paragraphs, table cells, and pictures.        |
| <b>ShadingPattern</b>           | 0x01C4       | Changes shading pattern of the selected paragraphs, table cells, and pictures.           |
| <b>DrawEllipse</b>              | 0x01C6       | Inserts an ellipse drawing object.   |
| <b>DrawArc</b>                  | 0x01C7       | Inserts an arc drawing object.   |
| <b>EditReplaceTabs</b>          | 0x01C8       | Has no effect.   |
| <b>EditReplaceBorder</b>        | 0x01C9       | Has no effect.   |
| <b>EditReplaceFrame</b>         | 0x01CA       | Has no effect.   |
| <b>EditOfficeClipboard</b>      | 0x01CB       | Displays the contents of the shared application clipboard.                               |
| <b>EditConvertNotes</b>         | 0x01CE       | Converts selected footnotes into endnotes, or converts selected endnotes into footnotes. |

| <b>Name</b>                     | <b>Value</b> | <b>Meaning</b>  |
|---------------------------------|--------------|---|
| <b>MarkCitation</b>             | 0x01CF       | Marks the text to include in the table of authorities.                              |
| <b>WW2_ToolsRevisionsMark</b>   | 0x01D0       | Has no effect.  |
| <b>DrawGroup</b>                | 0x01D1       | Groups the selected drawing objects.  |
| <b>DrawBringToFront</b>         | 0x01D2       | Brings the selected drawing objects to the front.                                   |
| <b>DrawSendToBack</b>           | 0x01D3       | Sends the selected drawing objects to the back.                                     |
| <b>DrawSendBehindText</b>       | 0x01D4       | Sends the selected drawing objects back one layer.                                  |
| <b>DrawBringInFrontOfText</b>   | 0x01D5       | Brings the selected drawing objects forward one layer.                              |
| <b>InsertTableOfAuthorities</b> | 0x01D7       | Collects the table of authorities entries into a table of authorities.              |
| <b>InsertTableOfFigures</b>     | 0x01D8       | Collects captions into a table of captions.   |
| <b>InsertIndexAndTables</b>     | 0x01D9       | Inserts an index or a table of contents, figures, or authorities into the document. |
| <b>MailMergeNextRecord</b>      | 0x01DE       | Displays the next record in the active mail merge data source.                      |
| <b>MailMergePrevRecord</b>      | 0x01DF       | Displays the previous record in the active mail merge data source.                  |
| <b>MailMergeFirstRecord</b>     | 0x01E0       | Displays the first record in the active mail merge data source.                     |
| <b>MailMergeLastRecord</b>      | 0x01E1       | Displays the last record in the active mail merge data source.                      |
| <b>MailMergeGoToRecord</b>      | 0x01E2       | Displays the specified record in the active mail merge data source.                 |
| <b>InsertFormField</b>          | 0x01E3       | Inserts a new form field.   |
| <b>ViewHeader</b>               | 0x01E4       | Displays header in page layout view.  |
| <b>DrawUngroup</b>              | 0x01E5       | Removes the grouping of the selected group of drawing objects.                      |
| <b>PasteFormat</b>              | 0x01E6       | Applies the previously copied formatting to selection.                              |
| <b>WW2_ToolsOptionsMenus</b>    | 0x01E7       | Has no effect.  |
| <b>FormatDropCap</b>            | 0x01E8       | Formats the first character of current paragraph as a dropped capital.              |
| <b>ToolsCreateLabels</b>        | 0x01E9       | Creates or prints a label or a sheet of labels.                                     |
| <b>ViewMasterDocument</b>       | 0x01EA       | Switches to master document view.   |
| <b>CreateSubdocument</b>        | 0x01EB       | Transforms the selected outline items into subdocuments.                            |
| <b>Language</b>                 | 0x01EC       | Changes the language formatting of the selected characters.                         |
| <b>ViewFootnoteSeparator</b>    | 0x01ED       | Opens a pane for viewing and editing the footnote                                   |

| Name                                 | Value  | Meaning  |
|--------------------------------------|--------|--|
|                                      |        | separator.   |
| <b>ViewFootnoteContSeparator</b>     | 0x01EE | Opens a pane for viewing and editing the footnote continuation separator.        |
| <b>ViewFootnoteContNotice</b>        | 0x01EF | Opens a pane for viewing and editing the footnote continuation notice.           |
| <b>ViewEndnoteSeparator</b>          | 0x01F0 | Opens a pane for viewing and editing the endnote separator.                      |
| <b>ViewEndnoteContSeparator</b>      | 0x01F1 | Opens a pane for viewing and editing the endnote continuation separator.         |
| <b>ViewEndnoteContNotice</b>         | 0x01F2 | Opens a pane for viewing and editing the endnote continuation notice.            |
| <b>WW2_ToolsOptionsView</b>          | 0x01F3 | Has no effect.   |
| <b>DrawBringForward</b>              | 0x01F4 | Brings the selected drawing objects forward.                                     |
| <b>DrawSendBackward</b>              | 0x01F5 | Sends the selected drawing objects backward.                                     |
| <b>ViewFootnotes</b>                 | 0x01F6 | Opens a pane for viewing and editing the notes (toggle).                         |
| <b>ToolsProtectDocument</b>          | 0x01F7 | Sets protection for the active document.   |
| <b>ToolsShrinkToFit</b>              | 0x01F8 | Attempts to make the document fit on one less page.                              |
| <b>FormatStyleGallery</b>            | 0x01F9 | Apply styles from templates.   |
| <b>ToolsReviewRevisions</b>          | 0x01FA | Reviews changes to the active document.  |
| <b>ShowMultiplePages</b>             | 0x01FD | Show multiple pages.   |
| <b>HelpSearch</b>                    | 0x01FE | Searches for a Help topic by typing or selecting a keyword.                      |
| <b>HelpWordPerfectHelpOptions</b>    | 0x01FF | Has no effect.   |
| <b>MailMergeConvertChevrons</b>      | 0x0200 | Toggles converting Word for the Macintosh mail merge chevrons.                   |
| <b>GrowFontOnePoint</b>              | 0x0201 | Increases the font size of the selection by one point.                           |
| <b>ShrinkFontOnePoint</b>            | 0x0202 | Decreases the font size of the selection by one point.                           |
| <b>Magnifier</b>                     | 0x0203 | Toggle zoom-in / zoom-out mode.  |
| <b>FilePrintPreviewFullScreen</b>    | 0x0204 | Toggles full screen.   |
| <b>InsertSound</b>                   | 0x0207 | Inserts a sound object into the document.  |
| <b>ToolsProtectUnprotectDocument</b> | 0x0208 | Toggles protection for the active document.                                      |
| <b>ToolsUnprotectDocument</b>        | 0x0209 | Removes protection from the active document.                                     |
| <b>RemoveBulletsNumbers</b>          | 0x020A | Removes numbers and bullets from the selection.                                  |
| <b>FileCloseOrCloseAll</b>           | 0x020B | Closes the file, or if the user is holding down the shift key, closes all files. |



| <b>Name</b>                           | <b>Value</b> | <b>Meaning</b>  |
|---------------------------------------|--------------|---|
| <b>FileCloseAll</b>                   | 0x020C       | Closes all of the windows of all documents.                                     |
| <b>ToolsOptionsCompatibility</b>      | 0x020D       | Changes the document compatibility options.                                     |
| <b>CopyButtonImage</b>                | 0x020E       | Copy the image of the selected button to the Clipboard.                         |
| <b>PasteButtonImage</b>               | 0x020F       | Paste the image on the Clipboard onto the selected button.                      |
| <b>ResetButtonImage</b>               | 0x0210       | Reset the image on the selected button to the built-in image.                   |
| <b>ApplyAutoTextName</b>              | 0x0211       | Inserts the indicated AutoText entry in the document.                           |
| <b>Columns</b>                        | 0x0212       | Changes the number of columns in the selected sections.                         |
| <b>Condensed</b>                      | 0x0213       | Sets the font character spacing of the selection to condensed.                  |
| <b>Expanded</b>                       | 0x0214       | Sets the font character spacing of the selection to expanded.                   |
| <b>FontSize</b>                       | 0x0215       | Changes the font size of the selection.   |
| <b>Lowered</b>                        | 0x0216       | Lowers the selection below the base line.                                       |
| <b>Raised</b>                         | 0x0217       | Raises the selection above the base line.                                       |
| <b>FileOpenFile</b>                   | 0x0218       | Opens a document.   |
| <b>DrawRoundRectangle</b>             | 0x0219       | Inserts a rounded rectangle drawing object.                                     |
| <b>DrawFreeformPolygon</b>            | 0x021A       | Inserts a freeform drawing object.  |
| <b>SelectDrawingObjects</b>           | 0x0221       | Allows the selection of multiple drawing objects.                               |
| <b>Shading</b>                        | 0x0222       | Changes the background shading of paragraphs and table cells.                   |
| <b>Borders</b>                        | 0x0223       | Changes the borders of paragraphs, table cells, and pictures.                   |
| <b>Color</b>                          | 0x0224       | Changes the color of the selected text.   |
| <b>DialogEditor</b>                   | 0x0228       | Opens the macro dialog editor.  |
| <b>MacroREM</b>                       | 0x0229       | Has no effect.  |
| <b>StartMacro</b>                     | 0x022A       | Has no effect.  |
| <b>Symbol</b>                         | 0x022B       | Inserts a special character.  |
| <b>DrawToggleLayer</b>                | 0x022C       | Switches whether the drawing object appears in the front of or behind the text. |
| <b>ToolsCustomizeKeyboardShortcut</b> | 0x022D       | Shortcut method for customizing keyboard settings.                              |
| <b>ToolsCustomizeAddMenuShortcut</b>  | 0x022E       | Shortcut method for customizing menus.  |
| <b>DrawFlipHorizontal</b>             | 0x022F       | Flips the selected drawing objects from left to right.                          |

| <b>Name</b>                    | <b>Value</b> | <b>Meaning</b>   |
|--------------------------------|--------------|--|
| <b>DrawFlipVertical</b>        | 0x0230       | Flips the selected drawing objects from top to bottom.                                 |
| <b>DrawRotateRight</b>         | 0x0231       | Rotates the selected drawing objects 90 degrees to the right.                          |
| <b>DrawRotateLeft</b>          | 0x0232       | Rotates the selected drawing objects 90 degrees to the left.                           |
| <b>TableAutoFormat</b>         | 0x0233       | Applies a set of formatting to a table.  |
| <b>FormatTextFlow</b>          | 0x0234       | Changes text flow direction and character orientation.                                 |
| <b>WW7_FormatDrawingObject</b> | 0x0235       | Changes the fill, line, size, and position attributes of the selected drawing objects. |
| <b>InsertExcelTable</b>        | 0x0237       | Inserts a Microsoft Excel worksheet object.  |
| <b>MailMergeListWordFields</b> | 0x0238       | Inserts a field at the insertion point.  |
| <b>MailMergeFindRecord</b>     | 0x0239       | Finds a specified record in a mail merge data source.                                  |
| <b>NormalFontSpacing</b>       | 0x023B       | Removes the expanded or condensed font attribute.                                      |
| <b>NormalFontPosition</b>      | 0x023C       | Removes the raised or lowered font attribute.  |
| <b>ViewZoom200</b>             | 0x023D       | Scales the editing view to 200 percent in normal view.                                 |
| <b>ViewZoom75</b>              | 0x023E       | Scales the editing view to 75 percent in normal view.                                  |
| <b>DrawDisassemblePicture</b>  | 0x023F       | Disassembles the selected metafile picture into drawing objects.                       |
| <b>ViewZoom</b>                | 0x0241       | Scales the editing view.   |
| <b>ToolsProtectSection</b>     | 0x0242       | Sets protection for sections of the active document.                                   |
| <b>OfficeOnTheWeb</b>          | 0x0243       | Opens the Microsoft Office Online web site.  |
| <b>FontSubstitution</b>        | 0x0245       | Changes the font mapping of a document.  |
| <b>ToggleFull</b>              | 0x0246       | Toggles full screen mode on and off.   |
| <b>InsertSubdocument</b>       | 0x0247       | Opens a file and inserts it as a subdocument in a master document.                     |
| <b>MergeSubdocument</b>        | 0x0248       | Merges two adjacent subdocuments into one subdocument.                                 |
| <b>SplitSubdocument</b>        | 0x0249       | Splits the selected part of a subdocument into another subdocument at the same level.  |
| <b>NewToolbar</b>              | 0x024A       | Creates a new toolbar.   |
| <b>ToggleMainTextLayer</b>     | 0x024B       | Toggles showing the main text layer in page layout view.                               |
| <b>ShowPrevHeaderFooter</b>    | 0x024C       | Shows the header or footer of the previous section in page layout view.                |
| <b>ShowNextHeaderFooter</b>    | 0x024D       | Shows header or footer of the next section in page layout view.                        |

| Name                                    | Value  | Meaning  |
|---|--------|--|
| <b>GoToHeaderFooter</b>                 | 0x024E | Jump between header and footer.  |
| <b>PromoteList</b>                      | 0x024F | Promotes the selection one level.  |
| <b>DemoteList</b>                       | 0x0250 | Demotes the selection one level.   |
| <b>ApplyHeading1</b>                    | 0x0251 | Applies Heading 1 style to the selected text.  |
| <b>ApplyHeading2</b>                    | 0x0252 | Applies Heading 2 style to the selected text.  |
| <b>ApplyHeading3</b>                    | 0x0253 | Applies Heading 3 style to the selected text.  |
| <b>ApplyListBullet</b>                  | 0x0254 | Applies List Bullet style to the selected text.  |
| <b>GotoCommentScope</b>                 | 0x0255 | Highlights the text associated with an comment reference mark.                                       |
| <b>TableHeadings</b>                    | 0x0256 | Toggles table headings attribute on and off.   |
| <b>OpenSubdocument</b>                  | 0x0257 | Opens a subdocument in a new window.   |
| <b>LockDocument</b>                     | 0x0258 | Toggles the file lock state of a document.   |
| <b>ToolsCustomizeRemoveMenuShortcut</b> | 0x0259 | Shortcut method for customizing menus.   |
| <b>FormatDefineStyleNumbers</b>         | 0x025A | Has no effect.   |
| <b>FormatHeadingNumbering</b>           | 0x025B | Changes numbering options for heading level styles.  |
| <b>ViewBorderToolbar</b>                | 0x025C | Shows or hides the Borders/Table toolbar.  |
| <b>ViewDrawingToolbar</b>               | 0x025D | Shows or hides the Drawing toolbar.  |
| <b>FormatHeadingNumber</b>              | 0x025E | Modifies Heading Numbering styles.   |
| <b>ToolsEnvelopesAndLabels</b>          | 0x025F | Creates or prints an envelope, a label, or a sheet of labels.  |
| <b>DrawReshape</b>                      | 0x0260 | Displays resizing handles on selected freeform drawing objects. Drag a handle to reshape the object. |
| <b>MailMergeAskToConvertChevrons</b>    | 0x0261 | Toggles whether to prompt the user about converting Word for the Macintosh mail merge chevrons.      |
| <b>FormatCallout</b>                    | 0x0262 | Formats the selected callouts or sets callout defaults.  |
| <b>DrawCallout</b>                      | 0x0263 | Inserts a callout drawing object.  |
| <b>TableFormatCell</b>                  | 0x0264 | Changes the height and width of the rows and columns in a table.                                     |
| <b>FileSendMail</b>                     | 0x0265 | Sends the active document through electronic mail.   |
| <b>EditButtonImage</b>                  | 0x0266 | Edit the image on the selected button.   |
| <b>ToolsCustomizeMenuBar</b>            | 0x0267 | Has no effect.   |
| <b>AutoMarkIndexEntries</b>             | 0x0268 | Inserts index entries using an <b>automark file</b> .  |
| <b>InsertEnSpace</b>                    | 0x026A | Inserts an EN space.   |
| <b>InsertEmSpace</b>                    | 0x026B | Inserts an EM space.   |

| Name                               | Value  | Meaning   |
|------------------------------------|--------|---|
| <b>DottedUnderline</b>             | 0x026C | Underlines the selection with dots (toggle).  |
| <b>ParaKeepLinesTogether</b>       | 0x026D | Prevents a paragraph from splitting across page boundaries.   |
| <b>ParaKeepWithNext</b>            | 0x026E | Keeps a paragraph and the following paragraph on the same page.   |
| <b>ParaPageBreakBefore</b>         | 0x026F | Makes the current paragraph start on a new page.  |
| <b>FileRoutingSlip</b>             | 0x0270 | Has no effect.  |
| <b>EditTOACategory</b>             | 0x0271 | Modifies the category names for the table of authorities.   |
| <b>TableUpdateAutoFormat</b>       | 0x0272 | Updates the table formatting to match the applied formatting set.   |
| <b>ChooseButtonImage</b>           | 0x0273 | Attach an image or text to the selected button.   |
| <b>ParaWidowOrphanControl</b>      | 0x0274 | Prevents a page break from leaving a single line of a paragraph on one page.                                  |
| <b>ToolsAddRecordDefault</b>       | 0x0275 | Adds a record to a database.  |
| <b>ToolsRemoveRecordDefault</b>    | 0x0276 | Removes a record from a database.   |
| <b>ToolsManageFields</b>           | 0x0277 | Adds or deletes a field from a database.  |
| <b>ViewToggleMasterDocument</b>    | 0x0278 | Switches between outline and master document views.   |
| <b>DrawSnapToGrid</b>              | 0x0279 | Sets up a grid for aligning drawing objects.  |
| <b>DrawAlign</b>                   | 0x027A | Aligns the selected drawing objects with one another or the page.   |
| <b>HelpTipOfTheDay</b>             | 0x027B | Displays a tip of the day.  |
| <b>FormShading</b>                 | 0x027C | Changes shading options for the current form.   |
| <b>EditUpdateIMEDic</b>            | 0x027E | Update <b>.IME.</b> dictionary.   |
| <b>RemoveSubdocument</b>           | 0x027F | Merges the contents of the selected subdocuments into the master document that contains them.                 |
| <b>CloseViewHeaderFooter</b>       | 0x0280 | Returns to document text.   |
| <b>TableAutoSum</b>                | 0x0281 | Inserts an expression field that automatically sums a table row or column.                                    |
| <b>MailMergeCreateDataSource</b>   | 0x0282 | Creates a new mail merge data source.   |
| <b>MailMergeCreateHeaderSource</b> | 0x0283 | Creates a new mail merge header source.   |
| <b>StopMacroRunning</b>            | 0x0285 | Has no effect.  |
| <b>IMEControl</b>                  | 0x0286 | Disable <b>.IME.</b>  |
| <b>DrawInsertWordPicture</b>       | 0x0288 | Opens a separate window for creating a picture object or inserts the selected drawing objects into a picture. |

| <b>Name</b>                      | <b>Value</b> | <b>Meaning</b>   |
|----------------------------------|--------------|--|
| <b>WW7_IncreaseIndent</b>        | 0x0289       | Increases indent or demotes the selection one level.                             |
| <b>WW7_DecreaseIndent</b>        | 0x028A       | Decreases indent or promotes the selection one level.                            |
| <b>SymbolFont</b>                | 0x028B       | Applies the Symbol font to the selection.  |
| <b>ToggleHeaderFooterLink</b>    | 0x028C       | Links or unlinks this header/footer to or from the previous section.             |
| <b>AutoText</b>                  | 0x028D       | Creates or inserts an AutoText entry depending on the selection.                 |
| <b>ViewFooter</b>                | 0x028E       | Displays footer in page layout view.   |
| <b>MicrosoftMail</b>             | 0x0290       | Starts or switches to Microsoft Outlook.   |
| <b>MicrosoftExcel</b>            | 0x0291       | Starts or switches to Microsoft Excel.   |
| <b>MicrosoftAccess</b>           | 0x0292       | Starts or switches to Microsoft Access.  |
| <b>MicrosoftSchedule</b>         | 0x0293       | Starts or switches to Microsoft Schedule+.                                       |
| <b>MicrosoftFoxPro</b>           | 0x0294       | Starts or switches to Microsoft FoxPro.  |
| <b>MicrosoftPowerPoint</b>       | 0x0295       | Starts or switches to Microsoft PowerPoint.                                      |
| <b>MicrosoftPublisher</b>        | 0x0296       | Starts or switches to Microsoft Publisher.                                       |
| <b>MicrosoftProject</b>          | 0x0297       | Starts or switches to Microsoft Project.   |
| <b>ListMacros</b>                | 0x0298       | Has no effect.   |
| <b>ScreenRefresh</b>             | 0x0299       | Refreshes the display.   |
| <b>ToolsRecordMacroStart</b>     | 0x029A       | Turns macro recording on or off.   |
| <b>ToolsRecordMacroStop</b>      | 0x029B       | Turns macro recording on or off.   |
| <b>StopMacro</b>                 | 0x029C       | Stops recording or running the current macro.                                    |
| <b>ToggleMacroRun</b>            | 0x029D       | Has no effect.   |
| <b>DrawNudgeUp</b>               | 0x029E       | Moves the selected drawing objects up.   |
| <b>DrawNudgeDown</b>             | 0x029F       | Moves the selected drawing objects down.   |
| <b>DrawNudgeLeft</b>             | 0x02A0       | Moves the selected drawing objects to the left.                                  |
| <b>DrawNudgeRight</b>            | 0x02A1       | Moves the selected drawing objects to the right.                                 |
| <b>WW2_ToolsMacro</b>            | 0x02A2       | Runs, creates, deletes, or revises a macro.                                      |
| <b>MailMergeEditHeaderSource</b> | 0x02A3       | Opens a mail merge header source.  |
| <b>MailMerge</b>                 | 0x02A4       | Combines files to produce form letters, mailing labels, envelopes, and catalogs. |
| <b>MailMergeCheck</b>            | 0x02A5       | Checks for errors in a mail merge.   |
| <b>MailMergeToDoc</b>            | 0x02A6       | Collects the results of a mail merge in a document.                              |
| <b>MailMergeToPrinter</b>        | 0x02A7       | Sends the results of a mail merge to the printer.                                |

| <b>Name</b>                        | <b>Value</b> | <b>Meaning</b>   |
|------------------------------------|--------------|--|
| <b>MailMergeHelper</b>             | 0x02A8       | Prepares a main document for a mail merge.   |
| <b>MailMergeQueryOptions</b>       | 0x02A9       | Sets the query options for a mail merge.   |
| <b>InsertWordArt</b>               | 0x02AA       | Inserts a Microsoft WordArt object.  |
| <b>InsertEquation</b>              | 0x02AB       | Inserts a Microsoft Equation object.   |
| <b>RunPrintManager</b>             | 0x02AC       | Displays the Print Manager.  |
| <b>FileMacPageSetup</b>            | 0x02AD       | Has no effect.   |
| <b>FileConfirmConversions</b>      | 0x02AF       | Toggles asking the user to confirm the conversion when opening a file.                 |
| <b>HelpContents</b>                | 0x02B0       | Displays Help contents.  |
| <b>WW2_InsertSymbol</b>            | 0x02B5       | Inserts a special character.   |
| <b>FileClosePicture</b>            | 0x02B6       | Closes the active picture document.  |
| <b>WW2_InsertIndex</b>             | 0x02B7       | Collects the index entries into an index.  |
| <b>DrawResetWordPicture</b>        | 0x02B8       | Sets document margins to enclose all drawing objects on the page.                      |
| <b>WW2_FormatBordersAndShading</b> | 0x02B9       | Changes the borders and shading of the selected paragraphs, table cells, and pictures. |
| <b>OpenOrCloseUpPara</b>           | 0x02BA       | Sets or removes extra spacing above the selected paragraph.                            |
| <b>DrawNudgeUpPixel</b>            | 0x02BC       | Moves the selected drawing objects up one pixel.                                       |
| <b>DrawNudgeDownPixel</b>          | 0x02BD       | Moves the selected drawing objects down one pixel.                                     |
| <b>DrawNudgeLeftPixel</b>          | 0x02BE       | Moves the selected drawing objects to the left one pixel.                              |
| <b>DrawNudgeRightPixel</b>         | 0x02BF       | Moves the selected drawing objects to the right one pixel.                             |
| <b>ToolsHyphenationManual</b>      | 0x02C0       | Hyphenates the selection or the entire document.                                       |
| <b>FixMe</b>                       | 0x02C1       | Repairs the installation of the application.   |
| <b>ClearFormField</b>              | 0x02C2       | Deletes the selected form field.   |
| <b>InsertSectionBreak</b>          | 0x02C3       | Ends a section at the insertion point.   |
| <b>DrawUnselect</b>                | 0x02C4       | Unselects a drawn object.  |
| <b>DrawSelectNext</b>              | 0x02C5       | Selects the next drawn object.   |
| <b>DrawSelectPrevious</b>          | 0x02C6       | Selects the previous drawn object.   |
| <b>MicrosoftSystemInfo</b>         | 0x02C7       | Launches the System Information application.   |
| <b>ToolsCustomizeToolbar</b>       | 0x02CC       | Customizes the toolbars.   |
| <b>IndentChar</b>                  | 0x02CF       | Increases the indent by width of a character.  |
| <b>UnIndentChar</b>                | 0x02D0       | Decreases the indent by width of a character.  |

| <b>Name</b>                    | <b>Value</b> | <b>Meaning</b>  |
|--------------------------------|--------------|---|
| <b>IndentFirstChar</b>         | 0x02D1       | Increases the hanging indent by width of a character.                     |
| <b>UnIndentFirstChar</b>       | 0x02D2       | Decreases the hanging indent by width of a character.                     |
| <b>ListCommands</b>            | 0x02D3       | Create a table of commands, with key and menu assignments.                |
| <b>HelpIchitaroHelp</b>        | 0x02D8       | Shows Competitor (Ichitaro, Korean WordPerfect) help.                     |
| <b>ChangeByte</b>              | 0x02DA       | Changes between wide and narrow versions of the letters in the selection. |
| <b>ChangeKana</b>              | 0x02DB       | Changes the characters in the selection between Katakana and Hiragana.    |
| <b>EditCreatePublisher</b>     | 0x02DC       | Has no effect.  |
| <b>EditSubscribeTo</b>         | 0x02DD       | Has no effect.  |
| <b>EditPubOrSubOptions</b>     | 0x02DE       | Has no effect.  |
| <b>EditPublishOptions</b>      | 0x02DF       | Has no effect.  |
| <b>EditSubscribeOptions</b>    | 0x02E0       | Has no effect.  |
| <b>FilePgSetupCustGX</b>       | 0x02E1       | Has no effect.  |
| <b>WW7_DrawVerticalTextBox</b> | 0x02E2       | Inserts a vertical text box drawing object.                               |
| <b>ToolsOptionsTypography</b>  | 0x02E3       | Changes the Typography options.   |
| <b>DistributePara</b>          | 0x02E4       | Distributed. Paragraph.   |
| <b>ViewGridlines</b>           | 0x02E5       | Shows or hides the gridlines.   |
| <b>Highlight</b>               | 0x02E6       | Applies color highlighting to the selection.                              |
| <b>FixSpellingChange</b>       | 0x02E8       | Replaces this word by the selected suggestion.                            |
| <b>FileProperties</b>          | 0x02EE       | Shows the properties of the active document.                              |
| <b>EditCopyAsPicture</b>       | 0x02EF       | Copies the selection and puts it on the Clipboard as a picture.           |
| <b>IndentFirstLine</b>         | 0x02F2       | Increases the hanging indent by width of 2 characters.                    |
| <b>UnIndentFirstLine</b>       | 0x02F3       | Decreases the hanging indent by width of 2 characters.                    |
| <b>IndentLine</b>              | 0x02F4       | Increases the indent by width of 2 characters.                            |
| <b>UnIndentLine</b>            | 0x02F5       | Decreases the indent by width of 2 characters.                            |
| <b>InsertAddress</b>           | 0x02F6       | Inserts an address from the user's Personal Address Book.                 |
| <b>NextMisspelling</b>         | 0x02F7       | Find next spelling error.   |
| <b>FilePost</b>                | 0x02F8       | Puts the active document into a Microsoft Exchange folder.                |

| Name                                   | Value  | Meaning  |
|--|--------|--|
| <b>ToolsAutoCorrectExceptions</b>      | 0x02FA | Adds or deletes AutoCorrect Capitalization exceptions.   |
| <b>MailHideMessageHeader</b>           | 0x02FB | Shows or hides the mail message header when the application is being used as an e-mail editor. |
| <b>MailMessageProperties</b>           | 0x02FC | Sets the properties of the e-mail message.   |
| <b>DotAccent</b>                       | 0x02FD | Formats the selection with dot accents (toggle).   |
| <b>CommaAccent</b>                     | 0x02FE | Formats the selection with comma accents (toggle).   |
| <b>ToolsAutoCorrectCapsLockOff</b>     | 0x02FF | Selects or clears the AutoCorrect Caps Lock Off check box.                                     |
| <b>MailMessageReply</b>                | 0x0300 | Replies to a mail message.   |
| <b>MailMessageReplyAll</b>             | 0x0301 | Replies All to a mail message.   |
| <b>MailMessageMove</b>                 | 0x0302 | Moves an e-mail message.   |
| <b>MailMessageDelete</b>               | 0x0303 | Deletes an e-mail message.   |
| <b>MailMessagePrevious</b>             | 0x0304 | Goes to the previous e-mail message.   |
| <b>MailMessageNext</b>                 | 0x0305 | Goes to the next e-mail message.   |
| <b>MailCheckNames</b>                  | 0x0306 | Checks the recipient names of an e-mail message.   |
| <b>MailSelectNames</b>                 | 0x0307 | Selects the recipients of an e-mail message.   |
| <b>MailMessageForward</b>              | 0x0308 | Forwards an e-mail message.  |
| <b>ToolsSpellingRecheckDocument</b>    | 0x0309 | Resets spelling results for the current document.  |
| <b>ToolsOptionsAutoFormatAsYouType</b> | 0x030A | Changes the AutoFormat As You Type options.  |
| <b>MailMergeUseAddressBook</b>         | 0x030B | Opens an address book as a data source for mail merge.   |
| <b>EditFindHighlight</b>               | 0x030C | Has no effect.   |
| <b>EditReplaceHighlight</b>            | 0x030D | Has no effect.   |
| <b>EditFindNotHighlight</b>            | 0x030E | Has no effect.   |
| <b>EditReplaceNotHighlight</b>         | 0x030F | Has no effect.   |
| <b>ToolsHHC</b>                        | 0x0310 | Finds a Hangul/Hanja word for the selected word.   |
| <b>UnderlineColor</b>                  | 0x0311 | Changes the underline color of the selected text.  |
| <b>ToolsOptionsHHC</b>                 | 0x0312 | Changes the <b>HHC</b> options.  |
| <b>InsertVerticalFrame</b>             | 0x0313 | Inserts an empty vertical frame or encloses the selected item in a vertical frame.             |
| <b>BorderTLtoBR</b>                    | 0x0314 | Changes the top left to bottom right diagonal border of the selected table cells.              |
| <b>BorderTRtoBL</b>                    | 0x0315 | Changes the top right to bottom left diagonal border of the selected table cells.              |



| <b>Name</b>                      | <b>Value</b> | <b>Meaning</b>   |
|----------------------------------|--------------|--|
| <b>ToolsOptionsFuzzy</b>         | 0x0316       | Changes the fuzzy expressions options.                       |
| <b>DrawBrace</b>                 | 0x0317       | Inserts a brace drawing object.                              |
| <b>DrawBracket</b>               | 0x0318       | Inserts a bracket drawing object.                            |
| <b>HelpAW</b>                    | 0x031A       | Locates Help topics based on an entered question or request. |
| <b>HelpMSN</b>                   | 0x031B       | Has no effect.   |
| <b>CreateTable</b>               | 0x031C       | Inserts a table.   |
| <b>CharScale</b>                 | 0x031D       | Applies character scaling to the selection.                  |
| <b>DoubleStrikethrough</b>       | 0x031E       | Makes the selection double strikethrough (toggle).           |
| <b>TopAlign</b>                  | 0x031F       | Aligns cell content to the top of cell.                      |
| <b>CenterAlign</b>               | 0x0320       | Aligns cell content to the center of cell.                   |
| <b>BottomAlign</b>               | 0x0321       | Aligns cell content to the bottom of cell.                   |
| <b>ViewOutlineSplitToolbar</b>   | 0x0324       | Shows or hides the Borders/Table toolbar.                    |
| <b>DistributeColumn</b>          | 0x0327       | Evenly distributes selected columns.                         |
| <b>ViewFormatExToolbar</b>       | 0x032B       | Shows or hides the Extended Formatting toolbar.              |
| <b>InsertNumber</b>              | 0x032C       | Inserts a number in the active document.                     |
| <b>ContextHelp</b>               | 0x032D       | Toggles context sensitive help through F1 key.               |
| <b>InsertOfficeDrawing</b>       | 0x032F       | Inserts a Microsoft Draw object.                             |
| <b>RedefineStyle</b>             | 0x0330       | Redefines the current style based on the selected text.      |
| <b>ViewOnline</b>                | 0x0334       | Displays the document optimized for reading online.          |
| <b>LetterProperties</b>          | 0x0335       | Formats a Letter Document.                                   |
| <b>BrowseSel</b>                 | 0x0336       | Select the next/previous browse object.                      |
| <b>BrowsePrev</b>                | 0x0337       | Jump to the previous browse object.                          |
| <b>FormatBulletsAndNumbering</b> | 0x0338       | Creates a numbered or bulleted list.                         |
| <b>ListOutdent</b>               | 0x0339       | Promotes the selection one level.                            |
| <b>ListIndent</b>                | 0x033A       | Demotes the selection one level.                             |
| <b>ToolsProofing</b>             | 0x033C       | Checks the proofing in the active document.                  |
| <b>InsertPageBreak</b>           | 0x033E       | Inserts a page break at the insertion point.                 |
| <b>InsertColumnBreak</b>         | 0x033F       | Inserts a column break at the insertion point.               |
| <b>ToolsCreateDirectory</b>      | 0x0341       | Creates a new directory.                                     |
| <b>BrowseNext</b>                | 0x0342       | Jump to the next browse object.                              |
| <b>InsertNumberOfPages</b>       | 0x0343       | Inserts a number of pages field.                             |

| <b>Name</b>                     | <b>Value</b> | <b>Meaning</b>   |
|---------------------------------|--------------|--|
| <b>NextInsert</b>               | 0x0344       | Returns to the next insertion point.                                   |
| <b>TextBoxLinking</b>           | 0x0348       | Creates a forward link to another text box.                            |
| <b>TextBoxUnlinking</b>         | 0x0349       | Breaks the forward link to another text box.                           |
| <b>GotoNextLinkedTextBox</b>    | 0x034A       | Selects the next linked text box.                                      |
| <b>GotoPrevLinkedTextBox</b>    | 0x034B       | Selects the previous linked text box.                                  |
| <b>ToolsSpellingRange</b>       | 0x034E       | Checks the spelling on the range.                                      |
| <b>ToolsGrammarRange</b>        | 0x034F       | Checks the spelling and grammar on the range.                          |
| <b>ViewWeb</b>                  | 0x0350       | Displays the document similarly to how a web browser would.            |
| <b>ShowTableGridlines</b>       | 0x0351       | Toggles table gridlines on and off.                                    |
| <b>BlogBlogPublish</b>          | 0x0352       | Sends the active document to a blog.                                   |
| <b>BlogBlogPublishDraft</b>     | 0x0353       | Sends the active document to a blog.                                   |
| <b>BlogBlogOpenExistingDlg</b>  | 0x0354       | Open an existing blog.   |
| <b>BlogBlogInsertCategory</b>   | 0x0355       | Inserts a category dropdown into the document.                         |
| <b>TableWrapping</b>            | 0x0356       | Changes the wrapping in a table.                                       |
| <b>FormatTheme</b>              | 0x0357       | Has no effect.   |
| <b>EditIMEReconversion</b>      | 0x0359       | Reconvert using IME.   |
| <b>HelpShowHide</b>             | 0x035A       | Show/Hide the Office Assistant.  |
| <b>InsertPictureBullet</b>      | 0x035C       | Inserts a picture as a bullet.   |
| <b>TableProperties</b>          | 0x035D       | Changes the height and width of the rows and columns in a table.       |
| <b>EmailSignatureOptions</b>    | 0x035E       | Create or changes AutoSignature entries.                               |
| <b>EmailOptions</b>             | 0x035F       | Changes various categories of e-mail options.                          |
| <b>ShadingColor</b>             | 0x0361       | Changes the shading color of the selected text.                        |
| <b>DistributeGeneral</b>        | 0x0362       | Evenly distributes selected rows/columns in a table.                   |
| <b>MergeSplitGeneral</b>        | 0x0363       | Merges or splits the selected table cell(s).                           |
| <b>ViewTogglePageBoundaries</b> | 0x0367       | Switches between showing/hiding vertical margins in Print Layout View. |
| <b>CreateAutoText</b>           | 0x0368       | Adds an AutoText entry to the active template.                         |
| <b>ToggleFormsDesign</b>        | 0x0369       | Toggles Form Design mode.  |
| <b>ToolsAutoSummarizeBegin</b>  | 0x036A       | Automatically generates a summary of the active document.              |
| <b>EmailEnvelope</b>            | 0x036B       | Displays the e-mail envelope.  |
| <b>ViewCode</b>                 | 0x036E       | View code for selected control.  |

| <b>Name</b>                              | <b>Value</b> | <b>Meaning</b>  |
|--|--------------|---|
| <b>MenuNotesFlow</b>                     | 0x036F       | Notes Flow Menu.  |
| <b>UpdateFieldsVBA</b>                   | 0x0370       | Updates and displays the results of the selected fields.  |
| <b>FontColor</b>                         | 0x0372       | Changes the color of the selected text.   |
| <b>UnlinkFieldsVBA</b>                   | 0x0373       | Permanently replaces the field codes with the results.  |
| <b>ToggleMasterSubdocs</b>               | 0x0374       | Switches between hyperlinks and subdocuments.   |
| <b>ToolsGramSettings</b>                 | 0x0375       | Customize Grammar Settings.   |
| <b>RemoveCellPartition</b>               | 0x0378       | Removes cell partitions.  |
| <b>ShowPara</b>                          | 0x037A       | Shows/hides all non-printing paragraph marks.   |
| <b>DistributeRow</b>                     | 0x037D       | Evenly distributes selected rows.   |
| <b>EditGoTo</b>                          | 0x0380       | Jumps to a specified place in the active document.  |
| <b>DeleteHyperlink</b>                   | 0x0381       | Replaces a hyperlink with its displayed text.   |
| <b>WebOptions</b>                        | 0x0382       | Opens the Web Options Dialog.   |
| <b>FixSpellingLang</b>                   | 0x0383       | Changes language of this word.  |
| <b>CreateTask</b>                        | 0x0384       | Creates a task from the current selection.  |
| <b>DisplayDetails</b>                    | 0x0385       | Displays the Details of the selected address.   |
| <b>SpellingAndAutoCorrect</b>            | 0x0387       | Adds selected suggestion as AutoCorrect replacement for this word.  |
| <b>EditPasteAsNestedTable</b>            | 0x0388       | Inserts the Clipboard contents at the insertion point.  |
| <b>ToolsAutoSummarize</b>                | 0x0389       | Automatically generates a summary of the active document.   |
| <b>AutoSummarizeClose</b>                | 0x038A       | Turns AutoSummarize view off.   |
| <b>AutoSummarizeUpdateFileProperties</b> | 0x038C       | Updates File/Properties information with the current summary.   |
| <b>AutoSummarizePercentOfOriginal</b>    | 0x038D       | Changes the size of the automatic summary.  |
| <b>AutoSummarizeToggleView</b>           | 0x038E       | Switches how the application displays a summary: highlighting summary text, or hiding everything but the summary. |
| <b>InsertOCX</b>                         | 0x0391       | Inserts the selected OCX control or registers a new OCX control.  |
| <b>FormatBackground</b>                  | 0x0392       | Displays the format background submenu.   |
| <b>ToolsAutoManager</b>                  | 0x0393       | Changes various categories of automatic options, such as AutoCorrect, AutoFormat and so on.                       |
| <b>ConvertTextBoxToFrame</b>             | 0x0394       | Converts a single selected textbox into a frame.  |
| <b>OfficeDrawingCommand</b>              | 0x0395       | Executes a Microsoft Office drawing command with the specified arguments.   |

| <b>Name</b>                      | <b>Value</b> | <b>Meaning</b>  |
|----------------------------------|--------------|---|
| <b>FormatObjectCore</b>          | 0x0396       | Changes the properties of the selected objects.                                       |
| <b>LetterWizard</b>              | 0x0397       | Wizard to create a Letter Document.   |
| <b>HyperlinkOpen</b>             | 0x0398       | Open hyperlink.   |
| <b>WebOpenHyperlink</b>          | 0x0399       | Jump to a location.   |
| <b>WebOpenInNewWindow</b>        | 0x039A       | Open in new window.   |
| <b>WebCopyHyperlink</b>          | 0x039B       | Copy shortcut.  |
| <b>WebAddToFavorites</b>         | 0x039C       | Add to Favorites.   |
| <b>InsertHyperlink</b>           | 0x039D       | Insert hyperlink.   |
| <b>EditHyperlink</b>             | 0x039E       | Edit hyperlink.   |
| <b>WebSelectHyperlink</b>        | 0x039F       | Edit text.  |
| <b>WebOpenFavorites</b>          | 0x03A0       | Open Favorites folder.  |
| <b>WebHideToolbars</b>           | 0x03A1       | Hide other toolbars.  |
| <b>WebOpenStartPage</b>          | 0x03A2       | Open Start Page.  |
| <b>WebGoBack</b>                 | 0x03A3       | Backward hyperlink.   |
| <b>FileCloseOrExit</b>           | 0x03A4       | Closes the current document. If only one document is open, the application is exited. |
| <b>WebGoForward</b>              | 0x03A5       | Forward hyperlink.  |
| <b>WebStopLoading</b>            | 0x03A6       | Stop current jump.  |
| <b>WebRefresh</b>                | 0x03A7       | Refresh current page.   |
| <b>ShowAddInsXDialog</b>         | 0x03A8       | Displays the Office AddIn Manager dialog.   |
| <b>MenuWebFavorites</b>          | 0x03A9       | Represents the "Favorites" menu. Has no effect.                                       |
| <b>WebAddress</b>                | 0x03AA       | Hyperlink address.  |
| <b>ToolsBusu</b>                 | 0x03AB       | Has no effect.  |
| <b>SendToFax</b>                 | 0x03AC       | Send this document to fax.  |
| <b>UpdateTocFull</b>             | 0x03AD       | Rebuild a table of contents or captions.  |
| <b>ToolsRevisionMarksAccept</b>  | 0x03AE       | Accepts change in current selection.  |
| <b>ToolsRevisionMarksReject</b>  | 0x03AF       | Rejects change in current selection.  |
| <b>ViewDocumentMap</b>           | 0x03B0       | Toggles state of the Heading Explorer.  |
| <b>FileVersions</b>              | 0x03B1       | Manages the versions of a document.   |
| <b>FormatBackgroundWatermark</b> | 0x03B2       | Watermark background.   |
| <b>DrawTextBox</b>               | 0x03B3       | Inserts an empty textbox or encloses the selected item in a textbox.                  |
| <b>ViewVBCode</b>                | 0x03B4       | Shows the VBA editing environment.  |

| <b>Name</b>                            | <b>Value</b> | <b>Meaning</b>   |
|--|--------------|--|
| <b>FormatNumberDefault</b>             | 0x03B6       | Creates a numbered list based on the current defaults.                             |
| <b>FormatMultilevelDefault</b>         | 0x03B7       | Creates a numbered list based on the current defaults.                             |
| <b>DrawDuplicate</b>                   | 0x03BB       | Duplicates the selected drawing objects.   |
| <b>ToolsRevisionMarksToggle</b>        | 0x03BC       | Toggles track changes for the active document.                                     |
| <b>ToolsBookshelfLookupReference</b>   | 0x03BD       | Looks up a reference for the selected word in Microsoft Bookshelf.                 |
| <b>ToolsBookshelfDefineReference</b>   | 0x03BE       | Looks up a definition for the selected word in Microsoft Bookshelf.                |
| <b>ToolsOptionsAutoFormat</b>          | 0x03BF       | Changes the AutoFormat options.  |
| <b>FormatDrawingObject</b>             | 0x03C0       | Changes the properties of the selected drawing objects.                            |
| <b>BorderLineWeight</b>                | 0x03C1       | Changes border line weights of the selected paragraphs, table cells, and pictures. |
| <b>BorderHoriz</b>                     | 0x03C2       | Changes the horizontal borders of the selected table cells.                        |
| <b>BorderVert</b>                      | 0x03C3       | Changes the vertical borders of the selected table cells.                          |
| <b>BorderLineColor</b>                 | 0x03C4       | Changes border line color of the selected paragraphs, table cells, and pictures.   |
| <b>InsertListNumField</b>              | 0x03C6       | Inserts a ListNum Field.   |
| <b>HtmlResAnchor</b>                   | 0x03C7       | Handles Internet Assistant-style hyperlink macro buttons.                          |
| <b>WebOpenSearchPage</b>               | 0x03C8       | Open Search Page.  |
| <b>PresentIt</b>                       | 0x03C9       | Creates a presentation from the current document.                                  |
| <b>ToolsRevisionMarksPrev</b>          | 0x03CA       | Find previous change.  |
| <b>ToolsRevisionMarksNext</b>          | 0x03CB       | Find next change.  |
| <b>DeleteAnnotation</b>                | 0x03CD       | Delete comment.  |
| <b>ToolsOptions</b>                    | 0x03CE       | Changes various categories of the application options.                             |
| <b>SendToOnlineMeetingParticipants</b> | 0x03CF       | Send this document to Online Meeting participant.                                  |
| <b>EditPasteAsHyperlink</b>            | 0x03D0       | Inserts the Clipboard contents as a hyperlink object.                              |
| <b>BorderAll</b>                       | 0x03D1       | Changes all the borders of the selected table cells.                               |
| <b>ToolsSpellingHide</b>               | 0x03D2       | Hide background spelling errors.   |
| <b>ToolsGrammarHide</b>                | 0x03D3       | Hide background grammar errors.  |
| <b>FormatChangeCaseFareast</b>         | 0x03D4       | Changes the case of the letters in the selection.                                  |

| <b>Name</b>                       | <b>Value</b> | <b>Meaning</b>  |
|-----------------------------------|--------------|---|
| <b>InsertImagerScan</b>           | 0x03D5       | Inserts one or more images from a scanner or digital camera.                            |
| <b>InsertClipArt</b>              | 0x03D6       | Inserts a Microsoft Clip Art Gallery object.  |
| <b>FormatFitText</b>              | 0x03D7       | Apply Fit Text Property.  |
| <b>EditAutoText</b>               | 0x03D9       | Inserts or defines AutoText entries.  |
| <b>FormatPhoneticGuide</b>        | 0x03DA       | Inserts a Phonetic Guide field in the active document.                                  |
| <b>FormatCombineCharacters</b>    | 0x03DB       | Combine Characters.   |
| <b>PostcardWizard</b>             | 0x03DC       | Starts the postcard wizard.   |
| <b>ToolsDictionary</b>            | 0x03DD       | Translates the selected word.   |
| <b>ToolsConsistency</b>           | 0x03E0       | Checks the consistency in the active document.  |
| <b>SetDrawingDefaults</b>         | 0x03E1       | Changes the default drawing object properties.  |
| <b>AutoScroll</b>                 | 0x03E2       | Starts scrolling the active document.   |
| <b>EditWrapBoundary</b>           | 0x03E3       | Edit the wrapping boundary for a picture or drawing object.                             |
| <b>DrawVerticalTextBox</b>        | 0x03E4       | Inserts an empty vertical text box or encloses the selected item in a vertical textbox. |
| <b>DefaultCharBorder</b>          | 0x03E5       | Default character border.   |
| <b>MenuWebGo</b>                  | 0x03E6       | Represents the web options menu. Has no effect.   |
| <b>WW7_ToolsGrammar</b>           | 0x03E8       | Checks the proofing in the active document.   |
| <b>ToolsAutoCorrectHECorrect</b>  | 0x03E9       | Hangul and alphabet correction.   |
| <b>WebAddHyperInkToFavorites</b>  | 0x03EA       | Add to Favorites.   |
| <b>FormatBackgroundSwatch</b>     | 0x03EB       | Changes the background of the document.   |
| <b>FormatBackgroundNone</b>       | 0x03EC       | Removes the background from the document.   |
| <b>FormatBackgroundMoreColors</b> | 0x03ED       | Provides more color choices for the background color.                                   |
| <b>FormatBackgroundFillEffect</b> | 0x03EE       | Provides fill effects for the background color.   |
| <b>FileSaveVersion</b>            | 0x03EF       | Saves a new version of a document.  |
| <b>WebToolbar</b>                 | 0x03F0       | Toggle Web toolbar.   |
| <b>ToggleTextFlow</b>             | 0x03F1       | Changes text flow direction and character orientation.                                  |
| <b>IncreaseIndent</b>             | 0x03F2       | Increases indent or demotes the selection one level.                                    |
| <b>DecreaseIndent</b>             | 0x03F3       | Decreases indent or promotes the selection one level.                                   |
| <b>FileSaveHtml</b>               | 0x03F4       | Saves the file as an HTML document.   |
| <b>DefaultCharShading</b>         | 0x03F7       | Default character shading.  |
| <b>ToolsFixSynonym</b>            | 0x03FA       | Fixes a spelling mistake with a synonym suggestion.                                     |

| <b>Name</b>                          | <b>Value</b> | <b>Meaning</b>   |
|--------------------------------------|--------------|--|
| <b>ToolsOptionsBidi</b>              | 0x0405       | Changes the Bidirectional options.   |
| <b>ViewSecurity</b>                  | 0x0419       | View document security options.  |
| <b>ToolsInsertScript</b>             | 0x041A       | Has no effect.   |
| <b>RemoveAllScripts</b>              | 0x041B       | Has no effect.   |
| <b>MicrosoftScriptEditor</b>         | 0x041C       | Has no effect.   |
| <b>RunToggle</b>                     | 0x041D       | Toggles the insertion point between right-to-left and left-to-right runs.      |
| <b>LtrPara</b>                       | 0x041E       | Set paragraph orientation to left-to-right.                                    |
| <b>RtlPara</b>                       | 0x041F       | Set paragraph orientation to right-to-left.                                    |
| <b>RtlRun</b>                        | 0x0422       | Makes the current run right-to-left.   |
| <b>LtrRun</b>                        | 0x0423       | Makes the current run left-to-right.   |
| <b>BoldRun</b>                       | 0x0424       | Makes the current run in the selection bold (toggle).                          |
| <b>ItalicRun</b>                     | 0x0425       | Makes the current run in the selection italic (toggle).                        |
| <b>FormattingProperties</b>          | 0x0426       | Shows or hides Formatting Properties.  |
| <b>HelpContentsArabic</b>            | 0x0427       | Displays Help in a context of bidirectional editing.                           |
| <b>RTLMacroDialogs</b>               | 0x0428       | Makes macro dialogs display right-to-left.                                     |
| <b>LTRMacroDialogs</b>               | 0x0429       | Makes macro dialogs display left-to-right.                                     |
| <b>InsertHorizontalLine</b>          | 0x042A       | Inserts a horizontal line.   |
| <b>InsertGraphicalHorizontalLine</b> | 0x042B       | Inserts a picture horizontal line.   |
| <b>FramesetWizard</b>                | 0x042C       | Turns the current window into a frameset.                                      |
| <b>FrameSplitAbove</b>               | 0x042D       | Splits the active frame, adding the new frame above the current.               |
| <b>FrameSplitBelow</b>               | 0x042E       | Splits the active frame, adding the new frame below the current.               |
| <b>FrameSplitLeft</b>                | 0x042F       | Splits the active frame, adding new frame left of the current.                 |
| <b>FrameSplitRight</b>               | 0x0430       | Splits the active frame, adding new frame right of the current.                |
| <b>FrameRemoveSplit</b>              | 0x0431       | Removes the current frame.   |
| <b>FrameProperties</b>               | 0x0432       | Changes the properties of the frame.   |
| <b>TableSelectCell</b>               | 0x0433       | Selects the current cell in a table.   |
| <b>TableInsertRowBelow</b>           | 0x0434       | Inserts one or more rows into the table below the current row.                 |
| <b>TableInsertColumnRight</b>        | 0x0435       | Inserts one or more columns into the table to the right of the current column. |

| <b>Name</b>                | <b>Value</b> | <b>Meaning</b>   |
|----------------------------|--------------|--|
| <b>TableDeleteTable</b>    | 0x0436       | Deletes the selected table.  |
| <b>TableInsertTableEG</b>  | 0x0437       | Inserts a table.   |
| <b>TableOptions</b>        | 0x0438       | Changes the height and width of the rows and columns in a table.       |
| <b>CellOptions</b>         | 0x0439       | Changes the margins and other options of a table cell.                 |
| <b>EmailSend</b>           | 0x043A       | Executes the e-mail Send command of the e-mail envelope.               |
| <b>EmailSelectNames</b>    | 0x043B       | Displays the e-mail address book.                                      |
| <b>EmailCheckNames</b>     | 0x043C       | Verifies the recipient names in the e-mail envelope.                   |
| <b>EmailSelectToNames</b>  | 0x043D       | Displays the e-mail address book to add recipients to the "To" field.  |
| <b>EmailSelectCcNames</b>  | 0x043E       | Displays the e-mail address book to add recipients to the "Cc" field.  |
| <b>EmailSelectBccNames</b> | 0x043F       | Displays the e-mail address book to add recipients to the "Bcc" field. |
| <b>EmailFocusSubject</b>   | 0x0440       | Switches focus to the subject field of the e-mail envelope.            |
| <b>EmailMessageOptions</b> | 0x0441       | Displays the options dialog of the e-mail envelope.                    |
| <b>EmailFlag</b>           | 0x0442       | Displays the message flag dialog of the envelope.                      |
| <b>EmailSaveAttachment</b> | 0x0443       | Saves the attachments of an e-mail envelope message.                   |
| <b>FileNewEmail</b>        | 0x0444       | Creates a new e-mail message.  |
| <b>WebPagePreview</b>      | 0x0445       | Displays full pages in a Web browser.                                  |
| <b>TableInsertRowAbove</b> | 0x0448       | Inserts one or more rows into the table.                               |
| <b>PrivFunctionkey1</b>    | 0x0449       | Private function for f1 key.   |
| <b>PrivFunctionkey2</b>    | 0x044A       | Private function for f2 key.   |
| <b>PrivFunctionkey3</b>    | 0x044B       | Private function for f3 key.   |
| <b>PrivFunctionkey4</b>    | 0x044C       | Private function for f4 key.   |
| <b>PrivFunctionkey5</b>    | 0x044D       | Private function for f5 key.   |
| <b>PrivFunctionkey6</b>    | 0x044E       | Private function for f6 key.   |
| <b>PrivFunctionkey7</b>    | 0x044F       | Private function for f7 key.   |
| <b>PrivFunctionkey8</b>    | 0x0450       | Private function for f8 key.   |
| <b>PrivFunctionkey9</b>    | 0x0451       | Private function for f9 key.   |
| <b>PrivFunctionkey10</b>   | 0x0452       | Private function for f10 key.  |
| <b>PrivFunctionkey11</b>   | 0x0453       | Private function for f11 key.  |



| <b>Name</b>                   | <b>Value</b> | <b>Meaning</b>   |
|-------------------------------|--------------|--|
| <b>PrivFunctionkey12</b>      | 0x0454       | Private function for f12 key.                                  |
| <b>FileSaveFrameAs</b>        | 0x0455       | Saves a copy of the current frame document in a separate file. |
| <b>ShowScriptAnchor</b>       | 0x0456       | Has no effect.   |
| <b>FramesetTOC</b>            | 0x0457       | Create a frameset table of content.                            |
| <b>DiacriticColor</b>         | 0x0458       | Changes the color of the diacritics.                           |
| <b>FileNewWeb</b>             | 0x0459       | Creates a new document based on the Normal template.           |
| <b>FormatThemeName</b>        | 0x045A       | Has no effect.   |
| <b>FileNewPrint</b>           | 0x045B       | Creates a new document based on the Normal template.           |
| <b>FileNewDialog</b>          | 0x045C       | Creates a new document based on the Normal template.           |
| <b>HTMLSourceRefresh</b>      | 0x045E       | Has no effect.   |
| <b>ToggleWebDesign</b>        | 0x045F       | Toggles Web Design mode.                                       |
| <b>HTMLSourceDoNotRefresh</b> | 0x0460       | Has no effect.   |
| <b>ShowConsistency</b>        | 0x0461       | Show next formatting inconsistency.                            |
| <b>InsertHTMLCheckBox</b>     | 0x0462       | Has no effect.   |
| <b>InsertHTMLOptionButton</b> | 0x0463       | Has no effect.   |
| <b>InsertHTMLDropDownBox</b>  | 0x0464       | Has no effect.   |
| <b>InsertHTMListBox</b>       | 0x0465       | Has no effect.   |
| <b>InsertHTMLTextBox</b>      | 0x0466       | Has no effect.   |
| <b>InsertHTMLTextArea</b>     | 0x0467       | Has no effect.   |
| <b>InsertHTMLSubmit</b>       | 0x0468       | Has no effect.   |
| <b>InsertHTMLImageSubmit</b>  | 0x0469       | Has no effect.   |
| <b>InsertHTMLReset</b>        | 0x046A       | Has no effect.   |
| <b>InsertHTMLHidden</b>       | 0x046B       | Has no effect.   |
| <b>InsertHTMLPassword</b>     | 0x046C       | Has no effect.   |
| <b>InsertHTMLMovie</b>        | 0x046D       | Has no effect.   |
| <b>InsertHTMLBGSound</b>      | 0x046E       | Has no effect.   |
| <b>InsertHTMLMarquee</b>      | 0x046F       | Has no effect.   |
| <b>OnlineMeeting</b>          | 0x0470       | Has no effect.   |
| <b>ShowAllFareast</b>         | 0x0471       | Shows or hides all nonprinting characters.                     |
| <b>AutoFitContent</b>         | 0x0475       | Auto-Fit table to the contents.                                |

| <b>Name</b>                       | <b>Value</b> | <b>Meaning</b>   |
|-----------------------------------|--------------|--|
| <b>AutoFitWindow</b>              | 0x0476       | Auto-Fit table to the window.  |
| <b>AutoFitFixed</b>               | 0x0478       | Set table size to a fixed width.   |
| <b>TopRightAlign</b>              | 0x0479       | Aligns cell content to the top-logical right of cell.  |
| <b>TopCenterAlign</b>             | 0x047A       | Aligns cell content to the top-center of cell.   |
| <b>TopLeftAlign</b>               | 0x047B       | Aligns cell content to the top-logical left of cell.   |
| <b>MiddleRightAlign</b>           | 0x047C       | Aligns cell content to the middle-logical right of cell.   |
| <b>MiddleCenterAlign</b>          | 0x047D       | Aligns cell content to the middle-center of cell.  |
| <b>MiddleLeftAlign</b>            | 0x047E       | Aligns cell content to the middle-logical left of cell.  |
| <b>BottomRightAlign</b>           | 0x047F       | Aligns cell content to the bottom-logical right of cell.   |
| <b>BottomCenterAlign</b>          | 0x0480       | Aligns cell content to the bottom-center of cell.  |
| <b>BottomLeftAlign</b>            | 0x0481       | Aligns cell content to the bottom-logical left of cell.  |
| <b>ViewHTMLSource</b>             | 0x0482       | Has no effect.   |
| <b>ToolsTCSCSTranslation</b>      | 0x0484       | Translates from Traditional Chinese to Simplified Chinese or vice-versa depending on the choice of the user.   |
| <b>TableWizard</b>                | 0x0485       | Invokes the Table Wizard add-in (Korean and Chinese).  |
| <b>HanjaDictionary</b>            | 0x0486       | Has no effect.   |
| <b>FormatHorizontalInVertical</b> | 0x0488       | Apply Horizontal in Vertical property.   |
| <b>FormatTwoLinesInOne</b>        | 0x0489       | Apply Two Lines in One property.   |
| <b>FormatEncloseCharacters</b>    | 0x048A       | Inserts an enclosed character.   |
| <b>UnderlineStyle</b>             | 0x048B       | Formats the selection with a continuous underline.   |
| <b>FileSaveAsWebPage</b>          | 0x048C       | Saves a copy of the document in a separate file.   |
| <b>DrawingGrid</b>                | 0x0490       | Tunnel to SnapToGrid dialog.   |
| <b>ToolsTCSCSTranslate</b>        | 0x0491       | Translates from Traditional Chinese to Simplified Chinese.   |
| <b>ToolsSCTCTranslate</b>         | 0x0492       | Translates from Simplified Chinese to Traditional Chinese.   |
| <b>ToolsTranslateChinese</b>      | 0x0493       | Translates from Traditional Chinese to Simplified Chinese on a computer set up with Taiwanese settings; otherwise translates from Simplified Chinese to Traditional Chinese. |
| <b>ShowAllConsistency</b>         | 0x0494       | Show all format inconsistencies.   |
| <b>InsertSpecialSymbol</b>        | 0x0496       | Inserts a special character.   |
| <b>EnvelopeWizard</b>             | 0x0497       | Invokes the Envelope Wizard add-in (Chinese).  |
| <b>GreetingSentence</b>           | 0x0498       | Invokes the Japanese Greeting Wizard.  |

| <b>Name</b>                             | <b>Value</b> | <b>Meaning</b>   |
|---|--------------|--|
| <b>ViewOutlineMaster</b>                | 0x0499       | Displays a document outline.   |
| <b>ScheduleMeeting</b>                  | 0x049A       | Schedules an Online Meeting.   |
| <b>WebDiscussions</b>                   | 0x049B       | Starts Web Server Discussions.   |
| <b>EditPaste2</b>                       | 0x049C       | Inserts the Clipboard contents at the insertion point.   |
| <b>ToolsProtect</b>                     | 0x04D8       | Sets protection for the active document or selection.  |
| <b>FileUndoCheckout</b>                 | 0x04D9       | Undo the Check Out of a Document.  |
| <b>ShowTableTools</b>                   | 0x04DA       | Shows Table Tools in the Ribbon.   |
| <b>ShowPictureTools</b>                 | 0x04DB       | Shows Picture Tools in the Ribbon.   |
| <b>SelectSimilarFormatting</b>          | 0x04DC       | Select all similar formatting.   |
| <b>MailMergeShadeFields</b>             | 0x04DD       | Toggles shading of merge fields.   |
| <b>MailMergeWizard</b>                  | 0x04DE       | Invokes Mail Merge.  |
| <b>EditPasteOption</b>                  | 0x04DF       | Inserts the Clipboard contents at the insertion point using specific recovery option.                |
| <b>FormatStyleVisibility</b>            | 0x04E0       | Changes the visibility state of the document's styles.   |
| <b>JapaneseGreetingOpeningSentence</b>  | 0x04E1       | Japanese Greeting Wizard Opening Sentence.   |
| <b>JapaneseGreetingClosingSentence</b>  | 0x04E2       | Japanese Greeting Wizard Closing Sentence.   |
| <b>JapaneseGreetingPreviousGreeting</b> | 0x04E3       | Japanese Greeting Wizard Previous Greeting.  |
| <b>ModifyProperty</b>                   | 0x04E4       | Brings up a dialog to modify a particular property.  |
| <b>ApplyPropertyOfSurrounding</b>       | 0x04E5       | Matches formatting of current selection to formatting of surrounding text for a particular property. |
| <b>TranslatePane</b>                    | 0x04E6       | Opens the translation pane.  |
| <b>ContinueNumbering</b>                | 0x04E7       | Continues paragraph numbering.   |
| <b>ToolsSpeech</b>                      | 0x04EA       | Turns Speech Recognition on or off.  |
| <b>MailAsPlainText</b>                  | 0x04EB       | Converts the current message to plain text.  |
| <b>MailAsHTML</b>                       | 0x04EC       | Converts the current message to HTML.  |
| <b>CssLinks</b>                         | 0x04ED       | Manages external CSS links.  |
| <b>ToolsFixHHC</b>                      | 0x04EE       | Insert converted Hangul or Hanja text.   |
| <b>LineSpacing</b>                      | 0x04EF       | Applies line spacing to the selection.   |
| <b>MailAsRTF</b>                        | 0x04F0       | Converts the current message to RTF.   |
| <b>FileNewContext</b>                   | 0x04F1       | Creates a new document based on the NORMAL template.   |
| <b>ViewSignatures</b>                   | 0x04F3       | View the signatures in this document.  |
| <b>ReturnReview</b>                     | 0x04F4       | Send this document under review.   |

| <b>Name</b>                       | <b>Value</b> | <b>Meaning</b>  |
|-----------------------------------|--------------|---|
| <b>FileVersionsLocal</b>          | 0x04F5       | Manages the local versions of a document.                                 |
| <b>EndReview</b>                  | 0x04F6       | End the review for this document.   |
| <b>NormalizeText</b>              | 0x04F8       | Make text consistent with the rest.                                       |
| <b>IgnoreConsistenceError</b>     | 0x04F9       | Ignore formatting inconsistency error.                                    |
| <b>IgnoreAllConsistenceError</b>  | 0x04FA       | Ignore all formatting inconsistency errors.                               |
| <b>ShrinkMultiSel</b>             | 0x04FB       | Shrinks a multiple selection to the piece that was selected last.         |
| <b>FileCheckout</b>               | 0x04FD       | Check out a document.   |
| <b>FileCheckin</b>                | 0x04FE       | Check in a document.  |
| <b>LearnWords</b>                 | 0x04FF       | Use words from document to improve speech recognition.                    |
| <b>EditPictureEdit</b>            | 0x0500       | Converts the selected picture into a Drawing Canvas.                      |
| <b>FormatDefineStyleTable</b>     | 0x0502       | Has no effect.  |
| <b>FormatDefineStyleStripes</b>   | 0x0503       | Has no effect.  |
| <b>ViewChanges</b>                | 0x0504       | Show or hide markup balloons.   |
| <b>DisplayFinalDoc</b>            | 0x0505       | Show insertions inline and deletions in balloons.                         |
| <b>DisplayOriginalDoc</b>         | 0x0506       | Show deletions inline and insertions in balloons.                         |
| <b>ShowChangesAndComments</b>     | 0x0508       | Show or hide markup balloons.   |
| <b>ShowComments</b>               | 0x0509       | Show or hide comment balloons.  |
| <b>ShowInsertionsAndDeletions</b> | 0x050A       | Show or hide markup balloons.   |
| <b>ShowFormatting</b>             | 0x050B       | Show or hide markup balloons.   |
| <b>PreviousChangeOrComment</b>    | 0x050D       | Go to the previous insertion, deletion, or comment.                       |
| <b>NextChangeOrComment</b>        | 0x050E       | Go to the next insertion, deletion, or comment.                           |
| <b>AcceptChangesSelected</b>      | 0x050F       | Accepts change in current selection.                                      |
| <b>AcceptAllChangesShown</b>      | 0x0510       | Accepts all changes that are highlighted in the current filter settings.  |
| <b>AcceptAllChangesInDoc</b>      | 0x0511       | Accepts all changes in document, ignoring filter settings.                |
| <b>RejectChangesSelected</b>      | 0x0512       | Rejects changes and deletes comments in current selection.                |
| <b>RejectAllChangesShown</b>      | 0x0513       | Rejects all changes that are highlighted in the current filter settings.  |
| <b>RejectAllChangesInDoc</b>      | 0x0514       | Rejects all changes in document, ignoring filter settings.                |
| <b>DeleteAllCommentsShown</b>     | 0x0515       | Deletes all comments that are highlighted in the current filter settings. |

| <b>Name</b>                         | <b>Value</b> | <b>Meaning</b>   |
|-------------------------------------|--------------|--|
| <b>DeleteAllCommentsInDoc</b>       | 0x0516       | Deletes all comments in document, ignoring filter settings.  |
| <b>InsertNewComment</b>             | 0x0517       | Insert comment (includes menu).  |
| <b>MailMergeFieldMapping</b>        | 0x0518       | Mail Merge field mapping.  |
| <b>MailMergeAddressBlock</b>        | 0x0519       | Mail Merge Address Block.  |
| <b>MailMergeGreetingLine</b>        | 0x051A       | Mail Merge Greeting Line.  |
| <b>MailMergeInsertFields</b>        | 0x051B       | Mail Merge Insert Fields.  |
| <b>MailMergeRecipients</b>          | 0x051C       | Mail Merge Recipients.   |
| <b>MMEmailOptions</b>               | 0x051D       | Mail Merge E-mail Options Dialog.  |
| <b>MMNewDocOptions</b>              | 0x051E       | Mail Merge New Document Merge Options Dialog.  |
| <b>MMPrintOptions</b>               | 0x051F       | Mail Merge Print Merge Options Dialog.   |
| <b>MMFaxOptions</b>                 | 0x0520       | Mail Merge Fax Options Dialog.   |
| <b>ViewTaskPane</b>                 | 0x0521       | Shows or hides the Task Pane.  |
| <b>MailMergeEditAddressBlock</b>    | 0x0523       | Edit Address Block.  |
| <b>MailMergeEditGreetingLine</b>    | 0x0524       | Edit Greeting Line.  |
| <b>ApplyPropertyOfOriginal</b>      | 0x0525       | Matches formatting of current selection to formatting of original selection for a particular property. |
| <b>ApplyFormattingOfSurrounding</b> | 0x0529       | Applies formatting of surrounding text to current selection.   |
| <b>ApplyFormattingOfOriginal</b>    | 0x052A       | Applies formatting of original selection to current selection.   |
| <b>LettersWizardJToolBar</b>        | 0x052B       | Displays or hides the Japanese Greeting Wizard Toolbar.  |
| <b>InsertWebComponent</b>           | 0x052C       | Has no effect.   |
| <b>MailMergePropagateLabel</b>      | 0x052D       | Populate all mail merge labels in the document.  |
| <b>MailMergeFindEntry</b>           | 0x052E       | Finds a specified entry in a mail merge data source.   |
| <b>ShowSmPane</b>                   | 0x052F       | Displays the Document Updates Pane.  |
| <b>SignatureLineMenuSign</b>        | 0x0530       | Signs with a digital signature.  |
| <b>ResetFormField</b>               | 0x0531       | Resets the selected form field to its default value.   |
| <b>DisplaySharedWorkspacePane</b>   | 0x0532       | Displays the Document Management pane.   |
| <b>FileVersionsServer</b>           | 0x0533       | Manages the server versions of a document.   |
| <b>DisplayForReview</b>             | 0x0534       | Selects viewing mode for revisions and comments.   |
| <b>AnnotationEdit</b>               | 0x0535       | Edit comment.  |
| <b>ShowAllAuthors</b>               | 0x0539       | Show or hide markup balloons for all authors.  |

| <b>Name</b>                      | <b>Value</b> | <b>Meaning</b>  |
|----------------------------------|--------------|---|
| <b>Translate</b>                 | 0x053A       | Opens the translation pane.   |
| <b>MailMergeSetDocumentType</b>  | 0x053B       | Sets or clears the Mail Merge document type.                              |
| <b>FormatField</b>               | 0x053C       | Inserts a field in the active document.                                   |
| <b>ReplaceEmailSignature</b>     | 0x053D       | Replaces the current AutoSignature with a different one.                  |
| <b>IncreaseParagraphSpacing</b>  | 0x053E       | Increases paragraph spacing by 6 points.                                  |
| <b>DecreaseParagraphSpacing</b>  | 0x053F       | Decreases paragraph spacing by 6 points.                                  |
| <b>ReplyToAnnotation</b>         | 0x0540       | Reply to comment.   |
| <b>ToolsWordCountRecount</b>     | 0x0541       | Updates the word count statistics of the active document.                 |
| <b>ToolsWordCountList</b>        | 0x0542       | Displays the word count statistics of the active document.                |
| <b>FormatStyleModify</b>         | 0x0543       | Modifies selected style.  |
| <b>FormatStyleByExample</b>      | 0x0544       | Creates a style out of the currently selected text.                       |
| <b>SelectNumber</b>              | 0x0545       | Selects the paragraph number.   |
| <b>RestartNumbering</b>          | 0x0546       | Restarts paragraph numbering.   |
| <b>FixUIMChange</b>              | 0x0547       | Replaces this word by the selected suggestion.                            |
| <b>UIMCorrectionUI</b>           | 0x0548       | Brings up the correction UI for the Tablet Input Panel.                   |
| <b>FixUIMDeleteWord</b>          | 0x0549       | Removes the word.   |
| <b>ClearFormatting</b>           | 0x054A       | Clears formatting and styles from selected text.                          |
| <b>ToolsOptionsEditCopyPaste</b> | 0x054C       | Changes the editing options.  |
| <b>TxbxAutosize</b>              | 0x054D       | Changes the selected drawing object to autosize.                          |
| <b>EditPasteAppendTable</b>      | 0x054E       | Inserts the clipboard contents at the insertion point.                    |
| <b>ReviewingPane</b>             | 0x054F       | Opens a summary pane for viewing and editing document revisions (toggle). |
| <b>OutlinePromoteHeading1</b>    | 0x0550       | Promotes the selected text to Heading 1 style.                            |
| <b>ToolsOptionsSecurity</b>      | 0x0551       | Changes security options.   |
| <b>FileSearch</b>                | 0x0553       | Brings up the Search UI workpane.   |
| <b>FormattingPane</b>            | 0x0554       | Applies, creates, or modifies styles and formatting.                      |
| <b>DeleteStyle</b>               | 0x0555       | Deletes the current style.  |
| <b>RenameStyle</b>               | 0x0556       | Renames the current style.  |
| <b>LabelOptions</b>              | 0x0557       | Label Options Dialog.   |
| <b>EnvelopeSetup</b>             | 0x0558       | Envelopes Option Dialog.  |

| <b>Name</b>                    | <b>Value</b> | <b>Meaning</b>   |
|--------------------------------|--------------|--|
| <b>MailMergeToEMail</b>        | 0x0559       | Sends the results of the mail merge to an e-mail message.        |
| <b>MailMergeToFax</b>          | 0x055A       | Sends the results of the mail merge to Fax.                      |
| <b>MailMergeToolbar</b>        | 0x055B       | Displays or hides the Mail Merge Toolbar.                        |
| <b>MailMergeCreateList</b>     | 0x055C       | Create an Office Address List.                                   |
| <b>MailMergeEditList</b>       | 0x055D       | Edit an Office Address List.                                     |
| <b>TableAutoFormatStyle</b>    | 0x055F       | Applies a table style to a table.                                |
| <b>LicenseVerification</b>     | 0x0561       | Displays the dialog box for activating the product.              |
| <b>FormatConsistencyCheck</b>  | 0x0562       | Check for formatting consistency.                                |
| <b>SendForReview</b>           | 0x0563       | Send this document for review.                                   |
| <b>SignOutOfPassport</b>       | 0x0564       | Signs out of Windows Live ID.                                    |
| <b>ShowRepairs</b>             | 0x0565       | Shows all repairs made to the document during Crash Recovery.    |
| <b>ToolsEServices</b>          | 0x0567       | Opens the eServices dialog.                                      |
| <b>DeleteStructure</b>         | 0x0568       | Remove XML Element.  |
| <b>ViewXMLStructure</b>        | 0x056C       | Show XML Structure Pane.   |
| <b>GotoTableOfContents</b>     | 0x056D       | Selects the first table of contents in the document.             |
| <b>UpdateTableOfContents</b>   | 0x056E       | Updates the first table of contents in the document.             |
| <b>OutlineLevel</b>            | 0x056F       | Sets the selected paragraphs to the heading level.               |
| <b>ShowLevel</b>               | 0x0570       | Displays the selected level headings only.                       |
| <b>ToggleCharacterCode</b>     | 0x0571       | Toggles a character code and a character.                        |
| <b>ToolsOptionsSmartTag</b>    | 0x0573       | Changes the Smart Tag options.                                   |
| <b>EmailFocusIntroduction</b>  | 0x0574       | Switches focus to the introduction field of the e-mail envelope. |
| <b>EditPasteFromExcel</b>      | 0x0575       | Inserts the Clipboard contents at the insertion point.           |
| <b>InsertStyleSeparator</b>    | 0x0576       | Joins two paragraphs together creating leading emphasis.         |
| <b>FixBrokenText</b>           | 0x0577       | Has no effect.   |
| <b>ReadingModePageview</b>     | 0x0587       | Show pages as they will look if printed.                         |
| <b>ToggleXMLTagView</b>        | 0x0588       | Toggle XML Tag View on or off.                                   |
| <b>SchemaLibrary</b>           | 0x0589       | Displays the Schema Library dialog.                              |
| <b>ResearchLookup</b>          | 0x058A       | Looks up the word in the research tool.                          |
| <b>WindowArrangeSideBySide</b> | 0x058B       | Arranges two windows side by side.                               |
| <b>SqmDialog</b>               | 0x058C       | Opens the Customer Feedback Options dialog.                      |

| <b>Name</b>                        | <b>Value</b> | <b>Meaning</b>  |
|------------------------------------|--------------|---|
| <b>InsertInkComment</b>            | 0x058D       | Insert ink comment.   |
| <b>StyleLockDown</b>               | 0x058E       | Locks styles in a document.                                     |
| <b>SyncScrollSideBySide</b>        | 0x058F       | Enables synchronous scrolling of two windows side-by-side.      |
| <b>ResetSideBySide</b>             | 0x0590       | Resets window position for side-by-side.                        |
| <b>XMLOptions</b>                  | 0x0591       | Changes XML settings for this document.                         |
| <b>XMLDocument</b>                 | 0x0592       | Applies XML Transforms to this document.                        |
| <b>FormattingRestrictions</b>      | 0x0593       | Style lock down settings.                                       |
| <b>FilePermissionMenu</b>          | 0x0596       | File Permission Menu.   |
| <b>FPUnprotected</b>               | 0x0597       | "Unprotected" template (DRM).                                   |
| <b>FPConfidential</b>              | 0x0598       | "Confidential" template (DRM).                                  |
| <b>FPAdminTemplates</b>            | 0x059C       | Administrator-defined template (DRM).                           |
| <b>MyPermission</b>                | 0x059D       | Displays the DRM usage permissions for the user.                |
| <b>ToggleThumbnail</b>             | 0x059E       | Toggles thumbnail view.   |
| <b>ToolsThesaurusRR</b>            | 0x059F       | Displays synonyms for the selected word in the Research pane.   |
| <b>DoNotDistribute</b>             | 0x05A0       | Permission toggle button on toolbar.                            |
| <b>ToggleReadingMode2Pages</b>     | 0x05A2       | Toggles 2 Pages view.   |
| <b>ToggleReadingModeInk</b>        | 0x05A3       | Enables Ink Annotation.   |
| <b>ReadingModeInkOff</b>           | 0x05A4       | Unlocks document for ink.                                       |
| <b>InsertSoundComment</b>          | 0x05A5       | Inserts a sound object into the document.                       |
| <b>EditFindReadingMode</b>         | 0x05A6       | Finds the specified text or the specified formatting.           |
| <b>UseBalloons</b>                 | 0x05A7       | Show all revisions in balloons.                                 |
| <b>NeverUseBalloons</b>            | 0x05A8       | Show all revisions inline.                                      |
| <b>NoInsertionDeletionBalloons</b> | 0x05A9       | Show comments and formatting revisions in balloons.             |
| <b>ShowInkAnnotations</b>          | 0x05AA       | Show or hide ink annotations.                                   |
| <b>DeleteAllInkAnnotations</b>     | 0x05AB       | Delete all ink annotations.                                     |
| <b>ToggleReadingModeHelp</b>       | 0x05AC       | Help for Ink Annotation.  |
| <b>HelpContactUs</b>               | 0x05AD       | Brings up the Web browser and displays the Contact Us page.     |
| <b>HelpCheckForUpdates</b>         | 0x05AE       | Brings up the Web browser and displays the Product Update page. |
| <b>BlogBlogInsertCategories</b>    | 0x05AF       | Inserts a category into the document.                           |
| <b>ToggleToolbars</b>              | 0x05B0       | Toggles Toolbars.   |



| <b>Name</b>                       | <b>Value</b> | <b>Meaning</b>  |
|-----------------------------------|--------------|---|
| <b>ReadingMode</b>                | 0x05B1       | Toggles full screen reading.  |
| <b>ApplyStructure</b>             | 0x05B2       | Apply XML Element.  |
| <b>Research</b>                   | 0x05B3       | Initiates the Research pane.  |
| <b>XmlAttr</b>                    | 0x05B4       | Modify attribute settings of an XML element.                            |
| <b>FPSelectUser</b>               | 0x05B5       | Select user in permission menu.   |
| <b>ViewDocumentMapReadingMode</b> | 0x05B6       | Toggles state of the Heading Explorer.                                  |
| <b>ReadingModeMini</b>            | 0x05B7       | Switch to full screen reading.  |
| <b>ReadingModeLookup</b>          | 0x05B8       | Lookup tools for reading.   |
| <b>ReadingModeGrowFont</b>        | 0x05B9       | Increases the font size for full screen reading.                        |
| <b>ReadingModeShrinkFont</b>      | 0x05BA       | Decreases the font size for full screen reading.                        |
| <b>FaxService</b>                 | 0x05BB       | Send this document to fax over the Internet.                            |
| <b>GettingStartedPane</b>         | 0x05BC       | Has no effect.  |
| <b>FilePermission</b>             | 0x05BD       | Restricts permission for a document.                                    |
| <b>DocumentActionsPane</b>        | 0x05BE       | Smart Document Pane.  |
| <b>ReadingModeLayout</b>          | 0x05BF       | Switch to full screen reading.  |
| <b>AnnotInkPen</b>                | 0x05C0       | Ink Comment Pen.  |
| <b>AnnotInkEraser</b>             | 0x05C1       | Ink Comment Eraser.   |
| <b>CopyInkAsText</b>              | 0x05C2       | Copies the ink selection and puts its text equivalent on the Clipboard. |
| <b>InsertInkAnnotations</b>       | 0x05C3       | Insert ink annotation.  |
| <b>EmailChooseAccount</b>         | 0x05C4       | Allows choosing an e-mail account.                                      |
| <b>EmailAttachmentOptions</b>     | 0x05C5       | Toggles display of the Attachment Options task pane.                    |
| <b>InkEraser</b>                  | 0x05C6       | Ink Eraser.   |
| <b>CloseReadingMode</b>           | 0x05C8       | Stops full screen reading.  |
| <b>InkAnnotationEraser</b>        | 0x05C9       | Ink Eraser.   |
| <b>DocInspector</b>               | 0x05CA       | Document Inspector.   |
| <b>GoToFurthestReadPg</b>         | 0x05CB       | Goes to furthest read page.   |
| <b>GoToFirstPg</b>                | 0x05CC       | Goes to first page.   |
| <b>GoToLastPg</b>                 | 0x05CD       | Goes to last page.  |
| <b>BackHistoryItem</b>            | 0x05CE       | Goes back to most recent screen.  |
| <b>ForwardHistoryItem</b>         | 0x05CF       | Goes forward to next visited screen.                                    |
| <b>JumpToScrn</b>                 | 0x05D0       | Jump to screen label for screen navigator popup menu.                   |

| Name                              | Value  | Meaning  |
|-----------------------------------|--------|--|
| <b>JumpToHeading</b>              | 0x05D1 | Jump to Heading label from screen navigator popup menu.      |
| <b>SaveAsQuickFormatSet</b>       | 0x05D5 | Saves the current Quick Style list as a new Quick Style set. |
| <b>InsertAlignmentTab</b>         | 0x05DB | Inserts an alignment tab at the insertion point.             |
| <b>ResetParagraphFormatting</b>   | 0x076C | Resets paragraph formatting.                                 |
| <b>CharacterRemoveStyle</b>       | 0x076D | Clears character style from selection.                       |
| <b>RestoreCharacterStyle</b>      | 0x076E | Restores character style and removes direct formatting.      |
| <b>CharacterClearFormatting</b>   | 0x076F | Clears character properties from formatting.                 |
| <b>SeparateList</b>               | 0x0770 | Separates current paragraph into a new list.                 |
| <b>JoinToPreviousList</b>         | 0x0771 | Joins to previous list.                                      |
| <b>SetNumberingValue</b>          | 0x0774 | Sets the numbering value.                                    |
| <b>EquationToggle</b>             | 0x0775 | Insert an equation.  |
| <b>EquationProfessionalFormat</b> | 0x0776 | Convert to Professional Format.                              |
| <b>EquationLinearFormat</b>       | 0x0777 | Convert to Linear Format.                                    |
| <b>AdjustListIndents</b>          | 0x0778 | Changes the position of the list.                            |
| <b>ShowTasks</b>                  | 0x0779 | Shows workflow tasks for this Document.                      |
| <b>InsertSignatureLine</b>        | 0x077A | Insert digital signature line.                               |
| <b>EquationMathAutoCorrect</b>    | 0x077B | Add or delete Math AutoCorrect entries.                      |
| <b>InsertCitation</b>             | 0x077C | Insert citation.   |
| <b>InsertBibliography</b>         | 0x077D | Insert bibliography.   |
| <b>SelectBibliographyStyle</b>    | 0x077E | Select bibliography style.                                   |
| <b>BibliographySourceManager</b>  | 0x0780 | Opens the Source Manager dialog box.                         |
| <b>EquationInsertSymbol</b>       | 0x0781 | Insert equation symbol.                                      |
| <b>BibliographyCreateSource</b>   | 0x0782 | Opens the Create Source dialog box.                          |
| <b>LockPolicyLabel</b>            | 0x0783 | Locks <b>.policy labels</b> . for this document.             |
| <b>UnlockPolicyLabel</b>          | 0x0784 | Unlocks .policy labels. for this document.                   |
| <b>InsertPolicyLabel</b>          | 0x0785 | Inserts .policy labels. for this document.                   |
| <b>FillPolicyLabel</b>            | 0x0786 | Fills in the .policy labels. for this document.              |
| <b>InsertPolicyBarcode</b>        | 0x0787 | Inserts barcode.   |
| <b>InsertBuildingBlockIP</b>      | 0x0789 | Inserts the building block at the insertion point.           |
| <b>InsertBuildingBlockHeader</b>  | 0x078A | Inserts the building block in the header.                    |

| <b>Name</b>                             | <b>Value</b> | <b>Meaning</b>   |
|---|--------------|--|
| <b>InsertBuildingBlockFooter</b>        | 0x078B       | Inserts the building block in the footer.  |
| <b>InsertBuildingBlockBeginSection</b>  | 0x078C       | Inserts the building block at the beginning of the current section.                      |
| <b>InsertBuildingBlockEndSection</b>    | 0x078D       | Inserts the building block at the end of the current section.                            |
| <b>InsertBuildingBlockBeginDocument</b> | 0x078E       | Inserts the building block at the beginning of the document.                             |
| <b>InsertBuildingBlockEndDocument</b>   | 0x078F       | Inserts the building block at the end of a document.                                     |
| <b>AdvertisePublishAs</b>               | 0x0790       | Advertise Publish Export to PDF and XPS.   |
| <b>ShowMarkupArea</b>                   | 0x0791       | Show or hide markup area highlight.  |
| <b>SwitchNavigationWindow</b>           | 0x0793       | Choose navigation window.  |
| <b>ToolsAutoCorrectManager</b>          | 0x0794       | Adds or deletes AutoCorrect or Math AutoCorrect entries.                                 |
| <b>ReadingModeAllowEditing</b>          | 0x0795       | Allow or disallow typing while reading.  |
| <b>ReadingModePageMarginsType</b>       | 0x0796       | Hide the margins on the printed page to display larger text.                             |
| <b>EquationInsert</b>                   | 0x0797       | Insert an equation.  |
| <b>StartWorkflow</b>                    | 0x0798       | Starts a workflow for this document.   |
| <b>DropCapGallery</b>                   | 0x0799       | Opens the list of drop cap styles.   |
| <b>PageOrientationGallery</b>           | 0x079B       | Opens the list of options for page orientation.  |
| <b>FormatStyleManagement</b>            | 0x079C       | Manage the document or stylesheet.   |
| <b>UpdateStyle</b>                      | 0x079D       | Updates the current style based on the selected text.                                    |
| <b>NewStyle</b>                         | 0x079E       | New quick style from selection.  |
| <b>FormattingPaneCurrent</b>            | 0x079F       | Lists the current formatting in the document.  |
| <b>ListAdvanceToVBA</b>                 | 0x07A0       | Advances the numbering value.  |
| <b>ResetAdvanceToVBA</b>                | 0x07A1       | Resets the value of the number to advance to.  |
| <b>DownloadPictures</b>                 | 0x07A2       | Reloads the e-mail message, allowing linked pictures to be downloaded from the Internet. |
| <b>ViewZoomTwoPage</b>                  | 0x07A3       | Scales the editing view to see the two pages in page layout view.                        |
| <b>SymbolMRUGallery</b>                 | 0x07A6       | Symbol MRU Gallery.  |
| <b>QuickFormatsGallery</b>              | 0x07A7       | Opens the list of Quick Styles.  |
| <b>QuickFormatsThemeGallery</b>         | 0x07A8       | Opens the list of Quick Style sets.  |
| <b>ClearAllFormatting</b>               | 0x07A9       | Clears formatting and styles from selected text.   |
| <b>TogglePanningHand</b>                | 0x07AA       | Displays the panning state of the document.  |

| <b>Name</b>                       | <b>Value</b> | <b>Meaning</b>  |
|-----------------------------------|--------------|---|
| <b>BulletsGallery</b>             | 0x07AB       | Opens the Bullet gallery.                             |
| <b>NumberingGallery</b>           | 0x07AC       | Opens the Numbering Gallery.                          |
| <b>MenuShowSourceDocuments</b>    | 0x07AD       | Shows or hides source documents.                      |
| <b>PageMarginsGallery</b>         | 0x07B1       | Opens the list of options for page margins.           |
| <b>CharScaleDialog</b>            | 0x07B2       | Opens the list of font scaling percentages.           |
| <b>AllShapesGallery</b>           | 0x07B4       | Displays the shapes that are available to insert.     |
| <b>RotateObjectGallery</b>        | 0x07B5       | Opens the list of options for rotating objects.       |
| <b>LineStyleGallery</b>           | 0x07B6       | Opens the list of line styles.                        |
| <b>LineWidthGallery</b>           | 0x07B7       | Opens the list of line widths.                        |
| <b>ArrowStyleGallery</b>          | 0x07B8       | Opens the list of arrow styles.                       |
| <b>ChangeShapesGallery</b>        | 0x07B9       | Displays the shapes that are available to substitute. |
| <b>TexturesGallery</b>            | 0x07BA       | Opens the list of textures.                           |
| <b>FontColorPicker</b>            | 0x07BB       | Opens the list of font colors.                        |
| <b>ColumnsGallery</b>             | 0x07BC       | Opens the list of preset column layouts.              |
| <b>EquationIncreaseAlignment</b>  | 0x07BD       | Increase alignment point after a manual break.        |
| <b>EquationDecreaseAlignment</b>  | 0x07BE       | Decrease alignment point after a manual break.        |
| <b>EquationChangeStyle</b>        | 0x07BF       | Change equation style (Display or Inline).            |
| <b>DocEncryption</b>              | 0x07C0       | Add document encryption.                              |
| <b>BlogBlogAccountOptionsDlg</b>  | 0x07C1       | Changes blog account settings.                        |
| <b>EquationInsertRowBefore</b>    | 0x07C2       | Insert a row into a matrix object.                    |
| <b>EquationInsertRowAfter</b>     | 0x07C3       | Insert a row into a matrix object.                    |
| <b>FileSendBlog</b>               | 0x07C4       | Sends the active document to a blog.                  |
| <b>EquationInsertColumnBefore</b> | 0x07C5       | Insert a column into a matrix object.                 |
| <b>EquationInsertColumnAfter</b>  | 0x07C6       | Insert a column into a matrix object.                 |
| <b>EquationDeleteRow</b>          | 0x07C7       | Delete a row from a matrix object.                    |
| <b>EquationDeleteColumn</b>       | 0x07C8       | Delete a column from a matrix object.                 |
| <b>EquationVerticalCenter</b>     | 0x07C9       | Set equation vertical alignment to Center.            |
| <b>EquationVerticalTop</b>        | 0x07CA       | Set equation vertical alignment to Top.               |
| <b>EquationVerticalBottom</b>     | 0x07CB       | Set equation vertical alignment to Bottom.            |
| <b>EquationHorizontalCenter</b>   | 0x07CC       | Set equation horizontal alignment to Center.          |
| <b>EquationHorizontalLeft</b>     | 0x07CD       | Set equation horizontal alignment to Left.            |
| <b>EquationHorizontalRight</b>    | 0x07CE       | Set equation horizontal alignment to Right.           |

| <b>Name</b>                             | <b>Value</b> | <b>Meaning</b>   |
|---|--------------|--|
| <b>EquationShowHideLowerLimit</b>       | 0x07CF       | Show/Hide N-ary lower limit.                           |
| <b>EquationShowHideUpperLimit</b>       | 0x07D0       | Show/Hide N-ary upper limit.                           |
| <b>EquationShowHideRadicalDegree</b>    | 0x07D1       | Show/Hide the radical degree.                          |
| <b>EquationShowHideOpeningDelimiter</b> | 0x07D2       | Show/Hide the left character.                          |
| <b>EquationShowHideClosingDelimiter</b> | 0x07D3       | Show/Hide the right character.                         |
| <b>EquationAutoProfessionalFormat</b>   | 0x07D4       | Automatically convert equation to Professional Format. |
| <b>SignatureLineMenuDetails</b>         | 0x07D5       | Digital signature line details.                        |
| <b>SignatureLineMenuSetup</b>           | 0x07D6       | Digital signature line setup.                          |
| <b>SignatureLineMenuUnSign</b>          | 0x07D7       | Removes digital signature.                             |
| <b>EquationFractionGallery</b>          | 0x07D8       | Equation fraction gallery.                             |
| <b>EquationIntegralGallery</b>          | 0x07D9       | Equation integral gallery.                             |
| <b>EquationRadicalGallery</b>           | 0x07DA       | Equation radical gallery.                              |
| <b>EquationNaryGallery</b>              | 0x07DB       | Equation N-ary gallery.                                |
| <b>EquationDelimiterGallery</b>         | 0x07DC       | Equation delimiter gallery.                            |
| <b>EquationScriptGallery</b>            | 0x07DD       | Equation script gallery.                               |
| <b>NextComment</b>                      | 0x07DE       | Go to the next comment.                                |
| <b>PreviousComment</b>                  | 0x07DF       | Go to the previous comment.                            |
| <b>DefineNewBullet</b>                  | 0x07E0       | Defines a new bullet.                                  |
| <b>DefineNewNumber</b>                  | 0x07E1       | Defines a new number format.                           |
| <b>CreateBuildingBlockFromSel</b>       | 0x07E2       | Creates a building block from the current selection.   |
| <b>FooterGallery</b>                    | 0x07E3       | Footer Gallery.  |
| <b>HeaderGallery</b>                    | 0x07E4       | Header Gallery.  |
| <b>CoverPageGallery</b>                 | 0x07E5       | Cover Page Gallery.                                    |
| <b>LegoPageNumGallery</b>               | 0x07E7       | Page Numbers Gallery.                                  |
| <b>LegoPageNumPageGallery</b>           | 0x07E8       | Page Numbers (Page) Gallery.                           |
| <b>LegoWatermarkGallery</b>             | 0x07E9       | Watermark Gallery.                                     |
| <b>LegoPageNumTopGallery</b>            | 0x07EA       | Page Numbers (Top) Gallery.                            |
| <b>LegoPageNumBottomGallery</b>         | 0x07EB       | Page Numbers (Bottom) Gallery.                         |
| <b>LegoEquationsGallery</b>             | 0x07EC       | Equations Gallery.                                     |
| <b>LegoTablesGallery</b>                | 0x07EE       | Tables Gallery.  |
| <b>LegoCommonPartsGallery</b>           | 0x07F0       | Common Parts Gallery.                                  |

| <b>Name</b>                          | <b>Value</b> | <b>Meaning</b>  |
|--------------------------------------|--------------|---|
| <b>CreateCommonFieldBlockFromSel</b> | 0x07F3       | Creates a new Common Field building block from the current selection. |
| <b>CreateCoverPageBlockFromSel</b>   | 0x07F4       | Creates a new Cover Page building block from the current selection.   |
| <b>CreateEquationBlockFromSel</b>    | 0x07F5       | Creates a new Equation building block from the current selection.     |
| <b>CreateFooterBlockFromSel</b>      | 0x07F6       | Creates a new Footer building block from the current selection.       |
| <b>CreateHeaderBlockFromSel</b>      | 0x07F7       | Creates a new Header building block from the current selection.       |
| <b>CreatePageNumFromSel</b>          | 0x07F9       | Creates a new Page Number building block from the current selection.  |
| <b>CreatePageNumTopFromSel</b>       | 0x07FA       | Creates a new Page Number (Top) from the current selection.           |
| <b>CreatePageNumBottomFromSel</b>    | 0x07FB       | Creates a new Page Number (Bottom) from the current selection.        |
| <b>CreateTableBlockFromSel</b>       | 0x07FC       | Creates a new Table building block from the current selection.        |
| <b>CreatePageNumPageBlockFromSel</b> | 0x07FD       | Creates a new Page Number (Page) from the current selection.          |
| <b>CreateWaterMarkBlockFromSel</b>   | 0x07FF       | Creates a new Watermark Building Block from the current selection.    |
| <b>EquationEdit</b>                  | 0x0800       | Insert/Edit an equation.  |
| <b>DefaultCondensed</b>              | 0x0801       | Sets the font character spacing of the selection to condensed.        |
| <b>DefaultExpanded</b>               | 0x0802       | Sets the font character spacing of the selection to expanded.         |
| <b>EquationSymbolsGallery</b>        | 0x0803       | Equation symbols gallery.   |
| <b>WordSearchLibraries</b>           | 0x080D       | Search libraries.   |
| <b>InsertOCXDialog</b>               | 0x080E       | Inserts the selected ActiveX control.                                 |
| <b>ToggleXMLStructure</b>            | 0x080F       | Shows/Hides XML Structure Pane.                                       |
| <b>XmlSchema</b>                     | 0x0810       | Changes the XML Schema options.                                       |
| <b>XmlExpansionPacks</b>             | 0x0811       | Changes the XML Expansion Pack options.                               |
| <b>OartCommand</b>                   | 0x0812       | Execute an OfficeArt undo or redo command.                            |
| <b>BuildingBlockOrganizer</b>        | 0x0813       | Manages Building Block entries.                                       |
| <b>CompareDocumentsCompare</b>       | 0x0814       | Compare two versions of a document (legal blackline).                 |
| <b>CompareDocumentsCombine</b>       | 0x0815       | Combine revisions from multiple authors into a single document.       |

| <b>Name</b>                          | <b>Value</b> | <b>Meaning</b>   |
|--------------------------------------|--------------|--|
| <b>CompareDocumentsLastMajor</b>     | 0x0816       | Compare this document with the last major version published on the server. |
| <b>CompareDocumentsLastMinor</b>     | 0x0817       | Compare this document with the last version saved on the server.           |
| <b>CompareDocumentsVersion</b>       | 0x0818       | Compare this document with a specific version saved on the server.         |
| <b>InsertSignatureLineMenuItem</b>   | 0x0819       | Insert digital signature line.   |
| <b>UpdateFieldsTable</b>             | 0x081A       | Updates and displays the results of the selected fields.                   |
| <b>UpdateFieldsIndex</b>             | 0x081B       | Updates and displays the results of the selected fields.                   |
| <b>ToolsHyphenationAutoOn</b>        | 0x081C       | Changes the automatic hyphenation setting for the active document.         |
| <b>ToolsHyphenationAutoOff</b>       | 0x081D       | Changes the automatic hyphenation setting for the active document.         |
| <b>MailMergeClearDocumentType</b>    | 0x081E       | Clears the Mail Merge document type.                                       |
| <b>MailMergeSetDocTypeFormLetter</b> | 0x081F       | Sets the Mail Merge document type to Form Letter.                          |
| <b>MailMergeSetDocTypeEmail</b>      | 0x0820       | Sets the Mail Merge document type to E-mail.                               |
| <b>MailMergeSetDocTypeFax</b>        | 0x0821       | Sets the Mail Merge document type to Fax.                                  |
| <b>MailMergeSetDocTypeEnvelope</b>   | 0x0822       | Sets the Mail Merge document type to Envelope.                             |
| <b>MailMergeSetDocTypeLabel</b>      | 0x0823       | Sets the Mail Merge document type to Label.                                |
| <b>MailMergeSetDocTypeDirectory</b>  | 0x0824       | Sets the Mail Merge document type to Directory.                            |
| <b>UpdatePolicyLabels</b>            | 0x0825       | Updates .policy labels.  |
| <b>BlogBlogOpenBlogSite</b>          | 0x0826       | Opens the blog's Web site.   |
| <b>StyleQuickFormat</b>              | 0x0827       | Add or remove the current style from the Quick Style list.                 |
| <b>RefTipLangGallery</b>             | 0x0828       | Translation ScreenTip Gallery.   |
| <b>RefTipSelectLang</b>              | 0x0829       | Show or Hide Translation ScreenTip.  |
| <b>EquationInsertEmptyStructure</b>  | 0x082C       | Insert equation structure.   |
| <b>RemoveSimilarFormatting</b>       | 0x082D       | Removes all similar formatting.  |
| <b>TogglePropertyPanel</b>           | 0x082E       | Turns on or off the Property Editor.                                       |
| <b>OutlineLevelGallery</b>           | 0x082F       | Outline Level Gallery.   |
| <b>BreaksGallery</b>                 | 0x0830       | Breaks Gallery.  |
| <b>ToolsLineNumOff</b>               | 0x0831       | Turns off line numbering for the current document.                         |
| <b>ToolsLineNumContinuous</b>        | 0x0832       | Turns off line numbering for the current document.                         |
| <b>ToolsLineNumRestPage</b>          | 0x0833       | Turns off line numbering for the current document.                         |

| <b>Name</b>                          | <b>Value</b> | <b>Meaning</b>   |
|--------------------------------------|--------------|--|
| <b>ToolsLineNumResetSection</b>      | 0x0834       | Turns off line numbering for the current document.             |
| <b>ToolsLineNumSuppress</b>          | 0x0835       | Turns off line numbering for the current document.             |
| <b>TocOutlineLevelGallery</b>        | 0x0836       | Outline Level Gallery for the Table of Contents.               |
| <b>AcceptChangesAndAdvance</b>       | 0x0837       | Accepts change in current selection.                           |
| <b>RejectChangesAndAdvance</b>       | 0x0838       | Rejects changes and deletes comments in current selection.     |
| <b>CreateSharedWorkspace</b>         | 0x0839       | Creates a document workspace.                                  |
| <b>SaveToDocMgmtServer</b>           | 0x083A       | Saves to Document Management Server.                           |
| <b>DisplayDocumentManagementPane</b> | 0x083B       | Displays the Document Management Pane.                         |
| <b>FreezeLayout</b>                  | 0x083C       | Freeze wrapping width.   |
| <b>NavBack</b>                       | 0x083D       | Jump back to the previous page in full screen reading.         |
| <b>NavForward</b>                    | 0x083E       | Jump forward to the next page in full screen reading.          |
| <b>MenuManageDocument</b>            | 0x083F       | Manage.  |
| <b>MenuShareDocument</b>             | 0x0840       | Shares a copy.   |
| <b>MenuFinalizeDocument</b>          | 0x0841       | Finalize Document.   |
| <b>MenuSignaturesDocument</b>        | 0x0842       | View any digital signatures for this document.                 |
| <b>MarkAsReadOnly</b>                | 0x0843       | Marks as Final.  |
| <b>SignDocument</b>                  | 0x0844       | Sign this document.  |
| <b>AddDigitalSignature</b>           | 0x0845       | Add a digital signature.                                       |
| <b>ShowReviewerFilter</b>            | 0x0846       | Menu for showing reviewers.                                    |
| <b>SigningServices</b>               | 0x0847       | Signing services.  |
| <b>BibInsertSource</b>               | 0x0848       | Insert New Bibliography Source.                                |
| <b>ControlProperties</b>             | 0x0849       | Shows the properties of the current control.                   |
| <b>FillColorPicker</b>               | 0x084A       | Fill Color Picker.   |
| <b>LineColorPicker</b>               | 0x084B       | Line Color Picker.   |
| <b>ToggleDocumentText</b>            | 0x084C       | Shows or hides the main text layer in page layout view.        |
| <b>HeadFootDiffFirstPage</b>         | 0x084D       | Turns on a different header and footer for the first page.     |
| <b>HeadFootDiffOddEvenPage</b>       | 0x084E       | Turns on a different header and footer for odd and even pages. |
| <b>InsertNewPage</b>                 | 0x084F       | Inserts a new page break at the insertion point.               |
| <b>HideOutline</b>                   | 0x0850       | Turns off the document outline.                                |



| <b>Name</b>                              | <b>Value</b> | <b>Meaning</b>   |
|--|--------------|--|
| <b>BrightnessGallery</b>                 | 0x0851       | Brightness Gallery.                                    |
| <b>ContrastGallery</b>                   | 0x0852       | Contrast Gallery.                                      |
| <b>ChangeCaseGallery</b>                 | 0x0853       | Change Case Gallery.                                   |
| <b>ShadingColorPicker</b>                | 0x0856       | Shading Color Picker.                                  |
| <b>BringForward</b>                      | 0x0857       | Brings the selected drawing objects forward.           |
| <b>BringToFront</b>                      | 0x0858       | Brings the selected drawing objects to the front.      |
| <b>SendBackward</b>                      | 0x0859       | Sends the selected drawing objects backward.           |
| <b>SendToBack</b>                        | 0x085A       | Sends the selected drawing objects to the back.        |
| <b>EquationInsertArgumentBefore</b>      | 0x085C       | Insert a new argument.                                 |
| <b>EquationInsertArgumentAfter</b>       | 0x085D       | Insert a new argument.                                 |
| <b>EquationDeleteArgument</b>            | 0x085E       | Delete an argument.                                    |
| <b>EquationRemoveStructure</b>           | 0x085F       | Remove the equation structure.                         |
| <b>EquationRemoveSubscript</b>           | 0x0860       | Remove the subscript.                                  |
| <b>EquationRemoveSuperscript</b>         | 0x0861       | Remove the superscript.                                |
| <b>EquationStackedFraction</b>           | 0x0862       | Stacked fraction.                                      |
| <b>EquationNoBarFraction</b>             | 0x0863       | No-Bar fraction.                                       |
| <b>EquationSkewedFraction</b>            | 0x0864       | Skewed fraction.                                       |
| <b>EquationLinearFraction</b>            | 0x0865       | Linear fraction.                                       |
| <b>EquationStretchDelimiters</b>         | 0x0866       | Stretch delimiter characters.                          |
| <b>EquationShowHidePlaceholders</b>      | 0x0867       | Show or hide placeholders in a matrix.                 |
| <b>EquationScriptAlignment</b>           | 0x0868       | Change scripts alignment.                              |
| <b>OutlookInsertFile</b>                 | 0x0869       | Launches the Insert file attachment dialog for e-mail. |
| <b>EquationMatchDelimiters</b>           | 0x086A       | Match delimiters to argument height.                   |
| <b>EquationNaryLimitLocation</b>         | 0x086B       | Change N-ary limits location.                          |
| <b>EquationLimitLocation</b>             | 0x086C       | Change limit location.                                 |
| <b>EquationBarLocation</b>               | 0x086E       | Change bar location.                                   |
| <b>EquationStretchNaryOperator</b>       | 0x086F       | Stretch N-ary characters.                              |
| <b>EquationGroupingCharacterLocation</b> | 0x0870       | Change grouping character location.                    |
| <b>EquationArrayExpansion</b>            | 0x0871       | Expand equation array to the column width.             |
| <b>EquationExpansion</b>                 | 0x0872       | Expand equation to equation array width.               |
| <b>EquationIncreaseArgumentSize</b>      | 0x0873       | Increase argument size.                                |
| <b>EquationDecreaseArgumentSize</b>      | 0x0874       | Decrease argument size.                                |

| <b>Name</b>                        | <b>Value</b> | <b>Meaning</b>                                       |
|------------------------------------|--------------|--|
| <b>EquationRecognizedFunctions</b> | 0x0875       | Add or delete equation recognized functions.         |
| <b>SearchOfficeOnline</b>          | 0x0876       | Opens the Search Office Online page.                 |
| <b>BrowseForThemes</b>             | 0x0877       | Opens a dialog to browse for themes.                 |
| <b>ListLevelGallery</b>            | 0x0878       | Opens the List Level Gallery.                        |
| <b>OutlineNumberingGallery</b>     | 0x0879       | Opens the Multilevel List Gallery.                   |
| <b>DefineNewList</b>               | 0x087A       | Defines a new list.                                  |
| <b>DefineNewListStyle</b>          | 0x087B       | Defines a new list style.                            |
| <b>AddToContacts</b>               | 0x087C       | Adds selected business card to Contacts.             |
| <b>PropertiesGallery</b>           | 0x087D       | Properties Gallery.                                  |
| <b>ToggleDocumentActionBar</b>     | 0x087E       | Shows or hides the Message Bar.                      |
| <b>StyleApplyPane</b>              | 0x087F       | Applies, creates, or modifies styles and formatting. |
| <b>EquationManualBreak</b>         | 0x0881       | Insert or remove a manual break in equations.        |
| <b>EquationAlignThisCharacter</b>  | 0x0882       | Insert or remove an alignment point in equations.    |
| <b>EquationAlignAtEquals</b>       | 0x0883       | Insert or remove an alignment point in equations.    |
| <b>EmailStationeryOptions</b>      | 0x0884       | Creates or changes Stationery entries.               |
| <b>SetListLevelVBA</b>             | 0x0885       | Sets the list level.                                 |
| <b>ApplyQuickFormat</b>            | 0x0887       | Applies the selected style from the Quick Style set. |
| <b>ApplyQuickStyleSet</b>          | 0x0888       | Applies the selected Quick Style set.                |
| <b>OutlookViewZoom</b>             | 0x0889       | Scales the editing view.                             |
| <b>DeleteBuildingBlock</b>         | 0x088A       | Deletes the surrounding building block.              |
| <b>EquationNormalText</b>          | 0x088B       | Make the selection Normal Text (toggle).             |
| <b>EquationFunctionGallery</b>     | 0x088C       | Equation function gallery.                           |
| <b>EquationAccentGallery</b>       | 0x088D       | Equation accent gallery.                             |
| <b>EquationLimitGallery</b>        | 0x088E       | Equation limit gallery.                              |
| <b>EquationOperatorGallery</b>     | 0x088F       | Equation operator gallery.                           |
| <b>EquationMatrixGallery</b>       | 0x0890       | Equation matrix gallery.                             |
| <b>MenuReadingTools</b>            | 0x0891       | Reading tools for full screen reading.               |
| <b>GoToNextReadingPage</b>         | 0x0892       | Moves to the next page in full screen reading.       |
| <b>GoToPrevReadingPage</b>         | 0x0893       | Moves to the previous page in full screen reading.   |
| <b>ReadingMode1Page</b>            | 0x0894       | Show 1 Page view.                                    |
| <b>ReadingMode2Pages</b>           | 0x0895       | Show 2 Pages view.                                   |
| <b>MenuReadingViewOptions</b>      | 0x0896       | View options for full screen reading.                |

| <b>Name</b>                             | <b>Value</b> | <b>Meaning</b>   |
|---|--------------|--|
| <b>ScrnNav</b>                          | 0x0897       | Display Screen Navigator Menu.   |
| <b>ReadingModePageMargins</b>           | 0x0898       | Show the actual page unaltered.  |
| <b>ReadingModePageNoMargins</b>         | 0x0899       | Zoom in, making the text larger, and suppress the margins to make sure the page remains visible. |
| <b>ReadingModePageAutoMargins</b>       | 0x089A       | Hide the margins if the page display is too small to read.                                       |
| <b>ToggleDontOpenAttachInFullScreen</b> | 0x089C       | Prevents opening of attachments in full screen.  |
| <b>TrackChangesOptions</b>              | 0x089F       | Changes track changes options.   |
| <b>ColorPickerShadowE1o</b>             | 0x08A0       | Opens the shadow color picker.   |
| <b>ColorPicker3DE1o</b>                 | 0x08A1       | Opens the 3-D color picker.  |
| <b>GradientGallery</b>                  | 0x08A2       | Gradient Gallery.  |
| <b>BarCodeGroup</b>                     | 0x08A3       | Has no effect.   |
| <b>AsianLayoutFlyout</b>                | 0x08A4       | Asian Layout Menu.   |
| <b>JustifyFlyout</b>                    | 0x08A5       | Displays the Justify menu for East Asian languages.  |
| <b>TOAGroup</b>                         | 0x08A6       | Has no effect.   |
| <b>JapaneseGreetingFlyout</b>           | 0x08A7       | Japanese Greeting flyout anchor.   |
| <b>JustifyParaSpecial</b>               | 0x08A8       | Aligns the paragraph at both the left and the right indent.                                      |
| <b>JustifyParaLow</b>                   | 0x08A9       | Aligns the paragraph - Arabic setting.   |
| <b>JustifyParaMedium</b>                | 0x08AA       | Aligns the paragraph - Arabic setting.   |
| <b>JustifyParaHigh</b>                  | 0x08AB       | Aligns the paragraph - Arabic setting.   |
| <b>JustifyParaThai</b>                  | 0x08AC       | Aligns the paragraph - Thai setting.   |
| <b>IndentLeftSpinner</b>                | 0x08AD       | Has no effect.   |
| <b>IndentRightSpinner</b>               | 0x08AE       | Has no effect.   |
| <b>SpacingBeforeSpinner</b>             | 0x08AF       | Has no effect.   |
| <b>SpacingAfterSpinner</b>              | 0x08B0       | Has no effect.   |
| <b>HeaderPositionSpinner</b>            | 0x08B1       | Has no effect.   |
| <b>FooterPositionSpinner</b>            | 0x08B2       | Has no effect.   |
| <b>SpacingLabel</b>                     | 0x08B3       | Has no effect.   |
| <b>IndentLabel</b>                      | 0x08B4       | Has no effect.   |
| <b>InsertFormControlsGallery</b>        | 0x08B5       | Opens the list of form controls.   |
| <b>ShapeHeightSpinner</b>               | 0x08B6       | Displays the Shape Height spin box.  |
| <b>ShapeWidthSpinner</b>                | 0x08B7       | Displays the Shape Width spin box.   |

| <b>Name</b>                       | <b>Value</b> | <b>Meaning</b>   |
|-----------------------------------|--------------|--|
| <b>HighlightColorPicker</b>       | 0x08B8       | Opens the highlight color picker.  |
| <b>BorderColorPicker</b>          | 0x08B9       | Opens the border color picker.   |
| <b>BackgroundColorPicker</b>      | 0x08BA       | Opens the background color picker.   |
| <b>GoToHeader</b>                 | 0x08BB       | Move between the header and footer.  |
| <b>GoToFooter</b>                 | 0x08BC       | Move between the header and footer.  |
| <b>FormatBackgroundColor</b>      | 0x08BD       | Sets the document background color.  |
| <b>CancelHighlightMode</b>        | 0x08BE       | Applies color highlighting to the selection.   |
| <b>UnderlineGallery</b>           | 0x08BF       | Opens the list of underline styles.  |
| <b>UnderlineColorPicker</b>       | 0x08C0       | Opens the underline color picker.  |
| <b>TextFlowGallery</b>            | 0x08C1       | Opens the list of text flow options.   |
| <b>CellAlignmentGallery</b>       | 0x08C2       | Opens the list of table cell alignment options.  |
| <b>PicturePositionGallery</b>     | 0x08C3       | Opens the list of picture position options.  |
| <b>InkingGroup</b>                | 0x08C4       | Has no effect.   |
| <b>AdvancedBrightnessContrast</b> | 0x08C5       | Changes the properties of the selected drawing objects.                                |
| <b>RecolorGallery</b>             | 0x08C7       | Recolor Gallery.   |
| <b>ShadowStyleGallery</b>         | 0x08C8       | Opens the list of shadow styles.   |
| <b>Style3DGallery</b>             | 0x08C9       | Opens the list of 3-D style options.   |
| <b>Direction3DGallery</b>         | 0x08CA       | Opens the list of 3-D direction options.   |
| <b>DepthGallery</b>               | 0x08CB       | Opens the extrusion depth gallery.   |
| <b>SurfaceMatGallery</b>          | 0x08CC       | Opens the 3D surface material gallery.   |
| <b>Lighting3DGallery</b>          | 0x08CD       | Opens the list of 3-D lighting options.  |
| <b>WordArtGallery</b>             | 0x08CE       | Opens the list of WordArt options.   |
| <b>InsertWordArtGallery</b>       | 0x08CF       | Represents a Microsoft WordArt Gallery.  |
| <b>PageSizeGallery</b>            | 0x08D0       | Opens the list of page size options.   |
| <b>InsertTableGallery</b>         | 0x08D1       | Opens the list of table templates.   |
| <b>ShapeStyleGallery</b>          | 0x08D2       | Opens the list of shape styles.  |
| <b>WordArtShapeGallery</b>        | 0x08D3       | Opens the list of WordArt shapes.  |
| <b>XMLGroup</b>                   | 0x08D4       | Has no effect.   |
| <b>ReviewingPaneHorizontal</b>    | 0x08D6       | Shows or hides a summary pane for viewing and editing document revisions (horizontal). |
| <b>ReviewingPaneVertical</b>      | 0x08D7       | Shows or hides a summary pane for viewing and editing document revisions (vertical).   |

| <b>Name</b>                                 | <b>Value</b> | <b>Meaning</b>  |
|---|--------------|---|
| <b>EquationScriptLocation</b>               | 0x08D8       | Change scripts location.  |
| <b>EquationInsertStructure</b>              | 0x08D9       | Insert equation structure.  |
| <b>BulletsNumberingStyleDialog</b>          | 0x08DA       | Bullets and Numbering Style Definition Dialog Box.                |
| <b>SaveCurrentTheme</b>                     | 0x08DB       | Saves the current theme.  |
| <b>AutoTextGallery</b>                      | 0x08DE       | AutoText Gallery.   |
| <b>TextBoxGallery</b>                       | 0x08DF       | Text Box Gallery.   |
| <b>BibliographyGallery</b>                  | 0x08E0       | Bibliography Gallery.   |
| <b>CreateAutoTextBlockFromSel</b>           | 0x08E1       | Creates a new AutoText Building Block from the current selection. |
| <b>CreateTextBoxBlockFromSel</b>            | 0x08E2       | Creates a new Text Box Building Block from the current selection. |
| <b>CreateLayoutBlockFromSel</b>             | 0x08E3       | Creates a new Layout Building Block from the current selection.   |
| <b>SaveCoverPageBlock</b>                   | 0x08E4       | Saves the current cover page as a new building block.             |
| <b>SaveHeaderBlock</b>                      | 0x08E5       | Saves the current header as a new building block.                 |
| <b>SaveFooterBlock</b>                      | 0x08E6       | Saves the current footer as a new building block.                 |
| <b>SavePageNumTopBlock</b>                  | 0x08E7       | Saves the current page number (top) as a new building block.      |
| <b>SavePageNumBottomBlock</b>               | 0x08E8       | Saves the current page number (bottom) as a new building block.   |
| <b>SavePageNumBlock</b>                     | 0x08E9       | Saves the current page number as a new building block.            |
| <b>ViewHeaderOnly</b>                       | 0x08EA       | Displays the header in page layout view.                          |
| <b>EquationLeftJustification</b>            | 0x08EB       | Left-align equation.  |
| <b>EquationRightJustification</b>           | 0x08EC       | Right-align equation.   |
| <b>EquationCenteredJustification</b>        | 0x08ED       | Center equation.  |
| <b>EquationCenteredAsGroupJustification</b> | 0x08EE       | Center equations as a group.                                      |
| <b>UxGalWordTableStyles</b>                 | 0x08EF       | Opens the list of table styles.                                   |
| <b>WordTableStylesHeaderRow</b>             | 0x08F0       | Header Row.   |
| <b>WordTableStylesTotalRow</b>              | 0x08F1       | Total Row.  |
| <b>WordTableStylesFirstColumn</b>           | 0x08F2       | First Column.   |
| <b>WordTableStylesLastColumn</b>            | 0x08F3       | Last Column.  |
| <b>WordTableStylesBandedRows</b>            | 0x08F4       | Banded Rows.  |
| <b>WordTableStylesBandedColumns</b>         | 0x08F5       | Banded Columns.   |

| Name                                   | Value  | Meaning  |
|--|--------|--|
| <b>ClearTableStyle</b>                 | 0x08F6 | Clears table style formatting.   |
| <b>ApplyTableStyle</b>                 | 0x08F7 | Applies the selected table style.  |
| <b>ModifyTableStyle</b>                | 0x08F8 | Modifies the table style.  |
| <b>CheckCompatibility</b>              | 0x08F9 | Check document compatibility.  |
| <b>CompareTranslationBaseDocuments</b> | 0x08FA | View changes in the source document.                                       |
| <b>FontSchemePicker</b>                | 0x08FB | Opens the font scheme picker.  |
| <b>ColorSchemePicker</b>               | 0x08FC | Opens the color scheme picker.   |
| <b>StyleMatrixPicker</b>               | 0x08FD | Opens the style matrix picker.   |
| <b>ThemeGallery</b>                    | 0x08FE | Opens the list of available themes.  |
| <b>EquationMatrixSpacing</b>           | 0x08FF | Set the spacing of a matrix.   |
| <b>EquationEquationArraySpacing</b>    | 0x0900 | Set the spacing of an equation array.                                      |
| <b>DrawingAdvancedLayout</b>           | 0x0901 | Changes the advanced layout properties of the selected drawing objects.    |
| <b>ReadingModeToPrintView</b>          | 0x0902 | Switch from full screen reading mode to print view.                        |
| <b>LineSpacingMenu</b>                 | 0x0904 | Applies line spacing to the selection.                                     |
| <b>FileSendPdf</b>                     | 0x0905 | Sends the active document through e-mail as PDF attachment.                |
| <b>FileSendXps</b>                     | 0x0906 | Sends the active document through e-mail as XPS attachment.                |
| <b>CreateNewColorScheme</b>            | 0x0909 | Opens the create new color scheme dialog.                                  |
| <b>FileSaveWordDotx</b>                | 0x090A | Save file as a <a href="#">[ECMA-376]</a> template.                        |
| <b>FileSaveWordDocx</b>                | 0x090B | Save file as a [ECMA-376] document.  |
| <b>FileSaveWord11</b>                  | 0x090C | Save file in Word Binary File format.                                      |
| <b>InsertPicture3</b>                  | 0x090D | Inserts a picture.   |
| <b>SaveEquation</b>                    | 0x090E | Saves the current Equation as a new building block.                        |
| <b>ViewFooterOnly</b>                  | 0x090F | Displays footer in page layout view.                                       |
| <b>EngWritingAssistant</b>             | 0x0910 | English Assistant.   |
| <b>TableOfContentsGallery</b>          | 0x0911 | Table Of Contents Gallery.   |
| <b>FileSaveAsOtherFormats</b>          | 0x0912 | Saves a copy of the document in a separate file.                           |
| <b>CreateTableOfContentsFromSel</b>    | 0x0915 | Creates a new table of contents building block from the current selection. |
| <b>SaveTableOfContentsBlock</b>        | 0x0919 | Saves the current table of contents as a new building block.               |
| <b>TextboxPositionGallery</b>          | 0x091D | Opens the list of textbox position options.                                |

| <b>Name</b>                                 | <b>Value</b> | <b>Meaning</b>   |
|---|--------------|--|
| <b>TextboxStyleGallery</b>                  | 0x091E       | Opens the list of textbox styles.  |
| <b>TableColumnWidthSpinner</b>              | 0x091F       | Changes the width of the columns in a table.                                     |
| <b>TableRowHeightSpinner</b>                | 0x0920       | Changes the height of the row in a table.  |
| <b>RibbonFilePermissionMenu</b>             | 0x0921       | File Permission Menu.  |
| <b>MailMergeInsertMergeKeyword</b>          | 0x0922       | Mail Merge Insert Merge Keywords.  |
| <b>InsertTableOfContentsMenu</b>            | 0x0923       | Collects the headings or the table of contents entries into a table of contents. |
| <b>WordSetDefaultPaste</b>                  | 0x0924       | Allows setting the default paste action.   |
| <b>ReadingTrackChanges</b>                  | 0x0926       | Menu for tracking changes.   |
| <b>ReadingFlyoutAnchorShowAcetateMarkup</b> | 0x0927       | Show comments and changes.   |
| <b>ReadingInkTools</b>                      | 0x0928       | Menu for Ink tools.  |
| <b>ViewEmailSource</b>                      | 0x0929       | View the HTML source of this e-mail message.                                     |
| <b>ParagraphRemoveStyle</b>                 | 0x092A       | Clears paragraph style from selection (restores the normal style).               |
| <b>RestoreParagraphStyle</b>                | 0x092B       | Restores paragraph style and removes direct formatting.                          |
| <b>MSWordBibAddNewPlaceholder</b>           | 0x092C       | Add new placeholder.   |
| <b>DocExport</b>                            | 0x092D       | Publish current document as XPS or PDF.  |
| <b>RemoveWatermark</b>                      | 0x092E       | Removes the Watermarks from the current section.                                 |
| <b>RemoveCoverPage</b>                      | 0x092F       | Removes the Cover Page from the document.  |
| <b>RemoveHeader</b>                         | 0x0930       | Removes the header in the current section.                                       |
| <b>RemoveFooter</b>                         | 0x0931       | Removes the footer in the current section.                                       |
| <b>RemovePageNumbers</b>                    | 0x0932       | Removes Page Number building block from the document.                            |
| <b>RemoveCurrentBuildingBlock</b>           | 0x0933       | Removes the current building block from the document.                            |
| <b>RemoveTableOfContents</b>                | 0x0934       | Removes Table of Contents building block from the document.                      |
| <b>ApplyQFSetInitial</b>                    | 0x0935       | Applies the initial Quick Style set.   |
| <b>ApplyQFSetTemplate</b>                   | 0x0936       | Applies the document template Quick Style set.                                   |
| <b>CreateNewFontScheme</b>                  | 0x0937       | Opens the Create New Font Scheme dialog.   |
| <b>RemoveCitation</b>                       | 0x0938       | Remove bibliography citation.  |
| <b>EditCitation</b>                         | 0x0939       | Edit bibliography citation.  |
| <b>EditSource</b>                           | 0x093A       | Opens the Edit Source dialog box.  |
| <b>BibliographyCitationToText</b>           | 0x093B       | Converts bibliography citation to static text.                                   |

| <b>Name</b>                               | <b>Value</b> | <b>Meaning</b>  |
|---|--------------|---|
| <b>BibliographyEditSource</b>             | 0x093C       | Opens the Edit Source dialog box.   |
| <b>SaveOssThemeToTemplate</b>             | 0x093D       | Save OSS Theme to Template.   |
| <b>LoadOssThemeFromTemplate</b>           | 0x093E       | Load OSS Theme to Template.   |
| <b>OutlookInsertFile2</b>                 | 0x093F       | Inserts the text of another file into the active document.                              |
| <b>UpgradeDocument</b>                    | 0x0940       | Upgrade Document to current file format.  |
| <b>UpdateFieldsToa</b>                    | 0x0947       | Updates and displays the results of the selected fields.                                |
| <b>UpdateFieldsTof</b>                    | 0x0948       | Updates and displays the results of the selected fields.                                |
| <b>NavigateMove</b>                       | 0x0949       | Navigate to the opposite Move location.   |
| <b>ContentControlGroup</b>                | 0x094A       | Group the selection into a rich text content control with locked contents.              |
| <b>FormatPageBordersAndShading</b>        | 0x094B       | Changes the borders and shading of the selected paragraphs, table cells, and pictures.  |
| <b>DrawVerticalTextBox2</b>               | 0x094C       | Inserts an empty vertical text box or encloses the selected item in a vertical textbox. |
| <b>ViewPageFromOutline</b>                | 0x094D       | Displays the page as it will be printed and allows editing.                             |
| <b>StylePaneNewStyle</b>                  | 0x094E       | Creates a new style out of the currently selected text.                                 |
| <b>ContentControlRichText</b>             | 0x094F       | Insert a rich text content control.   |
| <b>ContentControlText</b>                 | 0x0950       | Insert a plain text content control.  |
| <b>ContentControlPicture</b>              | 0x0951       | Insert a picture content control.   |
| <b>ContentControlComboBox</b>             | 0x0952       | Insert a combo box content control.   |
| <b>ContentControlDropDownList</b>         | 0x0953       | Insert a dropdown content control.  |
| <b>ContentControlBuildingBlockGallery</b> | 0x0954       | Insert a building block content control.  |
| <b>ContentControlDate</b>                 | 0x0955       | Insert a date picker content control.   |
| <b>ToggleRibbon</b>                       | 0x0956       | Shows or hides the Ribbon.  |
| <b>InkColorPicker</b>                     | 0x0957       | Ink Color Picker.   |
| <b>EATextBoxMenu</b>                      | 0x0958       | Insert Textbox menu.  |
| <b>DrawTextBox2</b>                       | 0x0959       | Inserts an empty textbox or encloses the selected item in a textbox.                    |
| <b>BBPropertiesDlg</b>                    | 0x095A       | Building block properties dialog.   |
| <b>EquationsOptions</b>                   | 0x095B       | Equation Options.   |
| <b>ReapplyTableStyle</b>                  | 0x095C       | Reapplies the selected table style (keeping direct formatting intact).                  |



| <b>Name</b>                            | <b>Value</b> | <b>Meaning</b>  |
|--|--------------|---|
| <b>CustomHeaderGallery</b>             | 0x095D       | Custom Header Gallery.  |
| <b>CustomFooterGallery</b>             | 0x095E       | Custom Footer Gallery.  |
| <b>CustomCoverPageGallery</b>          | 0x095F       | Custom Cover Page Gallery.  |
| <b>CustomPageNumGallery</b>            | 0x0960       | Custom Page Number Gallery.   |
| <b>CustomPageNumTopGallery</b>         | 0x0961       | Custom Page Number Top Gallery.                                       |
| <b>CustomPageNumBottomGallery</b>      | 0x0962       | Custom Page Number Bottom Gallery.                                    |
| <b>CustomPageNumPageGallery</b>        | 0x0963       | Custom Page Number Page Gallery.                                      |
| <b>CustomWatermarkGallery</b>          | 0x0964       | Custom Watermark Gallery.   |
| <b>CustomEquationsGallery</b>          | 0x0965       | Custom Equations Gallery.   |
| <b>CustomTablesGallery</b>             | 0x0966       | Custom Tables Gallery.  |
| <b>CustomQuickPartsGallery</b>         | 0x0967       | Custom Quick Parts Gallery.   |
| <b>CustomAutoTextGallery</b>           | 0x0968       | Custom AutoText Gallery.  |
| <b>CustomTextBoxGallery</b>            | 0x0969       | Custom Text Box Gallery.  |
| <b>CustomTableOfContentsGallery</b>    | 0x096A       | Custom Table of Contents Gallery.                                     |
| <b>CustomBibliographyGallery</b>       | 0x096B       | Custom Bibliography Gallery.  |
| <b>Custom1Gallery</b>                  | 0x096C       | Custom 1 Gallery.   |
| <b>Custom2Gallery</b>                  | 0x096D       | Custom 2 Gallery.   |
| <b>Custom3Gallery</b>                  | 0x096E       | Custom 3 Gallery.   |
| <b>Custom4Gallery</b>                  | 0x096F       | Custom 4 Gallery.   |
| <b>Custom5Gallery</b>                  | 0x0970       | Custom 5 Gallery.   |
| <b>CreateBibliographyFromSel</b>       | 0x0971       | Creates a new bibliography building block from the current selection. |
| <b>SaveBibliographyBlock</b>           | 0x0972       | Saves the current bibliography as a new building block.               |
| <b>MailMergeUseOutlookContacts</b>     | 0x0974       | Opens Outlook contacts as a data source for mail merge.               |
| <b>ChineseTranslationGroup</b>         | 0x0976       | Has no effect.  |
| <b>TableInsertCells2</b>               | 0x0977       | Inserts one or more cells into the table.                             |
| <b>ContentControlUngroup</b>           | 0x0978       | Remove a content control group.                                       |
| <b>BibliographyEditCitationButton</b>  | 0x0979       | Edit bibliography Citation.   |
| <b>BibliographyEditSourceButton</b>    | 0x097A       | Opens the Edit Source dialog box.                                     |
| <b>BibliographyEditCitationToolbar</b> | 0x097B       | Edit bibliography Citation.   |
| <b>BibliographyEditSourceToolbar</b>   | 0x097C       | Opens the Edit Source dialog box.                                     |

| <b>Name</b>                                   | <b>Value</b> | <b>Meaning</b>   |
|---|--------------|--|
| <b>EquationShowHideBorderTop</b>              | 0x097D       | Show or hide the top edge.   |
| <b>EquationShowHideBorderBottom</b>           | 0x097E       | Show or hide the bottom edge.                                      |
| <b>EquationShowHideBorderLeft</b>             | 0x097F       | Show or hide the left edge.  |
| <b>EquationShowHideBorderRight</b>            | 0x0980       | Show or hide the right edge.                                       |
| <b>EquationShowHideBorderHorizontalStrike</b> | 0x0981       | Add or remove horizontal strike.                                   |
| <b>EquationShowHideBorderVerticalStrike</b>   | 0x0982       | Add or remove vertical strike.                                     |
| <b>EquationShowHideBorderTLBRStrike</b>       | 0x0983       | Add or remove strike from top left.                                |
| <b>EquationShowHideBorderBLTRStrike</b>       | 0x0984       | Add or remove strike from bottom left.                             |
| <b>BibliographyBibliographyToText</b>         | 0x0985       | Converts bibliography to static text.                              |
| <b>QFSetAsDefault</b>                         | 0x0986       | Saves the current Quick Styles to the document template.           |
| <b>CompatChkr</b>                             | 0x0987       | Compatibility check.   |
| <b>MailMergeInsertFieldsFlyout</b>            | 0x0988       | Mail Merge Insert Fields.  |
| <b>AcceptChangesOrAdvance</b>                 | 0x0989       | Accepts change in current selection.                               |
| <b>RejectChangesOrAdvance</b>                 | 0x098A       | Rejects changes and deletes comments in current selection.         |
| <b>NavBackMenu</b>                            | 0x098B       | Menu for jumping back to the previous page in full screen reading. |
| <b>NavForwardMenu</b>                         | 0x098C       | Menu for jumping forward to the next page in full screen reading.  |
| <b>ReadModeShowMarkup</b>                     | 0x098D       | Menu for viewing mode for revisions and comments in reading mode.  |
| <b>ReadModeMarkupFinal</b>                    | 0x098E       | Menu item for showing final view in reading mode.                  |
| <b>ReadModeMarkupFinalMarkup</b>              | 0x098F       | Menu item for showing final+markup view in reading mode.           |
| <b>ReadModeMarkupOriginal</b>                 | 0x0990       | Menu item for Original view in reading mode.                       |
| <b>ReadModeMarkupOriginalMarkup</b>           | 0x0991       | Menu item for Original+markup view in reading mode.                |
| <b>OpenOrCloseParaAbove</b>                   | 0x0992       | Sets or removes extra spacing above the selected paragraph.        |
| <b>OpenOrCloseParaBelow</b>                   | 0x0993       | Sets or removes extra spacing below the selected paragraph.        |
| <b>OpenParaAbove</b>                          | 0x0994       | Adds extra spacing above the selected paragraph.                   |
| <b>CloseParaAbove</b>                         | 0x0995       | Removes extra spacing above the selected paragraph.                |
| <b>OpenParaBelow</b>                          | 0x0996       | Adds extra spacing below the selected paragraph.                   |
| <b>CloseParaBelow</b>                         | 0x0997       | Removes extra spacing below the selected                           |

| <b>Name</b>                            | <b>Value</b> | <b>Meaning</b>   |
|--|--------------|--|
|  |              | paragraph.   |
| <b>NextPane</b>                        | 0x0999       | Switches to the next window pane or taskpane.                                  |
| <b>PrevPane</b>                        | 0x099A       | Switches to the previous window pane or taskpane.                              |
| <b>CheckDocumentParts</b>              | 0x099B       | Goes to Office Online to Check for New Document Building Blocks.               |
| <b>BibliographyFilterLanguages</b>     | 0x099C       | Filter Languages.  |
| <b>RaiseTextBaseline</b>               | 0x099F       | Moves text baseline up.  |
| <b>LowerTextBaseline</b>               | 0x09A0       | Moves text baseline down.  |
| <b>BibUpdateLang</b>                   | 0x09A1       | Update Bibliography Language.  |
| <b>TableStyleNew</b>                   | 0x09A2       | Creates a new table style.   |
| <b>Zoom100</b>                         | 0x09A3       | Scales the current view to 100%.   |
| <b>UpdateBibliography</b>              | 0x09A6       | Update bibliography.   |
| <b>RibbonReviewProtectDocumentMenu</b> | 0x09A7       | Review Protect Document Menu.  |
| <b>RibbonReviewRestrictFormatting</b>  | 0x09A8       | Restrict Formatting and Editing in the Protect Document menu.                  |
| <b>ToggleOptimizeForLayout</b>         | 0x09A9       | Toggles optimize for layout option.  |
| <b>CharLeft</b>                        | 0x0FA0       | Moves the insertion point to the left one character.                           |
| <b>CharRight</b>                       | 0x0FA1       | Moves the insertion point to the right one character.                          |
| <b>WordLeft</b>                        | 0x0FA2       | Moves the insertion point to the left one word.                                |
| <b>WordRight</b>                       | 0x0FA3       | Moves the insertion point to the right one word.                               |
| <b>SentLeft</b>                        | 0x0FA4       | Moves the insertion point to the beginning of the previous sentence.           |
| <b>SentRight</b>                       | 0x0FA5       | Moves the insertion point to beginning of the next sentence.                   |
| <b>ParaUp</b>                          | 0x0FA6       | Moves the insertion point to the beginning of the previous paragraph.          |
| <b>ParaDown</b>                        | 0x0FA7       | Moves the insertion point to the beginning of the next paragraph.              |
| <b>LineUp</b>                          | 0x0FA8       | Moves the insertion point up one line.   |
| <b>LineDown</b>                        | 0x0FA9       | Moves the insertion point down one line.                                       |
| <b>PageUp</b>                          | 0x0FAA       | Moves the insertion point and document display to the previous screen of text. |
| <b>PageDown</b>                        | 0x0FAB       | Moves the insertion point and document display to the next screen of text.     |
| <b>StartOfLine</b>                     | 0x0FAC       | Moves the insertion point to the beginning of the current line.                |

| <b>Name</b>                | <b>Value</b> | <b>Meaning</b>   |
|----------------------------|--------------|--|
| <b>EndOfLine</b>           | 0x0FAD       | Moves the insertion point to the end of the current line.                              |
| <b>StartOfWindow</b>       | 0x0FAE       | Moves the insertion point to the beginning of the first visible line on the screen.    |
| <b>EndOfWindow</b>         | 0x0FAF       | Moves the insertion point to the end of the last visible line on the screen.           |
| <b>StartOfDocument</b>     | 0x0FB0       | Moves the insertion point to the beginning of the first line of the document.          |
| <b>EndOfDocument</b>       | 0x0FB1       | Moves the insertion point to the end of the last line of the document.                 |
| <b>CharLeftExtend</b>      | 0x0FB2       | Extends the selection to the left one character.                                       |
| <b>CharRightExtend</b>     | 0x0FB3       | Extends the selection to the right one character.                                      |
| <b>WordLeftExtend</b>      | 0x0FB4       | Extends the selection to the left one word.  |
| <b>WordRightExtend</b>     | 0x0FB5       | Extends the selection to the right one word.   |
| <b>SentLeftExtend</b>      | 0x0FB6       | Extends the selection to the beginning of the previous sentence.                       |
| <b>SentRightExtend</b>     | 0x0FB7       | Extends the selection to beginning of the next sentence.                               |
| <b>ParaUpExtend</b>        | 0x0FB8       | Extends the selection to the beginning of the previous paragraph.                      |
| <b>ParaDownExtend</b>      | 0x0FB9       | Extends the selection to the beginning of the next paragraph.                          |
| <b>LineUpExtend</b>        | 0x0FBA       | Extends the selection up one line.   |
| <b>LineDownExtend</b>      | 0x0FBB       | Extends the selection down one line.   |
| <b>PageUpExtend</b>        | 0x0FBC       | Extends the selection and changes the document display to the previous screen of text. |
| <b>PageDownExtend</b>      | 0x0FBD       | Extends the selection and changes the document display to the next screen of text.     |
| <b>StartOfLineExtend</b>   | 0x0FBE       | Extends the selection to the beginning of the current line.                            |
| <b>EndOfLineExtend</b>     | 0x0FBF       | Extends the selection to the end of the current line.                                  |
| <b>StartOfWindowExtend</b> | 0x0FC0       | Extends the selection to the beginning of the first visible line on the screen.        |
| <b>EndOfWindowExtend</b>   | 0x0FC1       | Extends the selection to the end of the last visible line on the screen.               |
| <b>StartOfDocExtend</b>    | 0x0FC2       | Extends the selection to the beginning of the first line of the document.              |
| <b>EndOfDocExtend</b>      | 0x0FC3       | Extends the selection to the end of the last line of the document.                     |
| <b>File1</b>               | 0x0FC5       | Opens this document.   |

| <b>Name</b>                           | <b>Value</b> | <b>Meaning</b>  |
|---------------------------------------|--------------|---|
| <b>File2</b>                          | 0x0FC6       | Opens this document.  |
| <b>File3</b>                          | 0x0FC7       | Opens this document.  |
| <b>File4</b>                          | 0x0FC8       | Opens this document.  |
| <b>File5</b>                          | 0x0FC9       | Opens this document.  |
| <b>File6</b>                          | 0x0FCA       | Opens this document.  |
| <b>File7</b>                          | 0x0FCB       | Opens this document.  |
| <b>File8</b>                          | 0x0FCC       | Opens this document.  |
| <b>File9</b>                          | 0x0FCD       | Opens this document.  |
| <b>MailMergeInsertAsk</b>             | 0x0FCF       | Inserts an Ask field at the insertion point.                                      |
| <b>MailMergeInsertFillIn</b>          | 0x0FD0       | Inserts a Fill-in field at the insertion point.                                   |
| <b>MailMergeInsertIf</b>              | 0x0FD1       | Inserts an If field at the insertion point.                                       |
| <b>MailMergeInsertMergeRec</b>        | 0x0FD2       | Inserts a MergeRec field at the insertion point.                                  |
| <b>MailMergeInsertMergeSeq</b>        | 0x0FD3       | Inserts a MergeSeq field at the insertion point.                                  |
| <b>MailMergeInsertNext</b>            | 0x0FD4       | Inserts a Next field at the insertion point.                                      |
| <b>MailMergeInsertNextIf</b>          | 0x0FD5       | Inserts a NextIf field at the insertion point.                                    |
| <b>MailMergeInsertSet</b>             | 0x0FD6       | Inserts a Set field at the insertion point.                                       |
| <b>MailMergeInsertSkipIf</b>          | 0x0FD7       | Inserts a SkipIf field at the insertion point.                                    |
| <b>BorderTop</b>                      | 0x0FDE       | Changes the top borders of the selected paragraphs, table cells, and pictures.    |
| <b>BorderLeft</b>                     | 0x0FDF       | Changes the left border of the selected paragraphs, table cells, and pictures.    |
| <b>BorderBottom</b>                   | 0x0FE0       | Changes the bottom border of the selected paragraphs, table cells, and pictures.  |
| <b>BorderRight</b>                    | 0x0FE1       | Changes the right border of the selected paragraphs, table cells, and pictures.   |
| <b>BorderInside</b>                   | 0x0FE2       | Changes the inside borders of the selected paragraphs, table cells, and pictures. |
| <b>ShowMe</b>                         | 0x0FE4       | Gives an in-depth explanation of the suggested tip.                               |
| <b>AutomaticChange</b>                | 0x0FE6       | Performs the suggested AutoFormat action.   |
| <b>FormatDrawingObjectWrapSquare</b>  | 0x0FF8       | Changes the selected drawing objects to square wrapping.                          |
| <b>FormatDrawingObjectWrapTight</b>   | 0x0FF9       | Changes the selected drawing objects to tight wrapping.                           |
| <b>FormatDrawingObjectWrapThrough</b> | 0x0FFA       | Changes the selected drawing objects to tight through wrapping.                   |
| <b>FormatDrawingObjectWrapNone</b>    | 0x0FFB       | Changes the selected drawing objects to no  |

| Name                                    | Value  | Meaning   |
|---|--------|---|
|   |        | wrapping.   |
| <b>FormatDrawingObjectWrapTopBottom</b> | 0x0FFC | Changes the selected drawing objects to top/bottom wrapping.          |
| <b>MicrosoftOnTheWeb1</b>               | 0x0FFE | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb2</b>               | 0x0FFF | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb3</b>               | 0x1000 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb4</b>               | 0x1001 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb5</b>               | 0x1002 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb6</b>               | 0x1003 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb7</b>               | 0x1004 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb8</b>               | 0x1005 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb9</b>               | 0x1006 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb10</b>              | 0x1007 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb11</b>              | 0x1008 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb12</b>              | 0x1009 | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb13</b>              | 0x100A | Browse to an application-related Web site.                            |
| <b>MicrosoftOnTheWeb14</b>              | 0x100B | Browse to an application related Web site.                            |
| <b>MicrosoftOnTheWeb15</b>              | 0x100C | Browse to an application related Web site.                            |
| <b>MicrosoftOnTheWeb16</b>              | 0x100D | Browse to an application related Web site.                            |
| <b>MicrosoftOnTheWeb17</b>              | 0x100E | Browse to an application related Web site.                            |
| <b>FormatDrawingObjectWrapFront</b>     | 0x100F | Changes the selected drawing objects to no wrapping in front of text. |
| <b>FormatDrawingObjectWrapBehind</b>    | 0x1010 | Changes the selected drawing objects to no wrapping behind text.      |
| <b>FormatDrawingObjectWrapInline</b>    | 0x1011 | Changes the selected drawing object to inline wrapping.               |
| <b>File10</b>                           | 0x10CC | Opens this document.  |
| <b>File11</b>                           | 0x10CD | Opens this document.  |
| <b>File12</b>                           | 0x10CE | Opens this document.  |
| <b>File13</b>                           | 0x10CF | Opens this document.  |
| <b>File14</b>                           | 0x10D0 | Opens this document.  |
| <b>File15</b>                           | 0x10D1 | Opens this document.  |
| <b>File16</b>                           | 0x10D2 | Opens this document.  |
| <b>File17</b>                           | 0x10D3 | Opens this document.  |

| <b>Name</b>   | <b>Value</b> | <b>Meaning</b>       |
|---------------|--------------|----------------------|
| <b>File18</b> | 0x10D4       | Opens this document. |
| <b>File19</b> | 0x10D5       | Opens this document. |
| <b>File20</b> | 0x10D6       | Opens this document. |
| <b>File21</b> | 0x10D7       | Opens this document. |
| <b>File22</b> | 0x10D8       | Opens this document. |
| <b>File23</b> | 0x10D9       | Opens this document. |
| <b>File24</b> | 0x10DA       | Opens this document. |
| <b>File25</b> | 0x10DB       | Opens this document. |
| <b>File26</b> | 0x10DC       | Opens this document. |
| <b>File27</b> | 0x10DD       | Opens this document. |
| <b>File28</b> | 0x10DE       | Opens this document. |
| <b>File29</b> | 0x10DF       | Opens this document. |
| <b>File30</b> | 0x10E0       | Opens this document. |
| <b>File31</b> | 0x10E1       | Opens this document. |
| <b>File32</b> | 0x10E2       | Opens this document. |
| <b>File33</b> | 0x10E3       | Opens this document. |
| <b>File34</b> | 0x10E4       | Opens this document. |
| <b>File35</b> | 0x10E5       | Opens this document. |
| <b>File36</b> | 0x10E6       | Opens this document. |
| <b>File37</b> | 0x10E7       | Opens this document. |
| <b>File38</b> | 0x10E8       | Opens this document. |
| <b>File39</b> | 0x10E9       | Opens this document. |
| <b>File40</b> | 0x10EA       | Opens this document. |
| <b>File41</b> | 0x10EB       | Opens this document. |
| <b>File42</b> | 0x10EC       | Opens this document. |
| <b>File43</b> | 0x10ED       | Opens this document. |
| <b>File44</b> | 0x10EE       | Opens this document. |
| <b>File45</b> | 0x10EF       | Opens this document. |
| <b>File46</b> | 0x10F0       | Opens this document. |
| <b>File47</b> | 0x10F1       | Opens this document. |
| <b>File48</b> | 0x10F2       | Opens this document. |
| <b>File49</b> | 0x10F3       | Opens this document. |

| <b>Name</b>                    | <b>Value</b> | <b>Meaning</b>   |
|--------------------------------|--------------|--|
| <b>File50</b>                  | 0x10F4       | Opens this document.   |
| <b>PageSetupMargins</b>        | 0x10F5       | Changes the page setup of the selected sections.                     |
| <b>PageSetupPaper</b>          | 0x10F6       | Changes the page setup of the selected sections.                     |
| <b>PageSetupLayout</b>         | 0x10F7       | Changes the page setup of the selected sections.                     |
| <b>LegacyFileMru</b>           | 0x10F8       | Opens this document.   |
| <b>MenuFile</b>                | 0x1644       | File Menu.   |
| <b>MenuEdit</b>                | 0x1645       | Edit Menu.   |
| <b>MenuView</b>                | 0x1646       | View Menu.   |
| <b>MenuInsert</b>              | 0x1647       | Insert Menu.   |
| <b>MenuFormat</b>              | 0x1648       | Format Menu.   |
| <b>MenuTools</b>               | 0x1649       | Tools Menu.  |
| <b>MenuTable</b>               | 0x164A       | Table Menu.  |
| <b>MenuWindow</b>              | 0x164B       | Window Menu.   |
| <b>MenuHelp</b>                | 0x164C       | Help Menu.   |
| <b>MenuWork</b>                | 0x164D       | Work Menu.   |
| <b>MenuFont</b>                | 0x164E       | Font Menu.   |
| <b>MenuLanguage</b>            | 0x1650       | Language Submenu.  |
| <b>MenuMicrosoftOnTheWeb</b>   | 0x1651       | Microsoft On the Web Menu.   |
| <b>MenuBorder</b>              | 0x1652       | Has no effect.   |
| <b>MenuInsertTextBox</b>       | 0x1653       | Insert Textbox Submenu.  |
| <b>MenuInsertFrame</b>         | 0x1654       | Insert Frame Submenu.  |
| <b>MenuDraw</b>                | 0x1655       | Has no effect.   |
| <b>DrawMenuTextWrapping</b>    | 0x1656       | Has no effect.   |
| <b>DrawMenuOrder</b>           | 0x1657       | Has no effect.   |
| <b>DrawMenuGrouping</b>        | 0x1658       | Has no effect.   |
| <b>DrawMenuAlignDistribute</b> | 0x1659       | Has no effect.   |
| <b>DrawMenuRotateFlip</b>      | 0x165A       | Has no effect.   |
| <b>DrawMenuNudge</b>           | 0x165B       | Has no effect.   |
| <b>FormatFillColor</b>         | 0x165C       | Applies the most recently used fill color to the selected AutoShape. |
| <b>FormatLineColor</b>         | 0x165D       | Applies the most recently used line color to the selected AutoShape. |
| <b>DrawMenuShadows</b>         | 0x165E       | Has no effect.   |



| <b>Name</b>                  | <b>Value</b> | <b>Meaning</b>   |
|------------------------------|--------------|--|
| <b>FormatLineStyle</b>       | 0x165F       | Has no effect.   |
| <b>DrawMenuLineDash</b>      | 0x1660       | Has no effect.   |
| <b>DrawMenuArrows</b>        | 0x1661       | Has no effect.   |
| <b>DrawMenu3D</b>            | 0x1662       | Has no effect.   |
| <b>DrawMenuShadowColor</b>   | 0x1663       | Applies the most recently used shadow color to the selected AutoShape. |
| <b>DrawMenuImageControl</b>  | 0x1664       | Has no effect.   |
| <b>DrawMenuChangeShape</b>   | 0x1665       | Has no effect.   |
| <b>DrawMenuChangeShape0</b>  | 0x1666       | Has no effect.   |
| <b>DrawMenuChangeShape1</b>  | 0x1667       | Has no effect.   |
| <b>DrawMenuChangeShape2</b>  | 0x1668       | Has no effect.   |
| <b>DrawMenuChangeShape3</b>  | 0x1669       | Has no effect.   |
| <b>DrawMenuChangeShape4</b>  | 0x166A       | Has no effect.   |
| <b>DrawMenuAutoShapes</b>    | 0x166B       | Has no effect.   |
| <b>DrawMenuMoreShapes1</b>   | 0x166C       | Has no effect.   |
| <b>DrawMenuMoreShapes2</b>   | 0x166D       | Has no effect.   |
| <b>DrawMenuMoreShapes3</b>   | 0x166E       | Has no effect.   |
| <b>DrawMenuMoreShapes4</b>   | 0x166F       | Has no effect.   |
| <b>DrawMenuMoreShapes5</b>   | 0x1670       | Has no effect.   |
| <b>DrawMenuMoreShapes6</b>   | 0x1671       | Has no effect.   |
| <b>DrawMenuTextShape</b>     | 0x1672       | Has no effect.   |
| <b>DrawMenuTextAlignment</b> | 0x1673       | Has no effect.   |
| <b>DrawMenuTextTracking</b>  | 0x1674       | Has no effect.   |
| <b>DrawMenu3DDepth</b>       | 0x1675       | Has no effect.   |
| <b>DrawMenu3DDirection</b>   | 0x1676       | Has no effect.   |
| <b>DrawMenu3DColor</b>       | 0x1677       | Applies the most recently used 3-D color to the selected AutoShape.    |
| <b>DrawMenu3DLighting</b>    | 0x1678       | Has no effect.   |
| <b>DrawMenu3DSurface</b>     | 0x1679       | Has no effect.   |
| <b>MenuOrgChartSelect</b>    | 0x167A       | Has no effect.   |
| <b>MenuTableInsert</b>       | 0x167B       | Macro Submenu.   |
| <b>MenuTableDelete</b>       | 0x167C       | Macro Submenu.   |
| <b>AutoSignatureList</b>     | 0x167D       | Email AutoSignatures menu.   |

| <b>Name</b>                   | <b>Value</b> | <b>Meaning</b>                      |
|-------------------------------|--------------|-------------------------------------|
| <b>MenuFrameset</b>           | 0x167E       | Format Frameset Submenu.            |
| <b>FilePreview</b>            | 0x167F       | File Preview Menu.                  |
| <b>MenuFixSpellingLang</b>    | 0x1680       | Represents a menu. Has no effect.   |
| <b>MenuRevisions</b>          | 0x1681       | Revisions Submenu.                  |
| <b>MenuFormatBackground</b>   | 0x1682       | Format Background Submenu.          |
| <b>MenuFixSpellingAC</b>      | 0x1683       | Represents a menu. Has no effect.   |
| <b>MenuPicture</b>            | 0x1684       | Insert Picture Submenu.             |
| <b>MenuAutoText</b>           | 0x1685       | Insert AutoText Submenu.            |
| <b>MenuMacro</b>              | 0x1686       | Macro Submenu.                      |
| <b>MenuPowerTalk</b>          | 0x1687       | PowerTalk Submenu.                  |
| <b>MenuHyperlinkSub</b>       | 0x1688       | Hyperlink.                          |
| <b>MenuCellVerticalAlign</b>  | 0x1689       | Cell Vertical Alignment Submenu.    |
| <b>MenuEditObject</b>         | 0x168A       | Represents a menu. Has no effect.   |
| <b>MenuSendTo</b>             | 0x168B       | Represents a menu. Has no effect.   |
| <b>MenuAutoTextList</b>       | 0x168D       | Has no effect.                      |
| <b>MenuTableSelect</b>        | 0x1696       | Macro Submenu.                      |
| <b>MenuTableConvert</b>       | 0x1697       | Macro Submenu.                      |
| <b>MenuTableInsertPalette</b> | 0x1698       | Has no effect.                      |
| <b>FixHHCMenu</b>             | 0x1699       | Represents a menu. Has no effect.   |
| <b>MenuTableAutoFitShort</b>  | 0x169A       | Macro Submenu.                      |
| <b>MenuTableAutoFitLong</b>   | 0x169B       | Macro Submenu.                      |
| <b>MenuCellAlignment</b>      | 0x169C       | Has no effect.                      |
| <b>MenuTableInsertLong</b>    | 0x169D       | Macro Submenu.                      |
| <b>MenuCollaboration</b>      | 0x169E       | Collaboration Submenu.              |
| <b>MenuAsianLayout</b>        | 0x169F       | Asian Layout Submenu.               |
| <b>FixSynonymMenu</b>         | 0x16A0       | Represents a menu. Has no effect.   |
| <b>MenuOrgChartLayout</b>     | 0x16AB       | Has no effect.                      |
| <b>DrawMenuMoreShapes7</b>    | 0x16AC       | Has no effect.                      |
| <b>MenuReference</b>          | 0x16AE       | Insert Reference Submenu.           |
| <b>MenuLettersMail</b>        | 0x16AF       | Tools Letters and Mailings Submenu. |
| <b>MenuClear</b>              | 0x16B0       | Clear Submenu.                      |
| <b>MenuDiagramLayout</b>      | 0x16B1       | Diagram Layout.                     |

| <b>Name</b>                         | <b>Value</b> | <b>Meaning</b>   |
|-------------------------------------|--------------|--|
| <b>MenuShowChanges</b>              | 0x16B3       | Fine tune which balloons are shown.                      |
| <b>MenuShowReviewers</b>            | 0x16B4       | Fine tune which balloons are shown.                      |
| <b>ResolveMenu</b>                  | 0x16B5       | Accept/Reject Changes and Delete Comments.               |
| <b>MenuOrgChartInsert</b>           | 0x16B6       | Inserts an additional box to the organization chart.     |
| <b>MenuDiagramConvertTo</b>         | 0x16B7       | Convert To.  |
| <b>ApplyXMLStructureMenu</b>        | 0x16B8       | Represents a menu. Has no effect.                        |
| <b>FormatInkColor</b>               | 0x16B9       | Brings up the format ink color dialog.                   |
| <b>MenuVersion</b>                  | 0x16BA       | Manages the versions of a document.                      |
| <b>FormatInkAnnotColor</b>          | 0x16BB       | Brings up the format ink annotation color dialog.        |
| <b>MenuShowBalloons</b>             | 0x16BC       | Fine tune which balloons are shown.                      |
| <b>InsertInkSplitMenu</b>           | 0x16BD       | Adds the Ink Tools tab to the Ribbon.                    |
| <b>ReadingModeViewAllMenu</b>       | 0x16C0       | Produces a submenu of Heading1 or 2.                     |
| <b>EquationVerticalMenu</b>         | 0x16C2       | Equation vertical alignment menu.                        |
| <b>EquationHorizontalMenu</b>       | 0x16C3       | Equation horizontal alignment menu.                      |
| <b>RefTipLangMenu</b>               | 0x16C4       | Translation.   |
| <b>MenuTableInsertIntoTable</b>     | 0x16C5       | Menu for inserting rows, columns, or cells into a table. |
| <b>MenuCellAlignmentNoTearoff</b>   | 0x16C6       | Menu for table cell alignment in dialog boxes.           |
| <b>EquationJustificationMenu</b>    | 0x16C7       | Equation justification.                                  |
| <b>EquationInsertMenu</b>           | 0x16C8       | Matrix insert menu.                                      |
| <b>EquationDeleteMenu</b>           | 0x16C9       | Matrix delete menu.                                      |
| <b>EquationBorderPropertiesMenu</b> | 0x16CA       | Equation border properties menu.                         |
| <b>MenuWordQFStyles</b>             | 0x16CB       | Quick formatting menu.                                   |
| <b>WW2_FileTemplates</b>            | 0x17A6       | Changes the active template and the template options.    |
| <b>TrustCenter</b>                  | 0x17C7       | Changes various security and privacy options.            |
| <b>OfficeCenter</b>                 | 0x17D0       | Changes various categories of the application options.   |
| <b>InsertOCXCheckbox</b>            | 0x1BA5       | Inserts a Checkbox Control.                              |
| <b>InsertOCXSpin</b>                | 0x1BA6       | Inserts a Spin Control.                                  |
| <b>InsertOCXScrollbar</b>           | 0x1BA7       | Inserts a Scrollbar Control.                             |
| <b>InsertOCXLabel</b>               | 0x1BA8       | Inserts a Label Control.                                 |
| <b>InsertOCXTextBox</b>             | 0x1BA9       | Inserts a Text Box Control.                              |

| Name                          | Value  | Meaning   |
|-------------------------------|--------|---|
| <b>InsertOCXButton</b>        | 0x1BAA | Inserts a Button Control.                                       |
| <b>InsertOCXOptionButton</b>  | 0x1BAB | Inserts a RadioButton Control.                                  |
| <b>InsertOCXListBox</b>       | 0x1BAC | Inserts a Listbox Control.                                      |
| <b>InsertOCXDropDownCombo</b> | 0x1BAD | Inserts a Combobox Control.                                     |
| <b>InsertOCXToggleButton</b>  | 0x1BAE | Inserts a Toggle Button Control.                                |
| <b>ViewControlToolbox</b>     | 0x1BAF | Shows or hides the Control Toolbox.                             |
| <b>ShowPropertyBrowser</b>    | 0x1BB0 | Shows the Property Browser.                                     |
| <b>InsertOCXFrame</b>         | 0x1BB1 | Inserts a Frame Control.  |
| <b>InsertOCXImage</b>         | 0x1BB2 | Inserts an Image Control.                                       |
| <b>ToolbarLabel</b>           | 0x1BB4 | Represents a toolbar label control. Has no effect.              |
| <b>ViewWebToolbox</b>         | 0x1BC4 | Shows or hides the Web Toolbox.                                 |
| <b>ChangeMailFormat</b>       | 0x1BC9 | Changes the current message format.                             |
| <b>DeleteSchema</b>           | 0x1BD1 | Deletes an XML Schema from the document.                        |
| <b>AlignLeft</b>              | 0x1BDD | Aligns the selected drawing objects to the left.                |
| <b>AlignCenterHorizontal</b>  | 0x1BDE | Aligns the selected drawing objects horizontally to the center. |
| <b>AlignRight</b>             | 0x1BDF | Aligns the selected drawing objects to the right.               |
| <b>AlignTop</b>               | 0x1BE0 | Aligns the selected drawing objects to the top.                 |
| <b>AlignCenterVertical</b>    | 0x1BE1 | Aligns the selected drawing objects vertically to the center.   |
| <b>AlignBottom</b>            | 0x1BE2 | Aligns the selected drawing objects to the bottom.              |
| <b>PPPPropertyEditorDlg</b>   | 0x1BE3 | Show property editor dialog.                                    |

## 2.9.76 FCKS

The **FCKS** structure contains information about a grammar checker cookie. The grammar checker cookie itself is contained within the data that corresponds to the **fcCookieData** member of [FibRgFclCb97](#).

|      |   |   |        |   |   |   |   |   |   |    |            |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|--------|---|---|---|---|---|---|----|------------|----|----|----|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3      | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11         | 12 | 13 | 14 | 15 | 16      | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dcp  |   |   |        |   |   |   |   |   |   |    |            |    |    |    |    | dcpSent |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| icdb |   |   |        |   |   |   |   |   |   |    |            |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cet  |   | A | lidSub |   |   |   |   |   |   |    | lidPrimary |    |    |    |    |         |    |    | B  |    |    |    |    |    |    |    |    |    |    |    |    |

**dcp (2 bytes):** An integer that specifies the number of characters that are spanned by the text corresponding to the given grammar checker cookie. If **fHeader** is equal to 0x01, this value MUST be ignored.

**dcpSent (2 bytes):** An integer that specifies the number of characters between the start of the text that corresponds to the given grammar checker cookie and the start of the sentence which contains the text. If **fHeader** is equal to 0x01, this value MUST be ignored.

**icdb (4 bytes):** An unsigned integer that specifies the byte offset within the [RgCdb](#) that is specified by the **fcCookieData** member of [FibRgFcLcb97](#), at which the data corresponding to this grammar checker cookie is located.

**cet (2 bits):** The error type that corresponds to the grammar checker cookie. The error types are interpreted as follows.

| Value | Meaning                                     |
|-------|---|
| 0x0   | Default (not typo, homonym, or consistency) |
| 0x1   | Typo  |
| 0x2   | Homonym                                     |
| 0x3   | Consistency                                 |

If **fHeader** is equal to 0x1, this value MUST be ignored.

**A - fError (1 bit):** A bit that indicates whether the grammar checker cookie corresponds to a grammar checker error that is displayed to the user. If **fHeader** is equal to 0x1, this value MUST be ignored.

**lidSub (5 bits):** The 10<sup>th</sup> through 14<sup>th</sup> least significant bits of the language ID component of the LCID of the grammar checker which created the given grammar checker cookie, as specified in [\[MS-LCID\]](#).

**lidPrimary (7 bits):** The 7 least significant bits of the language ID component of the LCID of the grammar checker which created the given grammar checker cookie, as specified in [\[MS-LCID\]](#).

**B - fHeader (1 bit):** A bit indicating whether this is a special entry containing implementation-specific data for the grammar checker which created this grammar checker cookie. There MUST be only one entry with **fHeader** set to 0x1 by a given grammar checker in a document.

## 2.9.77 FCKSOLD

The **FCKSOLD** structure contains information about a grammar checker cookie. The grammar checker cookie itself is contained within the data that corresponds to the **fcCookieData** member of [FibRgFcLcb97](#).

|         |   |       |   |   |   |   |   |   |   |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|---|-------|---|---|---|---|---|---|---|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0       | 1 | 2     | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15       | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| lid     |   |       |   |   |   |   |   |   |   |    |    |    |    |    | dcp      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| dcpSent |   |       |   |   |   |   |   |   |   |    |    |    |    |    | padding1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cet     |   | spare |   |   |   |   |   |   |   |    |    |    |    | A  | padding2 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| icdb    |   |       |   |   |   |   |   |   |   |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**lid (2 bytes):** A [LID](#) that corresponds to the grammar checker that created the given grammar checker cookie.

**dcp (2 bytes):** An integer that specifies the number of characters that are spanned by the text corresponding to the given grammar checker cookie. This value MUST be greater than or equal to zero.

**dcpSent (2 bytes):** An integer that specifies the number of characters between the start of the text that corresponds to the given grammar checker cookie and the start of the sentence that contains the text. This value MUST be less than or equal to zero.

**padding1 (2 bytes):** This value is undefined and MUST be ignored.

**cet (2 bits):** An error type that corresponds to the grammar checker cookie. The error types are interpreted as follows.

| Value | Meaning                                     |
|-------|---|
| 0x0   | Default (not typo, homonym, or consistency) |
| 0x1   | Typo  |
| 0x2   | Homonym                                     |
| 0x3   | Consistency                                 |

**spare (13 bits):** This value is undefined and MUST be ignored.

**A - fError (1 bit):** A bit that indicates whether the grammar checker cookie corresponds to a grammar checker error that is intended to be displayed to the user.

**padding2 (2 bytes):** This value is undefined and MUST be ignored.

**icdb (4 bytes):** An unsigned integer that specifies the byte offset within the [RgCdb](#) that is specified by the **fcCookieData** member of `FibRgFcLcb97` at which the data corresponding to this grammar checker cookie is located.

## 2.9.78 FFData

The **FFData** structure specifies form field data for a text box, check box, or drop-down list box.

|                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| version                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| bits                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cch                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| hps                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | xstzName (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| xstzTextDef (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                          |                           |
|--------------------------|---------------------------|
| wDef (optional)          | xstzTextFormat (variable) |
| ...                      |                           |
| xstzHelpText (variable)  |                           |
| ...                      |                           |
| xstzStatText (variable)  |                           |
| ...                      |                           |
| xstzEntryMcr (variable)  |                           |
| ...                      |                           |
| xstzExitMcr (variable)   |                           |
| ...                      |                           |
| hsttbDropList (variable) |                           |
| ...                      |                           |

**version (4 bytes):** An unsigned integer that MUST be 0xFFFFFFFF.

**bits (2 bytes):** An [FFDataBits](#) that specifies the type and state of this form field.

**cch (2 bytes):** An unsigned integer that specifies the maximum length, in characters, of the value of the textbox. This value MUST NOT exceed 32767. A value of 0 means there is no maximum length of the value of the textbox. If **bits.iType** is not `iTypeText (0)`, this value MUST be 0.

**hps (2 bytes):** An unsigned integer. If **bits.iType** is `iTypeChck (1)`, **hps** specifies the size, in half-points, of the checkbox and MUST be between 2 and 3168, inclusive. If **bits.iType** is not `iTypeChck (1)`, **hps** is undefined and MUST be ignored.

**xstzName (variable):** An [Xstz](#) that specifies the name of this form field. **xstzName.cch** MUST NOT exceed 20.

**xstzTextDef (variable):** An optional [Xstz](#) that specifies the default text of this textbox. This structure MUST exist if and only if **bits.iType** is `iTypeTxt (0)`. **xstzTextDef.cch** MUST NOT exceed 255. If **bits.iTypeTxt** is either `iTypeTxtCurDate (3)` or `iTypeTxtCurTime (4)`, **xstzTextDef** MUST be an empty string. If **bits.iTypeTxt** is `iTypeTxtCalc (5)`, **xstzTextDef** specifies an expression to calculate.

**wDef (2 bytes):** An optional unsigned integer that specifies the default state of the checkbox or dropdown list box. This value MUST exist if and only if **bits.iType** is `iTypeChck (1)` or `iTypeDrop (2)`. If **bits.iType** is `iTypeChck (1)`, **wDef** MUST be 0 or 1 and specify the default state of the checkbox as unchecked or checked, respectively. If **bits.iType** is `iTypeDrop (2)`, **wDef** MUST be less than the number of items in the dropdown list box and specify the default item selected (zero-based index).

**xstzTextFormat (variable):** An [Xstz](#) that specifies the string format of the textbox. **xstzTextFormat** MUST be an empty string if **bits.iType** is not `iTypeTxt (0)`.

**xstzTextFormat.cch** MUST NOT exceed 64. Valid formatting strings are specified in [\[ECMA-376\]](#) part 4, section 2.16.22 format (Text Box Form Field Formatting).

**xstzHelpText (variable):** An Xstz that specifies the help text for the form field. The value of **xstzHelpText.cch** MUST NOT exceed 255.

**xstzStatText (variable):** An Xstz that specifies the status bar text for the form field. The value of **xstzStatText.cch** MUST NOT exceed 138.

**xstzEntryMcr (variable):** An Xstz that specifies a macro to run on entry of the form field. The value of **xstzEntryMcr.cch** MUST NOT exceed 32.

**xstzExitMcr (variable):** An Xstz that specifies a macro to run after the value of the form field changes. The value of **xstzExitMcr.cch** MUST NOT exceed 32.

**hsttbDropList (variable):** An optional [STTB](#) that specifies the entries in the dropdown list box. This MUST exist if and only if **bits.iType** is `iTypeDrop` (2). The entries are Unicode strings and do not have extra data. This MUST NOT exceed 25 elements.

### 2.9.79 FFDataBits

The **FFDataBits** structure specifies the type and properties for a form field that is specified by a [FFData](#).

|   |      |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|---|------|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0 | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| A | iRes |   |   |   |   | B | C | D | E | F  |   |   | G | H |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**A - iType (2 bits):** An unsigned integer that specifies the type of the form field. This value MUST be one of the following.

| Value | Name      | Description   |
|-------|-----------|---|
| 0     | iTypeText | Specifies that the form field is a textbox.           |
| 1     | iTypeChck | Specifies that the form field is a checkbox.          |
| 2     | iTypeDrop | Specifies that the form field is a dropdown list box. |

**iRes (5 bits):** An unsigned integer. If **iType** is `iTypeText` (0), then **iRes** MUST be 0. If **iType** is `iTypeChck` (1), **iRes** specifies the state of the checkbox and MUST be 0 (unchecked), 1 (checked), or 25 (undefined). Undefined checkboxes are treated as unchecked. If **iType** is `iTypeDrop` (2), **iRes** specifies the current selected list box item. A value of 25 specifies the selection is undefined. Otherwise, **iRes** is a zero-based index into `FFData.hsttbDropList`.

**B - fOwnHelp (1 bit):** A bit that specifies whether the form field has custom help text in `FFData.xstzHelpText`. If **fOwnHelp** is 0, `FFData.xstzHelpText` contains an empty or auto-generated string.

**C - fOwnStat (1 bit):** A bit that specifies whether the form field has custom status bar text in `FFData.xstzStatText`. If **fOwnStat** is 0, `FFData.xstzStatText` contains an empty or auto-generated string.

**D - fProt (1 bit):** A bit that specifies whether the form field is protected and its value cannot be changed.

**E - iSize (1 bit):** A bit that specifies whether the size of a checkbox is automatically determined by the text size where the checkbox is located. This value MUST be 0 if **iType** is not `iTypeChck` (1).



**F - iTypeTxt (3 bits):** An unsigned integer that specifies the type of the textbox. This MUST be one of the following values.

| Value | Name            | Description   |
|-------|-----------------|---|
| 0     | iTypeTxtReg     | Specifies that the textbox value is regular text.   |
| 1     | iTypeTxtNum     | Specifies that the textbox value is a number.   |
| 2     | iTypeTxtDate    | Specifies that the textbox value is a date or time.   |
| 3     | iTypeTxtCurDate | Specifies that the textbox value is the current date.   |
| 4     | iTypeTxtCurTime | Specifies that the textbox value is the current time.   |
| 5     | iTypeTxtCalc    | Specifies that the textbox value is calculated from an expression. The expression is given by FFData.xstzTextDef. |

If **iType** is not iTypeText (0), **iTypeTxt** MUST be 0 and MUST be ignored.

**G - fRecalc (1 bit):** A bit that specifies whether the value of the field is automatically calculated after the field is modified.

**H - fHasListBox (1 bit):** A bit that specifies that the form field has a list box. This value MUST be 1 if **iType** is iTypeDrop (2). Otherwise, this value MUST be 0.

## 2.9.80 FFID

The **FFID** structure specifies the font family and character pitch for a font.

|     |   |   |   |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|----|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4  | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| prq |   | A | B | ff |   |   | C |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**prq (2 bits):** A 2-bit field that specifies character pitch. This MUST contain one of the following values.

| Value | Meaning         |
|-------|-----------------|
| 0x00  | Default pitch.  |
| 0x01  | Fixed pitch.    |
| 0x02  | Variable pitch. |

**A - fTrueType (1 bit):** A bit that specifies whether the font is a TrueType font.

**B - unused1 (1 bit):** This bit is undefined and MUST be ignored.

**ff (3 bits):** A bit field that specifies the font family type as described in [\[MSDN-FONTS\]](#). This field MUST contain one of the following values.

| Value | Meaning                                   |
|-------|---|
| 0x00  | Font family is unspecified for this font. |
| 0x01  | Roman (Serif).                            |
| 0x02  | Swiss (Sans-serif).                       |
| 0x03  | Modern (Monospace).                       |
| 0x04  | Script (Cursive).                         |
| 0x05  | Decorative (Fantasy).                     |

**C - unused2 (1 bit):** This field **MUST** be zero and **MUST** be ignored.

### 2.9.81 FFM

The **FFM** enumeration specifies the type of font substitution that is needed for the associated text. Font substitution is needed when certain language characters are not supported by the current font for the text, so a different font needs to be picked that supports the characters.

| Name               | Value | Meaning   |
|--------------------|-------|---|
| <b>ffmNone</b>     | 0x00  | No font substitution is needed for this text.   |
| <b>ffmDefault</b>  | 0x01  | Substitute a font using default heuristics.   |
| <b>ffmUILang</b>   | 0x02  | Substitute a font using the best font for the language of the text.                                 |
| <b>ffmUIDialog</b> | 0x04  | Substitute a font using the same font that the user interface text is displayed in, if appropriate. |

### 2.9.82 FFN

The **FFN** structure specifies information about a font that is used in the document. This information **MUST** be complete for each font. In addition to specifying a specific named font, this information is intended for the purpose of font substitution when that named font is not available.

| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10      | 11 | 12 | 13 | 14 | 15 | 16                | 17 | 18 | 19 | 20  | 21 | 22 | 23 | 24                | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-----------|---|---|---|---|---|---|---|---|---|---------|----|----|----|----|----|-------------------|----|----|----|-----|----|----|----|-------------------|----|----|----|----|----|----|----|
| ffid      |   |   |   |   |   |   |   |   |   | wWeight |    |    |    |    |    |                   |    |    |    | chs |    |    |    |                   |    |    |    |    |    |    |    |
| ixchSzAlt |   |   |   |   |   |   |   |   |   | panose  |    |    |    |    |    |                   |    |    |    |     |    |    |    |                   |    |    |    |    |    |    |    |
| ...       |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |                   |    |    |    |     |    |    |    |                   |    |    |    |    |    |    |    |
| ...       |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |                   |    |    |    |     |    |    |    | fs (24 bytes)     |    |    |    |    |    |    |    |
| ...       |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |                   |    |    |    |     |    |    |    |                   |    |    |    |    |    |    |    |
| ...       |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |                   |    |    |    |     |    |    |    | xszFfn (variable) |    |    |    |    |    |    |    |
| ...       |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |                   |    |    |    |     |    |    |    |                   |    |    |    |    |    |    |    |
| ...       |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    | xszAlt (variable) |    |    |    |     |    |    |    |                   |    |    |    |    |    |    |    |
| ...       |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |                   |    |    |    |     |    |    |    |                   |    |    |    |    |    |    |    |

**ffid (1 byte):** An [FFID](#) that specifies the font family.

**wWeight (2 bytes):** A signed integer that specifies the visual weight of the font. This value **MUST** be between 0 and 1000. A value of 700 corresponds to bold text. A value of 400 corresponds to normal text.

**chs (1 byte):** An unsigned integer that specifies the character set that is used by the font. This MUST be one of the following values.

| Value | Meaning             |
|-------|---------------------|
| 0     | ANSI_CHARSET        |
| 1     | DEFAULT_CHARSET     |
| 2     | SYMBOL_CHARSET      |
| 128   | SHIFTJIS_CHARSET    |
| 129   | HANGEUL_CHARSET     |
| 129   | HANGUL_CHARSET      |
| 134   | GB2312_CHARSET      |
| 136   | CHINESEBIG5_CHARSET |
| 255   | OEM_CHARSET         |
| 130   | JOHAB_CHARSET       |
| 177   | HEBREW_CHARSET      |
| 178   | ARABIC_CHARSET      |
| 161   | GREEK_CHARSET       |
| 162   | TURKISH_CHARSET     |
| 163   | VIETNAMESE_CHARSET  |
| 222   | THAI_CHARSET        |
| 238   | EASTEUROPE_CHARSET  |
| 204   | RUSSIAN_CHARSET     |
| 77    | MAC_CHARSET         |
| 186   | BALTIC_CHARSET      |

**ixchSzAlt (1 byte):** An unsigned integer that specifies the zero-based index into the **xsZFfn**. If nonzero, this value specifies the location within **xsZFfn** where **xsZAlt** begins.

**panose (10 bytes):** A [Panose](#) that specifies font attributes for TrueType fonts.

**fs (24 bytes):** A **FontSignature**, as specified in [\[MC-FONTSIGNATURE\]](#), that specifies the **Unicode Subset Bitfields** of the font, as specified in [\[MC-USB\]](#), and **Code Page Bitfields**, as specified in [\[MC-CPB\]](#).

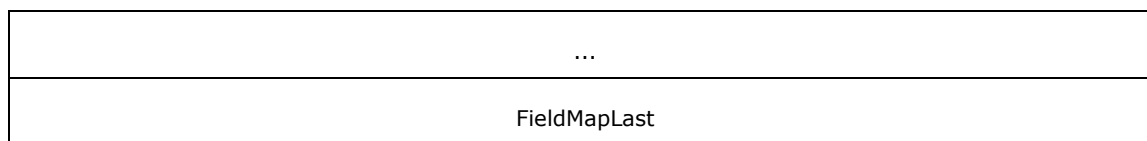
**xsZFfn (variable):** A null-terminated Unicode string that MUST contain the name of the font.

**xsZAlt (variable):** A null-terminated Unicode string that specifies the name of an alternative font, intended for font substitution if the font specified by **xsZFfn** is not available. This field, if it exists, begins immediately after the terminating null character of **xsZFfn**. If **ixchSzAlt** is nonzero, this string MUST exist, otherwise it MUST NOT exist.

### 2.9.83 FieldMapBase

The **FieldMapBase** structure contains a **FieldMap** which is followed by a marker that specifies where the **FieldMap** ends (**FieldMapLast**). A **FieldMapBase** MUST correspond with one of 30 standard mail merge address fields, which are defined for [ODSOPPropertyBase](#).OdsopProp when [ODSOPPropertyBase](#).id is equal to 0x0016.

|                     |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |
|---------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|
| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |
| FieldMap (variable) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |

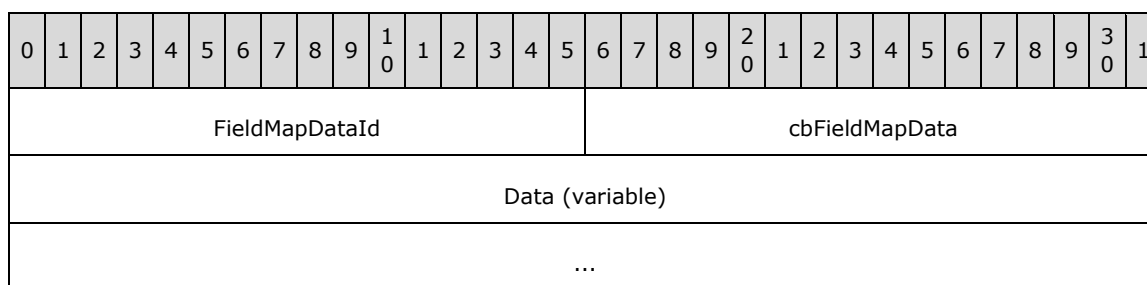


**FieldMap (variable):** An array of [FieldMapDataItem](#). Data that specifies the mapping between one of 30 standard mail merge address fields and a column in the data source.

**FieldMapLast (4 bytes):** Contains a [FieldMapTerminator](#) that specifies that there is no further data to read for the current **FieldMap**.

### 2.9.84 FieldMapDataItem

The **FieldMapDataItem** structure contains information about a mail merge field mapping. All **FieldMapDataItems** that apply to a particular field mapping are grouped together. When a [FieldMapTerminator](#) is encountered, there is no further data about this field mapping, and any subsequent **FieldMapDataItem** structures are associated with subsequent field mappings.



**FieldMapDataId (2 bytes):** An unsigned integer that specifies the type of this **FieldMapDataItem**. This value MUST be 0x0001, 0x0002, 0x0003, or 0x0004.

**cbFieldMapData (2 bytes):** An unsigned integer that specifies the size, in bytes, of the following **Data** element.

**Data (variable):** Contains the actual data for this **FieldMapDataItem**. The meaning of the data depends on the preceding **FieldMapDataId** and is specified as follows.

| FieldMapDataId | Data   |
|----------------|--|
| 0x0001         | An unsigned integer that specifies the mail merge field is being mapped to a data source column. This value MUST be 0x00000001.  |
| 0x0002         | A Unicode string that specifies the name of the data source column to which this merge field is being mapped. The string is not null-terminated.   |
| 0x0003         | A Unicode string that specifies the name of the standard mail merge field to which the data source column is being mapped. The string is not null-terminated. This string MUST be ignored.             |
| 0x0004         | An unsigned integer that specifies the zero-based index of the data source column to which this merge field is being mapped. If the value is 0xFFFFFFFF, this <b>FieldMapDataItem</b> MUST be ignored. |

### 2.9.85 FieldMapInfo

The **FieldMapInfo** structure specifies information about how fields from a mail merge data source are mapped to standard mail merge address fields, which are defined for [ODSOPropertyBase.OdsoProp](#) when **ODSOPropertyBase.id** is equal to 0x0016.

|                                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16             | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| countMarker                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cbCount        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cFields                           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| FieldMapListSizeMarker            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cbFieldMapList |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbFieldMapListOverflow (optional) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| FieldMappings (variable)          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**countMarker (2 bytes):** An unsigned integer that specifies that the count of **FieldMappings** follows. This value MUST be zero.

**cbCount (2 bytes):** An unsigned integer that specifies the size, in bytes, of the following mapped field count. This value MUST be 0x0004.

**cFields (4 bytes):** An unsigned integer that specifies the number of elements in the **FieldMappings** array. This value MUST be 30.

**FieldMapListSizeMarker (2 bytes):** An unsigned integer that specifies that the size of the **FieldMappings** array that follows. This value MUST be 0x0001.

**cbFieldMapList (2 bytes):** An unsigned integer that specifies the size, in bytes, of the **FieldMappings** array. If the size is greater than 0xFFFF, this value MUST be 0xFFFF.

**cbFieldMapListOverflow (4 bytes):** An unsigned integer that specifies the size in bytes of the **FieldMappings** array. This value is only present if **cbFieldMapList** is set to 0xFFFF.

**FieldMappings (variable):** An array of [FieldMapBase](#). Each FieldMapBase element in this array maps a column in the mail merge data source to a corresponding standard mail merge address field. There are 30 standard mail merge address fields, which are defined for **ODSOPROPERTYBASE.ODSOPROP** when **ODSOPROPERTYBASE.ID** is equal to 0x0016.

### 2.9.86 FieldMapTerminator

The **FieldMapTerminator** structure marks the end of the [FieldMapDataItem](#) structures that apply to an element of the **FieldMap** field of a [FieldMapBase](#).

|                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16             | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| FieldMapDataId |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | CbFieldMapData |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**FieldMapDataId (2 bytes):** An unsigned integer that specifies there is no further data to read for the current **FieldMap**. This value MUST be zero.

**CbFieldMapData (2 bytes):** This value MUST be zero.

## 2.9.87 FilterDataItem

The **FilterDataItem** structure contains data that is used to filter a list of mail merge recipients.

|                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbItem                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| iColumn                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| iComparisonOperator    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| iCondition             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rgwchFilter (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbItem (4 bytes):** An unsigned integer that specifies the size, in bytes, of this **FilterDataItem**.

**iColumn (4 bytes):** An unsigned integer that specifies the zero-based index of the database column to which this filter applies. This value **MUST** be greater than or equal to zero and **MUST** be less than or equal to 254.

**iComparisonOperator (4 bytes):** An unsigned integer that specifies the comparison operator to be used for the comparison. This **MUST** be one of the following values.

| Value      | Meaning                |
|------------|------------------------|
| 0x00000000 | Equal.                 |
| 0x00000001 | Not equal.             |
| 0x00000002 | Less than.             |
| 0x00000003 | Greater than.          |
| 0x00000004 | Less than or equal.    |
| 0x00000005 | Greater than or equal. |
| 0x00000006 | Empty.                 |
| 0x00000007 | Not empty.             |

**iCondition (4 bytes):** An unsigned integer that specifies how this comparison is combined with other comparisons in the filter. This value **MUST** be zero (logical **AND**) or 1 (logical **OR**).

**rgwchFilter (variable):** A Unicode string that specifies the value to be used as the basis for the comparison. The string is null-terminated and **MUST** contain no more than 212 characters.

## 2.9.88 Fld

The **Fld** structure specifies a field character.

|       |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------|---|---|---|---|---|---|---|---|---|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fldch |   |   |   |   |   |   |   |   |   | grffld |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**fldch (1 byte):** An [fldch](#) whose **ch** member controls the interpretation of **grffld**. This value MUST be 0x13, 0x14, or 0x15.

**grffld (1 byte):** The meaning of this field is dependent on the value of **fldch**, as defined following.

| fldch.ch | Meaning   |
|----------|---|
| 0x13     | <b>grffld</b> is an unsigned integer that indicates the kind of field this was the last time that an application parsed it. The values are specified in <a href="#">flt</a> . |
| 0x14     | <b>grffld</b> is unused and MUST be ignored.  |
| 0x15     | <b>grffld</b> is a <a href="#">grffldEnd</a> .  |

## 2.9.89 fldch

The **fldch** structure determines the type of the field character.

|    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |    |   |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|----|---|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| ch |   |   |   |   |   |   |   |   |   | A  |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |    |   |

**ch (5 bits):** An unsigned integer whose value MUST be either 0x13, 0x14, or 0x15. This value controls the interpretation of the **grffld** member of the containing [Fld](#).

**A - reserved (3 bits):** Three reserved bits, which an application MUST ignore.

## 2.9.90 flt

The **flt** enumeration is an index to a **field type**. Most of the field type indices that are listed in the following table are mapped to entries in [\[ECMA-376\]](#) part 4, section 2.16.5. Values that are not specified following MUST NOT be used.

| Value | Name      | Meaning  |
|-------|-----------|--|
| 0x01  | Not Named | Specifies that the field was unable to be parsed.  |
| 0x02  | Not Named | Specifies that the field represents a <b>REF</b> field where the keyword has been omitted.<br>The <b>REF</b> field is specified in <a href="#">[ECMA-376]</a> part 4, section 2.16.5.58. |
| 0x03  | REF       | Specified in <a href="#">[ECMA-376]</a> part 4, section 2.16.5.58  |
| 0x05  | FTNREF    | This field is identical to NOTEREF specified in <a href="#">[ECMA-376]</a> part 4, section 2.16.5.47.  |
| 0x06  | SET       | Specified in <a href="#">[ECMA-376]</a> part 4, section 2.16.5.64.   |
| 0x07  | IF        | Specified in <a href="#">[ECMA-376]</a> part 4, section 2.16.5.32.   |
| 0x08  | INDEX     | Specified in <a href="#">[ECMA-376]</a> part 4, section 2.16.5.35.   |
| 0x0A  | STYLEREF  | Specified in <a href="#">[ECMA-376]</a> part 4, section 2.16.5.66.   |
| 0x0C  | SEQ       | Specified in <a href="#">[ECMA-376]</a> part 4, section 2.16.5.63.   |

| Value | Name        | Meaning   |
|-------|-------------|---|
| 0x0D  | TOC         | Specified in [ECMA-376] part 4, section 2.16.5.75.  |
| 0x0E  | INFO        | Specified in [ECMA-376] part 4, section 2.16.5.36.  |
| 0x0F  | TITLE       | Specified in [ECMA-376] part 4, section 2.16.5.73.  |
| 0x10  | SUBJECT     | Specified in [ECMA-376] part 4, section 2.16.5.67.  |
| 0x11  | AUTHOR      | Specified in [ECMA-376] part 4, section 2.16.5.4.   |
| 0x12  | KEYWORDS    | Specified in [ECMA-376] part 4, section 2.16.5.37.  |
| 0x13  | COMMENTS    | Specified in [ECMA-376] part 4, section 2.16.5.14.  |
| 0x14  | LASTSAVEDBY | Specified in [ECMA-376] part 4, section 2.16.5.38.  |
| 0x15  | CREATEDATE  | Specified in [ECMA-376] part 4, section 2.16.5.16.  |
| 0x16  | SAVEDATE    | Specified in [ECMA-376] part 4, section 2.16.5.60.  |
| 0x17  | PRINTDATE   | Specified in [ECMA-376] part 4, section 2.16.5.54.  |
| 0x18  | REVNUM      | Specified in [ECMA-376] part 4, section 2.16.5.59.  |
| 0x19  | EDITTIME    | Specified in [ECMA-376] part 4, section 2.16.5.21.  |
| 0x1A  | NUMPAGES    | Specified in [ECMA-376] part 4, section 2.16.5.49.  |
| 0x1B  | NUMWORDS    | Specified in [ECMA-376] part 4, section 2.16.5.50.  |
| 0x1C  | NUMCHARS    | Specified in [ECMA-376] part 4, section 2.16.5.48.  |
| 0x1D  | FILENAME    | Specified in [ECMA-376] part 4, section 2.16.5.23.  |
| 0x1E  | TEMPLATE    | Specified in [ECMA-376] part 4, section 2.16.5.71.  |
| 0x1F  | DATE        | Specified in [ECMA-376] part 4, section 2.16.5.18.  |
| 0x20  | TIME        | Specified in [ECMA-376] part 4, section 2.16.5.72.  |
| 0x21  | PAGE        | Specified in [ECMA-376] part 4, section 2.16.5.51.  |
| 0x22  | =           | Specified in [ECMA-376] part 4, section 2.16.3.3.   |
| 0x23  | QUOTE       | Specified in [ECMA-376] part 4, section 2.16.5.56.  |
| 0x24  | INCLUDE     | This field is identical to <b>INCLUDETEXT</b> specified in [ECMA-376] part 4, section 2.16.5.34.  |
| 0x25  | PAGEREF     | Specified in [ECMA-376] part 4, section 2.16.5.52.  |
| 0x26  | ASK         | Specified in [ECMA-376] part 4, section 2.16.5.3.   |
| 0x27  | FILLIN      | Specified in [ECMA-376] part 4, section 2.16.5.25.  |
| 0x28  | DATA        | Usage:<br>DATA <i>datafile</i> [ <i>headerfile</i> ]<br>Specifies that this field SHOULD <a href="#">&lt;224&gt;</a> redirect the mail merge data and header files to the ones specified. |
| 0x29  | NEXT        | Specified in [ECMA-376] part 4, section 2.16.5.45.  |



| Value | Name           | Meaning  |
|-------|----------------|--|
| 0x2A  | NEXTIF         | Specified in [ECMA-376] part 4, section 2.16.5.46.   |
| 0x2B  | SKIPIF         | Specified in [ECMA-376] part 4, section 2.16.5.65.   |
| 0x2C  | MERGEREC       | Specified in [ECMA-376] part 4, section 2.16.5.43.   |
| 0x2D  | DDE            | Specified in [MS-OE376] part 2, section 1.3.2.1.   |
| 0x2E  | DDEAUTO        | Specified in [MS-OE376] part 2, section 1.3.2.2.   |
| 0x2F  | GLOSSARY       | This field is identical to <b>AUTOTEXT</b> specified in [ECMA-376] part 4, section 2.16.5.8. |
| 0x30  | PRINT          | Specified in [ECMA-376] part 4, section 2.16.5.53.   |
| 0x31  | EQ             | Specified in [ECMA-376] part 4, section 2.16.5.22.   |
| 0x32  | GOTOBUTTON     | Specified in [ECMA-376] part 4, section 2.16.5.29.   |
| 0x33  | MACROBUTTON    | Specified in [ECMA-376] part 4, section 2.16.5.41.   |
| 0x34  | AUTONUMOUT     | Specified in [ECMA-376] part 4, section 2.16.5.7.  |
| 0x35  | AUTONUMLGL     | Specified in [ECMA-376] part 4, section 2.16.5.6.  |
| 0x36  | AUTONUM        | Specified in [ECMA-376] part 4, section 2.16.5.5.  |
| 0x37  | IMPORT         | Identical to the INCLUDEPICTURE field specified in [ECMA-376] part 4, section 2.16.5.33.     |
| 0x38  | LINK           | Specified in [ECMA-376] part 4, section 2.16.5.39.   |
| 0x39  | SYMBOL         | Specified in [ECMA-376] part 4, section 2.16.5.68.   |
| 0x3A  | EMBED          | Specifies that the field represents an embedded OLE object.                                  |
| 0x3B  | MERGEFIELD     | Specified in [ECMA-376] part 4, section 2.16.5.42.   |
| 0x3C  | USERNAME       | Specified in [ECMA-376] part 4, section 2.16.5.78.   |
| 0x3D  | USERINITIALS   | Specified in [ECMA-376] part 4, section 2.16.5.77.   |
| 0x3E  | USERADDRESS    | Specified in [ECMA-376] part 4, section 2.16.5.76.   |
| 0x3F  | BARCODE        | Specified in [ECMA-376] part 4, section 2.16.5.10.   |
| 0x40  | DOCVARIABLE    | Specified in [ECMA-376] part 4, section 2.16.5.20.   |
| 0x41  | SECTION        | Specified in [ECMA-376] part 4, section 2.16.5.61.   |
| 0x42  | SECTIONPAGES   | Specified in [ECMA-376] part 4, section 2.16.5.62.   |
| 0x43  | INCLUDEPICTURE | Specified in [ECMA-376] part 4, section 2.16.5.33.   |
| 0x44  | INCLUDETEXT    | Specified in [ECMA-376] part 4, section 2.16.5.34.   |
| 0x45  | FILESIZE       | Specified in [ECMA-376] part 4, section 2.16.5.24.   |
| 0x46  | FORMTEXT       | Specified in [ECMA-376] part 4, section 2.16.5.28.   |
| 0x47  | FORMCHECKBOX   | Specified in [ECMA-376] part 4, section 2.16.5.26.   |
| 0x48  | NOTEREF        | Specified in [ECMA-376] part 4, section 2.16.5.47.   |

| Value | Name         | Meaning  |
|-------|--------------|--|
| 0x49  | TOA          | Specified in [ECMA-376] part 4, section 2.16.5.74.   |
| 0x4B  | MERGESEQ     | Specified in [ECMA-376] part 4, section 2.16.5.44.   |
| 0x4F  | AUTOTEXT     | Specified in [ECMA-376] part 4, section 2.16.5.8.  |
| 0x50  | COMPARE      | Specified in [ECMA-376] part 4, section 2.16.5.15.   |
| 0x51  | ADDIN        | Specifies that the field contains data created by an add-in.                               |
| 0x53  | FORMDROPDOWN | Specified in [ECMA-376] part 4, section 2.16.5.27.   |
| 0x54  | ADVANCE      | Specified in [ECMA-376] part 4, section 2.16.5.2.  |
| 0x55  | DOCPROPERTY  | Specified in [ECMA-376] part 4, section 2.16.5.19.   |
| 0x57  | CONTROL      | Specifies that the field represents an OCX control.  |
| 0x58  | HYPERLINK    | Specified in [ECMA-376] part 4, section 2.16.5.31.   |
| 0x59  | AUTOTEXTLIST | Specified in [ECMA-376] part 4, section 2.16.5.9.  |
| 0x5A  | LISTNUM      | Specified in [ECMA-376] part 4, section 2.16.5.40.   |
| 0x5B  | HTMLCONTROL  | Specifies the field represents an HTML control.  |
| 0x5C  | BIDIOUTLINE  | Specified in [ECMA-376] part 4, section 2.16.5.12.   |
| 0x5D  | ADDRESSBLOCK | Specified in [ECMA-376] part 4, section 2.16.5.1.  |
| 0x5E  | GREETINGLINE | Specified in [ECMA-376] part 4, section 2.16.5.30.   |
| 0x5F  | SHAPE        | This field is identical to <b>QUOTE</b> specified in [ECMA-376] part 4, section 2.16.5.56. |

## 2.9.91 FNFB

The **FNFB** structure describes the file systems for which a given path is valid.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | C | D | E | F | G |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fFAT (1 bit):** A bit that specifies whether the path is valid on **FAT** file systems. If **fNonFileSys** is nonzero, this value **MUST** be zero.

**B - unused1 (1 bit):** This bit is undefined and **MUST** be ignored.

**C - unused2 (1 bit):** This bit is undefined and **MUST** be ignored.

**D - fNTFS (1 bit):** A bit that specifies whether the path is valid on **NTFS** file systems. If **fNonFileSys** is nonzero, this **MUST** be zero.

**E - fNonFileSys (1 bit):** A bit that specifies whether the path is not a native file system path. If this value is nonzero, the path is not a native file system path, and therefore requires an external file

I/O protocol. If this value is zero, the path is native and can be used by the native Windows file I/O API.

**F - unused3 (2 bits):** This field is undefined and MUST be ignored.

**G - unused4 (1 bit):** This field is undefined and MUST be ignored.

### 2.9.92 FNIF

The **FNIF** structure contains information about a file name (see [SttbFnm](#)) so that the path, type, and file system of the file can be determined.

|        |   |   |   |   |   |   |   |   |   |    |             |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|--------|---|---|---|---|---|---|---|---|---|----|-------------|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|
| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11          | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21   | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fnpi   |   |   |   |   |   |   |   |   |   |    | ichRelative |    |    |    |    |    |    |    |    |    | fnfb |    |    |    |    |    |    |    |    |    |    |
| unused |   |   |   |   |   |   |   |   |   |    |             |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |

**fnpi (2 bytes):** An [FNPI](#) that specifies the type and the identifier of the file name, which is unique within the scope of **fnpi.fnpt**. This is used to define these values, not to reference a file name.

**ichRelative (1 byte):** An unsigned integer that specifies a character offset into the file name string. The segment of the file name string that starts at this character offset specifies the path of the file relative to the folder that contains the document. If the file name does not contain such a path, this value MUST be 0xFF.

**fnfb (1 byte):** An [FNFB](#) that specifies on what file systems the file name is valid.

**unused (4 bytes):** This field is undefined and MUST be ignored.

### 2.9.93 FNPI

The **FNPI** structure contains a type and an identifier for a file name. This structure can be used to define the type and identifier of a file name in [SttbFnm](#), or it can be used to reference the file name in [SttbFnm](#) that has an identical **fnpi** in the appended [FNIF](#). The definition of each **FNPI** specifies how it is used.

|      |   |   |   |      |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|------|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4    | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fnpt |   |   |   | fnpd |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**fnpt (4 bits):** A signed integer that specifies the type of a file name. This MUST be one of the following values.

| Value | Meaning  |
|-------|--|
| 3     | The file name refers to a mail merge data source file. This document MUST be a <b>mail merge</b> document. |
| 5     | The file name refers to a subdocument. This document MUST be a <b>master document</b> .                    |

**fnpd (12 bits):** A signed integer that specifies an identifier for a file name. This value MUST NOT be 0xFFFF.

## 2.9.94 FOBJH

The **FOBJH** structure specifies size and compression information about the OLE object storage that immediately follows it in the [Data stream](#) of a file that is encrypted with Office Binary Document RC4 CryptoAPI Encryption (section [2.2.6.3](#)). Every OLE object storage in the Data stream MUST be preceded by an FOBJH.

If **fCompressed** is 1, the bytes of the OLE object storage are compressed by the algorithm specified in [RFC1950](#).

|          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17     | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbHeader |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | A  | unused |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbObj    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbHeader (2 bytes):** A signed integer that specifies the size, in bytes, of the FOBJH. This value MUST be 8.

**A - fCompressed (1 bit):** Specifies whether the OLE object storage that follows this FOBJH is compressed.

**unused (15 bits):** This field is undefined and MUST be ignored.

**cbObj (4 bytes):** A signed integer that specifies the size, in bytes, of the FOBJH and the OLE object storage that follows it.

## 2.9.95 FrameTextFlowOperand

The **FrameTextFlowOperand** structure specifies the direction of text flow for a frame.

|   |   |   |          |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|----------|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3        | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | C | reserved |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fVertical (1 bit):** A bit that specifies that text flows vertically instead of horizontally.

**B - fBackwards (1 bit):** A bit that specifies that vertical text flow is from bottom to top. If this bit is set, **fVertical** MUST also be set.

**C - fRotateFont (1 bit):** A bit that specifies that non-Latin text flow is rotated 90 degrees counter-clockwise.

**reserved (13 bits):** This value MUST be zero and MUST be ignored.

## 2.9.96 FSDAP

The **FSDAP** structure specifies information about an attribute on a structured document tag in the document.

|     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| tiq |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|     |                    |
|-----|--------------------|
| ... |                    |
| cch | rgValue (variable) |
| ... |                    |

**tiq (8 bytes):** A [TIQ](#) that specifies further information about the attribute represented by this FSDAP.

**cch (2 bytes):** An unsigned integer that specifies the count of characters in **rgValue**, not including its null terminator.

**rgValue (variable):** A null-terminated sequence of Unicode characters that specifies the value of the attribute represented by this FSDAP.

### 2.9.97 Fsnk

The **Fsnk** enumeration provides a 32-bit integer that specifies what kind of [DofrFsn](#) a record is. A field of this type MUST contain one of the following values.

| Name                | Value      | Meaning   |
|---------------------|------------|---|
| <b>fsnkNil</b>      | 0x00000000 | No specified record kind.   |
| <b>fsnkFrameset</b> | 0x00000001 | A record that has this <b>fsnk</b> value applies to the most recent <b>DofrFsn</b> record with <b>fsnk</b> equal to <b>fsnkFrame</b> , unless it appears before the first <b>DofrFsn</b> record with <b>fsnk</b> equal to <b>fsnkFrame</b> , in which case it applies to the outermost frame. This record type supplies more details about how that frame handles its child frames. |
| <b>fsnkFrame</b>    | 0x00000002 | This record contains basic specifications for a frame. Records that have this <b>fsnk</b> value MUST appear before any other records that describe that frame.  |

### 2.9.98 Fssd

The **Fssd** structure specifies the position and units of a frame divider position.

|       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| Units |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Val   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**Units (4 bytes):** An [FssUnits](#) element that specifies how to interpret **Val**.

**Val (4 bytes):** The position of the divider. This value can be interpreted in several ways, as specified by **Units**. If **Units** is set to **iFssUnitsNil**, this value MUST be ignored.

### 2.9.99 FssUnits

The **FssUnits** enumerated type specifies the units in an [Fssd](#). A field of this type MUST contain one of the following values.

| Name                | Value      | Meaning  |
|---------------------|------------|--|
| <b>iFssUnitsNil</b> | 0x00000000 | No units are specified.  |
| <b>iFssUnitsPxl</b> | 0x00000001 | The value is in pixels.  |
| <b>iFssUnitsPct</b> | 0x00000002 | The value is a percentage of the size of the parent frame.   |
| <b>iFssUnitsRel</b> | 0x00000003 | The value is a relative position. The actual position is a fraction of the parent frame size with this value as the numerator and the sum of all relative sizes for this row or column as the denominator. |

### 2.9.100 FTO

The **FTO** enumerated type identifies the feature that is responsible to create a given smart tag in a document.

| Name              | Value  | Meaning                                     |
|-------------------|--------|---|
| <b>ftoUnknown</b> | 0x0000 | Not known.                                  |
| <b>ftoGrammar</b> | 0x0001 | The grammar checker.                        |
| <b>ftoScanDII</b> | 0x0002 | An external scanning DLL.                   |
| <b>ftoVB</b>      | 0x0003 | Visual Basic for Applications (VBA) script. |

### 2.9.101 Fts

The **Fts** enumeration specifies how the preferred width for a table, table indent, table cell, cell margin, or cell spacing is defined. Any [Table SPRM](#) that specifies a preferred table width, table indent, cell width, cell margin, or cell spacing **MUST** also specify an **Fts** value to determine how the size is defined. Some **Fts** values are disallowed for some [Sprms](#).

| Name              | Value | Meaning  |
|-------------------|-------|--|
| <b>ftsNil</b>     | 0x00  | The size is undefined and <b>MUST</b> be ignored.  |
| <b>ftsAuto</b>    | 0x01  | No preferred width is specified.<br>The width is derived from other table measurements where a preferred size is specified, as well as from the size of the table contents, and the constraining size of the container of the table.   |
| <b>ftsPercent</b> | 0x02  | The preferred width is measured in units of 1/50th of a percent (that is, a value of 50 translates to 1 percent).<br>When specifying the preferred width of a portion of a table, such as a cell, spacing or indent, the percentage is relative to the width of the entire table.<br>When specifying the preferred width of an entire table, the percentage is relative to the width of the page, less any margin or gutter space. Alternatively, if the table is nested inside another table, the percentage is relative to the width of the cell in the containing table, less cell margins. |
| <b>ftsDxa</b>     | 0x03  | The preferred width of the table, indent, cell, cell margin, or cell spacing is an absolute width measured in twips.   |
| <b>ftsDxaSys</b>  | 0x13  | The preferred cell spacing is an absolute width measured in twips. <b>ftsDxaSys</b> is used when cell spacing is applied as a result of applying a table border.   |

### 2.9.102 FtsWWidth\_Indent

The **FtsWWidth\_Indent** structure specifies the preferred width of indentation for a table.

|          |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ftsWidth |   |   |   |   |   |   |   |   |   | wWidth |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ftsWidth (1 byte):** A value from the **Fts** enumeration that specifies the units of measurement for the **wWidth** value. **ftsWidth** MUST NOT be ftsPercent. **ftsWidth** MUST NOT be ftsDxaSys.

**wWidth (2 bytes):** An integer that specifies the preferred size of the indent. The size is evaluated differently depending on the value of **ftsWidth**.

| ftsWidth value | wWidth meaning   |
|----------------|--|
| ftsNil         | <b>wWidth</b> is not used and MUST be zero.  |
| ftsAuto        | <b>wWidth</b> is not used and MUST be zero.  |
| ftsPercent     | This value of <b>ftsWidth</b> is not allowed.  |
| ftsDxa         | <b>wWidth</b> is measured in twips. It MUST be greater than or equal to -31,560 (-21 <sup>11/12</sup> inches). It MUST be less than or equal to 31,680 (22 inches), less the width of the table. That is, the logical right edge of the table, calculated as the sum of this indentation and the width of the table (or the sum of the widths of the cells), MUST be less than or equal to 31,680 (22 inches). |

### 2.9.103 FtsWWidth\_Table

The **FtsWWidth\_Table** structure specifies the preferred horizontal width of a table.

|          |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ftsWidth |   |   |   |   |   |   |   |   |   | wWidth |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ftsWidth (1 byte):** A value from the **Fts** enumeration that specifies the units of measurement for the **wWidth** value. The **ftsWidth** value MUST NOT be ftsDxaSys.

**wWidth (2 bytes):** An integer that specifies the preferred width. The size is evaluated differently depending on the value of **ftsWidth**.

| ftsWidth value | wWidth meaning   |
|----------------|--|
| ftsNil         | <b>wWidth</b> is not used and MUST be zero.  |
| ftsAuto        | <b>wWidth</b> is not used and MUST be zero.  |
| ftsPercent     | <b>wWidth</b> MUST be non-negative and MUST be less than or equal to 30,000 (600%).      |
| ftsDxa         | <b>wWidth</b> MUST be non-negative and MUST be less than or equal to 31,680 (22 inches). |

### 2.9.104 FtsWWidth\_TablePart

The **FtsWWidth\_TablePart** structure specifies the preferred horizontal width of an internal part of a table.

|          |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ftsWidth |   |   |   |   |   |   |   |   |   | wWidth |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ftsWidth (1 byte):** A value from the [Fts](#) enumeration that specifies the units of measurement for the **wWidth** value. The **ftsWidth** value MUST NOT be ftsDxaSys.

**wWidth (2 bytes):** An integer that specifies the preferred width. The size is evaluated differently depending on the value of **ftsWidth**.

| ftsWidth value | wWidth meaning   |
|----------------|--|
| ftsNil         | <b>wWidth</b> is undefined and MUST be ignored.  |
| ftsAuto        | <b>wWidth</b> is not used and MUST be zero.  |
| ftsPercent     | <b>wWidth</b> MUST be non-negative and MUST be less than or equal to 5000 (100%).        |
| ftsDxa         | <b>wWidth</b> MUST be non-negative and MUST be less than or equal to 31,680 (22 inches). |

### 2.9.105 FTBXNonReusable

The **FTBXNonReusable** structure is used within the [FTXBXS](#) structure when that structure describes a real textbox. A real textbox is any shape object into which text is added, and that is the first or only shape in a linked chain.

|           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cTxbx     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cTxbxEdit |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cTxbx (4 bytes):** An integer that specifies how many shapes are in the chain into which the textbox text can flow. This number MUST be greater than zero and MUST match the length of the chain starting with the shape that is identified by the **lid** field in the FTXBXS structure and continuing through each linked shape.

**cTxbxEdit (4 bytes):** This value MUST be zero and MUST be ignored.

### 2.9.106 FTXBXS

The **FTXBXS** structure is used by [PlcftxbxTxt](#) and by [PlcfHdrtxbxTxt](#) to associate ranges of text from the [Textboxes Document](#) and the [Header Textboxes Document](#), respectively, with shape objects. In addition to the actual textboxes, there are 1 or more extra FTXBXS structures that can be reused by the application when creating new actual textboxes. The last FTXBXS in the [PLC](#) MUST be a reusable structure rather than an actual textbox. Additional reusable FTXBXS structures can occur at any index in the PLC.

|            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ftxbxunion |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



|           |            |
|-----------|------------|
| ...       |            |
| fReusable | itxbxsDest |
| ...       | lid        |
| ...       | txidUndo   |
| ...       |            |

**ftxbxsunion (8 bytes):** If **fReusable** is "true", **ftxbxsunion** is an [FTXBXSReusable](#) structure. Also, if this is the last FTXBXS structure in the PLC, **ftxbxsunion** is an FTXBXSReusable structure, regardless of the **fReusable** flag. Otherwise, **ftxbxsunion** is an [FTXBXNonReusable](#) structure.

**fReusable (2 bytes):** An integer that specifies whether this structure describes an actual textbox or an extra structure that is available for reuse by the application. **fReusable** MUST be either zero ("false"), or it MUST have the 0x0001 bit set. When nonzero ("true"), bits other than 0x0001 MUST be ignored.

When **fReusable** is zero, this FTXBXS structure describes an actual textbox. The bounding [CPs](#) in [PlcftxbxTxt](#) or [PlcfHdrtxbxTxt](#) MUST be more than one character position apart, except when this is the last FTXBXS structure in the PLC. In that case there is no restriction on the character range specified by the bounding CPs in [PlcftxbxTxt](#) or [PlcfHdrtxbxTxt](#). Text within this CP range MUST be ignored.

When **fReusable** is nonzero, this FTXBXS structure describes a reusable spare textbox structure. The bounding CPs in [PlcftxbxTxt](#) or [PlcfHdrtxbxTxt](#) MUST be one character position apart. When this is the last FTXBXS structure in the PLC, **fReusable** MUST be ignored and treated as if it were set to 0x0001 for the purposes of **ftxbxsunion** and **lid**.

**itxbxsDest (4 bytes):** This field MUST be ignored.

**lid (4 bytes):** An integer that specifies which shape object the textbox text begins in. When **fReusable** is "true", **lid** MUST be zero and MUST be ignored.

When **fReusable** is "false", **lid** MUST match the **OfficeArtFSP.spid** shape identifier in an **OfficeArtSpContainer** structure as specified by [\[MS-ODRAW\]](#) section 2.2.14. Furthermore, the **MSOPSText\_ITxid** property of the **OfficeArtSpContainer**, as specified in [\[MS-ODRAW\]](#) section 2.3.21.1, MUST be a 4-byte integer where the high 2 bytes divided by 0x10000 gives the 1-based index of this **FTXBXS** structure in its **PLC**, and where the low 2 bytes are 0x0000.

**txidUndo (4 bytes):** This value MUST be zero and MUST be ignored.

### 2.9.107 FTXBXSReusable

The **FTXBXSReusable** structure is used within the [FTXBXS](#) structure when it describes a spare structure that can be reused by the application and converted into an actual textbox. An **FTXBXS** structure can become reusable when the shape is deleted or linked after another shape in a chain. Additionally, the final **FTXBXS** structure in a [PLC](#) is reusable. All reusable **FTXBXS** structures in a **PLC** are part of a single chain, with the last **FTXBXS** structure in a **PLC** being the first item in the chain.

|            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| iNextReuse |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cReusable  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**iNextReuse (4 bytes):** An integer that specifies the index of the next reusable item in the chain. If this is the last **FTXBXS** structure in the chain, this value **MUST** be -1. Otherwise, this value **MUST** be non-negative, and **MUST** be less than the number of **FTXBXS** structures in the **PLC**. Furthermore, the **FTXBXS** structure at that index **MUST** be flagged as reusable, and **MUST** have a **cReusable** value that is 1 less than the **cReusable** value from this structure.

**cReusable (4 bytes):** An integer that specifies how many reusable **FTXBXS** structures are in the chain after this one. If this is the last **FTXBXS** structure in the chain, this value **MUST** be zero. Otherwise, it **MUST** be greater than zero, and **MUST** be less than the number of **FTXBXS** structures in the **PLC**.

### 2.9.108 GOSL

The **GOSL** structure specifies the option set for a grammar checker implementing the **CGAPI** interface, as well as information to identify the corresponding grammar checker.

|     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16   | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| gos |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | lid  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ver |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | geid |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**gos (2 bytes):** An unsigned integer that specifies a CGAPI option set. **gos** is implementation-specific to the grammar checker identified by **lid**, **ver**, and **ceid**. By default, the value is 0x0001.

**lid (2 bytes):** A **LID** that specifies the language of the associated grammar checker.

**ver (2 bytes):** An unsigned integer that is the version number of the associated grammar checker, as it is specified through CGAPI.

**geid (2 bytes):** An unsigned integer that is the company identifier of the associated grammar checker, as it is specified through CGAPI.

### 2.9.109 GrammarSpls

The **GrammarSpls** structure is an **SPLS** structure that specifies the state of the grammar checker over a range of text. Some states that are possible in a generic **SPLS** are not allowed in a **GrammarSpls** structure.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| spls |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**spls (2 bytes):** An **SPLS** structure. The **spls.fExtend** field **MUST** be zero if the **spls.fError** field is zero. The **spls.spIf** field **MUST** be one of the following:

- splfMaybeDirty
- splfDirty
- splfEdit
- splfForeign
- splfClean
- splfErrorMin
- splfRepeatWord
- splfUnknownWord

### 2.9.110 grffldEnd

The **grffldEnd** structure describes the properties of the field.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |    |   |  |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|----|---|--|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |
| A | B | C | D | E | F | G | H |   |   |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |    |   |  |

- A - fDiffer (1 bit):** If this bit is set, the field shows results if the document-level setting is to show field instructions, and shows instructions if the document-level setting is to show field results.
- B - fZombieEmbed (1 bit):** If this bit is set, the field result contains an OLE object, but the field type is not able to generate OLE objects.
- C - fResultsDirty (1 bit):** If this bit is set, the field results were either edited or formatted since the last time that an application calculated the field.
- D - fResultsEdited (1 bit):** If this bit is set, the field results were edited since the last time that an application calculated the field.
- E - fLocked (1 bit):** If this bit is set, this field does not recalculate.
- F - fPrivateResult (1 bit):** If this bit is set, the field result is not intended to be visible to the user.
- G - fNested (1 bit):** This bit MUST be set if this field is contained in another field.
- H - fHasSep (1 bit):** This bit MUST be set if this field has a separator.

### 2.9.111 grfhic

The **grfhic** structure is a set of HTML incompatibility flags that specify the HTML incompatibilities of a list structure. The values specify possible incompatibilities between an [LVL](#) or [LVLF](#) and HTML lists. The values do not define list properties.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |    |   |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|----|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| A | B | C | D | E | F | G | H |   |   |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |    |   |

**A - fhicChecked (1 bit):** A bit that specifies whether the list structure that contains this **grfhic** structure is checked for HTML incompatibilities.

**B - fhicFormat (1 bit):** A bit that specifies whether the numbering sequence or format of an LVL is unsupported by HTML at the time of the most recent HTML compatibility check. The numbering sequence or format of an LVL is unsupported by HTML if one or more of the following conditions are "true".

- **LVL.lvlf.nfc** is greater than 0x04
- **LVL.lvlf.fLegal** is nonzero
- **LVL.lvlf.fNoRestart** is nonzero
- **LVL.lvlf.ixchFollow** is nonzero

If **fhicChecked** is zero, this MUST be ignored. If the structure that contains this **grfhic** is not an LVLf, this MUST be ignored.

**C - fhicListText (1 bit):** A bit that specifies whether the string specified by LVL.**xst** was not of the standard form "#." (a level number placeholder followed by a period) at the time of the most recent HTML compatibility check. If **fhicChecked** is zero, this MUST be ignored. If the structure that contains this **grfhic** is not an LVLf, this MUST be ignored.

**D - fhicPeriod (1 bit):** A bit that specifies whether something other than a period was the last character of the number text specified by LVL.**xst** at the time of the most recent HTML compatibility check. If **fhicChecked** is zero, this MUST be ignored. If the structure that contains this **grfhic** is not an LVLf, this MUST be ignored.

**E - fhicLeft1 (1 bit):** A bit that specifies whether the indents specified by LVL.**grppriPapx** were different than the standard HTML indents at the time of the most recent HTML compatibility check. The indents that are specified by LVL.**grppriPapx** are different than the standard HTML indents if one or more of the conditions in the following list are "true":

- The logical left indent of the first line of the paragraph properties that are specified by LVL.**grppriPapx** (see [sprmPDxaLeft1](#)) is not equal to -360.
- The logical left indent of the paragraph properties that are specified by LVL.**grppriPapx** (see [sprmPDxaLeft](#)) is not equal to  $720 * (iLvI + 1)$ , where *iLvI* is the zero-based level of the list that LVL corresponds to.

If **fhicChecked** is zero, this MUST be ignored. If the structure that contains this **grfhic** is not a LVLf, this MUST be ignored.

**F - fhicListTab (1 bit):** A bit that specifies whether the first added custom tab stop of the paragraph properties specified by LVL.**grppriPapx** (see [sprmPChgTabs](#) and [sprmPChgTabsPapx](#)) was not equal to the logical left indent of the paragraph properties specified by LVL.**grppriPapx** (see [sprmPDxaLeft](#)) at the time of the most recent HTML compatibility check. If LVL.**grppriPapx** does not add any custom tabs, this MUST be zero. If **fhicChecked** is zero, this MUST be ignored. If the structure that contains this **grfhic** is not an LVLf, this MUST be ignored.

**G - unused (1 bit):** This bit is undefined and MUST be ignored.

**H - fhicBullet (1 bit):** A bit that specifies whether the level used bullets instead of numbers at the time of the most recent HTML compatibility check. A level uses bullets if LVL.**lvlf.nfc** is equal to 0x17. If **fhicChecked** is zero, this MUST be ignored. If the structure that contains this **grfhic** is not an LVLf, this MUST be ignored.

## 2.9.112 GRFSTD

The **GRFSTD** structure specifies the general properties of a style.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|--|--|--|--|--|--|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |  |  |  |  |  |  |  |
| A | B | C | D | E | F | G | H | I | J | K  | L  | M  | N  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |

- A - fAutoRedef (1 bit):** Specifies whether user formatting modifications are automatically merged into the paragraph style definition, as specified in [ECMA-376] part 4, section 2.7.3.2 (autoRedefine).
- B - fHidden (1 bit):** Specifies whether this style is not shown in the application UI, as specified in [ECMA-376] part 4, section 2.7.3.4 (hidden).
- C - f97LidsSet (1 bit):** Specifies whether [sprmCRgLid0\\_80](#) and [sprmCRgLid1\\_80](#) were applied, as appropriate, to this paragraph or character style for compatibility with applications that do not support [sprmCRgLid0](#), [sprmCRgLid1](#), and [sprmCFNoProof](#). If this value is 1, the compatibility [Sprms](#) have already been applied for this style. If this value is 0, the compatibility Sprms need to be applied to the formatting properties of the current style or a base style. This value SHOULD [<225>](#) be 0.
- D - fCopyLang (1 bit):** If **f97LidsSet** is 1, this value specifies whether the applied compatibility [sprmCRgLid0\\_80](#) or [sprmCRgLid1\\_80](#) specified an actual language or a special [LID](#) value (0x0400) signifying that no proofing is needed for the text. This MUST be ignored if **f97LidsSet** is 0.
- E - fPersonalCompose (1 bit):** Specifies whether this character style can be used to automatically format the new message text in a new e-mail, as specified in [ECMA-376] part 4, section 2.7.3.12 (personalCompose). This MUST be ignored if this is not a character style.
- F - fPersonalReply (1 bit):** Specifies whether this character style can be used to automatically format the new message text when replying to an e-mail, as specified in [ECMA-376] part 4, section 2.7.3.13 (personalReply). This MUST be ignored if this is not a character style.
- G - fPersonal (1 bit):** Specifies whether this character style was applied to format all message text from one or more users in an e-mail, as specified in [ECMA-376] part 4, section 2.7.3.11 (personal). This MUST be ignored if this is not a character style.
- H - fNoHtmlExport (1 bit):** This value MUST be 0 and MUST be ignored.
- I - fSemiHidden (1 bit):** Specifies whether this style is not shown in the simplified main styles UI of the application, as specified in [ECMA-376] part 4, section 2.7.3.16 (semiHidden).
- J - fLocked (1 bit):** Specifies whether this style is prevented from being applied by using the application UI, as specified in [ECMA-376] part 4, section 2.7.3.7 (locked).
- K - fInternalUse (1 bit):** This bit is undefined and MUST be ignored.
- L - fUnhideWhenUsed (1 bit):** Specifies whether the **fSemiHidden** property is to be set to 0 when this style is used, as specified in [ECMA-376] part 4, section 2.7.3.20 (unhideWhenUsed).
- M - fQFormat (1 bit):** Specifies whether this style is shown in the Ribbon Style gallery, as specified in [ECMA-376] part 4, section 2.7.3.14 (qFormat).
- N - fReserved (3 bits):** This value MUST be 0 and MUST be ignored.

### 2.9.113 GrLPUpxSw

The **GrLPUpxSw** structure is an array of variable-size structures that specify the formatting of the style.

The content of the **GrLPUpxSw** structure depends on the type of the style (the **stk** member of [StdfBase](#)); see the following.

| Value    | Meaning   |
|----------|---|
| stkPara  | stk value 1; the GrLPUpxSw contains a <a href="#">StkParaGRLPUPX</a> .  |
| stkChar  | stk value 2; the GrLPUpxSw contains a <a href="#">StkCharGRLPUPX</a> .  |
| stkTable | stk value 3; the GrLPUpxSw contains a <a href="#">StkTableGRLPUPX</a> . |
| stkList  | stk value 4; the GrLPUpxSw contains a <a href="#">StkListGRLPUPX</a> .  |

### 2.9.114 GrpPrlAndIstd

The **GrpPrlAndIstd** structure specifies the style and properties that are applied to a paragraph, a table row, or a table cell.

|      |   |   |   |   |   |   |   |   |   |    |                   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|------|---|---|---|---|---|---|---|---|---|----|-------------------|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| istd |   |   |   |   |   |   |   |   |   |    | grpprl (variable) |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    |                   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

**istd (2 bytes):** An integer that specifies the style that is applied to this paragraph, cell marker or table row marker. See [Applying Properties](#) for more details about how to interpret this value.

**grpprl (variable):** An array of [Prl](#) elements. Specifies the properties of this paragraph, table row, or table cell. This array **MUST** contain a whole number of [Prl](#) elements.

### 2.9.115 HFD

The **HFD** structure specifies hyperlink field data including how to handle the hyperlink when it is traversed and a location in this document or an external document or webpage.

|      |   |   |   |   |   |   |   |   |   |    |                      |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|------|---|---|---|---|---|---|---|---|---|----|----------------------|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1                    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| bits |   |   |   |   |   |   |   |   |   |    | clsid (16 bytes)     |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    |                      |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    |                      |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    | hyperlink (variable) |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    |                      |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

**bits (1 byte):** An [HFDBits](#) that specifies how to handle the hyperlink when it is traversed.

**clsid (16 bytes):** A **CLSID** that specifies the **COM** component that is used to create the **hyperlink**.

**hyperlink (variable):** A Hyperlink Object as specified in [\[MS-OSHARED\]](#) section 2.3.7.1. This object specifies a location in this document or an external document or webpage.

### 2.9.116 HFDBits

The **HFDBits** structure specifies how to handle a hyperlink when it is traversed.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| A | B | C | D | E | F |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**A - fNew (1 bit):** A bit that specifies if the hyperlink is to be opened in a new window.

**B - fNoHist (1 bit):** A bit that specifies if the navigation history is preserved when traversing this hyperlink. This value is 1 if the navigation history is not preserved and 0 if the navigation history is preserved.

**C - fImageMap (1 bit):** A bit that specifies if the hyperlink is a location in an **HTML image map**.

**D - fLocation (1 bit):** A bit that specifies if the hyperlink contains a specific location in the target document.

**E - fTooltip (1 bit):** A bit that specifies if the hyperlink contains a **ScreenTip** string.

**F - unused (3 bits):** This value MUST be zero and MUST be ignored.

### 2.9.117 Hplxodr

The **Hplxodr** structure contains the schema definition references of the document. Each individual reference consists of a **Uniform Resource Identifier (URI)**, **manifest** location, table of elements, and table of attributes.

|                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cXSDR             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rgxodr (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cXSDR (4 bytes):** A signed integer that specifies the number of schema definition references. The minimum value is 0.

**rgxodr (variable):** An array of [XSDR](#).

### 2.9.118 HresiOperand

The **HresiOperand** structure specifies how word-breaking is handled.

|      |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| Hres |   |   |   |   |   |   |   |   |   | ChHres |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**Hres (1 byte):** An unsigned integer that specifies the word-breaking method. This property **MUST** specify one of the following values. By default, normal word-breaking is used.

| Value | Name             | Description   |
|-------|------------------|---|
| 0x01  | hresNormal       | Normal word-breaking: Insert a hyphen and continue word on the next line.                                     |
| 0x02  | hresAddBefore    | Similar to Normal but also add <b>ChHres</b> before the hyphen.   |
| 0x03  | hresChangeBefore | Similar to Normal but also change the character before the hyphen to <b>ChHres</b> .                          |
| 0x04  | hresDeleteBefore | Similar to Normal but also delete the character before the hyphen.  |
| 0x05  | hresChangeAfter  | Similar to Normal but also change the character after the hyphen to <b>ChHres</b> .                           |
| 0x06  | hresDelAndChange | Similar to Normal but also delete two characters before the hyphen and replace them both with <b>ChHres</b> . |

**ChHres (1 byte):** An unsigned integer that specifies the **ASCII** character to be added to the text in addition to the hyphen. If **Hres** is set to **hresNormal**, **ChHres** **MUST** be 0x00; otherwise it **MUST** be a valid character.

### 2.9.119 Ico

The **Ico** structure specifies an entry in the color palette that is listed in the following table.

|       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| value |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**value (1 byte):** An unsigned integer which maps to a [COLORREF](#) according to the following. The value **MUST** be less than 0x11.

| Value | COLORREF |       |      |       |
|-------|----------|-------|------|-------|
|       | Red      | Green | Blue | fAuto |
| 0x00  | 0x00     | 0x00  | 0x00 | 0xFF  |
| 0x01  | 0x00     | 0x00  | 0x00 | 0x00  |
| 0x02  | 0x00     | 0x00  | 0xFF | 0x00  |
| 0x03  | 0x00     | 0xFF  | 0xFF | 0x00  |
| 0x04  | 0x00     | 0xFF  | 0x00 | 0x00  |
| 0x05  | 0xFF     | 0x00  | 0xFF | 0x00  |
| 0x06  | 0xFF     | 0x00  | 0x00 | 0x00  |
| 0x07  | 0xFF     | 0xFF  | 0x00 | 0x00  |
| 0x08  | 0xFF     | 0xFF  | 0xFF | 0x00  |



| Value | COLORREF |       |      |       |
|-------|----------|-------|------|-------|
|       | Red      | Green | Blue | fAuto |
| 0x09  | 0x00     | 0x00  | 0x80 | 0x00  |
| 0x0A  | 0x00     | 0x80  | 0x80 | 0x00  |
| 0x0B  | 0x00     | 0x80  | 0x00 | 0x00  |
| 0x0C  | 0x80     | 0x00  | 0x80 | 0x00  |
| 0x0D  | 0x80     | 0x00  | 0x80 | 0x00  |
| 0x0E  | 0x80     | 0x80  | 0x00 | 0x00  |
| 0x0F  | 0x80     | 0x80  | 0x80 | 0x00  |
| 0x10  | 0xC0     | 0xC0  | 0xC0 | 0x00  |

### 2.9.120 IDPCI

The **IDPCI** structure specifies the kind of formatting that the format consistency checker flagged within a region of text in the document. The possible values are showing following.

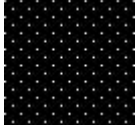
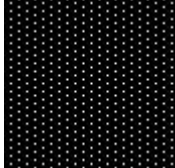

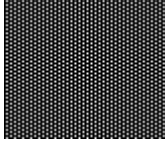
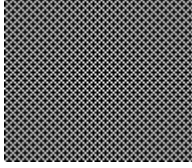
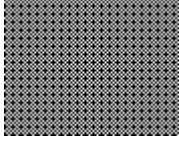
| Name                 | Value      | Meaning   |
|----------------------|------------|---|
| <b>idpciFmt</b>      | 0x00000000 | Character formatting in the region is inconsistent with formatting in the rest of the document.                                       |
| <b>idpciStyChar</b>  | 0x00000001 | Character style in the region is identical to a character style elsewhere in the document.  |
| <b>idpciPapc</b>     | 0x00000002 | Paragraph formatting in the region is inconsistent with formatting in the rest of the document.                                       |
| <b>idpciStyPara</b>  | 0x00000003 | Paragraph style in the region is identical to a paragraph style elsewhere in the document.  |
| <b>idpciLvl</b>      | 0x00000004 | Formatting of items in a numbered or bulleted list in the region is inconsistent with formatting in the rest of the document.         |
| <b>idpciStyList</b>  | 0x00000005 | Bulleted or numbered list style in the region is identical to a bulleted or numbered list style elsewhere in the document.            |
| <b>idpciStyTable</b> | 0x00000006 | Table style in the region is identical to a table style elsewhere in the document.  |
| <b>idpciRevChar</b>  | 0x00000007 | (Revised Character) Characters in the region were changed while revision marking was on.  |
| <b>idpciRevPara</b>  | 0x00000008 | (Revised Paragraph) Paragraphs in the region were changed while revision marking was on.  |
| <b>idpciRevTable</b> | 0x00000009 | (Revised Table) Tables in the region were changed while revision marking was on.  |
| <b>idpciRevSect</b>  | 0x0000000A | (Revised Section) Sections in the region were changed while revision marking was on.  |
| <b>idpciImage</b>    | 0x0000000B | A picture defined inline in the region has been combined, to save space, with an identical picture defined elsewhere in the document. |

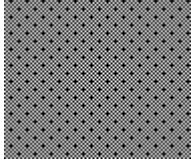
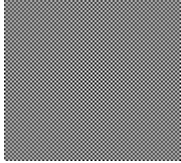
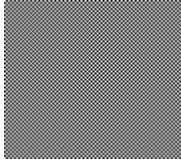
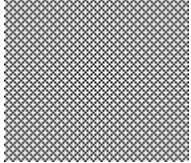
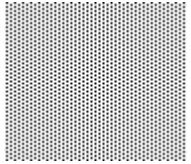

### 2.9.121 Ipat

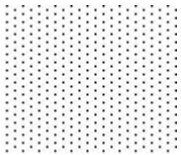
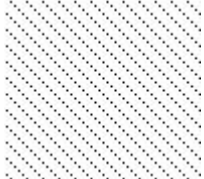


The **Ipat** enumeration is an index to a **shading pattern**. Most pattern indices listed in the following table are mapped to entries of ST\_Shd, as specified in [\[ECMA-376\]](#) part 4, section 2.18.85 ST\_Shd

(Shading Patterns). All pattern indices that are not mapped to an ST\_Shd value are not supported by the [ECMA-376] format and are lost if converted from the MS-DOC format to the [ECMA-376] format; these pattern values SHOULD NOT [<226>](#) be used.

| Name                    | Value  | Meaning   |
|-------------------------|--------|---|
| <b>ipatAuto</b>         | 0x0000 | Clear, ST_Shd: clear  |
| <b>ipatSolid</b>        | 0x0001 | Solid ST_Shd: solid   |
| <b>ipatPct5</b>         | 0x0002 | 5%, ST_Shd: pct5  |
| <b>ipatPct10</b>        | 0x0003 | 10%, ST_Shd: pct10  |
| <b>ipatPct20</b>        | 0x0004 | 20%, ST_Shd: pct20  |
| <b>ipatPct25</b>        | 0x0005 | 25%, ST_Shd: pct25  |
| <b>ipatPct30</b>        | 0x0006 | 30%, ST_Shd: pct30  |
| <b>ipatPct40</b>        | 0x0007 | 40%, ST_Shd: pct40  |
| <b>ipatPct50</b>        | 0x0008 | 50%, ST_Shd: pct50  |
| <b>ipatPct60</b>        | 0x0009 | 60%, ST_Shd: pct60  |
| <b>ipatPct70</b>        | 0x000A | 70%, ST_Shd: pct70  |
| <b>ipatPct75</b>        | 0x000B | 75%, ST_Shd: pct75  |
| <b>ipatPct80</b>        | 0x000C | 80%, ST_Shd: pct80  |
| <b>ipatPct90</b>        | 0x000D | 90%, ST_Shd: pct90  |
| <b>ipatDkHorizontal</b> | 0x000E | Horizontal Stripe, ST_Shd: horzStripe   |
| <b>ipatDkVertical</b>   | 0x000F | Vertical Stripe, ST_Shd: vertStripe   |
| <b>ipatDkForeDiag</b>   | 0x0010 | Reverse Diagonal Stripe, ST_Shd: reverseDiagStripe  |
| <b>ipatDkBackDiag</b>   | 0x0011 | Diagonal Stripe, ST_Shd: diagStripe   |
| <b>ipatDkCross</b>      | 0x0012 | Horizontal Cross, ST_Shd: horzCross   |
| <b>ipatDkDiagCross</b>  | 0x0013 | Diagonal Cross, ST_Shd: diagCross   |
| <b>ipatHorizontal</b>   | 0x0014 | Thin Horizontal Stripe, ST_Shd: thinHorzStripe  |
| <b>ipatVertical</b>     | 0x0015 | Thin Vertical Stripe, ST_Shd: thinVertStripe  |
| <b>ipatForeDiag</b>     | 0x0016 | Thin Reverse Diagonal Stripe, ST_Shd: thinReverseDiagStripe   |
| <b>ipatBackDiag</b>     | 0x0017 | Thin Diagonal Stripe, ST_Shd: thinDiagStripe  |
| <b>ipatCross</b>        | 0x0018 | Thin Horizontal Cross, ST_Shd: thinHorzCross  |
| <b>ipatDiagCross</b>    | 0x0019 | Thin Diagonal Cross, ST_Shd: thinDiagCross  |
| <b>ipatPctNew2</b>      | 0x0023 | Specifies that the pattern used for the current shaded region shall be a 2.5% fill pattern, as follows: |

| Name                | Value  | Meaning  |
|---------------------|--------|--|
|                     |        |   |
| <b>ipatPctNew7</b>  | 0x0024 | Specifies that the pattern used for the current shaded region shall be a 7.5% fill pattern, as follows:     |
| <b>ipatPctNew12</b> | 0x0025 | 12.5%, ST_Shd: pct12   |
| <b>ipatPctNew15</b> | 0x0026 | 15%, ST_Shd: pct15   |
| <b>ipatPctNew17</b> | 0x0027 | Specifies that the pattern used for the current shaded region shall be a 17.5% fill pattern, as follows:    |
| <b>ipatPctNew22</b> | 0x0028 | Specifies that the pattern used for the current shaded region shall be a 22.5% fill pattern, as follows:  |
| <b>ipatPctNew27</b> | 0x0029 | Specifies that the pattern used for the current shaded region shall be a 27.5% fill pattern, as follows:  |
| <b>ipatPctNew32</b> | 0x002A | Specifies that the pattern used for the current shaded region shall be a 32.5% fill pattern, as follows:  |
| <b>ipatPctNew35</b> | 0x002B | 35%, ST_Shd: pct35   |
| <b>ipatPctNew37</b> | 0x002C | 37.5%, ST_Shd: pct37   |
| <b>ipatPctNew42</b> | 0x002D | Specifies that the pattern used for the current shaded region shall be a 42.5% fill pattern, as follows:   |

| Name                | Value  | Meaning  |
|---------------------|--------|--|
|                     |        |   |
| <b>ipatPctNew45</b> | 0x002E | 45%, ST_Shd: pct45   |
| <b>ipatPctNew47</b> | 0x002F | Specifies that the pattern used for the current shaded region shall be a 47.5% fill pattern, as follows:    |
| <b>ipatPctNew52</b> | 0x0030 | Specifies that the pattern used for the current shaded region shall be a 52.5% fill pattern, as follows:    |
| <b>ipatPctNew55</b> | 0x0031 | 55%, ST_Shd: pct55   |
| <b>ipatPctNew57</b> | 0x0032 | Specifies that the pattern used for the current shaded region shall be a 57.5% fill pattern, as follows:  |
| <b>ipatPctNew62</b> | 0x0033 | 62.5%, ST_Shd: pct62   |
| <b>ipatPctNew65</b> | 0x0034 | 65%, ST_Shd: pct65   |
| <b>ipatPctNew67</b> | 0x0035 | Specifies that the pattern used for the current shaded region shall be a 67.5% fill pattern, as follows:  |
| <b>ipatPctNew72</b> | 0x0036 | Specifies that the pattern used for the current shaded region shall be a 72.5% fill pattern, as follows:  |

| Name                | Value  | Meaning   |
|---------------------|--------|---|
| <b>ipatPctNew77</b> | 0x0037 | Specifies that the pattern used for the current shaded region shall be a 77.5% fill pattern, as follows:<br>   |
| <b>ipatPctNew82</b> | 0x0038 | Specifies that the pattern used for the current shaded region shall be an 82.5% fill pattern, as follows:<br>  |
| <b>ipatPctNew85</b> | 0x0039 | 85%, ST_Shd: pct85  |
| <b>ipatPctNew87</b> | 0x003A | 87.5%, ST_Shd: pct87  |
| <b>ipatPctNew92</b> | 0x003B | Specifies that the pattern used for the current shaded region shall be a 92.5% fill pattern, as follows:<br>  |
| <b>ipatPctNew95</b> | 0x003C | 95%, ST_Shd: pct95  |
| <b>ipatPctNew97</b> | 0x003D | Specifies that the pattern used for the current shaded region shall be a 97.5% fill pattern, as follows:<br> |
| <b>ipatNil</b>      | 0xFFFF | Nil, ST_Shd: nil  |

### 2.9.122 IScrollType

The **IScrollType** enumerated type specifies the scrollbar behavior for a frame. A field of this type MUST contain one of the following values.

| Name               | Value      | Meaning                                   |
|--------------------|------------|---|
| <b>iScrollAuto</b> | 0x00000000 | A scrollbar appears only if it is needed. |
| <b>iScrollYes</b>  | 0x00000001 | A scrollbar appears even if not needed.   |
| <b>iScrollNo</b>   | 0x00000002 | The frame never has a scrollbar.          |

### 2.9.123 ItcFirstLim

The **ItcFirstLim** structure specifies a range of cells in a table row. The range is inclusive of the first index, and exclusive of the second. The first cell in a row is at index 0. The maximum number of cells in a row is 63.

|          |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|---|---|---|---|---|---|---|---|---|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |
| itcFirst |   |   |   |   |   |   |   |   |   | itcLim |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

**itcFirst (8 bits):** An integer value that specifies the index of the first cell in a contiguous range. The cell at this index is inside the range. This value **MUST** be non-negative and **MUST** be less than the number of cells in the row.

**itcLim (8 bits):** An integer value that specifies the index of the first cell beyond the contiguous range. The cell at this index is outside the range. This value **MUST** be greater than or equal to **itcFirst** and **MUST** be less than or equal to the number of cells in the row. When **itcLim** is equal to **itcFirst**, the range contains zero cells.

### 2.9.124 Kcm

The **Kcm** structure specifies a shortcut key combination through a **virtual key code** and modifiers.

|    |   |   |   |   |   |   |   |   |   |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13       | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| vk |   |   |   |   |   |   |   |   |   | A  | B  | C  | reserved |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**vk (1 byte):** An integer that specifies the Virtual key code for this shortcut key combination.

**A - fkmShift (1 bit):** Specifies whether the SHIFT key is pressed in this shortcut key combination.

**B - fkmControl (1 bit):** Specifies whether the CTRL key is pressed in this shortcut key combination.

**C - fkmAlt (1 bit):** Specifies whether the ALT key is pressed in this shortcut key combination.

**reserved (5 bits):** This value **MUST** be zero.

### 2.9.125 Kme

The **Kme** structure specifies a mapping of a shortcut key to a command to be executed.

|           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16        | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |
| reserved1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | reserved2 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| kcm1      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | kcm2      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| kt        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | param     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| ...       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

**reserved1 (2 bytes):** This value **MUST** be zero.

**reserved2 (2 bytes):** This value MUST be zero.

**kcm1 (2 bytes):** A [Kcm](#) that specifies the **primary shortcut key**.

**kcm2 (2 bytes):** A Kcm that specifies the **secondary shortcut key**, or 0x00FF if there is no secondary shortcut key.

**kt (2 bytes):** A [Kt](#) that specifies the type of action to be taken when the key combination is pressed.

**param (4 bytes):** The meaning of this field depends on the value of **kt**, as follows.

| kt     | param   |
|--------|---|
| ktCid  | A <a href="#">Cid</a> that specifies a command to be executed.  |
| ktChar | A 4-byte unsigned integer that specifies a single character to be inserted. This value MUST be between 0 and 65535. |
| ktMask | This MUST be ignored.   |

### 2.9.126 Kt

The **Kt** enumeration specifies the type of action to be taken when a shortcut key combination is pressed. This enumeration is used by the [Kme](#) structure.

| Name          | Value  | Meaning   |
|---------------|--------|---|
| <b>ktCid</b>  | 0x0000 | Execute a command specified by a <a href="#">Cid</a> .                |
| <b>ktChar</b> | 0x0001 | Insert a single character.  |
| <b>ktMask</b> | 0x0003 | Perform the default action (as if the key combination is unassigned). |

### 2.9.127 Kul

The **Kul** enumeration specifies the style of underlining for text.

| Name                  | Value | Meaning                  |
|-----------------------|-------|--------------------------|
| <b>kulNone</b>        | 0x00  | No underlining.          |
| <b>kulSingle</b>      | 0x01  | Normal single underline. |
| <b>kulWords</b>       | 0x02  | Underline words only.    |
| <b>kulDouble</b>      | 0x03  | Double underline.        |
| <b>kulDotted</b>      | 0x04  | Dotted underline.        |
| <b>kulThick</b>       | 0x06  | Heavy underline.         |
| <b>kulDash</b>        | 0x07  | Dashed underline.        |
| <b>kulDotDash</b>     | 0x09  | Dot-dash underline.      |
| <b>kulDotDotDash</b>  | 0x0A  | Dot-dot-dash underline.  |
| <b>kulWavy</b>        | 0x0B  | Wavy underline.          |
| <b>kulDottedHeavy</b> | 0x14  | Heavy dotted underline.  |

| Name                      | Value | Meaning                       |
|---------------------------|-------|-------------------------------|
| <b>kulDashHeavy</b>       | 0x17  | Heavy dashed underline.       |
| <b>kulDotDashHeavy</b>    | 0x19  | Heavy dot-dash underline.     |
| <b>kulDotDotDashHeavy</b> | 0x1A  | Heavy dot-dot-dash underline. |
| <b>kulWavyHeavy</b>       | 0x1B  | Heavy wavy underline.         |
| <b>kulDashLong</b>        | 0x27  | Long-dash underline.          |
| <b>kulWavyDouble</b>      | 0x2B  | Wavy double underline.        |
| <b>kulDashLongHeavy</b>   | 0x37  | Heavy long-dash underline.    |

### 2.9.128 LadSpIs

The **LadSpIs** structure is an **SPLS** structure that specifies the state of the language auto-detection over a range of text. Some states that are possible in a generic **SPLS** are not allowed in a **LadSpIs** structure.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| spls |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**spls (2 bytes):** An **SPLS** structure. The **spls.fExtend** and **spls.fTypo** fields are not used and MUST be zero. The **spls.spIf** field MUST be one of the following:

- splfMaybeDirty
- splfDirty
- splfEdit
- splfForeign
- splfClean
- splfNoLAD

### 2.9.129 LBCOperand

The **LBCOperand** enumeration specifies where text continues after a line break. When a line is shortened or broken into multiple text regions by the presence of a picture, shape, or another object, the operand specifies the location at which the text continues. If a line is not broken by an object, the following values have no effect and the text simply continues on the next line.

| Name           | Value | Meaning  |
|----------------|-------|--|
| <b>lbrNone</b> | 0x00  | Text continues in the next available region of the current line, in logical reading order, or on the next line if no more regions are left.  |
| <b>lbrLeft</b> | 0x01  | If the line break is located to the logical left of the object, text restarts in the next available region of the current line, in logical reading order, or on the next line if no more regions are left. |



| Name            | Value | Meaning   |
|-----------------|-------|---|
|                 |       | If the line break is located to the logical right of the object, text restarts on the next available line that is not broken by an object. In this case, the use of this value has the same result as the use of the value <b>lbrBoth</b> .   |
| <b>lbrRight</b> | 0x02  | If the line break is located to the logical right of the object, text restarts in the next available region of the current line, in logical reading order, or on the next line if no more regions are left.<br>If the line break is located to the logical left of the object, text restarts on the next available line that is not broken by an object. In this case, the use of this value has the same result as the use of the value <b>lbrBoth</b> . |
| <b>lbrBoth</b>  | 0x03  | Text restarts on the next available line that is not broken by the presence of a picture, shape, or another object.   |

### 2.9.130 LEGOXTR\_V11

The **LEGOXTR\_V11** structure contains information about an AutoText item.

|       |   |   |   |   |   |   |   |   |   |         |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |    |   |
|-------|---|---|---|---|---|---|---|---|---|---------|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|---|---|---|----|---|
| 0     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| flego |   |   |   |   |   |   |   |   |   | unused1 |   |   |   |   |   |   |   |   |   | ibst |   |   |   |   |   |   |   |   |   |    |   |

**flego (1 byte):** An unsigned integer that specifies the type of an AutoText item. This MUST be one of the following values.

| Value | Meaning   |
|-------|---|
| 0x00  | The item is a named AutoText item.                    |
| 0x0A  | The item is a formatted text <b>AutoCorrect</b> item. |

**unused1 (1 byte):** This field MUST be ignored.

**ibst (2 bytes):** A signed integer that specifies a zero-based index into [SttbGlsyStyle](#). The string at this index is the name of the style that is used by the AutoText item. If this integer is equal to 0xFFFF, there is no style used by the AutoText item. If **flego** is nonzero, this MUST be equal to 0xFFFF.

### 2.9.131 LFO

The **LFO** structure specifies the **LSTF** element that corresponds to a list that contains a paragraph. An **LFO** can also specify formatting information that overrides the **LSTF** element to which it corresponds.

|         |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|---------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| lsid    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| unused1 |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

|         |                |        |         |
|---------|----------------|--------|---------|
| unused2 |                |        |         |
| clfolvl | ibstFltAutoNum | grfhic | unused3 |

**lsid (4 bytes):** A signed integer that specifies the list identifier of an LSTF. This **LFO** corresponds to the LSTF in [PifLst.rgLstf](#) that has an **lsid** whose value is equal to this value.

**unused1 (4 bytes):** This field MUST be ignored.

**unused2 (4 bytes):** This field MUST be ignored.

**clfolvl (1 byte):** An unsigned integer that specifies the count of [LFOLVL](#) elements that are stored in the [rgLfoLvl](#) field of the [LFOData](#) element that corresponds to this **LFO** structure.

**ibstFltAutoNum (1 byte):** An unsigned integer that specifies the field that this **LFO** represents. This MUST be one of the following values.

| Value | Meaning   |
|-------|---|
| 0x00  | This LFO is not used for any field. The <b>fAutoNum</b> of the related LSTF MUST be set to 0.   |
| 0xFC  | This LFO is used for the AUTONUMLGL field (see AUTONUMLGL in <a href="#">fit</a> ). The <b>fAutoNum</b> of the related LSTF MUST be set to 1. |
| 0xFD  | This LFO is used for the AUTONUMOUT field (see AUTONUMOUT in <a href="#">fit</a> ). The <b>fAutoNum</b> of the related LSTF MUST be set to 1. |
| 0xFE  | This LFO is used for the AUTONUM field (see AUTONUM in <a href="#">fit</a> ). The <b>fAutoNum</b> of the related LSTF MUST be set to 1.       |
| 0xFF  | This LFO is not used for any field. The <b>fAutoNum</b> of the related LSTF MUST be set to 0.   |

**grfhic (1 byte):** A [grfhic](#) that specifies HTML incompatibilities.

**unused3 (1 byte):** This field MUST be ignored.

### 2.9.132 LFOData

The **LFOData** structure contains the [Main Document CP](#) of the corresponding [LFO](#), as well as an array of [LVL](#) override data.

|                     |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|---------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| cp                  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| rgLfoLvl (variable) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...                 |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

**cp (4 bytes):** A CP that specifies the position of the first paragraph in the Main Document whose **iLfo** property (see [sprmPIlfo](#)) specifies the corresponding LFO. If this is equal to 0xFFFFFFFF, this MUST be ignored.

**rgLfoLvl (variable):** An array of [LFOLVL](#). The **cLfoLvl** field of the corresponding LFO specifies the count of elements in this array.

### 2.9.133 LFOLVL

The **LFOLVL** structure contains information that is used to override the formatting information of a corresponding [LVL](#).

|                |   |   |   |   |   |        |   |   |   |    |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |  |  |  |  |   |  |  |
|----------------|---|---|---|---|---|--------|---|---|---|----|----|----|----|----|----|----|----|----|----|----|---------|----|----|----|----|----|----|----|----|----|----|--|--|--|--|---|--|--|
| 0              | 1 | 2 | 3 | 4 | 5 | 6      | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21      | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |   |  |  |
| iStartAt       |   |   |   |   |   |        |   |   |   |    |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |  |  |  |  |   |  |  |
| iLvl           |   |   |   | A | B | grfhic |   |   |   |    |    |    |    |    |    |    |    |    |    |    | unused1 |    |    |    |    |    |    |    |    |    |    |  |  |  |  | C |  |  |
| lvl (variable) |   |   |   |   |   |        |   |   |   |    |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |  |  |  |  |   |  |  |
| ...            |   |   |   |   |   |        |   |   |   |    |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |  |  |  |  |   |  |  |

**iStartAt (4 bytes):** If **fStartAt** is set to 0x1, this is a signed integer that specifies the start-at value that overrides **lvl.fStartAt** of the corresponding LVL. This value MUST be less than or equal to 0x7FFF and MUST be greater than or equal to zero. If both **fStartAt** and **fFormatting** are set to 0x1, or if **fStartAt** is set to 0x0, this value is undefined and MUST be ignored.

**iLvl (4 bits):** An unsigned integer that specifies the zero-based level of the list that this overrides. This LFOLVL overrides the LVL that specifies the level formatting of this level of the [LSTF](#) that is specified by the **lsid** field of the [LFO](#) to which this LFOLVL corresponds. This value MUST be less than or equal to 0x08.

**A - fStartAt (1 bit):** A bit that specifies whether this LFOLVL overrides the start-at value of the level.

**B - fFormatting (1 bit):** A bit that specifies whether **lvl** is an LVL that overrides the corresponding LVL.

**grfhic (8 bits):** A [grfhic](#) that specifies the HTML incompatibilities of the overriding level formatting.

**unused1 (15 bits):** This MUST be ignored.

**C - unused2 (3 bits):** This MUST be ignored.

**lvl (variable):** If **fFormatting** is set to 0x1, this is an LVL that completely overrides the LVL to which this LFOLVL corresponds. If **fFormatting** is not set to 0x1, this does not exist.

### 2.9.134 LID

The **LID** structure is an unsigned 16-bit integer that specifies a language code, as specified in [ECMA-376](#) part 4, section 2.18.52 ST\_LangCode (Two Digit Hexadecimal Language Code).

### 2.9.135 LPStd

The **LPStd** structure specifies a length-prefixed style definition.

|       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16             | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbStd |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | std (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbStd (2 bytes):** A signed integer that specifies the size, in bytes, of **std**. This value MUST NOT be less than 0. LPStd structures are stored on even-byte boundaries, but this length MUST NOT include this padding.

A style definition can be empty, in which case **cbStd** MUST be 0.

**std (variable):** An [STD](#) that specifies the style definition.

### 2.9.136 LPStshi

The **LPStshi** structure specifies general stylesheet information.

|         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16               | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbStshi |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | stshi (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbStshi (2 bytes):** An unsigned integer that specifies the size, in bytes, of **stshi**.

**stshi (variable):** A [stshi](#) that specifies general stylesheet information.

### 2.9.137 LPStshiGrpPrI

The **LPStshiGrpPrI** structure specifies an array of formatting properties.

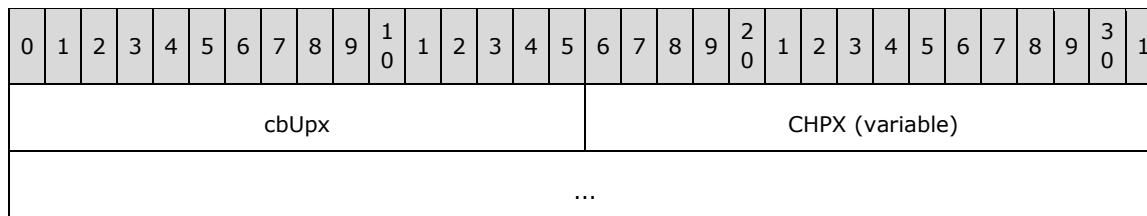
|                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbGrpprI          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| grpprI (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbGrpprI (4 bytes):** A signed 32-bit integer that specifies the size, in bytes, of **grpprI**.

**grpprI (variable):** An array of [PrI](#) elements that specify formatting properties.

### 2.9.138 LPUpXChpx

The **LPUpXChpx** structure specifies character formatting properties. This structure is padded to an even length, but the length in **cbUpX** MUST NOT include this padding.



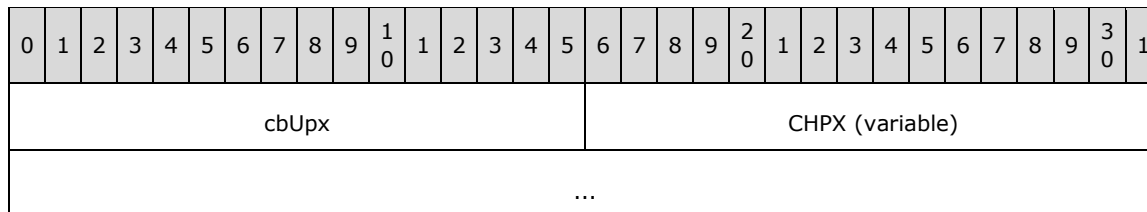
**cbUpx (2 bytes):** An unsigned integer that specifies the size, in bytes, of **CHPX**. This value does not include the padding.

**CHPX (variable):** A [UpxChpx](#) that specifies character formatting properties.

### 2.9.139 LPUpxChpxRM

The **LPUpxChpxRM** structure that specifies character formatting properties for revision-marked style formatting.

The structure is padded to an even length.



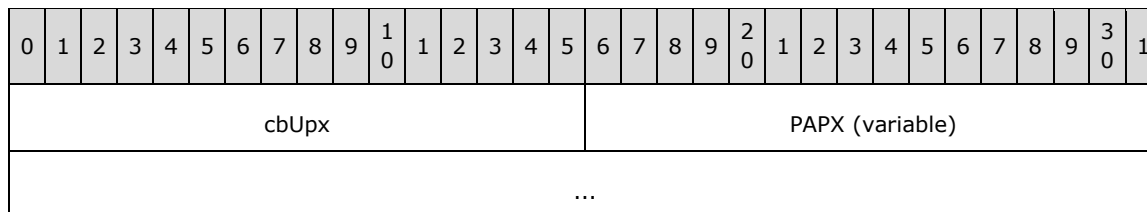
**cbUpx (2 bytes):** An unsigned integer that specifies the length, in bytes, of **CHPX**. This value MUST not include padding.

**CHPX (variable):** A [UpxChpx](#) that specifies character formatting properties.

### 2.9.140 LPUpxPapx

The **LPUpxPapx** structure specifies paragraph formatting properties.

The structure is padded to an even length, but the length in **cbUpx** MUST NOT include this padding.



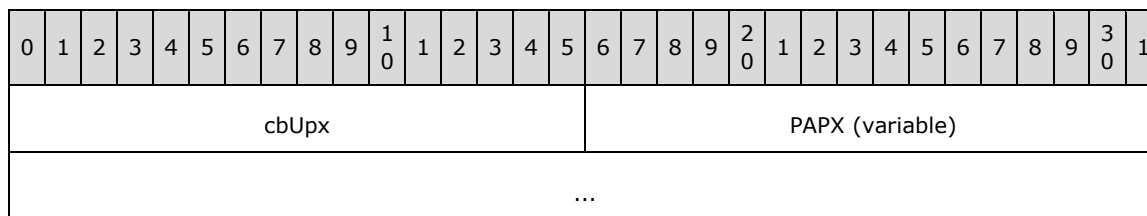
**cbUpx (2 bytes):** An unsigned integer that specifies the size, in bytes, of **PAPX**, not including the (potential) padding.

**PAPX (variable):** A [UpxPapx](#) that specifies paragraph formatting properties.

### 2.9.141 LPUpxPapxRM

The **LPUpxPapxRM** structure specifies the paragraph formatting properties that are used for revision-marked style formatting.

The structure is padded to be an even length, but the length in **cbUpx** MUST NOT include this padding.

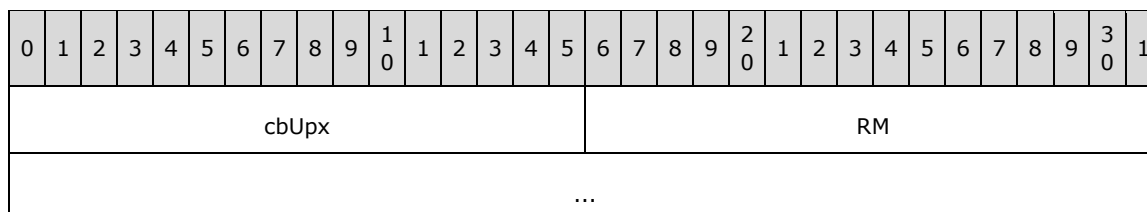


**cbUpx (2 bytes):** An unsigned 16-bit integer that specifies the size, in bytes, of **PAPX**. This value does not include any specified padding.

**PAPX (variable):** A [UpxPapx](#) that specifies paragraph formatting properties.

### 2.9.142 LPUpxRm

The **LPUpxRm** structure specifies revision-marking information.

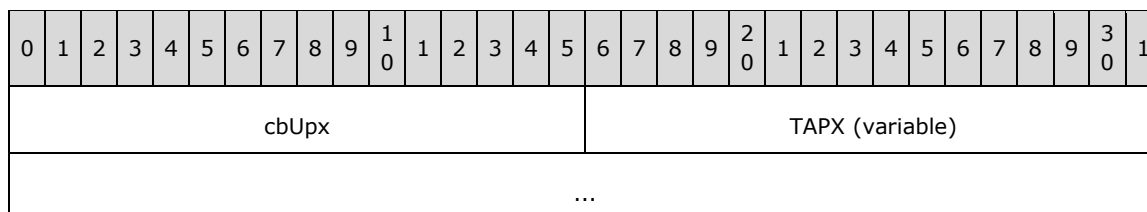


**cbUpx (2 bytes):** An unsigned 16-bit integer that specifies the size, in bytes, of **RM**. This value MUST be 0x0006.

**RM (6 bytes):** An [UpxRm](#) that specifies revision-marking information.

### 2.9.143 LPUpxTapx

The **LPUpxTapx** structure specifies table formatting properties. This structure is padded to an even length, but the length in **cbUpx** MUST NOT include this padding.



**cbUpx (2 bytes):** An unsigned integer that specifies the size, in bytes, of **TAPX**. This value does not include padding.

**TAPX (variable):** A [UpxTapx](#) that specifies table formatting properties.

### 2.9.144 LPXCharBuffer9

The **LPXCharBuffer9** structure is a length-prefixed buffer for up to 9 Unicode characters. The text is not null-terminated.

|     |   |   |   |   |   |   |   |   |   |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|----|-----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11                    | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cch |   |   |   |   |   |   |   |   |   |    | xcharArray (18 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cch (2 bytes):** An unsigned integer that specifies the number of characters from the buffer that are actually used. This value MUST be less than or equal to 9.

**xcharArray (18 bytes):** An array of 16-bit Unicode characters. The first **cch** characters make a Unicode string. The remaining characters MUST be ignored.

### 2.9.145 LSD

The **LSD** structure specifies the properties to be used for latent application-defined styles (see [StshiLsd](#)) when they are created.

|   |   |   |   |           |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|-----------|---|---|---|---|---|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4         | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16        | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | C | D | iPriority |   |   |   |   |   |    |    |    |    |    |    | fReserved |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fLocked (1 bit):** Specifies the value that the **fLocked** field of [GRFSTD](#) is set to when this latent style is instantiated.

**B - fSemiHidden (1 bit):** Specifies the value that the **fSemiHidden** field of [GRFSTD](#) is set to when this latent style is instantiated.

**C - fUnhideWhenUsed (1 bit):** Specifies the value that the **fUnhideWhenUsed** field of [GRFSTD](#) is set to when this latent style is instantiated.

**D - fQFormat (1 bit):** Specifies the value that the **fQFormat** field of [GRFSTD](#) is set to when this latent style is instantiated.

**iPriority (12 bits):** An unsigned integer that specifies the value that the **iPriority** field of [StdPost2000](#) is set to when this latent style is instantiated. This MUST be a value between 0x0000 and 0x0063, inclusive.

**fReserved (16 bits):** This value MUST be 0 and MUST be ignored.

### 2.9.146 LSPD

The **LSPD** structure specifies the spacing between lines in a paragraph.

|         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16             | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dyaLine |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | fMultLinespace |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dyaLine (16 bits):** An integer that specifies the spacing between lines, based on the following rules:

- **dyaLine** MUST either be between 0x0000 and 0x7BC0 or between 0x8440 and 0xFFFF.
- When **dyaLine** is between 0x8440 and 0xFFFF, the line spacing, in twips, is exactly 0x10000 minus **dyaLine**.
- When **fMultLinespace** is 0x0001 and **dyaLine** is between 0x0000 and 0x7BC0, a spacing multiplier is used to determine line spacing for this paragraph. The spacing multiplier is **dyaLine/240**. For example, a spacing multiplier value of 1 specifies single spacing; a spacing multiplier value of 2 specifies double spacing; and so on. The actual line spacing, in twips, is the spacing multiplier times the font size, in twips.
- When **fMultLinespace** is 0x0000 and **dyaLine** is between 0x0000 and 0x7BC0, the line spacing, in twips, is **dyaLine** or the number of twips necessary for single spacing, whichever value is greater.

**fMultLinespace (16 bits):** An integer which MUST be either 0x0000 or 0x0001.

### 2.9.147 LSTF

The **LSTF** structure contains formatting properties that apply to an entire list.

|                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |  |  |  |  |  |  |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|--|--|--|--|--|--|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24     | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |  |
| lsid                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |  |  |  |  |  |  |
| tplc                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |  |  |  |  |  |  |
| rgistdPara (18 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |  |  |  |  |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    | A  | B  | C  | D  | E  | F  | grfhic |    |    |    |    |    |    |    |  |  |  |  |  |  |

**lsid (4 bytes):** A signed integer that specifies the list identifier. This MUST be unique for each LSTF. This value MUST not be 0xFFFFFFFF.

**tplc (4 bytes):** A [Tplc](#) that specifies a unique identifier for this LSTF that MAY [<227>](#) be used for user interface purposes. If **fHybrid** is nonzero, this MUST be ignored.

**rgistdPara (18 bytes):** An array of nine 16-bit signed integers. Each element of **rgistdPara** specifies the [ISTD](#) of the style that is linked to the corresponding level in the list. If no style is linked to a given level, the value of the corresponding element of **rgistdPara** MUST be 0x0FFF.

**A - fSimpleList (1 bit):** A bit that, when set to 0x1, specifies that this LSTF represents a simple (one-level) list that has one corresponding [LVL](#) (see the **fcPifLst** field of [FibRqFcLcb97](#)). Otherwise, this LSTF represents a multi-level list that has nine corresponding LVLs.

**B - unused1 (1 bit):** This bit MUST be ignored.

**C - fAutoNum (1 bit):** A bit that specifies whether the list that this LSTF represents is used for the AUTONUMOUT, AUTONUMLGL, and AUTONUM fields (see AUTONUMOUT, AUTONUMLGL, and AUTONUM in [fit](#)).

**D - unused2 (1 bit):** This bit MUST be ignored.



**E - fHybrid (1 bit):** A bit that specifies whether the list this LSTF defines is a **hybrid list**.

**F - reserved1 (3 bits):** This MUST be zero, and MUST be ignored.

**grfhic (1 byte):** A [grfhic](#) that specifies the HTML incompatibilities of the list.

### 2.9.148 Lstsf

The **Lstsf** structure specifies a list style.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16       | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ilst |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | istdList |    |    |    |    |    |    |    |    |    |    |    | A  | B  |    |    |

**ilst (2 bytes):** An unsigned integer that specifies a zero-based index into the [Piflst](#).

**istdList (12 bits):** An unsigned integer that specifies the [ISTD](#) for the list style. To determine the text properties, see Determining Properties of a Style (section [2.4.6.5](#)).

**A - fStyleDef (1 bit):** A bit flag that specifies the type of this list definition. If **fStyleDef** is "true", this **Lstsf** is a list style definition, meaning that a custom numbered or bulleted list style was defined. In this case, **ilst** specifies which custom list style is to be used. If **fStyleDef** is "false", it means that a standard list style is used. In this case, **istdList** specifies which standard style to use.

**B - fUnused (3 bits):** This field MUST be zero and MUST be ignored.

### 2.9.149 LVL

The **LVL** structure contains formatting information about a specific level in a list. When a paragraph is [formatted](#) as part of this level, each placeholder in **xst** is replaced with the inherited [level number](#) of the most recent or current paragraph in the same list that is in the zero-based level specified by that placeholder. The level number that replaces a placeholder is formatted according to the **lvlf.nfc** of the **LVL** structure that corresponds to the level that the placeholder specifies, unless the **lvlf.fLegal** of this **LVL** structure is nonzero.

|                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| lvlf (28 bytes)       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| grpprIPapx (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| grpprIChpx (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                |
|----------------|
| xst (variable) |
| ...            |

**lvlf (28 bytes):** An [LVLF](#) structure that specifies formatting information for this level.

**grpPrIPapx (variable):** An array of [Prl](#) elements that specifies the paragraph formatting of a paragraph in this level. The size of **grpPrIPapx** is specified by **lvlf.cbGrpPrIPapx**.

**grpPrIChpx (variable):** An array of [Prl](#) elements that specifies the character formatting of the **number text** that begins each paragraph in this level. The size of **grpPrIChpx** is specified by **lvlf.cbGrpPrIChpx**.

**xst (variable):** An [Xst](#) that specifies the number text that begins each paragraph in this level. This can contain placeholders for level numbers that are inherited from the other paragraphs in the list. Any element in the **rgtchar** field of this Xst can be a placeholder. Each placeholder is an unsigned 2-byte integer that specifies the zero-based level that the placeholder is for. Each placeholder MUST have a value that is less than or equal to the zero-based level of the list that this **LVL** represents. The indexes of the placeholders are specified by **lvlf.rgbxchNums**. Placeholders that correspond to levels that do not have a number sequence (see **lvlf.nfc**) MUST be ignored. If this level uses bullets (see **lvlf.nfc**), the **cch** field of this Xst MUST be equal to 0x0001, and this MUST NOT contain any placeholders.

### 2.9.150 LVLF

The **LVLF** structure contains formatting properties for an individual level in a list.

|              |   |   |   |   |   |   |   |   |   |              |    |    |    |    |    |    |            |    |    |                |    |    |    |    |            |    |    |    |    |        |    |
|--------------|---|---|---|---|---|---|---|---|---|--------------|----|----|----|----|----|----|------------|----|----|----------------|----|----|----|----|------------|----|----|----|----|--------|----|
| 0            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10           | 11 | 12 | 13 | 14 | 15 | 16 | 17         | 18 | 19 | 20             | 21 | 22 | 23 | 24 | 25         | 26 | 27 | 28 | 29 | 30     | 31 |
| iStartAt     |   |   |   |   |   |   |   |   |   |              |    |    |    |    |    |    |            |    |    |                |    |    |    |    |            |    |    |    |    |        |    |
| nfc          |   |   |   |   |   |   |   |   |   | jc           | A  | B  | C  | D  | E  | F  | rgbxchNums |    |    |                |    |    |    |    |            |    |    |    |    |        |    |
| ...          |   |   |   |   |   |   |   |   |   |              |    |    |    |    |    |    |            |    |    |                |    |    |    |    |            |    |    |    |    |        |    |
| ...          |   |   |   |   |   |   |   |   |   |              |    |    |    |    |    |    |            |    |    |                |    |    |    |    | ixchFollow |    |    |    |    |        |    |
| dxaIndentSav |   |   |   |   |   |   |   |   |   |              |    |    |    |    |    |    |            |    |    |                |    |    |    |    |            |    |    |    |    |        |    |
| unused2      |   |   |   |   |   |   |   |   |   |              |    |    |    |    |    |    |            |    |    |                |    |    |    |    |            |    |    |    |    |        |    |
| cbGrpPrIChpx |   |   |   |   |   |   |   |   |   | cbGrpPrIPapx |    |    |    |    |    |    |            |    |    | ilvlRestartLim |    |    |    |    |            |    |    |    |    | grfhic |    |

**iStartAt (4 bytes):** A signed integer that specifies the beginning number for the number sequence belonging to this level. This value MUST be less than or equal to 0x7FFF and MUST be greater than or equal to zero. If this level does not have a number sequence (see **nfc**), this MUST be ignored.

**nfc (1 byte):** An **MSONFC**, as specified in [\[MS-OSHARED\]](#) section 2.2.1.3, that specifies the format of the [level numbers](#) that replace the placeholders for this level in the **xst** fields of the [LVLS](#) in this list. This value MUST not be equal to 0x08, 0x09, 0x0F, or 0x13. If this is equal to 0xFF or 0x17,

this level does not have a number sequence and therefore has no number formatting. If this is equal to 0x17, the level uses bullets.

**jc (2 bits):** An unsigned integer that specifies the justification of this level. This MUST be one of the following values.

| Value | Meaning          |
|-------|------------------|
| 0x0   | Left justified   |
| 0x1   | Center justified |
| 0x2   | Right justified  |

**A - fLegal (1 bit):** A bit that specifies whether this level overrides the **nfc** of all inherited level numbers. If the original **nfc** of a level number is **msonfcArabicLZ**, it is preserved. Otherwise, the **nfc** of the level number is overridden by **msonfcArabic**.

**B - fNoRestart (1 bit):** A bit that specifies whether the number sequence of the level does not restart after a level is encountered that is more significant than the level to which this **LVL** corresponds. If this is nonzero, **ilvlRestartLim** specifies the levels after which the number sequence of this level restarts. Otherwise, this number sequence of this level restarts when a more significant level is encountered. If this level does not have a number sequence (see **nfc**), this MUST be ignored.

**C - fIndentSav (1 bit):** A bit that specifies whether the level indented the text it was applied to and that the indent needs to be removed when numbering is removed. The indent to be removed is stored in **dxsIndentSav**.

**D - fConverted (1 bit):** A bit that specifies whether the **nfc** of this **LVL** structure was previously a temporary value used for **bidirectional compatibility** that was converted into a standard **MSONFC**, as specified in [MS-OSHARED] section 2.2.1.3.

**E - unused1 (1 bit):** This bit MUST be ignored.

**F - fTentative (1 bit):** A bit that specifies whether the format of the level is tentative. This is used to describe the levels of a hybrid list that are not in use or displayed. If the **fHybrid** bit of the [LSTF](#) of the list is zero, this MUST be ignored.

**rgbxchNums (9 bytes):** An array of 8-bit integers. Each integer specifies a one-based character offset to a level placeholder in the **xst.rgtchar** of the **LVL** that contains this **LVL**. This array is zero-terminated, unless it is full. The count of elements in this array, before to the first terminating zero, MUST be less than or equal to the one-based level of the list to which this **LVL** corresponds. The integers in this array, before the first terminating zero, MUST be in ascending order, and MUST be unique.

**ixchFollow (1 byte):** An unsigned integer that specifies the character that follows the number text. This MUST be one of the following values.

| Value | Meaning                          |
|-------|----------------------------------|
| 0x0   | A tab follows the number text.   |
| 0x1   | A space follows the number text. |
| 0x2   | Nothing follows the number text. |

**dxaIndentSav (4 bytes):** If **fIndentSav** is nonzero, this is a signed integer that specifies the size, in twips, of the indent that needs to be removed when the numbering is removed. This MUST be less than or equal to 0x00007BC0 or greater than or equal to 0xFFFF8440. If **fIndentSav** is zero, this MUST be ignored.

**unused2 (4 bytes):** This field MUST be ignored.

**cbGrppriChpx (1 byte):** An unsigned integer that specifies the size, in bytes, of the **grppriChpx** in the **LVL** that contains this **LVLf**.

**cbGrppriPapx (1 byte):** An unsigned integer that specifies the size, in bytes, of the **grppriPapx** in the **LVL** that contains this **LVLf**.

**ilvlRestartLim (1 byte):** An unsigned integer that specifies the first (most-significant) zero-based level after which the number sequence of this level does not restart. The number sequence of this level does restart after any level that is more significant than the specified level. This MUST be less than or equal to the zero-based level of the list to which this **LVLf** corresponds. If **fNoRestart** is zero, this MUST be ignored. If this level does not have a number sequence (see **nfic**), this MUST be ignored.

**grfhic (1 byte):** A **grfhic** that specifies the HTML incompatibilities of the level.

### 2.9.151 MacroName

The **MacroName** structure specifies a single entry in the macro name table, as defined in [MacroNames](#).

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16              | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ibst |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | xstz (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ibst (2 bytes):** An unsigned integer that specifies the index of the current entry in the macro name table. This MUST NOT be the same as the index of any other entry.

**xstz (variable):** An **Xstz** structure that specifies the name of the macro. The length of the string, excluding the terminating null character, MUST NOT exceed 255 characters.

### 2.9.152 MacroNames

The **MacroNames** structure specifies the macro name table. This structure is used in a sequence of structures that specify command-related customizations. For more information, see the [Tcg255](#) structure.

|     |   |   |   |   |   |   |   |   |   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10   | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26                 | 27 | 28 | 29 | 30 | 31 |
| ch  |   |   |   |   |   |   |   |   |   | iMac |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | rgNames (variable) |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                    |    |    |    |    |    |

**ch (1 byte):** An unsigned integer that identifies this structure as a **MacroNames** structure. This value MUST be 17.

**iMac (2 bytes):** An unsigned integer that specifies the number of [MacroName](#) structures in **rgNames**.

**rgNames (variable):** An array of **MacroName** structures. The number of structures is specified by **iMac**.

### 2.9.153 MathPrOperand

The **MathPrOperand** structure is an operand to **sprmCFMathPr**. This operand specifies the justification for equations.

|    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |    |    |    |    |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|----|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20     | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb |   |   |   |   |   |   |   |   |   | A  |    |    |    |    |    |    |    |    |    | unused |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** The size of this structure, in bytes, not including this byte. This value MUST be 0x02.

**A - jcMath (3 bits):** Specifies the justification. The valid values and their meanings are specified in the **mthbjc** member of [DOPMTH](#).

**unused (13 bits):** This field is undefined and MUST be ignored.

### 2.9.154 Mcd

The **Mcd** structure specifies a macro.

|           |   |   |   |   |   |   |   |   |   |           |    |    |    |    |    |           |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |
|-----------|---|---|---|---|---|---|---|---|---|-----------|----|----|----|----|----|-----------|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|
| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10        | 11 | 12 | 13 | 14 | 15 | 16        | 17 | 18 | 19 | 20   | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| reserved1 |   |   |   |   |   |   |   |   |   | reserved2 |    |    |    |    |    |           |    |    |    | ibst |    |    |    |    |    |    |    |    |    |    |    |
| ibstName  |   |   |   |   |   |   |   |   |   |           |    |    |    |    |    | reserved3 |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |
| reserved4 |   |   |   |   |   |   |   |   |   |           |    |    |    |    |    |           |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |
| reserved5 |   |   |   |   |   |   |   |   |   |           |    |    |    |    |    |           |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |
| reserved6 |   |   |   |   |   |   |   |   |   |           |    |    |    |    |    |           |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |
| reserved7 |   |   |   |   |   |   |   |   |   |           |    |    |    |    |    |           |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |

**reserved1 (1 byte):** A signed integer that MUST be 0x56.

**reserved2 (1 byte):** This value MUST be 0.

**ibst (2 bytes):** An unsigned integer that specifies the name of the macro. The macro name is specified by **MacroName.xstz** of the **MacroName** entry in the [MacroNames](#), such that **MacroName.ibst** equals **ibst**. **MacroNames** MUST contain such an entry.

**ibstName (2 bytes):** An unsigned integer that specifies the index into the Command [String Table](#) ([TcgSttbf.sttbf](#)) where the name and arguments of the macro are specified.

**reserved3 (2 bytes):** An unsigned integer that MUST be 0xFFFF.

**reserved4 (4 bytes):** This field MUST be ignored.

**reserved5 (4 bytes):** This field MUST be 0.

**reserved6 (4 bytes):** This field MUST be ignored.

**reserved7 (4 bytes):** This field MUST be ignored.

### 2.9.155 MDP

The **MDP** structure contains information that is needed to display information about an e-mail message and its author.

|           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16         | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dttm      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ibstAuthor |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dttm (4 bytes):** A [DTTM](#) structure that specifies the date and time at which an e-mail message was created.

**reserved1 (2 bytes):** This field MUST be zero, and MUST be ignored.

**ibstAuthor (2 bytes):** A signed integer that specifies the index into the [SttbfrMark](#) structure of the author of the message.

### 2.9.156 MFPP

The **MFPP** structure specifies the type of picture data that is stored.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16    | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| mm   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | xExt  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| yExt |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | swHMF |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**mm (2 bytes):** A signed integer that specifies the format of the picture data. This MUST be one of the following values.

| Name         | Value  | Meaning      |
|--------------|--------|--------------|
| MM_SHAPE     | 0x0064 | Shape object |
| MM_SHAPEFILE | 0x0066 | Shape file   |

**xExt (2 bytes):** This field is unused and MUST be ignored.

**yExt (2 bytes):** This field is unused and MUST be ignored.

**swHMF (2 bytes):** This field MUST be zero and MUST be ignored.

### 2.9.157 NilBrc

The **NilBrc** structure is a special value of a **Brc** structure that specifies that the region in question has no border. It is one possible value of the **BrcMayBeNil** structure. It is defined as its own type because the values it contains are not valid for **Brc** structures in general.

|          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| colorref |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| nilBrc   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**colorref (4 bytes):** This field is unused and MUST be ignored.

**nilBrc (4 bytes):** This value MUST be 0xFFFFFFFF.

### 2.9.158 NilPICFAndBinData

The **NilPICFAndBinData** structure that holds header information and binary data for a hyperlink, form field, or add-in field. The **NilPICFAndBinData** structure MUST be stored in the [Data Stream](#).

|                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| lcb                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbHeader           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ignored (62 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| binData (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**lcb (4 bytes):** A signed integer that specifies the size, in bytes, of this structure.

**cbHeader (2 bytes):** An unsigned integer that specifies the number of bytes from the beginning of this structure to the beginning of **binData**. This value MUST be 0x44.

**ignored (62 bytes):** This field MUST be 0 and MUST be ignored.

**binData (variable):** The interpretation of the **binData** element depends on the field type of the field containing the picture character and is given by the following.

| Field Type | Data Type           |
|------------|---------------------|
| REF        | <a href="#">HFD</a> |

| Field Type   | Data Type  |
|--------------|--|
| PAGEREF      | HFD  |
| FORMTEXT     | <a href="#">FFData</a>   |
| FORMCHECKBOX | FFData   |
| NOTEREF      | HFD  |
| PRIVATE      | Custom binary data that is specified by the add-in that inserted this field. |
| ADDIN        | Custom binary data that is specified by the add-in that inserted this field. |
| FORMDROPDOWN | FFData   |
| HYPERLINK    | HFD  |

The **NiIPICFAndBinData** structure is invalid if it describes a picture character that is not inside a field or is inside a field with a field type other than those specified in the preceding table. The size of **binData** is **lcb - cbHeader**. The data MAY [<228>](#) be invalid. If the data is invalid, it MUST be ignored.

### 2.9.159 NumRM

The **NumRM** structure is a numbering revision mark that specifies information about a numbering revision for a paragraph.

| 0          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10       | 11 | 12 | 13 | 14 | 15 | 16      | 17 | 18 | 19 | 20        | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|------------|---|---|---|---|---|---|---|---|---|----------|----|----|----|----|----|---------|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|
| fNumRM     |   |   |   |   |   |   |   |   |   | fIgnored |    |    |    |    |    |         |    |    |    | ibstNumRM |    |    |    |    |    |    |    |    |    |    |    |
| dtmNumRM   |   |   |   |   |   |   |   |   |   |          |    |    |    |    |    |         |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| rgbxchNums |   |   |   |   |   |   |   |   |   |          |    |    |    |    |    |         |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| ...        |   |   |   |   |   |   |   |   |   |          |    |    |    |    |    |         |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| ...        |   |   |   |   |   |   |   |   |   | rgnfc    |    |    |    |    |    |         |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| ...        |   |   |   |   |   |   |   |   |   |          |    |    |    |    |    |         |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| ...        |   |   |   |   |   |   |   |   |   |          |    |    |    |    |    | ignored |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |



|                 |
|-----------------|
| pnbr (36 bytes) |
| ...             |
| ...             |
| xst (64 bytes)  |
| ...             |
| ...             |

**fNumRM (1 byte):** A [Bool8](#) value that specifies whether the paragraph was already numbered when revision mark tracking was turned on.

**fIgnored (1 byte):** This field MUST be ignored.

**ibstNumRM (2 bytes):** An integer that specifies an index for the numbering revision in the revision mark author array that is contained in the [SttbfRMark](#) structure.

**dtmNumRM (4 bytes):** A [DTTM](#) structure that specifies the date and time at which the numbering revision occurred.

**rgbxchNums (9 bytes):** An array of **BYTE** elements. Each unsigned integer in the array specifies an index into **xst**. The index is the location of a paragraph number placeholder for the numbering level that corresponds to the index. For example, **xst[rgbxchNums[0]]** is the location in **xst** of the first level placeholder. The text to display at the location depends on the numeric value of the level of the paragraph, as specified by **pnbr[0]** and the numbering format at **rgnfc[0]**. A value of zero specifies that the numbering level at the corresponding index is not in use.

**rgnfc (9 bytes):** An array of 8-bit **MSONFC** elements, as specified in [\[MS-OSHARED\]](#) section 2.2.1.3. Each **MSONFC** element that is contained in the array specifies the format of the numeric value for the corresponding level placeholder in **xst**. For example, for the second numbering level, the value of **rgnfc[1]** specifies the format of **pnbr[1]**, which is inserted into **xst** at the level placeholder location that is specified by **rgbxchNums[1]**.

**ignored (2 bytes):** This field MUST be ignored.

**pnbr (36 bytes):** An array of **LONG** elements. Each unsigned integer in the array specifies the numeric value for the corresponding level placeholder in **xst**.

**xst (64 bytes):** An array of **USHORT** elements. A string that specifies the format of the numbering for the paragraph. The first position in the array is an integer that specifies the length of the format string. The format string begins at the second position and contains level placeholders for the numbering level text to be inserted. The locations of level placeholders are specified by **rgbxchNums**. To create the final display string, the text is specified by **rgnfc**, and **pnbr** is inserted at the corresponding location in **xst**.

## 2.9.160 NumRMOperand

The **NumRMOperand** structure is the operand for the [sprmPNumRM](#) value that contains information about a numbering revision mark.

|     |   |   |   |   |   |   |   |   |   |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|-----|---|---|---|---|---|---|---|---|---|-------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| cb  |   |   |   |   |   |   |   |   |   | numRM (128 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |   |   |   |   |   |   |   |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |   |   |   |   |   |   |   |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |   |   |   |   |   |   |   |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**cb (1 byte):** An unsigned integer that specifies the size, in bytes, of the [NumRM](#) structure. This value MUST be 128.

**numRM (128 bytes):** A [NumRM](#) that specifies the properties of the numbering revision mark.

### 2.9.161 OcxInfo

The **OcxInfo** structure specifies an OLE control (such as a checkbox, radio button, and so on) in the document. The data that is contained in **OcxInfo** structures SHOULD [<229>](#) be ignored.

|          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16       | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dwCookie |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ifld     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| hAccel   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cAccel   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | A        | B  | C  | D  | E  | F  | G  | H  |    |    |    |    |    |    |    |    |
| idoc     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | reserved |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dwCookie (4 bytes):** An integer value that specifies the index location of this **OcxInfo** in the [RgxOcxInfo](#) array. This value MUST be unique for all **OcxInfo** structures in the document.

**ifld (4 bytes):** An unsigned integer value that specifies an index location in the [PlcFld](#) structure. The value MUST be a valid [FLD](#) index in the correct **PlcFld** structure.

The PlcFld that is used is dependent on the value of **idoc**, as specified following.

| Value | Location   |
|-------|--|
| 1     | The <a href="#">Main Document</a> ( <a href="#">FibRgFcLcb97.fcPlcfFldMom</a> ).               |
| 2     | The <a href="#">Header Document</a> ( <a href="#">FibRgFcLcb97.fcPlcfFldHdr</a> ).             |
| 3     | The <a href="#">Footnote Document</a> ( <a href="#">FibRgFcLcb97.fcPlcfFldFtn</a> ).           |
| 4     | The <a href="#">Textbox Document</a> ( <a href="#">FibRgFcLcb97.fcPlcfFldTxbx</a> ).           |
| 6     | The <a href="#">Endnote Document</a> ( <a href="#">FibRgFcLcb97.fcPlcfFldEdn</a> ).            |
| 7     | The <a href="#">Comment Document</a> ( <a href="#">FibRgFcLcb97.fcPlcfFldAtn</a> ).            |
| 8     | The <a href="#">Header Textbox Document</a> ( <a href="#">FibRgFcLcb97.fcPlcfHdrtxbxTxt</a> ). |

**hAccel (4 bytes):** This value is undefined and MUST be ignored.

**cAccel (2 bytes):** An unsigned integer that specifies the number of entries in the **accelerator key** table of this control.

**A - fIfld (1 bit):** This field MUST have a value of 1.

**B - fEatsReturn (1 bit):** Specifies whether this control is a sink for the ENTER key.

**C - fEatsEscape (1 bit):** Specifies whether this control is a sink for the ESC key.

**D - fDefaultButton (1 bit):** Specifies whether this control is the default button.

**E - fCancelButton (1 bit):** Specifies whether this control is the default CANCEL button.

**F - fFailedLoad (1 bit):** Specifies whether an error occurred during the loading of this control. A value of 1 specifies that this control MUST be ignored.

**G - fRTL (1 bit):** Specifies whether this control has special display handling for right-to-left languages.

**H - fCorrupt (1 bit):** Specifies whether this control is corrupted. A value of 1 specifies that this control MUST be ignored.

**idoc (2 bytes):** An integer that specifies where **ifld** can be found. The value MUST be one of the following.

| Value | Location                     |
|-------|------------------------------|
| 1     | The Main Document.           |
| 2     | The Header Document.         |
| 3     | The Footnote Document.       |
| 4     | The Textbox Document.        |
| 6     | The Endnote Document.        |
| 7     | The Comment Document.        |
| 8     | The Header Textbox Document. |

**reserved (2 bytes):** Undefined and MUST be ignored.

### 2.9.162 ODSOPROPERTYBASE

The **ODSOPROPERTYBASE** structure contains an Office Data Source Object property type (**id**), size (**cb**), and value (**OdsoProp**). An Office Data Source Object is used to perform the mail merge.

|                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| id                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cb |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| OdsoProp (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**id (2 bytes):** An unsigned integer that specifies the type of the Office Data Source Object property (**OdsoProp**). This MUST be one of the following values: 0x0000, 0x0001, 0x0002, 0x0010, 0x0011, 0x0012, 0x0013, 0x0014, 0x0015, 0x0016, or 0x0017.

**cb (2 bytes):** An unsigned integer that specifies the size, in bytes, of the **OdsoProp** value or, if the size is greater than 0xFFFFE, this value MUST be 0xFFFF.

**OdsoProp (variable):** If **cb** equals 0xFFFF, this contains an object of type [ODSOPropertyLarge](#); otherwise it contains an object of type [ODSOPropertyStandard](#). The data that is contained in the **OdsoProp** element is dependent on the **id** field and is defined following.

| id     | Meaning of data in OdsoProp  |
|--------|--|
| 0x0000 | A Unicode string, that specifies a Universal Data Link (UDL), that contains a data source <b>connection string</b> . The string is not null terminated.  |
| 0x0001 | A Unicode string that specifies the set of data to be used when a data source includes multiple data sets. The string is not null terminated.  |
| 0x0002 | A Unicode string that specifies the name of the file to be used as a data source. The string is not null terminated.   |
| 0x0010 | A 4-byte unsigned integer that specifies the type of data source connection. The value stored in the file is not used by the application, as it is reset after loading the file, based on the connection information in <b>OdsoProps</b> 0x0000, 0x0001, and 0x0002. This MUST be a value between 0 and 7.   |
| 0x0011 | A 2-byte unsigned integer that specifies a Unicode character used as a column delimiter for a text data source.  |
| 0x0012 | A 4-byte unsigned integer that specifies whether the first row is a header row of column names. A value of 0x00000001 specifies that the first row contains column names; a value of 0x00000000 specifies that it does not.  |
| 0x0013 | The property contains an array of <a href="#">FilterDataItem</a> structures that are used to filter the list of recipients.  |
| 0x0014 | The property contains up to three <a href="#">SortColumnAndDirection</a> items that are used to sort the list of recipients.   |
| 0x0015 | The property contains a <a href="#">RecipientInfo</a> structure.   |
| 0x0016 | The property contains a <a href="#">FieldMapInfo</a> structure that specifies which database columns are mapped to each of 30 standard mail merge address fields. The <a href="#">FieldMapDataItem</a> structures MUST appear in the following order and all items MUST be present: <ol style="list-style-type: none"> <li>1. Unique Identifier</li> <li>2. Courtesy Title</li> <li>3. First Name</li> <li>4. Middle Name</li> <li>5. Last Name</li> <li>6. Suffix</li> <li>7. Nickname</li> <li>8. Job Title</li> <li>9. Company</li> <li>10. Address 1</li> <li>11. Address 2</li> <li>12. City</li> <li>13. State</li> <li>14. Postal Code</li> <li>15. Country or Region</li> <li>16. Business Phone</li> <li>17. Business Fax</li> <li>18. Home Phone</li> <li>19. Home Fax</li> <li>20. E-mail Address</li> <li>21. Web Page</li> <li>22. Spouse Courtesy Title</li> <li>23. Spouse First Name</li> <li>24. Spouse Middle Name</li> <li>25. Spouse Last Name</li> <li>26. Spouse Nickname</li> <li>27. Phonetic Guide for First Name</li> <li>28. Phonetic Guide for Last Name</li> <li>29. Address 3</li> <li>30. Department</li> </ol> |
| 0x0017 | A 2-byte unsigned integer that specifies which step of the mail merge wizard the application last displayed. This MUST be a value between 1 and 6.   |

### 2.9.163 ODSOPropertyLarge

The **ODSOPropertyLarge** structure contains an ODSO property that is at least 0xFFFF bytes in size. See specifications of the ODSO property types under [ODSOPropertyBase.id](#).

|                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dwb                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| OdsoPropLrg (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dwb (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **OdsoPropLrg** element.

**OdsoPropLrg (variable):** Contains the data for this property.

### 2.9.164 ODSOPropertyStandard

The **ODSOPropertyStandard** structure contains an ODSO property that is less than 0xFFFF bytes in size. See descriptions of the ODSO property types under [ODSOPropertyBase.id](#).

|                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| OdsoPropStd (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**OdsoPropStd (variable):** Contains the data for this property.

### 2.9.165 ODT

The **ODT** structure stores information about an OLE object. Each OLE object in a Word Binary file is stored in a storage within the [ObjectPool storage](#). Each of these storages has an [ObjInfo stream](#) which contains an **ODT** structure.

|                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ODTPersist1            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cf |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ODTPersist2 (optional) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ODTPersist1 (2 bytes):** An [ODTPersist1](#) structure that specifies information about the OLE object.

**cf (2 bytes):** An unsigned integer that specifies the format this OLE object uses to transmit data to the host application. Valid values and their meanings are:

| Value  | Meaning  |
|--------|--|
| 0x0001 | Rich Text Format   |
| 0x0002 | Text format  |
| 0x0003 | Metafile or Enhanced Metafile, depending on <a href="#">ODTPersist2.fStoredAsEMF</a> |
| 0x0004 | Bitmap   |
| 0x0005 | Device Independent Bitmap  |
| 0x000A | HTML format  |
| 0x0014 | Unicode text format  |

**ODTPersist2 (2 bytes):** An **ODTPersist2** structure that specifies additional information about the OLE object. This member does not exist if the ObjInfo stream containing this **ODT** structure is not large enough to accommodate it.

### 2.9.166 ODTPersist1

The **ODTPersist1** structure is a collection of bits that specify information about an OLE object.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | C | D | E | F | G | H | I | J | K  | L  | M  | N  | O  | P  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - reserved1 (1 bit):** Undefined and MUST be ignored.

**B - fDefHandler (1 bit):** If this bit is 1, then the application MUST assume that this OLE object's class identifier (CLSID) is {00020907-0000-0000-C000-000000000046}.

**C - reserved2 (1 bit):** Undefined and MUST be ignored.

**D - reserved3 (1 bit):** Undefined and MUST be ignored.

**E - fLink (1 bit):** A bit that specifies whether this OLE object is a link.

**F - reserved4 (1 bit):** Undefined and MUST be ignored.

**G - fIcon (1 bit):** A bit that specifies whether this OLE object is being represented by an icon.

**H - fIsOle1 (1 bit):** A bit that specifies whether this OLE object is only compatible with OLE 1. If this bit is zero, then the object is compatible with OLE 2.

**I - fManual (1 bit):** A bit that specifies whether the user has requested that this OLE object only be updated in response to a user action. If **fManual** is zero, then the user has requested that this OLE object update automatically. If **fLink** is zero, then **fManual** is undefined and MUST be ignored.

**J - fRecomposeOnResize (1 bit):** A bit that specifies whether this OLE object has requested to be notified when it is resized by its container.

**K - reserved5 (1 bit):** MUST be zero and MUST be ignored.

**L - reserved6 (1 bit):** MUST be zero and MUST be ignored.

**M - fOCX (1 bit):** A bit that specifies whether this object is an OLE control.

**N - fStream (1 bit):** If **fOCX** is zero, then this bit MUST be zero. If **fOCX** is 1, then **fStream** is a bit that specifies whether this OLE control stores its data in a single stream instead of a storage. If **fStream** is 1, then the data for the OLE control is in a stream called "\003OCXDATA" where \003 is the character with value 0x0003, not the string literal "\003".

**O - reserved7 (1 bit):** Undefined and MUST be ignored.

**P - fViewObject (1 bit):** A bit that specifies whether this OLE object supports the IViewObject interface.

### 2.9.167 ODPersist2

The **ODTPersist2** structure is a collection of bits that specify information about an OLE object.

|   |   |   |   |   |   |           |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|-----------|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6         | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | C | D | E | F | reserved4 |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fEMF (1 bit):** A bit that specifies that the presentation of this OLE object in the document is in the Enhanced Metafile format. This is different from **fStoredAsEMF** in the case of an object being represented as an icon. For icons, the icon can be an Enhanced Metafile even if the OLE object does not support the Enhanced Metafile format.

**B - reserved1 (1 bit):** MUST be zero and MUST be ignored.

**C - fQueriedEMF (1 bit):** A bit that specifies whether the application that saved this Word Binary file had queried this OLE object to determine whether it supported the Enhanced Metafile format.

**D - fStoredAsEMF (1 bit):** A bit that specifies that this OLE object supports the Enhanced Metafile format.

**E - reserved2 (1 bit):** Undefined and MUST be ignored.

**F - reserved3 (1 bit):** Undefined and MUST be ignored.

**reserved4 (10 bits):** Undefined and MUST be ignored.

### 2.9.168 OfficeArtClientAnchor

The **OfficeArtClientAnchor** structure is used by **OfficeArtSpContainer**, as specified in [\[MS-ODRAW\]](#) section 2.2.14, that specifies the location of a drawing.

|              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| rh           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| clientanchor |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**rh (8 bytes):** An **OfficeArtRecordHeader**, as specified in [MS-ODRAW] section 2.2.1, that specifies information about the structure.

**clientanchor (4 bytes):** A 4-byte integer that specifies a valid index into the **aCP** field of the corresponding [PlcfSpa](#). The **CP** at this index is the location of the drawing. A value of -1 specifies an invalid value.

### 2.9.169 OfficeArtClientData

The **OfficeArtClientData** structure is used by the **OfficeArtSpContainer**, as specified in [\[MS-ODRAW\]](#) section 2.2.14.

|            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| rh         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| clientdata |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**rh (8 bytes):** An **OfficeArtRecordHeader**, as specified in [MS-ODRAW] section 2.2.1, that specifies information about the structure.

**clientdata (4 bytes):** An integer that SHOULD [<230>](#) be ignored.

### 2.9.170 OfficeArtClientTextbox

The **OfficeArtClientTextbox** structure used by **OfficeArtSpContainer**, as specified in [\[MS-ODRAW\]](#) section 2.2.14, that specifies the text identifier for a shape.

|               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| rh            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| clienttextbox |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**rh (8 bytes):** An **OfficeArtRecordHeader**, as specified in [MS-ODRAW] section 2.2.1, that specifies information about the structure.

**clienttextbox (4 bytes):** A 4-byte unsigned integer that specifies the text identifier of the shape, as specified in [MS-ODRAW] section 2.3.21.1. This value specifies the location of the text for the textbox in the following manner: Dividing the high 2 bytes by 0x10000 specifies a 1-based index into [PlcfTxbxTxt](#) of the [FTXBXS](#) structure where the text for this textbox is located. The low 2 bytes specify the zero-based index in the textbox chain that the textbox occupies.

### 2.9.171 OfficeArtContent

The **OfficeArtContent** structure specifies information about a drawing in the document. The delay stream that is referenced in [\[MS-ODRAW\]](#) is the [WordDocument stream](#).



|                             |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|-----------------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| DrawingGroupData (variable) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| ...                         |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| Drawings (variable)         |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| ...                         |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**DrawingGroupData (variable):** An **OfficeArtDggContainer** element, as specified in [MS-ODRAW] section 2.2.12, that contains the drawing group information for the document.

**Drawings (variable):** An array of **OfficeArtWordDrawing** elements that specifies information about the drawings in the document. Drawings for the [Main Document](#) are located at index 0 of this array. Drawings for the [Header Document](#) are located at index 1 of this array.

### 2.9.172 OfficeArtWordDrawing

The **OfficeArtWordDrawing** structure specifies information about the drawings in the document. The delay stream that is referenced in [MS-ODRAW] is the [WordDocument stream](#).

|        |   |   |   |   |   |   |   |   |   |                      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|--------|---|---|---|---|---|---|---|---|---|----------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| dgglbl |   |   |   |   |   |   |   |   |   | container (variable) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| ...    |   |   |   |   |   |   |   |   |   |                      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**dgglbl (1 byte):** An unsigned integer that specifies where **container** is located. A value of 0x00 specifies that **container** is in the [Main Document](#). A value of 0x01 specifies that **container** is in the [Header Document](#).

**container (variable):** An **OfficeArtDgContainer**, as specified in [MS-ODRAW] section 2.2.13, that specifies the information about the drawings.

### 2.9.173 PANOSE

The **PANOSE** structure defines the PANOSE font classification values for a TrueType font, as specified in [PANOSE]. These characteristics are used to associate the font with other fonts of similar appearance but different names.

|             |   |   |   |   |   |   |   |   |   |                  |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |   |   |             |   |  |  |  |  |  |  |  |  |
|-------------|---|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|---|-----------|---|---|---|---|---|---|---|---|---|-------------|---|--|--|--|--|--|--|--|--|
| 0           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30          | 1 |  |  |  |  |  |  |  |  |
| bFamilyType |   |   |   |   |   |   |   |   |   | bSerifStyle      |   |   |   |   |   |   |   |   |   | bWeight   |   |   |   |   |   |   |   |   |   | bProportion |   |  |  |  |  |  |  |  |  |
| bContrast   |   |   |   |   |   |   |   |   |   | bStrokeVariation |   |   |   |   |   |   |   |   |   | bArmStyle |   |   |   |   |   |   |   |   |   | bLetterform |   |  |  |  |  |  |  |  |  |
| bMidline    |   |   |   |   |   |   |   |   |   | bHeight          |   |   |   |   |   |   |   |   |   |           |   |   |   |   |   |   |   |   |   |             |   |  |  |  |  |  |  |  |  |

**bFamilyType (1 byte):**

For Latin fonts, this field MUST have one of the following values.

| Value                       | Meaning           |
|-----------------------------|-------------------|
| PAN_ANY (0)                 | Any.              |
| PAN_NO_FIT (1)              | No fit.           |
| PAN_FAMILY_TEXT_DISPLAY (2) | Text and display. |
| PAN_FAMILY_SCRIPT (3)       | Script.           |
| PAN_FAMILY_DECORATIVE (4)   | Decorative.       |
| PAN_FAMILY_PICTORIAL (5)    | Pictorial.        |

**bSerifStyle (1 byte):** Specifies the serif style. For Latin fonts, this field MUST have one of the following values.

| Value                            | Meaning             |
|----------------------------------|---------------------|
| PAN_ANY (0)                      | Any.                |
| PAN_NO_FIT (1)                   | No fit.             |
| PAN_SERIF_COVE (2)               | Cove.               |
| PAN_SERIF_OBTUSE_COVE (3)        | Obtuse cove.        |
| PAN_SERIF_SQUARE_COVE (4)        | Square cove.        |
| PAN_SERIF_OBTUSE_SQUARE_COVE (5) | Obtuse square cove. |
| PAN_SERIF_SQUARE (6)             | Square.             |
| PAN_SERIF_THIN (7)               | Thin.               |
| PAN_SERIF_BONE (8)               | Bone.               |
| PAN_SERIF_EXAGGERATED (9)        | Exaggerated.        |
| PAN_SERIF_TRIANGLE (10)          | Triangle.           |
| PAN_SERIF_NORMAL_SANS (11)       | Normal sans serif.  |
| PAN_SERIF_OBTUSE_SANS (12)       | Obtuse sans serif.  |
| PAN_SERIF_PERP_SANS (13)         | Perp sans serif.    |
| PAN_SERIF_FLARED (14)            | Flared.             |
| PAN_SERIF_ROUNDED (15)           | Rounded.            |

**bWeight (1 byte):** For Latin fonts, this field MUST have one of the following values.

| Value                     | Meaning     |
|---------------------------|-------------|
| PAN_ANY (0)               | Any.        |
| PAN_NO_FIT (1)            | No fit.     |
| PAN_WEIGHT_VERY_LIGHT (2) | Very light. |
| PAN_WEIGHT_LIGHT (3)      | Light.      |

| Value                 | Meaning   |
|-----------------------|-----------|
| PAN_WEIGHT_THIN (4)   | Thin.     |
| PAN_WEIGHT_BOOK (5)   | Book.     |
| PAN_WEIGHT_MEDIUM (6) | Medium.   |
| PAN_WEIGHT_DEMI (7)   | Demibold. |
| PAN_WEIGHT_BOLD (8)   | Bold.     |
| PAN_WEIGHT_HEAVY (9)  | Heavy.    |
| PAN_WEIGHT_BLACK (10) | Black.    |
| PAN_WEIGHT_NORD (11)  | Nord.     |

**bProportion (1 byte):** For Latin fonts, this field MUST have one of the following values.

| Value                       | Meaning         |
|-----------------------------|-----------------|
| PAN_ANY (0)                 | Any.            |
| PAN_NO_FIT (1)              | No fit.         |
| PAN_PROP_OLD_STYLE (2)      | Old Style.      |
| PAN_PROP_MODERN (3)         | Modern.         |
| PAN_PROP_EVEN_WIDTH (4)     | Even Width.     |
| PAN_PROP_EXPANDED (5)       | Expanded.       |
| PAN_PROP_CONDENSED (6)      | Condensed.      |
| PAN_PROP_VERY_EXPANDED (7)  | Very Expanded.  |
| PAN_PROP_VERY_CONDENSED (8) | Very Condensed. |
| PAN_PROP_MONOSPACED (9)     | Monospaced.     |

**bContrast (1 byte):** For Latin fonts, this field MUST have one of the following values.

| Value                        | Meaning      |
|------------------------------|--------------|
| PAN_ANY (0)                  | Any.         |
| PAN_NO_FIT (1)               | No fit.      |
| PAN_CONTRAST_NONE (2)        | None.        |
| PAN_CONTRAST_VERY_LOW (3)    | Very low.    |
| PAN_CONTRAST_LOW (4)         | Low.         |
| PAN_CONTRAST_MEDIUM_LOW (5)  | Medium low.  |
| PAN_CONTRAST_MEDIUM (6)      | Medium.      |
| PAN_CONTRAST_MEDIUM_HIGH (7) | Medium high. |

| Value                      | Meaning    |
|----------------------------|------------|
| PAN_CONTRAST_HIGH (8)      | High.      |
| PAN_CONTRAST_VERY_HIGH (9) | Very high. |

**bStrokeVariation (1 byte):** For Latin fonts, this field MUST have one of the following values.

| Value          | Meaning               |
|----------------|-----------------------|
| PAN_ANY (0)    | Any.                  |
| PAN_NO_FIT (1) | No fit.               |
| 2              | No Variation.         |
| 3              | Gradual/diagonal.     |
| 4              | Gradual/transitional. |
| 5              | Gradual/vertical.     |
| 6              | Gradual/horizontal.   |
| 7              | Rapid/vertical.       |
| 8              | Rapid/horizontal.     |
| 9              | Instant/Vertical.     |
| 10             | Instant/Horizontal.   |

**bArmStyle (1 byte):** For Latin fonts, this field MUST have one of the following values.

| Value                              | Meaning                         |
|------------------------------------|---------------------------------|
| PAN_ANY (0)                        | Any.                            |
| PAN_NO_FIT (1)                     | No fit.                         |
| PAN_STRAIGHT_ARMS_HORZ (2)         | Straight arms/horizontal.       |
| PAN_STRAIGHT_ARMS_WEDGE (3)        | Straight arms/wedge.            |
| PAN_STRAIGHT_ARMS_VERT (4)         | Straight arms/vertical.         |
| PAN_STRAIGHT_ARMS_SINGLE_SERIF (5) | Straight arms/single-serif.     |
| PAN_STRAIGHT_ARMS_DOUBLE_SERIF (6) | Straight arms/double-serif.     |
| PAN_BENT_ARMS_HORZ (7)             | Non-straight arms/horizontal.   |
| PAN_BENT_ARMS_WEDGE (8)            | Non-straight arms/wedge.        |
| PAN_BENT_ARMS_VERT (9)             | Non-straight arms/vertical.     |
| PAN_BENT_ARMS_SINGLE_SERIF (10)    | Non-straight arms/single-serif. |
| PAN_BENT_ARMS_DOUBLE_SERIF (11)    | Non-straight arms/double-serif. |

**bLetterform (1 byte):** For Latin fonts, this field MUST have one of the following values.

| Value                            | Meaning             |
|----------------------------------|---------------------|
| PAN_ANY (0)                      | Any.                |
| PAN_NO_FIT (1)                   | No fit.             |
| PAN_LETT_NORMAL_CONTACT (2)      | Normal/Contact.     |
| PAN_LETT_NORMAL_WEIGHTED (3)     | Normal/Weighted.    |
| PAN_LETT_NORMAL_BOXED (4)        | Normal/Boxed.       |
| PAN_LETT_NORMAL_FLATTENED (5)    | Normal/Flattened.   |
| PAN_LETT_NORMAL_ROUNDED (6)      | Normal/Rounded.     |
| PAN_LETT_NORMAL_OFF_CENTER (7)   | Normal/Off-Center.  |
| PAN_LETT_NORMAL_SQUARE (8)       | Normal/Square.      |
| PAN_LETT_OBLIQUE_CONTACT (9)     | Oblique/Contact.    |
| PAN_LETT_OBLIQUE_WEIGHTED (10)   | Oblique/Weighted.   |
| PAN_LETT_OBLIQUE_BOXED (11)      | Oblique/Boxed.      |
| PAN_LETT_OBLIQUE_FLATTENED (12)  | Oblique/Flattened.  |
| PAN_LETT_OBLIQUE_ROUNDED (13)    | Oblique/Rounded.    |
| PAN_LETT_OBLIQUE_OFF_CENTER (14) | Oblique/Off-Center. |
| PAN_LETT_OBLIQUE_SQUARE (15)     | Oblique/Square.     |

**bMidline (1 byte):** For Latin fonts, this field MUST have one of the following values.

| Value                             | Meaning           |
|-----------------------------------|-------------------|
| PAN_ANY (0)                       | Any.              |
| PAN_NO_FIT (1)                    | No fit.           |
| PAN_MIDLINE_STANDARD_TRIMMED (2)  | Standard/Trimmed. |
| PAN_MIDLINE_STANDARD_POINTED (3)  | Standard/Pointed. |
| PAN_MIDLINE_STANDARD_SERIFED (4)  | Standard/Serifed. |
| PAN_MIDLINE_HIGH_TRIMMED (5)      | High/Trimmed.     |
| PAN_MIDLINE_HIGH_POINTED (6)      | High/Pointed.     |
| PAN_MIDLINE_HIGH_SERIFED (7)      | High/Serifed.     |
| PAN_MIDLINE_CONSTANT_TRIMMED (8)  | Constant/Trimmed. |
| PAN_MIDLINE_CONSTANT_POINTED (9)  | Constant/Pointed. |
| PAN_MIDLINE_CONSTANT_SERIFED (10) | Constant/Serifed. |
| PAN_MIDLINE_LOW_TRIMMED (11)      | Low/Trimmed.      |

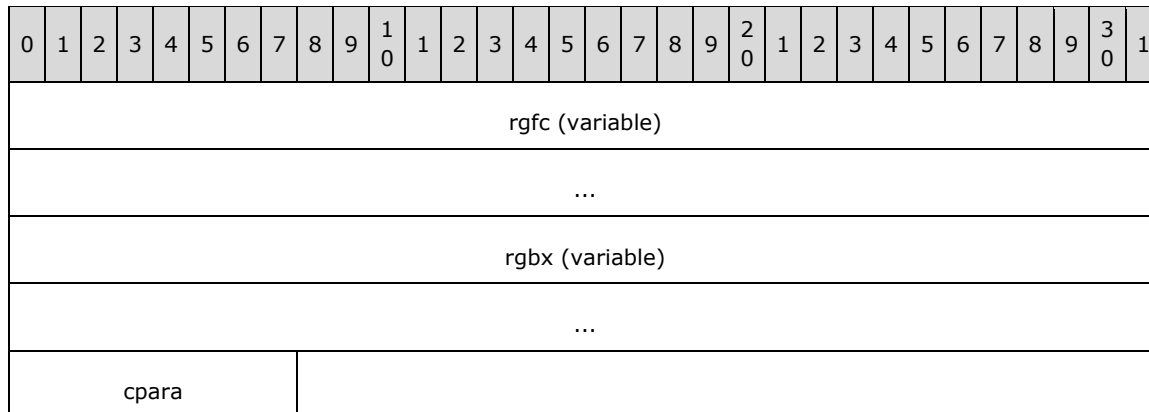
| Value                        | Meaning      |
|------------------------------|--------------|
| PAN_MIDLINE_LOW_POINTED (12) | Low/Pointed. |
| PAN_MIDLINE_LOW_SERIFED (13) | Low/Serifed. |

**bHeight (1 byte):** For Latin fonts, this field MUST have one of the following values.

| Value                          | Meaning            |
|--------------------------------|--------------------|
| PAN_ANY (0)                    | Any.               |
| PAN_NO_FIT (1)                 | No fit.            |
| PAN_XHEIGHT_CONSTANT_SMALL (2) | Constant/small.    |
| PAN_XHEIGHT_CONSTANT_STD (3)   | Constant/standard. |
| PAN_XHEIGHT_CONSTANT_LARGE (4) | Constant/large.    |
| PAN_XHEIGHT_DUCKING_SMALL (5)  | Ducking/small.     |
| PAN_XHEIGHT_DUCKING_STD (6)    | Ducking/standard.  |
| PAN_XHEIGHT_DUCKING_LARGE (7)  | Ducking/large.     |

### 2.9.174 PapxFkp

The **PapxFkp** structure maps paragraphs, table rows, and table cells to their properties. A **PapxFkp** structure is 512 bytes in size, with **cpara** in the last byte. The elements of **rgbx** specify the locations of **PapxInFkp** structures that start at offsets between the end of **rgbx** and **cpara** within this **PapxFkp** structure.



**rgfc (variable):** An array of 4-byte unsigned integers. Each element of this array specifies an offset in the [WordDocument Stream](#) where a paragraph of text begins, or where an **end of row mark** exists. This array MUST be sorted in ascending order and MUST NOT contain duplicates. Each paragraph begins immediately after the end of the previous paragraph. The count of elements that this array contains is **cpara** incremented by 1. The last element does not specify the beginning of a paragraph; instead it specifies the end of the last paragraph.

**rgbx (variable):** An array of [BxPap](#), followed by **PapxFkp** structures. The elements of this array, which has **cpara** elements and parallels **rgfc**, each specify the offset of one of the **PapxFkp** structures in this **PapxFkp** structure.

Each **PapxFkp** specifies the paragraph properties for the paragraph at the corresponding offset in **rgfc** or the table properties for the table row whose end of row mark is located at the corresponding offset in **rgfc**.

**cpara (1 byte):** An unsigned integer that specifies the total number of paragraphs, table rows, or table cells for which this **PapxFkp** structure specifies formatting. This field occupies the last byte of the **PapxFkp** structure. The value of this field **MUST** be at least 0x01, and **MUST NOT** exceed 0x1D because that would cause **rgfc** and **rgb** to expand and **PapxFkp** to exceed 512 bytes.

### 2.9.175 PapxFkp

The **PapxFkp** structure specifies a set of text properties.

|     |   |   |   |   |   |   |   |   |   |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | grpPrInPapx (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size of the **grpPrInPapx**. If this value is not 0, the **grpPrInPapx** is 2×cb-1 bytes long. If this value is 0, the size is specified by the first byte of **grpPrInPapx**.

**grpPrInPapx (variable):** If **cb** is 0, the first byte of **grpPrInPapx** (call it cb') is an unsigned integer that specifies the size of the rest of **grpPrInPapx**. **cb'** **MUST** be at least 1. After **cb'**, there are 2×cb' more bytes in **grpPrInPapx**. The bytes after **cb'** form a [GrpPrAndIstd](#).

If **cb** is nonzero, **grpPrInPapx** is **GrpPrAndIstd**.

### 2.9.176 PbiGrfOperand

The **PbiGrfOperand** structure specifies the properties of a picture bullet.

|   |   |         |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---------|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2       | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | fUnused |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fPicBullet (1 bit):** Specifies whether the bullet is a picture bullet.

**B - fNoAutoSize (1 bit):** Specifies whether the size of the picture changes automatically to match the size of the text that follows the bullet.

**fUnused (14 bits):** This field is undefined and **MUST** be ignored.

### 2.9.177 Pcd

The **Pcd** structure specifies the location of text in the [WordDocument Stream](#) and additional properties for this text. A **Pcd** structure is an element of a [PlcPcd](#) structure.

|     |   |   |     |   |   |   |   |   |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|-----|---|---|---|---|---|---|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3   | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A   | B | C | fR2 |   |   |   |   |   |   |    |    |    |    |    |    | fc  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |     |   |   |   |   |   |   |    |    |    |    |    |    | prm |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fNoParaLast (1 bit):** If this bit is 1, the text MUST NOT contain a paragraph mark.

**B - fR1 (1 bit):** This field is undefined and MUST be ignored.

**C - fDirty (1 bit):** This field MUST be 0.

**fR2 (13 bits):** This field is undefined and MUST be ignored.

**fc (4 bytes):** An [FcCompressed](#) structure that specifies the location of the text in the WordDocument Stream.

**prm (2 bytes):** A [Prm](#) structure that specifies additional properties for this text. These properties are used as part of the algorithms in sections 2.4.6.1 (Direct Paragraph Formatting) and 2.4.6.2 (Direct Character Formatting).

### 2.9.178 Pcdt

The **Pcdt** structure contains a [PlcPcd](#) structure and specifies its size.

|      |   |   |   |   |   |   |   |   |   |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|------|---|---|---|---|---|---|---|---|---|-------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| clxt |   |   |   |   |   |   |   |   |   | lcb               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ...  |   |   |   |   |   |   |   |   |   | PlcPcd (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ...  |   |   |   |   |   |   |   |   |   |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**clxt (1 byte):** This value MUST be 0x02.

**lcb (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **PlcPcd** structure.

**PlcPcd (variable):** A **PlcPcd** structure. As with all [Plc](#) elements, the size that is specified by **lcb** MUST result in a whole number of [Pcd](#) structures in this **PlcPcd** structure.

### 2.9.179 PChgTabsAdd

The **PChgTabsAdd** structure specifies the locations and properties of custom tab stops.

|       |   |   |   |   |   |   |   |   |   |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|-------|---|---|---|---|---|---|---|---|---|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| cTabs |   |   |   |   |   |   |   |   |   | rgdxAdd (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ...   |   |   |   |   |   |   |   |   |   |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |



|                     |
|---------------------|
| rgtbdAdd (variable) |
| ...                 |

**cTabs (1 byte):** An unsigned integer that specifies the number of records in **rgdxaAdd** and **rgtbdAdd**. This value MUST be less than or equal to 64.

**rgdxaAdd (variable):** An array of **XAS** integer values. The number of records is specified by **cTabs**. The values in this array MUST be in ascending order. Each **XAS** value specifies a location at which to add a custom tab stop.

**rgtbdAdd (variable):** An array of **TBD** structures. The number of records is specified by **cTabs**. Each **TBD** specifies the alignment and leader attributes of the custom tab stop at the location that is specified at the corresponding index in **rgdxaAdd**.

### 2.9.180 PChgTabsDel

The **PChgTabsDel** structure specifies the locations at which custom tab stops are ignored.

|       |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|-------|---|---|---|---|---|---|---|---|---|---------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| 0     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |
| cTabs |   |   |   |   |   |   |   |   |   | rgdxaDel (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...   |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |

**cTabs (1 byte):** An unsigned integer that specifies the number of records in **rgdxaDel**. This value MUST be less than or equal to 64.

**rgdxaDel (variable):** An array of **XAS**. The number of records is specified by **cTabs**. The elements contained in the array MUST be in ascending order. Each **XAS** specifies a location at which to ignore any custom tab stop within 25 twips.

### 2.9.181 PChgTabsDelClose

The **PChgTabsDelClose** structure specifies the locations at which custom tab stops are ignored.

|                       |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|-----------------------|---|---|---|---|---|---|---|---|---|---------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |
| cTabs                 |   |   |   |   |   |   |   |   |   | rgdxaDel (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| rgdxaClose (variable) |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |

**cTabs (1 byte):** An unsigned integer that specifies the number of records in **rgdxaDel** and **rgdxaClose**. This value MUST be greater than or equal to 0, and less than or equal to 64.

**rgdxaDel (variable):** An array of 16-bit integers. The number of records is specified by **cTabs**. The integers contained in the array MUST be in ascending order. Each integer SHOULD [<231>](#) be greater than or equal to -31680. Each integer MUST be less than or equal to 31680. Each integer specifies a location at which to ignore any custom tab stop within 25 twips.

**rgdxaClose (variable):** An array of [XAS plusOne](#). The number of records is specified by **cTabs**. Each entry in **rgdxaClose** specifies a distance, in twips in both directions, from the corresponding entry in **rgdxaDel**. All tab stops inside this range are deleted. Any entry in **rgdxaClose** that has a value of less than 0x0019 is treated as though the value was 0x0019.

### 2.9.182 PChgTabsOperand

The **PChgTabsOperand** structure is used by [sprmPChgTabs](#) to specify a list of custom tab stops to add and another list of custom tab stops to ignore.

|                        |   |   |   |   |   |   |   |   |   |                             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|---|---|---|-----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                          | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| cb                     |   |   |   |   |   |   |   |   |   | PChgTabsDelClose (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ...                    |   |   |   |   |   |   |   |   |   |                             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| PChgTabsAdd (variable) |   |   |   |   |   |   |   |   |   |                             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ...                    |   |   |   |   |   |   |   |   |   |                             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**cb (1 byte):** An unsigned integer that specifies the size of the operand. This value MUST be greater than or equal to 2 and less than or equal to 255. A value that is less than 255 specifies the size of the operand in bytes, not including **cb**. A value of 255 specifies that this instance of [sprmPChgTabs](#) MAY [<232>](#) be ignored and that the size of the remainder of this operand, in bytes, is calculated by using the following formula:

$$cb = 4 \times \text{PChgTabsDelClose.cTabs} + 3 \times \text{PChgTabsAdd.cTabs}$$

**PChgTabsDelClose (variable):** A [PChgTabsDelClose](#) that specifies the locations of custom tab stops to ignore.

**PChgTabsAdd (variable):** A [PChgTabsAdd](#) that specifies the locations and properties of custom tab stops to add.

### 2.9.183 PChgTabsPapxOperand

The **PChgTabsPapxOperand** structure is used by [sprmPChgTabsPapx](#) to specify custom tab stops to be added or ignored.

|                        |   |   |   |   |   |   |   |   |   |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|---|---|---|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| cb                     |   |   |   |   |   |   |   |   |   | PChgTabsDel (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ...                    |   |   |   |   |   |   |   |   |   |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| PChgTabsAdd (variable) |   |   |   |   |   |   |   |   |   |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

...

**cb (1 byte):** An unsigned integer that specifies the size of the operand in bytes, not including **cb**. This value **MUST** be greater than or equal to 2 and less than or equal to 255.

**PChgTabsDel (variable):** A [PChgTabsDel](#) structure that specifies the locations at which custom tab stops are ignored.

**PChgTabsAdd (variable):** A [PChgTabsAdd](#) structure that specifies the locations and properties of custom tab stops to be added.

**2.9.184 PgbApplyTo**

The **PgbApplyTo** enumeration is used to specify the pages to which a **page border** applies.

| Name                  | Value | Meaning   |
|-----------------------|-------|---|
| <b>pgbAllPages</b>    | 0x0   | The page border applies to all pages in the section.              |
| <b>pgbFirstPage</b>   | 0x1   | The page border applies only to the first page of the section.    |
| <b>pgbAllButFirst</b> | 0x2   | The page border applies to all but the first page of the section. |

**2.9.185 PgbOffsetFrom**

The **PgbOffsetFrom** enumeration is used to specify the location from which the offset of a page border is measured.

| Name               | Value | Meaning  |
|--------------------|-------|--|
| <b>pgbFromText</b> | 0x0   | The offset of the page border is measured from the text.             |
| <b>pgbFromEdge</b> | 0x1   | The offset of the page border is measured from the edge of the page. |

**2.9.186 PgbPageDepth**

The **PgbPageDepth** enumeration is used to specify the "depth" of a page border in relation to other page elements.

| Name              | Value | Meaning   |
|-------------------|-------|---|
| <b>pgbAtFront</b> | 0x0   | The page border is positioned in front of the text and other content. |
| <b>pgbAtBack</b>  | 0x1   | The page border is positioned behind the text and other content.      |

**2.9.187 PGPArray**

The **PGPArray** structure is a collection of the [PGPInfo](#) entries in the document.

|      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                      | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cpgp |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | pgpInfoArray (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

...

**cpgp (2 bytes):** The count of **PGPInfo** entries to read.

**pgpInfoArray (variable):** An array of **PGPInfo** structures. This array contains **cpgp** elements.

**2.9.188 PGPInfo**

The **PGPInfo** structure describes the border and margin properties that can be applied to a contiguous range of paragraphs.

|             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                    | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ipgpSelf    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ipgpParent  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| itap        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| grfElements |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | pgpOptions (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ipgpSelf (4 bytes):** A unique 4-byte value that is used to identify this entry. This value MUST NOT be 0.

**ipgpParent (4 bytes):** This is the identifier of the immediate parent **PGPInfo** structure. A value of 0 indicates that there is no parent and that, therefore, this is an outermost PGPInfo.

**itap (4 bytes):** The table depth to which this **PGPInfo** structure is applied. **PGPInfo** structures can be applied to paragraphs that are within a table cell.

**grfElements (2 bytes):** A bit field that describes how to read in the variable length **pgpOptions**. The meanings of the bits are as follows.

| Bit value | Meaning  |
|-----------|--|
| 0x0001    | <a href="#">PGPOptions.dxaLeft</a> is present. |
| 0x0002    | PGPOptions. <b>dxaRight</b> is present.        |
| 0x0004    | PGPOptions. <b>dyaBefore</b> is present.       |
| 0x0008    | PGPOptions. <b>dyaAfter</b> is present.        |
| 0x0010    | PGPOptions. <b>brcLeft</b> is present.         |
| 0x0020    | PGPOptions. <b>brcRight</b> is present.        |
| 0x0040    | PGPOptions. <b>brcTop</b> is present.          |
| 0x0080    | PGPOptions. <b>brcBottom</b> is present.       |
| 0x0100    | PGPOptions. <b>type</b> is present.            |

**pgpOptions (variable):** A PGPOptions structure that describes all the relevant paragraph properties that are different than the defaults.

## 2.9.189 PGPOptions

The **PGPOptions** structure is a variable-sized container of the [PGPInfo](#) properties that are to be changed from their default values. The members that are present in the file are indicated by [PGPInfo.grfElements](#).

| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11                   | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---------------------|---|---|---|---|---|---|---|---|---|----|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| cbOption (optional) |   |   |   |   |   |   |   |   |   |    | dxaLeft (optional)   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | dxaRight (optional)  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | dyaBefore (optional) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | dyaAfter (optional)  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | brcLeft (optional)   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | ...                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | brcRight (optional)  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | ...                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | brcTop (optional)    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | ...                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | brcBottom (optional) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | ...                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    | type (optional)      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbOption (2 bytes):** If [PGPInfo.grfElements](#) is nonzero, this is the byte size of the remaining [PGPOptions](#) data in the file.

**dxaLeft (4 bytes):** If [PGPInfo.grfElements](#) & 0x0001 is nonzero, this is the size of the left margin to apply, measured in 1/20 point increments. Otherwise, the default value of 0 is used.

**dxaRight (4 bytes):** If [PGPInfo.grfElements](#) & 0x0002 is nonzero, this is the size of the right margin to apply, measured in 1/20 point increments. Otherwise, the default value of 0 is used.

**dyaBefore (4 bytes):** If [PGPInfo.grfElements](#) & 0x0004 is nonzero, this is the size of the top margin to apply, measured in 1/20 point increments. Otherwise, the default of 0 is used.

**dyaAfter (4 bytes):** If [PGPInfo.grfElements](#) & 0x0008 is nonzero, this is the size of the bottom margin to apply, measured in 1/20 point increments. Otherwise, the default value of 0 is used.

**brcLeft (8 bytes):** If **PGPInfo.grfElements** & 0x0010 is nonzero, this is the **Brc** that describes the left border of the **PGPInfo**. Otherwise, there is no left border.

**brcRight (8 bytes):** If **PGPInfo.grfElements** & 0x0020 is nonzero, this is the **Brc** that describes the right border of the **PGPInfo**. Otherwise, there is no right border.

**brcTop (8 bytes):** If **PGPInfo.grfElements** & 0x0040 is nonzero, this is the **Brc** that describes the top border of the **PGPInfo**. Otherwise, there is no top border.

**brcBottom (8 bytes):** If **PGPInfo.grfElements** & 0x0080 is nonzero, this is the **Brc** that describes the bottom border of the **PGPInfo**. Otherwise, there is no bottom border.

**type (2 bytes):** If **PGPInfo.grfElements** & 0x0100 is nonzero, this value MUST be 0, 1 or 2. If this value is 1, this **PGPInfo** is represented as a <BLOCKQUOTE> element when saved as HTML. If this value is 2, this **PGPInfo** is represented as a <BODY> element, provided that it is applied at a point where the <BODY> element is legal in HTML. If this value is not present or is 0, it is assumed that this **PGPInfo** represents a <DIV> element.

### 2.9.190 PICF

The **PICF** structure specifies the type of a picture, as well as the size of the picture and information about its border.

| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                     | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| lcb               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbHeader          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | mfpf                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | innerHeader (14 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| picmid (38 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cProps                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**lcb (4 bytes):** A signed integer that specifies the size, in bytes, of this **PICF** structure and the subsequent data.

**cbHeader (2 bytes):** An unsigned integer that specifies the size, in bytes, of this **PICF** structure. This value MUST be 0x44.

**mfpf (8 bytes):** An **MFPE** structure that specifies the storage format of the picture.

**innerHeader (14 bytes):** A [PICF\\_Shape](#) structure that specifies additional header information.

**picmid (38 bytes):** A [PICMID](#) structure that specifies the size and border information of the picture.

**cProps (2 bytes):** This value MUST be 0 and MUST be ignored.

### 2.9.191 PICF\_Shape

The **PICF\_Shape** structure specifies additional header information for pictures of type [MM\\_SHAPE](#) or [MM\\_SHAPEFILE](#).

|          |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |          |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|----------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|----------|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7        | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| grf      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |          |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| padding1 |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |          |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| mmPM     |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   | padding2 |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |          |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

**grf (4 bytes):** This field MUST be ignored.

**padding1 (4 bytes):** This value MUST be zero and MUST be ignored.

**mmPM (2 bytes):** This field MUST be ignored.

**padding2 (4 bytes):** This field MUST be zero and MUST be ignored.

### 2.9.192 PICFAndOfficeArtData

The **PICFAndOfficeArtData** structure specifies header information and binary data for a picture. These structures MUST be stored in the [Data Stream](#) at locations that are specified by the [sprmCPicLocation](#) value. The range of text that is described by the [Chpx](#) structure which contains the [sprmCPicLocation](#) value MUST contain the picture character (U+0001).

|                       |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                      |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|-----------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|----------------------|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7                    | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| picf (68 bytes)       |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                      |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                      |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                      |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| cchPicName (optional) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   | stPicName (variable) |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...                   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                      |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| picture (variable)    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                      |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

...

**picf (68 bytes):** A **PICF** structure that specifies the type of the picture, as well as the picture size and border information.

**cchPicName (1 byte):** An optional unsigned integer that specifies the size of **stPicName**. This value MUST exist if and only if **picf.mfpf.mm** is **MM\_SHAPEFILE** (0x0066).

**stPicName (variable):** An optional string of ANSI characters that specifies the full path and file name of the picture. This value MUST exist if and only if **picf.mfpf.mm** is **MM\_SHAPEFILE** (0x0066). The length of the string is equal to **cchPicName** and is not null-terminated.

**picture (variable):** An **OfficeArtInlineSpContainer**, as specified in [\[MS-ODRAW\]](#) section 2.2.15, that specifies the image.

**2.9.193 PICMID**

The **PICMID** structure specifies the size and border information for a picture.

|              |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------|---|---|---|---|---|---|---|-----|---|----|----|----|----|----|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8   | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16           | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| dxaGoal      |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | dyaGoal      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| mx           |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | my           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| dxaReserved1 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | dyaReserved1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| dxaReserved2 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | dyaReserved2 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fReserved    |   |   |   |   |   |   |   | bpp |   |    |    |    |    |    |    | brcTop80     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...          |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | brcLeft80    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...          |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | brcBottom80  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...          |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | brcRight80   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...          |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | dxaReserved3 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| dyaReserved3 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dxaGoal (2 bytes):** A signed integer that specifies the initial width of the picture, in twips, before cropping or scaling occurs. This value MUST be greater than zero.

**dyaGoal (2 bytes):** A signed integer that specifies the initial height of the picture, in twips, before cropping or scaling occurs. This value MUST be greater than zero.

**mx (2 bytes):** An unsigned integer that specifies the ratio, measured in tenths of a percent, between the final display width and the initial picture width that is specified by **dxaGoal**. If the picture is not cropped, **mx** values that are greater than 1000 cause the picture to stretch in width, while values that are less than 1000 cause the picture to shrink in width.



If the picture is horizontally cropped and the **mx** value is not adjusted accordingly, the picture is scaled. To counteract the new dimensions of a cropped image and avoid scaling, set **mx** to the value of  $((\mathbf{dxaGoal} - (\text{left-crop} + \text{right-crop})) / \mathbf{dxaGoal})$ .

The final display width MUST be at least 15 twips and MUST not exceed 31680 twips (22 inches) after cropping and scaling.

**my (2 bytes):** An unsigned integer that specifies the ratio, measured in tenths of a percent, between the final display height and the initial picture height that was specified by **dyaGoal**. If the picture is not cropped, **my** values that are greater than 1000 cause the picture to stretch in height, while values of less than 1000 cause the picture to shrink.

If the picture is vertically cropped and the **my** value is not adjusted accordingly, the picture is scaled. To counteract the new dimensions of a cropped image and avoid scaling, set the **my** value to the value of  $((\mathbf{dyaGoal} - (\text{top-crop} + \text{bottom-crop})) / \mathbf{dyaGoal})$ .

The final display height MUST be at least 15 twips and MUST not exceed 31680 twips (22 inches) after cropping and scaling.

**dxaReserved1 (2 bytes):** This value MUST be zero and MUST be ignored.

**dyaReserved1 (2 bytes):** This value MUST be zero and MUST be ignored.

**dxaReserved2 (2 bytes):** This value MUST be zero and MUST be ignored.

**dyaReserved2 (2 bytes):** This value MUST be zero and MUST be ignored.

**fReserved (8 bits):** This value MUST be zero and MUST be ignored.

**bpp (8 bits):** This field is unused and MUST be ignored.

**brcTop80 (4 bytes):** A [Brc80](#) structure that specifies what border to render above the picture.

**brcLeft80 (4 bytes):** A [Brc80](#) structure that specifies what border to render to the left of the picture.

**brcBottom80 (4 bytes):** A [Brc80](#) structure that specifies what border to render below the picture.

**brcRight80 (4 bytes):** A [Brc80](#) structure that specifies what border to render to the right of the picture.

**dxaReserved3 (2 bytes):** This value MUST be zero and MUST be ignored.

**dyaReserved3 (2 bytes):** This value MUST be zero and MUST be ignored.

### 2.9.194 PlcfGlsy

The **PlcfGlsy** structure is a [PLC](#) that contains only [CPs](#) and no additional data. The count of CPs in a **PlcfGlsy** structure MUST be equal to a number that represents the count of strings in the corresponding [SttbGlsy](#) incremented by 2. A **PlcfGlsy** MUST NOT contain duplicate CPs.

|                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| aCP (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**aCP (variable):** An array of CP. Each CP is an offset into the [main document](#). Each CP MUST be greater than or equal to zero, and MUST be less than [FibRgLw97.ccpText](#). Each CP specifies the beginning of a range of text that constitutes the contents of an AutoText item. Each AutoText item corresponds to its respective entry in the parallel AutoText item string table **SttbfGlsy**. The range of text ends immediately before the next CP. The last CP MUST be ignored, and the second to last CP does not begin a new text range; it only terminates the text range that started with the previous CP.

### 2.9.195 PifAcd

The **PifAcd** structure specifies the allocated commands in a sequence of command-related customizations. For more information, see [Tcq255](#).

|     |   |   |   |   |   |   |   |   |   |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|-----|---|---|---|---|---|---|---|---|---|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10               | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| ch  |   |   |   |   |   |   |   |   |   | iMac             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |   |   |   |   |   |   |   | rgacd (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |   |   |   |   |   |   |   |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**ch (1 byte):** An unsigned integer value that identifies this structure as **PifAcd**. This value MUST be 2.

**iMac (4 bytes):** A signed integer value that specifies the number of allocated command descriptor structures, as specified in [Acd](#), in **rgacd**. This value MUST be greater than or equal to 0.

**rgacd (variable):** An array of **Acd** structures. The number of structures that are contained in this array is specified by **iMac**.

### 2.9.196 PifCosl

The **PifCosl** structure is a list of [COSL](#) that is specified as an array and its associated count of elements. Each element specifies the option set to use for a grammar checker that implements the NLCheck interface. An option set specifies a value for each grammar option.

|                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|-------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |
| iMac              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| rgcosl (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |

**iMac (4 bytes):** A signed integer that specifies the number of entries in **rgcosl**. This value MUST be greater than or equal to zero.

**rgcosl (variable):** An array of **COSL**.

### 2.9.197 PifGosl

The **PifGosl** structure is a list of [GOSL](#) structures that are specified as an array, and its associated count of elements. Each element specifies the option set to use for a grammar checker that implements the CGAPI interface. An option set specifies a value for each grammar option.

|                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| iMac              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rggosl (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**iMac (4 bytes):** A signed integer that represents the count of entries in **rggosl**. This value MUST be greater than or equal to zero.

**rggosl (variable):** An array of **GOSL** structures.

### 2.9.198 PlfguidUim

The **PlfguidUim** structure specifies an array of GUIDs which are referenced by the **UIM** structures of **PlcfUim**.

|                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| iMac                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rgguidUim (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**iMac (4 bytes):** An unsigned integer that specifies the number of GUIDs in **rgguidUim**.

**rgguidUim (variable):** An array of 16-byte GUIDs that specify the service category or CLSID of the service providing data referenced by a UIM structure.

### 2.9.199 PlfKme

The **PlfKme** structure specifies keyboard mappings. This structure is used in the sequence of structures that specify command-related customizations. For more information, see the [Tcg255](#) structure.

|     |   |   |   |   |   |   |   |                  |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|------------------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8                | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ch  |   |   |   |   |   |   |   | iMac             |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   | rgkme (variable) |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |                  |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ch (1 byte):** An unsigned integer that identifies this structure as **PlfKme**. This value MUST be either 3 or 4. A value of 3 indicates regular keyboard key map entries. A value of 4 indicates invalid keyboard key map entries. For more information, see the **Tcg255.rgtcgData** field.

**iMac (4 bytes):** A signed integer that specifies the number of keyboard key map entries, as specified in **Kme**, in **rgkme**. This value MUST be greater than or equal to 0.

**rgkme (variable):** An array of **Kme** structures. The number of structures is specified by **iMac**.

### 2.9.200 Pflfo

The **Pflfo** structure contains the list format override data for the document.

|                      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| lfoMac               |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| rgLfo (variable)     |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...                  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| rgLfoData (variable) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...                  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

**lfoMac (4 bytes):** An unsigned integer that specifies the count of elements in both the **rgLfo** and **rgLfoData** arrays.

**rgLfo (variable):** An array of **LFO** structures. The number of elements in this array is specified by **lfoMac**.

**rgLfoData (variable):** An array of **LFOData** that is parallel to **rgLfo**. The number of elements that are contained in this array is specified by **lfoMac**.

### 2.9.201 Pflst

The **Pflst** structure contains the list formatting information for the document.

|      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |  |  |  |
|------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|-------------------|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|--|--|--|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7                 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |  |  |  |
| cLst |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   | rgLstf (variable) |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |  |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |  |  |  |

**cLst (2 bytes):** A signed integer that specifies the count of **LSTF** structures that are contained in **rgLstf**.

**rgLstf (variable):** An array of **LSTF**. The number of elements that are contained in this array is specified by **cLst**.

### 2.9.202 Pflmcd

The **Pflmcd** structure specifies macro commands. This structure is used in the sequence of structures that specify command-related customizations. For more information, see [Tcg255](#).

|    |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |  |  |  |
|----|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|--|--|--|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |  |  |  |
| ch |   |   |   |   |   |   |   |   |   | iMac |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |  |  |  |

|     |                  |
|-----|------------------|
| ... | rgmcd (variable) |
| ... |                  |

**ch (1 byte):** An unsigned integer that identifies this structure as **PIfMcd**. This value MUST be 1.

**iMac (4 bytes):** A signed integer that specifies the number of macro command descriptor structures, as specified by the **Mcd** structure, to follow this structure. This value MUST be greater than or equal to 0.

**rgmcd (variable):** An array of **Mcd** structures. The number of structures that are contained in the array is specified by **iMac**.

### 2.9.203 PLRSID

The **PLRSID** structure is an array of revision-save identifiers (RSIDs), as specified in [\[ECMA-376\]](#) part 4, section 2.15.1.70.

|                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| irsidMac          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbRsidInFile      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbHeadExtraInFile |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved1         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved2         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| reserved3         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rgrsid (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**irsidMac (4 bytes):** An unsigned integer value that specifies the count of RSIDs that are contained in **rgrsid**.

**cbRsidInFile (4 bytes):** An unsigned integer value that specifies the size, in bytes, of an RSID. This value MUST be 4.

**cbHeadExtraInFile (4 bytes):** An unsigned integer value that MUST be 8.

**reserved1 (4 bytes):** An unsigned integer value that MUST be 229.

**reserved2 (4 bytes):** An unsigned **integer** value that MUST be less than "32". This value MUST be ignored.

**reserved3 (4 bytes):** This value is undefined and MUST be ignored.

**rgrsid (variable):** An array of RSID elements.

## 2.9.204 Pmfs

The **Pmfs** structure specifies the mail merge data source connection properties.

|         |   |   |   |   |   |   |   |   |   |    |    |    |    |        |    |      |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|----|--------|----|------|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14     | 15 | 16   | 17 | 18      | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ipfnpmf |   |   |   |   |   |   |   |   |   | A  | B  | C  | D  | unused |    |      |    | tkField |    |    |    |    |    |    |    |    |    |    |    |    |    |
| tkRec   |   |   |   |   |   |   |   |   |   |    |    |    |    |        |    | fnpi |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |

**ipfnpmf (8 bits):** An unsigned integer value that specifies the type of data source for the mail merge. This MUST be one of the following values.

| Value | Data Source                                       |
|-------|---|
| 0xFF  | None.   |
| 0x00  | Data file.  |
| 0x01  | Microsoft Access database.                        |
| 0x02  | Microsoft Excel file.                             |
| 0x03  | Microsoft Query database.                         |
| 0x04  | ODBC.   |
| 0x05  | <a href="#">Office Data Source Object</a> (ODSO). |

**A - fLinkToFnm (1 bit):** If the data source is not a data file, this bit MUST be ignored. When the data source is a data file, this bit specifies whether the file MUST exist as specified in **fnpi**.

**B - fLinkToConn (1 bit):** Specifies whether an extra string is appended to the DDE initial connection string. This extra string is stored in the [SttbfRfs](#) structure in the [Pms](#) structure.

**C - fNoPromptQT (1 bit):** Specifies whether the user was already asked about whether to use Microsoft Query to edit ODBC.

**D - fQuery (1 bit):** Specifies whether the mail merge uses a query (such as "SELECT \* FROM x") to obtain the data. If this value is set to zero, the mail merge reads the data file directly.

**unused (4 bits):** This field is undefined and MUST be ignored.

**tkField (2 bytes):** A signed integer that specifies the token to separate fields in the data file. If **ipfnpmf** is not 0x00 (data file), this value is undefined and MUST be ignored. Otherwise it MUST be one of the following tokens.

| Value | Token   |
|-------|---------|
| 0x00  | (none)  |
| 0x02  | (enter) |
| 0x06  | (Tab)   |

| Value | Token |
|-------|-------|
| 0x0A  | ,     |
| 0x0B  | .     |
| 0x0C  | !     |
| 0x0D  | #     |
| 0x0E  | \$    |
| 0x0F  | %     |
| 0x10  | &     |
| 0x11  | (     |
| 0x12  | )     |
| 0x13  | *     |
| 0x14  | +     |
| 0x15  | -     |
| 0x16  | /     |
| 0x17  | :     |
| 0x18  | ;     |
| 0x19  | <     |
| 0x1A  | =     |
| 0x1B  | >     |
| 0x1C  | ?     |
| 0x1D  | @     |
| 0x1E  | [     |
| 0x1F  | ]     |
| 0x21  | ^     |
| 0x22  | —     |
| 0x23  | `     |
| 0x24  | {     |

| Value | Token        |
|-------|--------------|
| 0x25  | }            |
| 0x26  |              |
| 0x27  | ~            |
| 0x46  | (field end)  |
| 0x47  | (table cell) |
| 0x48  | (table row)  |

**tkRec (2 bytes):** A signed integer that specifies the token to separate records in the data file. If **ipfnpmf** is not 0x00 (data file), this value is undefined and MUST be ignored. Otherwise, it MUST be one of the tokens shown in the table for **tkField**, MUST NOT be 0x00 (none) and MUST be different from **tkField**.

**fnpi (2 bytes):** An **FNPI** that specifies the type and identifier of a data file. The **fnpt** inside this **fnpi** MUST be 0x3 for mail merge type. The string in the **SttbFnm** structure that has an appended **FNIF** structure with an **fnpi** that is identical to this one is the file name of this data file for mail merge.

## 2.9.205 Pms

The **Pms** data structure contains the print merge or mail merge state information.

| 0                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15 | 16                   | 17 | 18 | 19 | 20        | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|--------------------|---|---|---|---|---|---|---|---|---|--------|----|----|----|----|----|----------------------|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|
| wpms               |   |   |   |   |   |   |   |   |   | ipmfMF |    |    |    |    |    |                      |    |    |    | ipmfFetch |    |    |    |    |    |    |    |    |    |    |    |
| iRecCur            |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |                      |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| rgpmfs (16 bytes)  |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |                      |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |                      |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |                      |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| rfs                |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |                      |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| cblszSqlStr        |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    | lxsSqlStr (variable) |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |                      |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| sttbRfs (variable) |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |                      |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |                      |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |



|                   |
|-------------------|
| wpmsdt (optional) |
|-------------------|

- wpms (2 bytes):** The mail merge state as a [Wpms](#).
- ipmfMF (1 byte):** An unsigned integer that specifies the index in the array **rgpmfs** and MUST be 0 or 1. This value is used for the mail merge header field source from which the mail merge column names are obtained.
- ipmfFetch (1 byte):** An unsigned integer that specifies the index in the array **rgpmfs** and MUST be 0 or 1. This value is used for the mail merge data fetch source from which the mail merge data is obtained.
- iRecCur (4 bytes):** An unsigned integer that specifies the index of the current mail merge record. This value MUST be between 0 and 0xFFFFFFFF as the record index, or it MUST be 0xFFFFFFFF as a nil value.
- rgpmfs (16 bytes):** An array of two [Pmfs](#) elements.
- rfs (4 bytes):** The mail merge record filtering information. See [Rfs](#).
- cblszSqlStr (2 bytes):** An unsigned integer that specifies the length, in bytes, of the string **lxszSqlStr**. Because **lxszSqlStr** is in Unicode, **cblszSqlStr** MUST be an even number. If **cblszSqlStr** is zero, **lxszSqlStr** does not exist; otherwise this value MUST be greater than 2 but MUST NOT exceed 512 bytes.
- lxszSqlStr (variable):** The null-terminated Unicode SQL Query string. For example, "SELECT \* FROM [myTable] WHERE ...", where *myTable* is the table name in the database that is connected. This field is not present if **cblxszSqlStr** is zero.
- sttbfRfs (variable):** The string table, [STTB](#), that contains the strings for mail merge connection and record filtering. See the [SttbfRfs](#) structure. **Pms.sttbfRfs** does not exist if **Pms.rfs.hsttbfRfs** is zero. See the [Rfs](#) structure.
- wpmsdt (4 bytes):** The mail merge document type. See the [Wpmsdt](#) structure.

**2.9.206 PnFkpChpx**

The **PnFkpChpx** structure specifies the location in the [WordDocument Stream](#) of a [ChpxFkp](#) structure.

|    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |        |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|--------|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5      | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| pn |   |   |   |   |   |   |   |   |   |    |   |   |   |   | unused |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

- pn (22 bits):** An unsigned integer value that specifies the offset in the WordDocument Stream of a **ChpxFkp** structure. The **ChpxFkp** structure begins at an offset of **pn** \* 512.
- unused (10 bits):** This value is undefined and MUST be ignored.

**2.9.207 PnFkpPapx**

The **PnFkpPapx** structure specifies the offset of a [PapxFkp](#) in the [WordDocument Stream](#).

|    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |        |    |    |    |    |    |    |    |    |    |    |    |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|----|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20     | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| pn |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    | unused |    |    |    |    |    |    |    |    |    |    |    |

**pn (22 bits):** An unsigned integer that specifies the offset in the WordDocument Stream of a [PapxFkp](#) structure. The **PapxFkp** structure begins at an offset of **pn**×512.

**unused (10 bits):** This value is undefined and MUST be ignored.

### 2.9.208 PositionCodeOperand

The **PositionCodeOperand** structure is an operand that specifies the location of an anchor point for an absolutely positioned table or frame.

|         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| padding |   |   |   | A |   | B |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**padding (4 bits):** This value MUST be zero and MUST be ignored.

**A - pcVert (2 bits):** An unsigned integer that MUST be one of the following values.

| Value | Meaning  |
|-------|--|
| 0     | The vertical position of the table or frame is relative to the top page margin.                                    |
| 1     | The vertical position of the table or frame is relative to the top edge of the page.                               |
| 2     | The vertical position of the table or frame is relative to the paragraph bottom of the paragraph that precedes it. |
| 3     | None. The table or frame is not absolutely positioned.   |

**B - pcHorz (2 bits):** An unsigned integer that MUST be one of the following values.

| Value | Meaning   |
|-------|---|
| 0     | The horizontal position of the table or frame is relative to the left edge of the current column. |
| 1     | The horizontal position of the table or frame is relative to the left page margin.                |
| 2     | The horizontal position of the table or frame is relative to the left edge of the page.           |
| 3     | None. The table or frame is not absolutely positioned.  |

Note that all horizontal position measurements are made from the physical left.

### 2.9.209 Prc

The **Prc** structure specifies a set of properties for document content that is referenced by a [Pcd](#) structure.

|      |   |   |   |   |   |   |   |   |   |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|------|---|---|---|---|---|---|---|---|---|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10              | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| clxt |   |   |   |   |   |   |   |   |   | data (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

|     |
|-----|
| ... |
|-----|

**clxt (1 byte):** This value MUST be 0x01.

**data (variable):** A [PrcData](#) that specifies a set of properties.

**2.9.210 PrcData**

The **PrcData** structure specifies an array of [Prl](#) elements and the size of the array.

|          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbGrpprl |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | GrpPrl (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbGrpprl (2 bytes):** A signed integer that specifies the size of **GrpPrl**, in bytes. This value MUST be less than or equal to 0x3FA2.

**GrpPrl (variable):** An array of **Prl** elements. **GrpPrl** contains a whole number of **Prl** elements.

**2.9.211 PrDvr**

The **PrDvr** structure specifies printer driver information. It contains four null-terminated strings of ANSI characters that specify the printer name, the port, the driver, and the product name of the printer.

|                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| szPrinter (variable)     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| szPrPort (variable)      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| szPrDriver (variable)    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| szTruePrnName (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**szPrinter (variable):** A null-terminated string of ANSI characters that specifies the printer name that is used by the computer or the network.

**szPrPort (variable):** A null-terminated string of ANSI characters that specifies the printer port.

**szPrDriver (variable):** A null-terminated string of ANSI characters that specifies the printer driver.

**szTruePrnName (variable):** A null-terminated string of ANSI characters that specifies the product name from the printer manufacturer.

### 2.9.212 PrEnvLand

The **PrEnvLand** structure specifies print environment information in landscape mode, which is obtained from the printer as a binary block. This is unused and MUST be ignored.

### 2.9.213 PrEnvPort

The **PrEnvPort** structure specifies print environment information in portrait mode, which is obtained from the printer as a binary block. This is unused and MUST be ignored.

### 2.9.214 Prm

A **Prm** structure is either a [Prm0](#) structure or a [Prm1](#) structure, depending on the value of the **fComplex** bit.

|   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | data |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fComplex (1 bit):** If **fComplex** is 1, this **Prm** is a **Prm1** structure. If **fComplex** is zero, this **Prm** is a **Prm0** structure.

**data (15 bits):** The interpretation of this field depends on the value of **fComplex**. If **fComplex** is zero, then **data** is the last 15 bits of a **Prm0** structure. If **fComplex** is 1, then **data** is the last 15 bits of a **Prm1** structure.

### 2.9.215 Prm0

The **Prm0** structure is a [Prm](#) that has an **fComplex** value of zero. It specifies a single [Sprm](#) and operand to apply to all document content that is referenced by a [Pcd](#).

|   |       |   |   |   |   |   |   |     |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|-------|---|---|---|---|---|---|-----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1     | 2 | 3 | 4 | 5 | 6 | 7 | 8   | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | isprm |   |   |   |   |   |   | val |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fComplex (1 bit):** This value MUST be 0.

**isprm (7 bits):** An unsigned integer that specifies the [Sprm](#) to apply, according to the following table. The operand is specified by **val**.

| Isprm | Sprm  |
|-------|---|
| 0x00  | <a href="#">sprmCLbcCRJ</a> . If <b>val</b> is also zero, this <b>Prm0</b> does not apply <a href="#">sprmCLbcCRJ</a> with an operand of zero; instead, it has no effect. |
| 0x04  | <a href="#">sprmPInclVl</a>   |
| 0x05  | <a href="#">sprmPJc</a>   |
| 0x07  | <a href="#">sprmPFKeep</a>  |
| 0x08  | <a href="#">sprmPFKeepFollow</a>  |
| 0x09  | <a href="#">sprmPFPageBreakBefore</a>   |
| 0x0C  | <a href="#">sprmPIIvl</a>   |

| <b>Isprm</b> | <b>Sprm</b>         |
|--------------|---------------------|
| 0x0D         | sprmPFMirrorIndents |
| 0x0E         | sprmPFNoLineNumb    |
| 0x0F         | sprmPTtwo           |
| 0x18         | sprmPFInTable       |
| 0x19         | sprmPFTtp           |
| 0x1D         | sprmPPc             |
| 0x25         | sprmPWwr            |
| 0x2C         | sprmPFNoAutoHyph    |
| 0x32         | sprmPFLocked        |
| 0x33         | sprmPFWidowControl  |
| 0x35         | sprmPFKinsoku       |
| 0x36         | sprmPFWordWrap      |
| 0x37         | sprmPFOverflowPunct |
| 0x38         | sprmPFTopLinePunct  |
| 0x39         | sprmPFAutoSpaceDE   |
| 0x3A         | sprmPFAutoSpaceDN   |
| 0x41         | sprmCFRMarkDel      |
| 0x42         | sprmCFRMarkIns      |
| 0x43         | sprmCFFldVanish     |
| 0x47         | sprmCFData          |
| 0x4B         | sprmCFOle2          |
| 0x4D         | sprmCHighlight      |
| 0x4E         | sprmCFEmboss        |
| 0x4F         | sprmCSfxText        |
| 0x50         | sprmCFWebHidden     |
| 0x51         | sprmCFSpecVanish    |
| 0x53         | sprmCPlain          |
| 0x55         | sprmCFBold          |
| 0x56         | sprmCFItalic        |
| 0x57         | sprmCFStrike        |
| 0x58         | sprmCFOutline       |
| 0x59         | sprmCFShadow        |
| 0x5A         | sprmCFSmallCaps     |
| 0x5B         | sprmCFCaps          |
| 0x5C         | sprmCFVanish        |
| 0x5E         | sprmCKul            |
| 0x62         | sprmCIco            |
| 0x68         | sprmCIss            |
| 0x73         | sprmCFDStrike       |
| 0x74         | sprmCFImprint       |
| 0x75         | sprmCFSpec          |
| 0x76         | sprmCFObj           |
| 0x78         | sprmPOutLvl         |
| 0x7B         | sprmCFSdtVanish     |
| 0x7C         | sprmCNeedFontFixup  |
| 0x7E         | sprmPFNumRMIns      |

**val (8 bits):** The operand for the **Sprm** that is specified by **isprm**.

### 2.9.216 Prm1

The **Prm1** structure is a **Prm** with an **fComplex** value of 1. It specifies properties for document content that is referenced by a **Pcd**.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16      | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | igrpprl |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fComplex (1 bit):** This value MUST be 1.

**igrpprl (15 bits):** An unsigned integer that specifies a zero-based index of a **Prc** in **Clx.RgPrc**. This value MUST be less than the number of **Prc** elements in **Clx.RgPrc**.

### 2.9.217 PropRMark

The **PropRMark** structure specifies information about a property revision mark.

|            |   |   |   |   |   |   |   |   |   |           |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |
|------------|---|---|---|---|---|---|---|---|---|-----------|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|
| 0          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10        | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20  | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fPropRMark |   |   |   |   |   |   |   |   |   | ibstshort |    |    |    |    |    |    |    |    |    | dtm |    |    |    |    |    |    |    |    |    |    |    |
| ...        |   |   |   |   |   |   |   |   |   |           |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |

**fPropRMark (1 byte):** An unsigned integer that specifies if there is a property revision. This value is 1 if there is a property revision; otherwise, if there is no property revision, this value is 0.

**ibstshort (2 bytes):** A signed integer value that specifies the index into the **SttbfRMark string table** at which the name of the author of the revision is specified.

**dtm (4 bytes):** A **DTTM** structure that specifies the date and time at which the property revision was made.

### 2.9.218 PropRMarkOperand

The **PropRMarkOperand** structure is the operand to several **Sprm** structures that specify the properties of property revision marks.

|     |   |   |   |   |   |   |   |           |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|-----------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8         | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   | proprmark |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |           |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size of this **PropRMarkOperand**, excluding the current byte. This value MUST be 7.

**proprmark (7 bytes):** A **PropRMark** structure that holds the properties of the property revision mark that is being specified.

## 2.9.219 ProtectionType

The **ProtectionType** enumeration identifies common types of editing protection for ranges of text in a document.

| Name                  | Value  | Meaning  |
|-----------------------|--------|--|
| <b>iProtNone</b>      | 0x0000 | Allow all changes.   |
| <b>iProtReadWrite</b> | 0x0001 | Allow the editing of the regions that are marked as editable in forms.   |
| <b>iProtRevision</b>  | 0x0002 | Allow the creation, deletion, and editing of annotations. For all other changes: Allow them, but track them with revision marks. |
| <b>iProtComment</b>   | 0x0003 | Allow the creation, deletion, and editing of annotations, but allow no other changes.  |
| <b>iProtRead</b>      | 0x0004 | Allow no changes.  |

## 2.9.220 PRTI

The **PRTI** structure contains information about a span of text that is delimited by a range-level protection bookmark in the document.

| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16     | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|--------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| uidSel |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | iProt  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| i      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | fUseMe |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**uidSel (2 bytes):** A [UidSel](#) that identifies the permitted editors for the text range that is associated with this PRTI.

**iProt (2 bytes):** A [ProtectionType](#) that identifies the kind of protection for which exception is granted to the editors that are specified by **uidSel** within a span of text. The span of text is delimited by the bookmark that is associated with this PRTI. This MUST be iProtReadWrite.

**i (2 bytes):** This value is undefined and MUST be ignored.

**fUseMe (2 bytes):** This value is undefined and MUST be ignored.

## 2.9.221 PTIstdInfoOperand

The **PTIstdInfoOperand** structure is the operand for [sprmPTIstdInfo](#), and MUST be ignored.

| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8                   | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
|-----|---|---|---|---|---|---|---|---------------------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| cb  |   |   |   |   |   |   |   | reserved (16 bytes) |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |   |   |   |   |   |                     |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |   |   |   |   |   |                     |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |   |   |   |   |   |                     |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**cb (1 byte):** An unsigned integer value that specifies the size, in bytes, of this **PTIstdInfoOperand**, excluding the **cb** member. This value **MUST** be 16.

**reserved (16 bytes):** This value is undefined and **MUST** be ignored.

### 2.9.222 Rca

The **Rca** structure is used to define the coordinates of a rectangular area in the document. Unless otherwise specified by the other structures that use this structure, the origin is at the top left of the page and the units are in twips.

|        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| left   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| top    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| right  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| bottom |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**left (4 bytes):** An integer that specifies the X coordinate of the top left corner of the rectangle.

**top (4 bytes):** An integer that specifies the Y coordinate of the top left corner of the rectangle.

**right (4 bytes):** An integer that specifies the X coordinate of the bottom right corner of the rectangle.

**bottom (4 bytes):** An integer that specifies the X coordinate of the bottom right corner of the rectangle.

### 2.9.223 RecipientBase

The **RecipientBase** structure contains information about a mail merge recipient followed by a marker (**RecipientLast**) that specifies where the recipient information ends.

|                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| recipient (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| RecipientLast        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**recipient (variable):** An array of [RecipientDataItem](#) containing data that describes a mail merge recipient. Each **recipient** **MUST** have a [RecipientDataItem](#) with a **RecipientDataID** of 0x0003 or **MUST** have [RecipientDataItem](#) elements that have **RecipientDataIDs** of 0x0002 and 0x0004.

**RecipientLast (4 bytes):** Contains a [RecipientTerminator](#) that specifies that there is no further data to read for the current **recipient**.



## 2.9.224 RecipientDataItem

The **RecipientDataItem** structure specifies information about a mail merge recipient. All the **RecipientDataItem** elements that pertain to a particular recipient are grouped together. The presence of a [RecipientTerminator](#) indicates that there is no further data about this recipient. **RecipientDataItem** elements that follow a [RecipientTerminator](#) relate to subsequent recipients.

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16              | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| RecipientDataId |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cbRecipientData |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**RecipientDataId (2 bytes):** An unsigned integer value that specifies the type of a **RecipientDataItem**. This value MUST be 0x0001, 0x0002, 0x0003, or 0x0004.

**cbRecipientData (2 bytes):** An unsigned integer that specifies the size, in bytes, of the following **Data** element.

**Data (variable):** Contains the actual data for this **RecipientDataItem**. The meaning of the data depends on the preceding **RecipientDataId** and is described following.

| RecipientDataId | Data   |
|-----------------|--|
| 0x0001          | An unsigned integer that specifies the status (included or excluded) of a recipient record. This value MUST be zero (excluded) or 1 (included). If not present, this value defaults to 1.  |
| 0x0002          | An unsigned integer that specifies the zero-based index of the data source column that uniquely identifies a recipient.  |
| 0x0003          | <p>An unsigned integer that specifies a hashed DWORD that uniquely identifies a <b>recipient</b> if there is no unique column in the data source. The hash value for a data source record is generated as follows:</p> <pre> FUNCTION GetHashCode     SET hashValue to 0x00000000     FOR each column in the data source         SET strColumn to the string value in the column         SET hashValue to CALL AddStringToHash hashValue strColumn     END FOR     RETURN hashValue END FUNCTION  FUNCTION AddStringToHash hashValue, unicodeString     FOR each character in the unicodeString         SET hashValue to CALL AddCharacterToHash hashValue character     END FOR END FUNCTION  FUNCTION AddCharacterToHash hashValue, unicodeCharacter     SET tempCalc to 131 times hashValue plus unicodeCharacter     IF tempCalc &gt;= 4294967291         SET tempCalc to tempCalc minus 4294967291     END IF     RETURN tempCalc END FUNCTION </pre> <p>If the data source is Microsoft Outlook, the last column in the data source SHOULD</p> |

| RecipientDataId | Data  |
|-----------------|---|
|                 | NOT <a href="#">&lt;233&gt;</a> be used in the preceding function <b>GetHash</b> .  |
| 0x0004          | A Unicode string that specifies the contents of the data source column that uniquely identifies a recipient. The string is not null-terminated. |

### 2.9.225 RecipientInfo

The **RecipientInfo** structure specifies which recipients in the data source are excluded from the mail merge. It also provides data to uniquely identify each recipient in case the data source was altered after the last read operation.

| 0                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16              | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| countMarker                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cbCount         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cRecipients                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| RecipientListSizeMarker            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cbRecipientList |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbRecipientListOverflow (optional) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Recipients (variable)              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**countMarker (2 bytes):** An unsigned integer that specifies that the count of recipients follows. This value **MUST** be zero.

**cbCount (2 bytes):** An unsigned integer that specifies the size, in bytes, of **cRecipients**. This value **MUST** be 0x0004.

**cRecipients (4 bytes):** An unsigned integer that specifies the number of elements in the **Recipients** array.

**RecipientListSizeMarker (2 bytes):** An unsigned integer that specifies that the size, in bytes, of the **Recipients** array follows. This value **MUST** be 0x0001.

**cbRecipientList (2 bytes):** An unsigned integer that specifies the size, in bytes, of the **Recipients** array, or, if the size is greater than 0xFFFFE, this value **MUST** be 0xFFFF.

**cbRecipientListOverflow (4 bytes):** An unsigned integer that specifies the size, in bytes, of the **Recipients** array. This value is present only if **cbRecipientList** is set to 0xFFFF.

**Recipients (variable):** An array of [RecipientBase](#). An array that contains information about the recipients in the mail merge data source.

### 2.9.226 RecipientTerminator

The **RecipientTerminator** structure marks the end of the [RecipientDataItem](#) elements that pertain to a recipient.

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16              | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| RecipientDataId |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cbRecipientData |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**RecipientDataId (2 bytes):** An unsigned integer value that specifies there is no further data to read for the current recipient. This value MUST be zero.

**cbRecipientData (2 bytes):** This value MUST be zero.

### 2.9.227 Rfs

The **Rfs** structure specifies record filtering and the other mail merge properties.

|   |   |   |   |   |   |   |         |   |   |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---------|---|---|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7       | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15       | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | C | D | E | F | G | unused2 |   |   |    |    |    |    |    | hsttbRfs |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fShowData (1 bit):** Specifies whether the data are shown in the merged fields. If this value is set to zero, only the merged field names are shown.

**B - grfChkErr (2 bits):** An integer that specifies the settings for error checking and reporting. It MUST be one of the following values.

| Value | Meaning   |
|-------|---|
| 0     | Simulate the merge and report errors in a new document. |
| 1     | Complete the merge and pause to report errors.          |
| 2     | Complete the merge and report errors in a new document. |

**C - fManDocSetup (1 bit):** Specifies whether the main document envelope or mailing labels are set up.

**D - fMailAsText (1 bit):** Specifies whether the e-mail message is in plain text format.

**E - unused1 (1 bit):** This bit is undefined and MUST be ignored.

**F - fDefaultSQL (1 bit):** Specifies whether the default SQL query string is "SELECT \* FROM x".

**G - fMailAsHtml (1 bit):** Specifies whether the e-mail message is in HTML format.

**unused2 (8 bits):** This field is undefined and MUST be ignored.

**hsttbRfs (2 bytes):** An unsigned integer that specifies whether [SttbRfs](#) exists in [Pms](#). If [SttbRfs](#) does not exist in [Pms](#), [hsttbRfs](#) MUST be zero. If [Pms](#) contains [SttbRfs](#), [hsttbRfs](#) MUST be nonzero (any nonzero value).

### 2.9.228 RgCdb

The **RgCdb** structure contains binary data for grammar checker cookies which are stored by grammar checkers that implement the NLCheck interface. The data for a grammar checker cookie is implementation-specific to the grammar checker that created the grammar checker cookie.

|                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |
| cbTotal           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ccdb              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| rgdata (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**cbTotal (4 bytes):** An unsigned integer that specifies the size of this **RgCdb**, including **cbTotal**, in bytes.

**ccdb (4 bytes):** An unsigned integer that specifies the number of **CDB** entries in **rgdata**.

**rgdata (variable):** An array of **CDB**. These entries are accessed by using the **icdb** field of **FCKS**.

### 2.9.229 RgxOcxInfo

The **RgxOcxInfo** structure is an array of **OcxInfo** structures.

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |
| cOcxInfo             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| rgocxinfo (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**cOcxInfo (4 bytes):** An unsigned integer that specifies the number of **OcxInfo** structures in **rgocxinfo**.

**rgocxinfo (variable):** An array of **OcxInfo** structures.

### 2.9.230 RmdThreading

The **RmdThreading** structure specifies data about e-mail messages and their authors.

|                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |
| SttbMessage (variable)      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| SttbStyle (variable)        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| SttbAuthorAttrib (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                              |
|------------------------------|
| ...                          |
| SttbAuthorValue (variable)   |
| ...                          |
| SttbMessageAttrib (variable) |
| ...                          |
| SttbMessageValue (variable)  |
| ...                          |

**SttbMessage (variable):** An [STTB](#) where each string specifies the message identifier for the corresponding author in the parallel [SttbfrMark](#). The string is empty if the corresponding author is not the author of an e-mail message. The extra data that is appended to each string is an [MDP](#) that specifies the message display properties. If a string is empty, the extra data that is appended to it **MUST** be ignored.

|                                    |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1                                    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| fExtend (2 bytes)                  |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cbExtra (2 bytes)                  |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes)       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>0</sub> (variable)       |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ExtraData <sub>0</sub> (8 bytes)   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cchData <sub>1</sub> (2 bytes)     |   |   |   |   |   |   |   |   |   |   | Data <sub>1</sub> (variable)         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ExtraData <sub>1</sub> (8 bytes)   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   | cchData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>cData-1</sub> (variable) |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|  |
|--|
| ExtraData <sub>cData-1</sub> (8 bytes) |
| ...                                    |

**SttbMessage** is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0008.

**SttbStyle (variable):** An **STTB** where each string specifies the **personal style** of the corresponding author in the parallel **SttbfRMark**. The string is empty if the corresponding author does not have a personal style. There is no extra data appended to the strings of this **STTB**.

|                                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6                                    | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| fExtend (2 bytes)                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| cbExtra (2 bytes)                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes)       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| Data <sub>0</sub> (variable)       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| cchData <sub>1</sub> (2 bytes)     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Data <sub>1</sub> (variable)         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cchData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| Data <sub>cData-1</sub> (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

**SttbStyle** is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0.

**SttbAuthorAttrib (variable):** An **STTB** in which each string specifies an author attribute. The extra data appended to each string is a 16-bit signed integer that specifies a zero-based index of an author in the **SttbfRMark** to which this attribute is related. If a string is an empty string, the data that is appended to it MUST be ignored, and the corresponding value in the parallel **SttbAuthorValue** MUST be ignored. **SttbAuthorAttrib** SHOULD [<234>](#) be ignored.

|                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6               | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| fExtend (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cData (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|  |                                    |
|--|------------------------------------|
| cbExtra (2 bytes)                      | cchData <sub>0</sub> (2 bytes)     |
| Data <sub>0</sub> (variable)           |                                    |
| ...                                    |                                    |
| ExtraData <sub>0</sub> (2 bytes)       | cchData <sub>1</sub> (2 bytes)     |
| Data <sub>1</sub> (variable)           |                                    |
| ...                                    |                                    |
| ExtraData <sub>1</sub> (2 bytes)       | ...                                |
| cchData <sub>cData-1</sub> (2 bytes)   | Data <sub>cData-1</sub> (variable) |
| ...                                    |                                    |
| ExtraData <sub>cData-1</sub> (2 bytes) |                                    |

**SttbAuthorAttrib** is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0002.

**SttbAuthorValue (variable):** An **STTB** where each string specifies the value of the corresponding author attribute in the parallel **SttbAuthorAttrib**. There is no extra data appended to the strings of this **STTB**. **SttbAuthorValue** SHOULD [<235>](#) be ignored.

|                                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7                                    | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| fExtend (2 bytes)                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| cbExtra (2 bytes)                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes)       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| Data <sub>0</sub> (variable)       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| cchData <sub>1</sub> (2 bytes)     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Data <sub>1</sub> (variable)         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cchData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| Data <sub>cData-1</sub> (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

...

**SttbAuthorValue** is an STTB with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0.

**SttbMessageAttrib (variable):** An **STTB** in which each string specifies a message attribute. The extra data that is appended to each string is a 16-bit signed integer that specifies a zero-based index of a message that this attribute pertains to in **SttbMessage**. If a string is an empty string, the data that is appended to it MUST be ignored, and the corresponding value in the parallel **SttbMessageValue** MUST be ignored. **SttbMessageAttrib** SHOULD [<236>](#) be ignored.

| 0                                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                                 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|--|---|---|---|---|---|---|---|---|---|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| fExtend (2 bytes)                      |   |   |   |   |   |   |   |   |   | cData (2 bytes)                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)                      |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes)     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>0</sub> (variable)           |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                    |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ExtraData <sub>0</sub> (2 bytes)       |   |   |   |   |   |   |   |   |   | cchData <sub>1</sub> (2 bytes)     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>1</sub> (variable)           |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                    |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ExtraData <sub>1</sub> (2 bytes)       |   |   |   |   |   |   |   |   |   | ...                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>cData-1</sub> (2 bytes)   |   |   |   |   |   |   |   |   |   | Data <sub>cData-1</sub> (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                    |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ExtraData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**SttbMessageAttrib** is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0002.

**SttbMessageValue (variable):** An **STTB** in which each string specifies the value of the corresponding message attribute in the parallel **SttbMessageAttrib**. No extra data is appended to the strings of this **STTB**. **SttbMessageValue** SHOULD [<237>](#) be ignored.



|                                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                                   | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fExtend (2 bytes)                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes)                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>0</sub> (2 bytes)       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>0</sub> (variable)       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>1</sub> (2 bytes)     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | Data <sub>1</sub> (variable)         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>cData-1</sub> (2 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>cData-1</sub> (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**SttbMessageValue** is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0.

### 2.9.231 Rnc

The **Rnc** enumeration specifies whether and when the numbering for footnotes or endnotes restarts. The members of this enumeration are specified as the following 8-bit unsigned integer values.

| Name              | Value | Meaning  |
|-------------------|-------|--|
| <b>rncCont</b>    | 0x00  | Numbering is continuous throughout the whole document. |
| <b>rncRstSect</b> | 0x01  | Numbering restarts at the beginning of the section.    |
| <b>rncRstPage</b> | 0x02  | Numbering restarts every page.                         |

### 2.9.232 RouteSlip

The **RouteSlip** structure contains information about the routing slip of the document.

|              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16          | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fRouted      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | fReturnOrig |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fTrackStatus |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | fDirty      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| nProtect     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | iStage      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

| delOption               | cRecip |
|-------------------------|--------|
| szSubject (variable)    |        |
| ...                     |        |
| szMessage (variable)    |        |
| ...                     |        |
| szStatus (variable)     |        |
| ...                     |        |
| szTitle (variable)      |        |
| ...                     |        |
| rgRouteSlips (variable) |        |
| ...                     |        |

**fRouted (2 bytes):** A 16-bit Boolean value that specifies whether the document was sent out for review.

**fReturnOrig (2 bytes):** A 16-bit Boolean value that specifies whether the document is returned to the original sender after the review route is complete.

**fTrackStatus (2 bytes):** A 16-bit Boolean value that specifies whether status tracking e-mail is sent to the original sender.

**fDirty (2 bytes):** This value MUST be zero, and MUST be ignored.

**nProtect (2 bytes):** An unsigned integer value that specifies the kinds of changes allowed to the document being routed. This MUST be one of the values that are defined in [RouteSlipProtectionEnum](#).

**iStage (2 bytes):** A 16-bit signed integer value that specifies the index of the current routing recipient. This value MUST be greater or equal to zero, and less than the value of **cRecip**.

**delOption (2 bytes):** A 16-bit signed integer value that specifies how the document is routed. This value MUST be 0 or 1. A value of 0 means the document is sent to reviewers in serial order. A value of 1 means the document is sent to all reviewers in parallel order.

**cRecip (2 bytes):** A 16-bit signed integer that specifies the number of recipients of the routing slip. This is the size of the **rgRouteSlips** array.

**szSubject (variable):** A length-prefixed string containing ANSI characters that represent the subject to be mailed with the route slip. This string MUST be less than 256 characters in length. The string is encoded by using the system code page of the computer that saved the file.

**szMessage (variable):** A length-prefixed string containing ANSI characters that represent the message body to be mailed with the route slip. This string MUST be less than 256 characters in length. The string is encoded by using the system code page of the computer that saved the file.

**szStatus (variable):** A length-prefixed string containing ANSI characters that represent status information about the document to be mailed with the route slip. This string MUST be less than 256 characters in length. The string is encoded by using the system code page of the computer that saved the file.

**szTitle (variable):** A length-prefixed string containing ANSI characters that represent a title for the route slip. This string MUST be less than 256 characters long. The string is encoded by using the system code page of the computer that saved the file.

**rgRouteSlips (variable):** An array of **cRecip** [RouteSlipInfo](#) structures that contains all the routing slips.

### 2.9.233 RouteSlipInfo

The **RouteSlipInfo** structure provides information about a single routing slip recipient.

|                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16       | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbEntryID             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cbszName |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rgbEntryId (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| szName (variable)     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbEntryID (2 bytes):** A 16-bit signed integer that specifies the number of bytes in **rgbEntryId**.

**cbszName (2 bytes):** A 16-bit signed integer that specifies the number of bytes in **szName**. This value MUST be greater than zero.

**rgbEntryId (variable):** An array of bytes that provide a unique identifier for this routing slip recipient.

**szName (variable):** A narrow string that specifies the name or e-mail alias of the routing slip recipient. The length of the string MUST be equal to **cbszName**. The string is encoded by using the operating system code page of the computer that last saved this file.

### 2.9.234 RouteSlipProtectionEnum

The **RouteSlipProtectionEnum** enumeration lists the possible protection levels for a document being routed.

| Name                  | Value  | Meaning   |
|-----------------------|--------|---|
| <b>ProtectOff</b>     | 0x0000 | No protection.  |
| <b>ProtectRevMark</b> | 0x0001 | Changes to the document can be neither accepted nor rejected, and change tracking cannot be turned off. |
| <b>ProtectAnnot</b>   | 0x0002 | Users can insert comments into the document but cannot change the content of the document.              |
| <b>ProtectForm</b>    | 0x0003 | Users can make changes only in form fields or in unprotected sections of a                              |

| Name | Value | Meaning   |
|------|-------|-----------|
|      |       | document. |

### 2.9.235 SBkcOperand

The **SBkcOperand** structure is the operand to [sprmSBkc](#). This structure is an 8-bit unsigned integer that specifies the type of the section break that is being described.

| Name                 | Value | Meaning   |
|----------------------|-------|---|
| <b>bkcContinuous</b> | 0x00  | A continuous section break. The next section starts on the next line.   |
| <b>bkcNewColumn</b>  | 0x01  | A new column section break. The next section starts in the next column. |
| <b>bkcNewPage</b>    | 0x02  | A new page section break. The next section starts on the next page.     |
| <b>bkcEvenPage</b>   | 0x03  | An even page section break. The next section starts on an even page.    |
| <b>bkcOddPage</b>    | 0x04  | An odd page section break. The next section starts on an odd page.      |

### 2.9.236 SBOrientationOperand

The **SBOrientationOperand** structure is the operand to [sprmSBOrientation](#). This structure is an 8-bit unsigned integer that specifies page orientation.

| Name                     | Value | Meaning                |
|--------------------------|-------|------------------------|
| <b>dmOrientPortrait</b>  | 0x01  | Portrait orientation.  |
| <b>dmOrientLandscape</b> | 0x02  | Landscape orientation. |

### 2.9.237 SClmOperand

The **SClmOperand** structure provides an enumeration which specifies the type of document grid that is used for the section. This enumeration defines the following 16-bit unsigned integer values.

| Name                    | Value  | Meaning  |
|-------------------------|--------|--|
| <b>clmUseDefault</b>    | 0x0000 | Specifies that document grid is disabled.  |
| <b>clmCharsAndLines</b> | 0x0001 | Specifies a document grid that enforces both character spacing and line pitch. Line pitch is specified by <a href="#">sprmSDyaLinePitch</a> ; character spacing is specified by <a href="#">sprmSDxtCharSpace</a> .  |
| <b>clmLinesOnly</b>     | 0x0002 | Specifies a document grid that enforces only line pitch. Line pitch is specified by <a href="#">sprmSDyaLinePitch</a> .  |
| <b>clmEnforceGrid</b>   | 0x0003 | Specifies a document grid that enforces both character spacing and line pitch. Line pitch is specified by <a href="#">sprmSDyaLinePitch</a> ; character spacing is specified by <a href="#">sprmSDxtCharSpace</a> . Each full-width character MUST occupy its own grid square. |

### 2.9.238 SDmBinOperand

The **SDmBinOperand** enumeration is a 16-bit unsigned integer that specifies a paper source for a printer. The determination and interpretation of this value is implementation specific.

## 2.9.239 SDTI

The SDTI structure contains information about a structured document tag bookmark in the document.

| 0                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| dwId                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| tiq                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| sdtt                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cfsdap                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbPlaceholder             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fsdaparray (variable)     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| xsZPlaceholder (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**dwId (4 bytes):** An unsigned integer that specifies a unique value which is used to reference the structured document tag bookmark associated with this **SDTI** structure. This value **MUST** be unique for all **SDTI** structures that are contained in a given [SttbfBkmkSdt](#). This value **MUST NOT** be 0.

**tiq (8 bytes):** A [TIQ](#) that specifies further information about the structured document tag bookmark that is associated with this **SDTI** structure.

**sdtt (4 bytes):** An [SDTI](#) structure that specifies further information about the structured document tag bookmark that is associated with this **SDTI**. The **SDTI** structure **MUST NOT** be **sdttUnknown**.

**cfsdap (4 bytes):** An unsigned integer value that specifies the number of elements in **fsdaparray**.

**cbPlaceholder (4 bytes):** An unsigned integer that specifies the count of bytes, including the terminating NULL character, in **xsZPlaceholder**.

**fsdaparray (variable):** An array of [FSDAP](#) structures, each of which specifies further information about the structured document tag bookmark that is associated with this **SDTI** structure.

**xsZPlaceholder (variable):** A null-terminated sequence of Unicode characters that specifies the text to show when the structured document tag that is denoted by this structured document tag bookmark is empty and XML tag characters themselves are not being shown.

## 2.9.240 SDTT

The SDTT structure specifies the type of structured document tag that is represented by a structured document tag bookmark in the document.

| Name               | Value      | Meaning   |
|--------------------|------------|---|
| <b>sdttUnknown</b> | 0x00000000 | The type of the tag is determined from the range it encloses. |
| <b>sdttRegular</b> | 0x00000001 | The tag encloses a range of characters.                       |
| <b>sdttPara</b>    | 0x00000002 | The tag encloses a range of paragraphs.                       |
| <b>sdttCell</b>    | 0x00000003 | The tag encloses a range of cells in a table.                 |
| <b>sdttRow</b>     | 0x00000004 | The tag encloses a range of rows in a table.                  |

### 2.9.241 SDxaColSpacingOperand

The **SDxaColSpacingOperand** structure is the operand to [Sprm](#) structures that control column size and spacing.

|      |   |   |   |   |   |   |   |   |   |        |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|------|---|---|---|---|---|---|---|---|---|--------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| iCol |   |   |   |   |   |   |   |   |   | dxaCol |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**iCol (1 byte):** An unsigned integer that specifies the zero-based index of the column that is being referenced by the **Sprm**. This value **MUST** be less than or equal to 43.

**dxaCol (2 bytes):** An [XAS nonNeg](#) value that specifies the space after the column that is specified by **iCol**.

### 2.9.242 SDxaColWidthOperand

The **SDxaColWidthOperand** structure is the operand to [Sprm](#) structures that control column size and spacing.

|      |   |   |   |   |   |   |   |   |   |        |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|------|---|---|---|---|---|---|---|---|---|--------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| iCol |   |   |   |   |   |   |   |   |   | dxaCol |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**iCol (1 byte):** An unsigned integer value that specifies the zero-based index of the column that is referenced by the **Sprm**. This value **MUST** be less than or equal to 43.

**dxaCol (2 bytes):** An [XAS nonNeg](#) value that specifies the width of the column that is specified by **iCol**. This value **MUST** be at least 718.

### 2.9.243 Sed

The **Sed** structure specifies the location of the section properties.

|     |   |   |   |   |   |   |   |   |   |    |   |   |   |   |        |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|-----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|--------|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5      | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| fn  |   |   |   |   |   |   |   |   |   |    |   |   |   |   | fcSepx |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| ... |   |   |   |   |   |   |   |   |   |    |   |   |   |   | fnMpr  |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

|       |
|-------|
| fcMpr |
|-------|

**fn (2 bytes):** This value is undefined and MUST be ignored.

**fcSepx (4 bytes):** A signed integer value that specifies the position in the [WordDocument Stream](#) at which a [Sepx](#) structure is located.

**fnMpr (2 bytes):** This value is undefined and MUST be ignored.

**fcMpr (4 bytes):** This value is undefined and MUST be ignored.

### 2.9.244 Selsf

The **Selsf** structure specifies the last selection that was made to the document.

|                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------|----|----|----|----|----|----|---------|----|----|----|----|----|----|----|----|
| 0              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16           | 17 | 18 | 19 | 20 | 21 | 22 | 23      | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A              | B | C | D | E | F | G | H | I | J | K  | L  | M  | N  | O  | P  | fForward     |    |    |    |    |    | Q  | fInsEnd |    |    |    |    |    |    |    |    |
| cpFirst        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |
| cpLim          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |
| unused4        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |
| blktblSel      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |
| cpAnchor       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |
| sty            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | unused5      |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |
| cpAnchorShrink |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |              |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |
| xaTableLeft    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | xaTableRight |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |

**A - fRightward (1 bit):** A bit that specifies whether the selection was made from the physical left to the physical right. If **fBlock** is 0, this bit is undefined and MUST be ignored.

**B - unused1 (1 bit):** This bit is undefined and MUST be ignored.

**C - fWithinCell (1 bit):** A bit that specifies that the selection is content within a table cell. This value MUST be 0 if the selection contains only whole table cells.

**D - fTableAnchor (1 bit):** If this bit is 1, then the selection began with either table content or table cells.

**E - fTableSelNonShrink (1 bit):** If this bit is 1, then the selection began with the use of the mouse to select the whole table cell and that the selection contains only whole table cells.

**F - unused2 (1 bit):** This bit is undefined and MUST be ignored.

**G - fDiscontiguous (1 bit):** If this bit is 1, then the selection was made of two or more ranges within the document. The **Selsf** structure describes only the most recent range that was selected.

- H - fPrefix (1 bit):** If this bit is 1, then the selection is a bullet in a bulleted list or a number in a numbered list.
- I - fShape (1 bit):** A bit that specifies that the selection is a shape or floating picture. This value MUST be 0 if the selection is a textbox or inline picture.
- J - fFrame (1 bit):** A bit that specifies that the selection is a text frame. This value MUST be 0 if the selection is a textbox.
- K - fColumn (1 bit):** If this bit is 1, then the selection contains one or more whole table cells. This bit MUST be 0 if the selection was made strictly of whole table rows or the entire table.
- L - fTable (1 bit):** If this bit is 1, then the selection contains one or more whole table cells.
- M - fGraphics (1 bit):** A bit that specifies that the selection is an inline picture. This value MUST be 0 if the selection is a floating picture.
- N - fBlock (1 bit):** A bit that specifies that the selection was made of a rectangular block. If **fTable** is 0, the selection is a block of text and MUST NOT contain table content. If **fTable** is 1, the selection is a block of table cells; **fBlock** MUST be 0 if the table selection is restricted to whole table rows or is the entire table.
- O - unused3 (1 bit):** This bit is undefined and MUST be 0.
- P - fIns (1 bit):** A bit that specifies that the selection is an insertion point. If **fIns** is 1, **cpFirst** MUST equal **cpLim**.
- fForward (7 bits):** An unsigned integer that MUST be 0 or 1. This field specifies that the selection was made in a downward direction or towards the logical right if the value is 1.
- Q - fPrefixW2007 (1 bit):** A bit that SHOULD [<238>](#) be 0 and MUST be ignored.
- fInsEnd (8 bits):** An unsigned integer value that MUST be 0 or 1. If this value is 1, the selection is an insertion point at the end of the line, as opposed to at the beginning of the following line. If **fInsEnd** is 1, **fIns** MUST also be 1. If **fShape** is 1, **fInsEnd** is undefined and MUST be ignored. If the selection does not fall at a line break, **fInsEnd** MUST be ignored.
- cpFirst (4 bytes):** A signed integer that specifies the start point, in characters, of the selection range. This value MUST be at least 0, and MUST NOT exceed the end of the text piece. If the selection begins with whole table cells, **cpFirst** MUST be the location of the beginning of the row that contains the first selected cell. If the selection is a block selection of text, **cpFirst** MUST be the location of the beginning of the first line that contains selected characters.
- cpLim (4 bytes):** A signed integer that specifies the endpoint, in characters, of the selection range. This value MUST be at least 0, MUST be greater than or equal to **cpFirst**, and MUST NOT exceed the end of the document. If the selection ends with whole table cells, **cpLim** MUST be the location of the end of the row that contains the last selected cell. If the selection is a block selection of text, **cpLim** MUST be the location of the beginning of the last line that contains selected characters.
- unused4 (4 bytes):** Undefined and MUST be ignored.
- blktblSel (4 bytes):** Specifies a selection range. The interpretation of **blktblSel** depends on the values of **fTable** and **fBlock**, which are provided following.

| <b>fTable</b> | <b>fBlock</b> | <b>Interpretation</b>                              |
|---------------|---------------|--|
| 0             | 0             | <b>blktblSel</b> is undefined and MUST be ignored. |



| <b>fTable</b> | <b>fBlock</b> | <b>Interpretation</b>   |
|---------------|---------------|---|
| 0             | 1             | <b>blktblSel</b> is a <a href="#">BlockSel</a> and specifies the dimensions of a block selection. |
| 1             | 0             | <b>blktblSel</b> is a <a href="#">TableSel</a> and specifies a row selection.                     |
| 1             | 1             | <b>blktblSel</b> is a <b>TableSel</b> and specifies a range of table cells.                       |

**cpAnchor (4 bytes):** A signed integer that specifies the point, in characters, at which the selection initially began. This value MUST be greater than or equal to **cpFirst**. If the selection was automatically extended to include text before **cpAnchor**, **cpFirst** is less than **cpAnchor**. If the selection was not extended before the point where the selection began, **cpAnchor** is equal to **cpFirst**.

**sty (2 bytes):** A [Sty](#) structure that specifies the type of selection that was made.

**unused5 (2 bytes):** This field is undefined and MUST be ignored.

**cpAnchorShrink (4 bytes):** A signed integer that specifies the point, in characters, where a block selection began. If **fBlock** is 0 or **fTable** is 1, **cpAnchorShrink** is undefined and MUST be ignored.

**xaTableLeft (2 bytes):** A signed integer that specifies, in twips, the physical left edge of the first selected cell if the selection contains whole table cells. This value MUST be in the range of -31680 to 31680, inclusive. If the entire row is selected, **xaTableLeft** MUST be -31680. If the selection does not contain whole table cells, **xaTableLeft** is undefined and MUST be ignored.

**xaTableRight (2 bytes):** A signed integer that specifies, in twips, the physical right edge of the last selected cell if the selection contains whole table cells. This value MUST be in the range of -31680 to 31680, inclusive, and MUST be greater than or equal to **xaTableLeft**. If the entire row is selected, **xaTableRight** MUST be 31680. If the selection does not contain whole table cells, **xaTableRight** is undefined and MUST be ignored.

## 2.9.245 Sepx

The **Sepx** structure specifies an array of [Prl](#) structures and the size of the array.

|     |   |   |   |   |   |   |   |   |   |                  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|-----|---|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| cb  |   |   |   |   |   |   |   |   |   | grpri (variable) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ... |   |   |   |   |   |   |   |   |   |                  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

**cb (2 bytes):** A signed integer that specifies the size of **grpri**, in bytes.

**grpri (variable):** An array of **Prl** structures that specify the properties of a section. This array MUST contain a whole number of **Prl** structures.

## 2.9.246 SFpcOperand

The **SFpcOperand** enumeration provides an 8-bit unsigned integer that specifies the positioning of the section footnote. **SFpcOperand** is the operand to [sprmSFpc](#).

| Name                  | Value | Meaning  |
|-----------------------|-------|--|
| <b>fpcBottomPage</b>  | 0x01  | Footnotes are positioned at the bottom of the page.    |
| <b>fpcBeneathText</b> | 0x02  | Footnotes are positioned beneath the text on the page. |

## 2.9.247 Shd

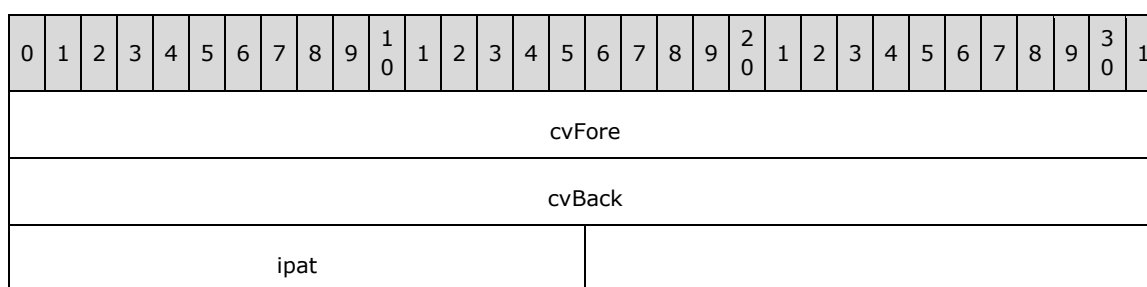
The **Shd** structure specifies the colors and pattern that are used for background shading.

**ShdAuto** is a special value for **Shd** that specifies that no shading is applied and is defined as the following **Shd**.

| Field  | Value  |       |       |     |      |       |      |      |      |       |      |
|--------|--|-------|-------|-----|------|-------|------|------|------|-------|------|
| cvFore | <table border="1"><thead><tr><th>Field</th><th>Value</th></tr></thead><tbody><tr><td>Red</td><td>0x00</td></tr><tr><td>Green</td><td>0x00</td></tr><tr><td>Blue</td><td>0x00</td></tr><tr><td>fAuto</td><td>0xFF</td></tr></tbody></table> | Field | Value | Red | 0x00 | Green | 0x00 | Blue | 0x00 | fAuto | 0xFF |
| Field  | Value  |       |       |     |      |       |      |      |      |       |      |
| Red    | 0x00   |       |       |     |      |       |      |      |      |       |      |
| Green  | 0x00   |       |       |     |      |       |      |      |      |       |      |
| Blue   | 0x00   |       |       |     |      |       |      |      |      |       |      |
| fAuto  | 0xFF   |       |       |     |      |       |      |      |      |       |      |
| cvBack | <table border="1"><thead><tr><th>Field</th><th>Value</th></tr></thead><tbody><tr><td>Red</td><td>0x00</td></tr><tr><td>Green</td><td>0x00</td></tr><tr><td>Blue</td><td>0x00</td></tr><tr><td>fAuto</td><td>0xFF</td></tr></tbody></table> | Field | Value | Red | 0x00 | Green | 0x00 | Blue | 0x00 | fAuto | 0xFF |
| Field  | Value  |       |       |     |      |       |      |      |      |       |      |
| Red    | 0x00   |       |       |     |      |       |      |      |      |       |      |
| Green  | 0x00   |       |       |     |      |       |      |      |      |       |      |
| Blue   | 0x00   |       |       |     |      |       |      |      |      |       |      |
| fAuto  | 0xFF   |       |       |     |      |       |      |      |      |       |      |
| ipat   | ipatAuto   |       |       |     |      |       |      |      |      |       |      |

**ShdNil** is a special value for **Shd**. If **ShdNil** is used in a Table Style definition, **ShdNil** is ignored and the shading of the cell is not affected. If **ShdNil** is applied outside of a Table Style, **ShdNil** specifies that no shading is applied. **ShdNil** is defined as the following **Shd**.

| Field  | Value    |       |
|--------|----------|-------|
| cvFore | Field    | Value |
|        | Red      | 0xFF  |
|        | Green    | 0xFF  |
|        | Blue     | 0xFF  |
|        | fAuto    | 0xFF  |
| cvBack | Field    | Value |
|        | Red      | 0xFF  |
|        | Green    | 0xFF  |
|        | Blue     | 0xFF  |
|        | fAuto    | 0xFF  |
| ipat   | ipatAuto |       |



**cvFore (4 bytes):** A [COLORREF](#) that specifies the foreground color of **ipat**.

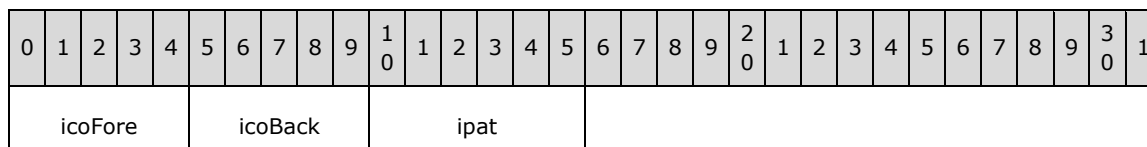
**cvBack (4 bytes):** A [COLORREF](#) that specifies the background color of **ipat**.

**ipat (2 bytes):** An [Ipat](#) that specifies the pattern used for shading.

### 2.9.248 Shd80

The **Shd80** structure specifies the colors and pattern that are used for background shading. As an exception to the constraints that are specified by [Ico](#) and [Ipat](#), a **Shd80** can be set to **Shd80Nil** and specifies that no shading is applied. **Shd80Nil** is defined as the following **Shd80**.

| Field   | Value |
|---------|-------|
| icoFore | 0x1F  |
| icoBack | 0x1F  |
| ipat    | 0x3F  |



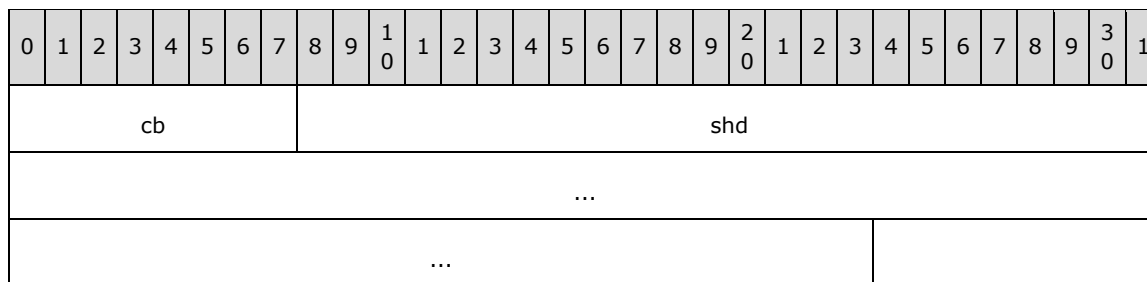
**icoFore (5 bits):** An **Ico** that specifies the foreground color of **ipat**.

**icoBack (5 bits):** An **Ico** that specifies the background color of **ipat**.

**ipat (6 bits):** An **Ipat** that specifies the pattern used for shading.

## 2.9.249 SHDOperand

The **SDHOoperand** structure is an operand that is used by several [Sprm](#) structures to specify the background shading to be applied.



**cb (1 byte):** An unsigned integer that specifies the size of this operand in bytes, not including **cb**. This value MUST be 10.

**shd (10 bytes):** A [Shd](#) structure that specifies the background shading that is applied.

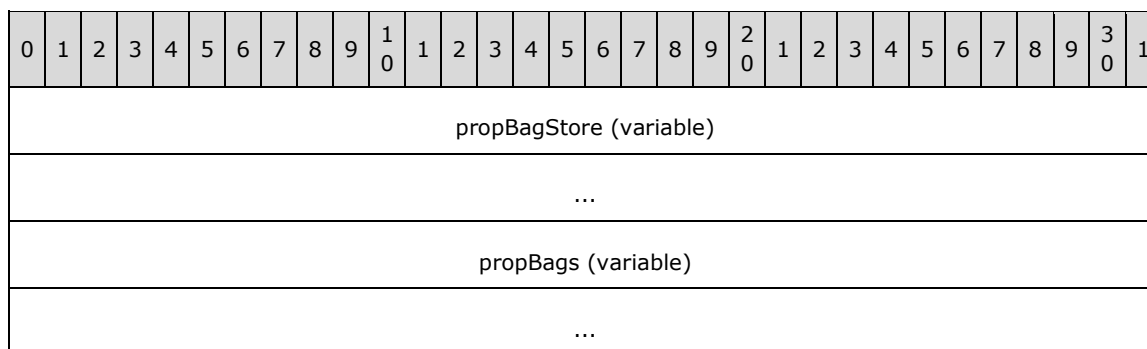
## 2.9.250 SLncOperand

The **SLncOperand** enumeration is the operand to [sprmSLnc](#). This structure is an 8-bit unsigned integer that specifies the line numbering mode for the section.

| Name               | Value | Meaning   |
|--------------------|-------|---|
| <b>IncPerPage</b>  | 0x00  | Line numbers restart every page.  |
| <b>IncRestart</b>  | 0x01  | Line numbers restart at the beginning of the section.   |
| <b>IncContinue</b> | 0x02  | Line numbers continue from the preceding section, or start at 1 if this is the first section of the document. |

## 2.9.251 SmartTagData

The **SmartTagData** structure stores information about all the **smart tags** in the document. The location of each smart tag is specified by the **fcPlcfBkfFactoid** and **lcbPlcfBkfFactoid** members of the [FibRgFclCb2002](#).



**propBagStore (variable):** A **PropertyBagStore**, as specified in [\[MS-OSHARED\]](#) section 2.3.4.1.

**propBags (variable):** An array of **PropertyBag** structures, as specified in [\[MS-OSHARED\]](#) section 2.3.4.3. The size of this array, in bytes, is determined by subtracting the size of **propBagStore** from the **lcbSmartTag** member of [FibRgFclCb2002](#).

## 2.9.252 SortColumnAndDirection

The **SortColumnAndDirection** structure specifies the sort order and the column by which the list of mail merge recipients is sorted.

|            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| iColumn    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| iDirection |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**iColumn (4 bytes):** An unsigned integer that specifies the zero-based index of the database column to which this filter applies. This value **MUST** be greater than or equal to zero and **MUST** be less than or equal to 254.

**iDirection (4 bytes):** An unsigned integer that specifies the sort order to be used when sorting the associated column. The value **MUST** be zero (ascending) or 1 (descending).

## 2.9.253 Spa

The **Spa** structure specifies information about the shapes and drawings that the document contains.

|                |    |    |    |     |   |   |   |       |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------|----|----|----|-----|---|---|---|-------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0              | 1  | 2  | 3  | 4   | 5 | 6 | 7 | 8     | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| lid            |    |    |    |     |   |   |   |       |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rca (16 bytes) |    |    |    |     |   |   |   |       |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...            |    |    |    |     |   |   |   |       |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...            |    |    |    |     |   |   |   |       |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A              | bx | by | wr | wrk | B | C | D | cTxbx |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...            |    |    |    |     |   |   |   |       |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**lid (4 bytes):** An integer that specifies the identifier of a shape that is contained in the **OfficeArtDggContainer** structure. This value corresponds to the **spid** field of an **OfficeArtFSP** structure that specifies the data for this shape. **OfficeArtDggContainer** and **OfficeArtFSP** are specified in [\[MS-ODRAW\]](#) sections 2.2.12 and 2.2.40, respectively.

**rca (16 bytes):** An [Rca](#) structure that specifies the rectangle where the drawing exists. The coordinates of **rca** are in twips.

**A - fHdr (1 bit):** This bit is undefined and **MUST** be ignored.

**bx (2 bits):** An unsigned integer that specifies the horizontal position of the origin that is used to calculate the **rca**. This **MUST** be one of the following values.

| Value | Meaning                                     |
|-------|---|
| 0     | Anchored at the leading margin of the page. |
| 1     | Anchored at the leading edge of the page.   |
| 2     | Anchored at the leading edge of the column. |

**by (2 bits):** An unsigned integer that specifies the vertical position of the origin that is used to calculate the **rca**. This MUST be one of the following values.

| Value | Meaning                                    |
|-------|--|
| 0     | Anchored at the top margin of the page.    |
| 1     | Anchored at the top edge of the page.      |
| 2     | Anchored at the top edge of the paragraph. |

**wr (4 bits):** An unsigned integer that specifies the style of text wrapping around this shape. This MUST be one of the following values.

| Value | Meaning   |
|-------|---|
| 0     | Wrap text around the object.  |
| 1     | No text wrapping around the object. No text appears on either side of the shape (top and bottom wrapping).                  |
| 2     | Wrap text around an absolutely positioned object (square wrapping).   |
| 3     | Display as if the shape is not there. The shape appears either in front of or behind the text, based on <b>fBelowText</b> . |
| 4     | Wrap text tightly around this shape, following its contour only on the left and right sides (tight wrapping).               |
| 5     | Wrap text tightly around this shape, following its contour on all sides (through wrapping).                                 |

**wrk (4 bits):** An unsigned integer that specifies the details of the text wrapping around this shape. This field MUST be ignored when **wr** is 1 or 3. This MUST be one of the following values.

| Value | Meaning  |
|-------|--|
| 0     | Allow text wrapping on both sides of the shape.            |
| 1     | Allow text wrapping only on the left side of the shape.    |
| 2     | Allow text wrapping only on the right side of the shape.   |
| 3     | Allow text wrapping only on the largest side of the shape. |

**B - fRcaSimple (1 bit):** MUST be zero.

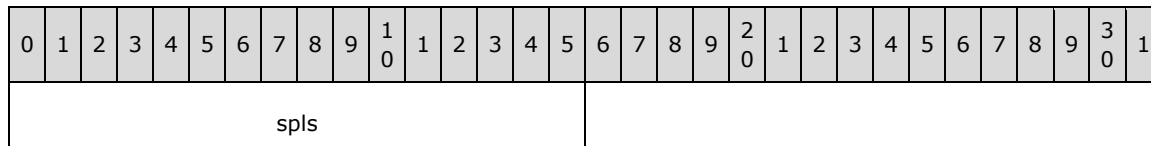
**C - fBelowText (1 bit):** An unsigned integer that specifies whether this shape is behind the text. A value of 1 specifies that the shape appears behind the paragraph. A value of 0 specifies that the shape appears in front of the text and obscures it. If **wr** is not 3, this field MUST be ignored.

**D - fAnchorLock (1 bit):** An unsigned integer that specifies whether the anchor of the shape is locked to its current paragraph.

**cTxbx (4 bytes):** This value is undefined and MUST be ignored.

### 2.9.254 SpellingSpls

The **SpellingSpls** is an **SPLS** structure that specifies the state of the spell-checker over a range of text. Some states that are possible in a generic **SPLS** are not allowed in a **SpellingSpls** structure.



**spls (2 bytes):** An SPLS structure. The **spls.fExtend** and **spls.fTypo** fields are not used and MUST be zero. The **spls.spIf** field MUST be one of the following:

- splfMaybeDirty
- splfDirty
- splfEdit
- splfForeign
- splfClean
- splfRepeatWord
- splfUnknownWord

## 2.9.255 SPgbPropOperand

The **SPgbPropOperand** structure is the operand to [sprmSPgbProp](#). It specifies the properties of a page border.

|   |   |   |   |   |   |   |   |   |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9        | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A |   |   |   | B |   | C |   |   | reserved |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - pgbApplyTo (3 bits):** A value from the [PgbApplyTo](#) enumeration that specifies to what pages the border applies.

**B - pgbPageDepth (2 bits):** A value from the [PgbPageDepth](#) enumeration controlling the "depth" of the border—for example, whether it is above or below other page elements.

**C - pgbOffsetFrom (3 bits):** A value from the [PgbOffsetFrom](#) enumeration that specifies from where the offset of the border is measured.

**reserved (1 byte):** This value MUST be zero.

## 2.9.256 SPLS

The **SPLS** structure specifies the current state of a range of text with regard to one of the language checking features such as the spell-checker, grammar-checker, language auto-detection, or smart tag recognizer.

|      |   |   |   |   |   |   |        |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|---|---|---|---|---|--------|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7      | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| splf |   |   |   | A | B | C | unused |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**splf (4 bits):** This MUST be one of the following values.

| Name           | Value | Meaning  |
|----------------|-------|--|
| splfPending    | 0x1   | Specifies that the text range is currently undergoing checking in another thread.<br>Used only within the <a href="#">PlcfFactoid</a> structure.<br>On load, this is converted to <b>splfDirty</b> .   |
| splfMaybeDirty | 0x2   | Specifies that the text range was edited, and could be re-scanned. Having text ranges in the document with this value does not, by itself, cause a new scan. This value MUST only be used in the <a href="#">header document</a> .   |
| splfDirty      | 0x3   | Specifies that the text range was created or changed since the last scan, and that a new scan is needed to evaluate it. Additionally, the <a href="#">PlcfGram</a> structure SHOULD<239> use this value for all grammatical errors, in which case <b>fError</b> is set to 1.       |
| splfEdit       | 0x4   | Specifies that the text range has been created or changed, and that the user is still editing in the vicinity. A scan is not needed for this text range until the user can be assumed to be finished making the edits.   |
| splfForeign    | 0x5   | Specifies that the text range is a foreign language or phrase. When used by the language auto-detection, the language was explicitly set and no auto-detection is necessary. When used by the spell-checker or grammar-checker, the text range is not subject to further checking. |
| splfClean      | 0x7   | Specifies that the text range was checked and contains no errors or other special states.  |



| Name            | Value | Meaning   |
|-----------------|-------|---|
| spIfNoLAD       | 0x8   | Specifies that the text range is to be skipped by language auto-detection. Used only within <a href="#">Plcflad</a> . |
| spIfErrorMin    | 0xA   | Specifies that the text range contains an error.  |
| spIfRepeatWord  | 0xB   | Specifies that the text range contains a word or phrase that duplicates a preceding word or phrase. It is an error.   |
| spIfUnknownWord | 0xC   | Specifies that the text range contains a word that is unknown to the language checker. It is an error.                |

**A - fError (1 bit):** The range is an error. This bit MUST be set when the **spIf** value is **spIfErrorMin**, **spIfRepeatWord**, or **spIfUnknownWord**. It can also be set when the **spIf** value is **spIfDirty** or **spIfEdit**, which both indicate that the range is currently an error but is still subject to further checking. This bit MUST NOT be set for any other **spIf** value.

**B - fExtend (1 bit):** The range is an error. When rechecked, the surrounding text is also rechecked.

**C - fTypo (1 bit):** The range is a spelling error that was caught by a grammar-checker.

**unused (9 bits):** This field is not used. This value MUST be zero.

### 2.9.257 SPPOperand

The **SPPOperand** structure specifies a potential change in the current style as specified by an [istd](#) value. A given **istd** is affected only if it is within the **istdFirst** and **istdLast** bounds (inclusive). If the **istd** is affected, the new **istd** is **rgIstdPermute**[**istd** - **istdFirst**].

|          |   |   |   |   |   |   |   |       |   |    |    |    |    |    |    |                          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|-------|---|----|----|----|----|----|----|--------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8     | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                       | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb       |   |   |   |   |   |   |   | fLong |   |    |    |    |    |    |    | istdFirst                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| istdLast |   |   |   |   |   |   |   |       |   |    |    |    |    |    |    | rgIstdPermute (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...      |   |   |   |   |   |   |   |       |   |    |    |    |    |    |    |                          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned 8-bit integer that specifies the size, in bytes, of this **SPPOperand** structure, excluding the **cb** member.

**fLong (1 byte):** This value MUST be 0 and MUST be ignored.

**istdFirst (2 bytes):** An unsigned 16-bit integer that specifies the first **istd** to which this change applies.

**istdLast (2 bytes):** An unsigned 16-bit integer that specifies the last **istd** to which this change applies. This value MUST be greater than or equal to **istdFirst**.

**rgIstdPermute (variable):** An array of unsigned 16-bit integers that specifies an array of remapped **istd** values. The count of elements MUST be equal to **istdLast** - **istdFirst** + 1.

### 2.9.258 STD

The **STD** structure specifies a style definition.

|                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| stdf (variable)      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| xstzName (variable)  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| grLPUpXSw (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**stdf (variable):** An [StdF](#) that specifies basic information about the style.

**xstzName (variable):** An [Xstz](#) structure that specifies the primary style name followed by any alternate names (aliases), with meaning as specified in [\[ECMA-376\]](#) part 4, section 2.7.3.9 (name) and [\[ECMA-376\]](#) part 4, section 2.7.3.1 (aliases). The primary style name and any alternate style names are combined into one string, with a comma character (U+002C) separating the primary style name and any alternate style names. If there are no alternate style names, the trailing comma is omitted.

Each name, whether primary or alternate, MUST NOT be empty and MUST be unique within all names in the stylesheet.

**grLPUpXSw (variable):** A [GrLPUpXSw](#) structure that specifies the formatting for the style.

### 2.9.259 StdF

The **StdF** structure specifies general information about the style.

|          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                            | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| stdfBase |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | StdFPost2000OrNone (optional) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**stdfBase (10 bytes):** An [StdFBase](#) structure that specifies general information about the style.

**StdFPost2000OrNone (8 bytes):** An [StdFPost2000OrNone](#) that specifies general information about the style.

### 2.9.260 StdFBase

The **StdFBase** structure specifies general information about a style.

|        |   |   |          |   |   |   |   |   |   |    |    |    |    |    |        |     |    |    |    |          |   |   |   |   |   |   |   |   |   |    |   |
|--------|---|---|----------|---|---|---|---|---|---|----|----|----|----|----|--------|-----|----|----|----|----------|---|---|---|---|---|---|---|---|---|----|---|
| 0      | 1 | 2 | 3        | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15     | 16  | 17 | 18 | 19 | 20       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| sti    |   |   |          |   |   |   |   |   |   |    |    | A  | B  | C  | D      | stk |    |    |    | istdBase |   |   |   |   |   |   |   |   |   |    |   |
| cupx   |   |   | istdNext |   |   |   |   |   |   |    |    |    |    |    | bchUpe |     |    |    |    |          |   |   |   |   |   |   |   |   |   |    |   |
| grfstd |   |   |          |   |   |   |   |   |   |    |    |    |    |    |        |     |    |    |    |          |   |   |   |   |   |   |   |   |   |    |   |

**sti (12 bits):** An unsigned integer that specifies the invariant style identifier for application-defined styles, or 0x0FFE for user-defined styles.

The **sti** identifies which styles in the stylesheet correspond to which application-defined styles. An application-defined style can have different names in different languages, but it MUST have the same **sti** value regardless of language. The **sti** values correspond to the "Index within Built-in Styles" table column that is specified in [\[ECMA-376\]](#) part 4, section 2.7.3.9 (name).

**A - fScratch (1 bit):** This bit is undefined and MUST be ignored.

**B - fInvalHeight (1 bit):** Specifies whether the paragraph height information in the **fcPlcfPhe** field of [FibRgFcLcb97](#), for any paragraphs having this paragraph style, MUST be ignored. SHOULD [<240>](#) be 0.

**C - fHasUpe (1 bit):** This bit is undefined and MUST be ignored.

**D - fMassCopy (1 bit):** This bit is undefined and MUST be ignored.

**stk (4 bits):** An unsigned integer that specifies the type of this style, which corresponds to the "type" attribute of the style element as specified in [\[ECMA-376\]](#) part 4, section 2.7.3.17 (Style Definition). This MUST be one of the following values:

| Value | Meaning  |
|-------|--|
| 1     | Paragraph style, as specified by the "paragraph" value in <a href="#">[ECMA-376]</a> part 4, section 2.18.90 (ST_StyleType). |
| 2     | Character style, as specified by the "character" value in <a href="#">[ECMA-376]</a> part 4, section 2.18.90 (ST_StyleType). |
| 3     | Table style, as specified by the "table" value in <a href="#">[ECMA-376]</a> part 4, section 2.18.90 (ST_StyleType).         |
| 4     | Numbering style, as specified by the "numbering" value in <a href="#">[ECMA-376]</a> part 4, section 2.18.90 (ST_StyleType). |

**istdBase (12 bits):** An unsigned integer that specifies the **istd** (see the **rglpstd** array in the **STSH** structure) of the parent style from which this style inherits in the style inheritance tree, or 0x0FFF if this style does not inherit from any other style in the current document. The meaning of the parent style is specified in the basedOn element in [\[ECMA-376\]](#) part 4, section 2.7.3.3. However, the style reference in that specification is a styleId rather than an **istd**, and an **istdBase** value of 0x0FFF corresponds to omitting the basedOn element.

The **istdBase** value MUST be an index that refers to a valid non-empty style in the array of style definitions. The **istdBase** value MUST NOT be the same as the **istd** of the current style and MUST NOT cause a loop in the style inheritance tree.

**cupx (4 bits):** An unsigned integer that specifies the count of formatting sets inside the structure, specified to style type, that is contained in the [GrLPUpXSw](#).

Each type of style contains a different structure within **GrLPUpXSw**, as shown in the following table. The **cupx** value specifies the count of structures within the structure that is contained in the **GrLPUpXSw**. For each type of style, the **cupx** MUST be equal to the values that are shown in the table, depending on whether the style is revision-marked (in a revision-marked style the **fHasOriginalStyle** value in [StdPost2000](#) is 1; in a non-revision-marked style the value is 0.)

Table and numbering styles MUST NOT be revision-marked.

| stk value     | GrLPUpXSw contains              | cupx for non-revision-marked style | cupx for revision-marked-style |
|---------------|---------------------------------|------------------------------------|--------------------------------|
| 1 (paragraph) | <a href="#">StkParaGRLPUPX</a>  | 2                                  | 3                              |
| 2 (character) | <a href="#">StkCharGRLPUPX</a>  | 1                                  | 2                              |
| 3 (table)     | <a href="#">StkTableGRLPUPX</a> | 3                                  | N/A                            |
| 4 (numbering) | <a href="#">StkListGRLPUPX</a>  | 1                                  | N/A                            |

**istdNext (12 bits):** An unsigned integer that specifies the **istd** (see **rglpstd** in **STSH**) of the style which is automatically applied to a new paragraph created following a paragraph with the current style, as specified in more detail in [ECMA-376] part 4, section 2.7.3.10 (next). However, the style reference in that specification is a styleId rather than an **istd**.

The **istdNext** value MUST be an index that refers to a valid non-empty style in the array of style definitions.

**bchUpe (2 bytes):** An unsigned integer that specifies the size, in bytes, of **std** in [LPStd](#). This value MUST be equal to **cbStd** in [LPStd](#).

**grfstid (2 bytes):** A [GRFSTD](#) that specifies miscellaneous style properties.

### 2.9.261 StdPost2000

The **StdPost2000** structure specifies general information about a style.

|          |   |   |   |   |   |   |   |   |   |    |    |    |    |      |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|------|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14   | 15 | 16 | 17 | 18 | 19        | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| istdLink |   |   |   |   |   |   |   |   |   |    | A  | B  |    | rsid |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |
| ...      |   |   |   |   |   |   |   |   |   |    |    |    |    |      |    | C  |    | D  | iPriority |    |    |    |    |    |    |    |    |    |    |    |    |

**istdLink (12 bits):** An unsigned integer that specifies the **istd** of the style that is linked to this one, or 0x0000 if this style is not linked to any other style in the document. The meaning of a linked style is as specified in [ECMA-376] part 4, section 2.7.3.6 (link). However, the style reference in that specification is a styleId rather than an **istd**, and an **istdLink** value of 0x0000 corresponds to omitting the link element.

The **istdLink** value MUST be an index that refers to a valid non-empty style in the array of style definitions, or 0x0000.

**A - fHasOriginalStyle (1 bit):** Specifies whether the style is revision-marked. A revision-marked style stores the pre-revision formatting in addition to the current formatting. If this bit is set to 1, the **cupx** member of [StdfBase](#) MUST include the formatting sets that specify that pre-revision formatting.

**B - fSpare (3 bits):** This value MUST be zero and MUST be ignored.

**rsid (4 bytes):** An unsigned integer that specifies the revision save identifier of the session when this style definition was last modified, as specified in [ECMA-376] part 4, section 2.7.3.15 (rsid).

**C - iftcHtml (3 bits):** This field is undefined and MUST be ignored.

**D - unused (1 bit):** This value MUST be zero and MUST be ignored.

**iPriority (12 bits):** An unsigned integer that specifies the priority value that is assigned to this style and that is used when ordering the styles by priority in the user interface, as specified in [ECMA-376] part 4, section 2.7.3.19 (uiPriority).

This MUST be a value between 0x0000 and 0x0063, inclusive.

### 2.9.262 StdPost2000OrNone

The **StdPost2000OrNone** structure specifies general information about a style.

|             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| StdPost2000 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**StdPost2000 (8 bytes):** An [StdPost2000](#) structure that specifies general information about the style. This field is optional; [Stshif.cbSTDBaseInFile](#) defines whether it is included or not.

### 2.9.263 StkCharGRLPUPX

The **StkCharGRLPUPX** structure specifies the formatting properties for a character style. All members of **StkCharGRLPUPX** are optional, but those that are present MUST appear in the order that is specified in the following table. Additionally, the number of members that are present MUST match the **cupx** member of [StdfBase](#) for the style.

|                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| lpUpXChpx (variable)             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| StkCharLpUpXGrLpUpXRM (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**lpUpXChpx (variable):** A [LPUpXChpx](#) that specifies the character formatting properties for the style.

**StkCharLpUpxGrLpUpxRM (variable):** A [StkCharLPUpXGrLPUpXRM](#) that specifies the revision-marking information and formatting for the style.

### 2.9.264 StkCharLPUpXGrLPUpXRM

The **StkCharLPUpXGrLPUpXRM** structure specifies revision-marking information and formatting for character styles. The structure is padded to be an even length. The length in **cbStkCharUpXGrLpUpXRM** MUST include this padding.

|                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                             | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbStkCharUpXGrLpUpXRM |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | StkCharUpXGrLpUpXRM (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbStkCharUpXGrLpUpXRM (2 bytes):** An unsigned 16-bit integer that specifies the size, in bytes, of **StkCharUpXGrLpUpXRM**. This field MUST include padding if it is needed to make **StkCharLPUpXGrLPUpXRM** an even length.

**StkCharUpXGrLpUpXRM (variable):** A [StkCharUpXGrLPUpXRM](#) that specifies revision-marking information and formatting.

### 2.9.265 StkCharUpXGrLPUpXRM

The **StkCharUpXGrLPUpXRM** structure specifies revision-marking information and formatting for character styles.

|                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| lpUpXRm                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lpUpXChpxRM (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**lpUpXRm (8 bytes):** An [LPUpXRm](#) structure that specifies the revision-marking information for the style.

**lpUpXChpxRM (variable):** An [LPUpXChpxRM](#) that specifies the character formatting properties for the revision-marked style formatting.

### 2.9.266 StkListGRLPUPX

The **StkListGRLPUPX** structure specifies formatting properties for a numbering style.

Each set of formatting properties is a length-prefixed variable-length structure. All members of **StkListGRLPUPX** are optional, but those that are present MUST appear in the order that is specified in the following table. Additionally, the number of members that are present MUST match the **cupx** member of [StdFBase](#) for the style.

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |
| lpUpXPapx (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**lpUpXPapx (variable):** An [LPUpXPapx](#) that specifies the paragraph formatting properties for the style.

### 2.9.267 StkParaGRLPUPX

The **StkParaGRLPUPX** structure that specifies the formatting properties for a paragraph style. All members of **StkParaGRLPUPX** are optional, but those that are present **MUST** appear in the order that is specified in the following table. Additionally, the number of members that are present **MUST** match the **cupx** member of [StdBase](#) for the style.

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |
| lpUpXPapx (variable)             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| lpUpXChpx (variable)             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| StkParaLpUpXGrLpUpXRM (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**lpUpXPapx (variable):** A [LPUpXPapx](#) that specifies the paragraph formatting properties for the style.

**lpUpXChpx (variable):** A [LPUpXChpx](#) that specifies the character formatting properties for the style.

**StkParaLpUpXGrLpUpXRM (variable):** A [StkParaLPUpXGrLPUpXRM](#) that specifies the revision-marking information and formatting for the style.

### 2.9.268 StkParaLPUpXGrLPUpXRM

The **StkParaLPUpXGrLPUpXRM** structure specifies revision-marking information and formatting for paragraph styles. This structure is length-prefixed and of variable length.

The structure is padded to be an even length.

|                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6                              | 7 | 8 | 9 | 2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 0 | 1 |  |  |  |
| cbStkParaUpXGrLpUpXRM |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | StkParaUpXGrLpUpXRM (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |

...

**cbStkParaUpxGrLpUpxRM (2 bytes):** An unsigned 16-bit integer that specifies the size, in bytes, of **StkParaUpxGrLpUpxRM**, including the padding.

**StkParaUpxGrLpUpxRM (variable):** An [StkParaUpxGrLPUpXRM](#) structure that specifies revision-marking information and formatting.

**2.9.269 StkParaUpxGrLPUpXRM**

The **StkParaUpxGrLPUpXRM** structure specifies style revision-marking and formatting for paragraph styles.

|                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| lpUpXRm                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lpUpXPapxRM (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lpUpXChpxRM (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**lpUpXRm (8 bytes):** An [LPUpXRm](#) structure that specifies the revision-marking information for the style.

**lpUpXPapxRM (variable):** An [LPUpXPapxRM](#) structure that specifies the paragraph formatting properties for the revision-marked style formatting.

**lpUpXChpxRM (variable):** An [LPUpXChpxRM](#) structure that specifies the character formatting properties for the revision-marked style formatting.

**2.9.270 StkTableGRLPUPX**

The **StkTableGRLPUPX** structure specifies the formatting properties for a table style. This structure is variable in length. All members of **StkTableGRLPUPX** are optional, but those members that are present MUST appear in the order that is specified in the following table. Additionally, the number of members that are present MUST match the **cupx** member of [StdBase](#) for the style.

|                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| lpUpXTapx (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| lpUpXPapx (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



|                      |
|----------------------|
| ...                  |
| lpUpXChpx (variable) |
| ...                  |

**lpUpXTapx (variable):** An [LPUpXTapx](#) that specifies the table formatting properties for the style.

**lpUpXPapx (variable):** An [LPUpXPapx](#) that specifies the paragraph formatting properties for the style.

**lpUpXChpx (variable):** An [LPUpXChpx](#) that specifies the character formatting properties for the style.

### 2.9.271 STSH

The **STSH** structure specifies the stylesheet for a document. The stylesheet describes the styles that are available within a document as well as their formatting.

An **istd** is an index into **rglpstd** that is used to reference a particular style definition. The **istd** values are used internally within the stylesheet, such as in the **istdBase** member of the [StdfBase](#) structure, as well as externally outside the stylesheet, such as in [Sprm](#) structures such as [sprmPistd](#). An **istd** value MUST be greater than or equal to 0x0000 and less than 0x0FFE.

Each [FIB](#) MUST contain a stylesheet.

|                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| lpstshi (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| rglpstd (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**lpstshi (variable):** An [LPStshi](#) that specifies information about the stylesheet.

**rglpstd (variable):** An array of [LPStd](#) that specifies the style definitions.

The beginning of the **rglpstd** array is reserved for specific "fixed-index" application-defined styles. A particular fixed-index, application-defined style has the same **istd** value in every stylesheet. The **rglpstd** MUST contain an **LPStd** for each of these fixed-index styles and the order MUST match the order in the following table.

| istd | sti of application-defined style (see sti in StdBase) |
|------|---|
| 0    | 0   |
| 1    | 1   |
| 2    | 2   |
| 3    | 3   |
| 4    | 4   |
| 5    | 5   |
| 6    | 6   |

| istd | sti of application-defined style (see sti in StdBase) |
|------|---|
| 7    | 7   |
| 8    | 8   |
| 9    | 9   |
| 10   | 65  |
| 11   | 105   |
| 12   | 107   |
| 13   | Reserved for future use                               |
| 14   | Reserved for future use                               |

A style is "empty" if the **cbStd** member of the **LPStd** is 0. The fixed-index styles from **istd** 0 to 12 MAY [<241>](#) be empty, while those from **istd** 13 to 14 MUST be empty.

### 2.9.272 STSHI

The **STSHI** structure specifies general stylesheet and related information.

| 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16               | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| stshif (18 bytes)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ftcBi (optional) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| StshiLsd (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| StshiB (variable)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**stshif (18 bytes):** An [Stshif](#) that specifies general stylesheet information.

**ftcBi (2 bytes):** A signed integer that specifies an operand value for the [sprmCFtcBi](#) for default document formatting, as defined in the section [Determining Formatting Properties](#).

**StshiLsd (variable):** An [StshiLsd](#) that specifies latent style data.

**StshiB (variable):** An [STSHIB](#). This MUST be ignored.

### 2.9.273 STSHIB

The **STSHIB** structure has no effect and MUST be ignored.

|                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| grpPrIChpStandard (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| grpPrIPapStandard (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**grpPrIChpStandard (variable):** An [LPStshiGrpPrI](#) that MUST be ignored.

**grpPrIPapStandard (variable):** An [LPStshiGrpPrI](#) that MUST be ignored.

### 2.9.274 Stshif

The **Stshif** structure specifies general stylesheet information.

|                       |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------|-----------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                     | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                        | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cstd                  |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cbSTDBaseInFile           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A                     | fReserved |   |   |   |   |   |   |   |   |    |    |    |    |    |    | stiMaxWhenSaved           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| istdMaxFixedWhenSaved |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    | nVerBUILTInNamesWhenSaved |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ftcAsci               |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ftcFE                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ftcOther              |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cstd (2 bytes):** An unsigned integer that specifies the count of elements in [STSH.rglpstd](#). This value MUST be equal to or greater than 0x000F, and MUST be less than 0x0FFE.

**cbSTDBaseInFile (2 bytes):** An unsigned integer that specifies the size, in bytes, of the [StdF](#) structure. The **StdF** structure contains an [StdFBase](#) structure that is followed by a [StdFPost2000OrNone](#) structure which contains an optional [StdFPost2000](#) structure. This value MUST be 0x000A when the **StdF** structure does not contain an [StdFPost2000](#) structure and MUST be 0x0012 when the **StdF** structure does contain an [StdFPost2000](#) structure.

**A - fStdStylenamesWritten (1 bit):** This value MUST be 1 and MUST be ignored.

**fReserved (15 bits):** This value MUST be zero and MUST be ignored.

**stiMaxWhenSaved (2 bytes):** An unsigned integer that specifies a value that is 1 larger than the largest **StdFBase.sti** index of any application-defined style. This SHOULD [<242>](#) be equal to the largest **sti** index that is defined in the application, incremented by 1.

**istdMaxFixedWhenSaved (2 bytes):** An unsigned integer that specifies the count of elements at the start of [STSH.rglpstd](#) that are reserved for fixed-index application-defined styles. This value MUST be 0x000F.

**nVerBUILTInNamesWhenSaved (2 bytes):** An unsigned integer that specifies the version number of the style names as defined by the application that writes the file. This value SHOULD [<243>](#) be 0.

**ftcAscii (2 bytes):** A signed integer that specifies an operand value for the [sprmCRgFtc0](#) for default document formatting, as defined in the section [Determining Formatting Properties](#).

**ftcFE (2 bytes):** A signed integer that specifies an operand value for the [sprmCRgFtc1](#) for default document formatting, as defined in the section [Determining Formatting Properties](#).

**ftcOther (2 bytes):** A signed integer that specifies an operand value for the [sprmCRgFtc2](#) for default document formatting, as defined in the section [Determining Formatting Properties](#).

### 2.9.275 StshiLsd

The **StshiLsd** structure specifies latent style data for application-defined styles. Application-defined styles are considered to be latent if they have an [LPStd](#) that is 0x0000 in [STSH.rglpstd](#) or if they have no corresponding [LPStd](#) in [STSH.rglpstd](#). (For example, if an application has a built-in definition for a "Heading 1" style but that style is not currently defined in a document stylesheet, that style is considered latent.) Latent style data specifies a default set of behavior properties to be used when latent styles are first created.

The index into [mpstiilsd](#) is the **sti** value (in the [StdfBase](#) structure) of the application-defined style to which it applies. An [LSD](#) structure MUST be provided for every application-defined style with **sti** values from 0 to one less than **stiMaxWhenSaved** (in the [Stshif](#) structure), regardless of whether those application-defined styles are currently latent or not.

|       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                   | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cbLSD |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | mpstiilsd (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cbLSD (2 bytes):** An unsigned 16-bit integer that specifies the size in bytes of the **LSD** structure. This value MUST be 4.

**mpstiilsd (variable):** An array of **LSD** structures that specifies the latent style data for application-defined styles. The count of elements MUST be equal to the **stiMaxWhenSaved** member of the **Stshif** structure.

### 2.9.276 SttbfAssoc

The **SttbfAssoc** structure is an [STTB](#) that contains strings which are associated with this document.

|                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                             | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fExtend (2 bytes)              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes)                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>0</sub> (2 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>0</sub> (variable)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | Data <sub>1</sub> (variable)   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                                    |                                      |
|------------------------------------|--------------------------------------|
| ...                                |                                      |
| ...                                | cchData <sub>cData-1</sub> (2 bytes) |
| Data <sub>cData-1</sub> (variable) |                                      |
| ...                                |                                      |

This **STTB** MUST contain 18 strings. No extra data is appended to the strings of this **STTB**. Unless otherwise noted, each string in this **STTB** MUST contain no more than 255 characters. The indexes and meanings of these strings are as follows.

| Index | Meaning  |
|-------|--|
| 0x00  | Unused. MUST be ignored.   |
| 0x01  | The path of the associated document template, if it is not the default Normal template.  |
| 0x02  | The title of the document. This MUST be ignored if title information, as specified in [MS-OLEPS] section 3.1.2, exists in the Summary Information Stream.                          |
| 0x03  | The subject of the document. This MUST be ignored if subject information, as specified in [MS-OLEPS] section 3.1.3, exists in the Summary Information Stream.                      |
| 0x04  | Key words associated with the document. This MUST be ignored if key word information, as specified in [MS-OLEPS] section 3.1.5, exists in the Summary Information Stream.          |
| 0x05  | Unused. This index MUST be ignored.  |
| 0x06  | The author of the document. This index MUST be ignored if author information, as specified in [MS-OLEPS] section 3.1.4, exists in the Summary Information Stream.                  |
| 0x07  | The user who last revised the document. This index MUST be ignored if last author information, as specified in [MS-OLEPS] section 3.1.8, exists in the Summary Information Stream. |
| 0x08  | The path of the associated mail merge data source.   |
| 0x09  | The path of the associated <b>mail merge header document</b> .   |
| 0x0A  | Unused. This index MUST be ignored.  |
| 0x0B  | Unused. This index MUST be ignored.  |
| 0x0C  | Unused. This index MUST be ignored.  |
| 0x0D  | Unused. This index MUST be ignored.  |
| 0x0E  | Unused. This index MUST be ignored.  |
| 0x0F  | Unused. This index MUST be ignored.  |
| 0x10  | Unused. This index MUST be ignored.  |
| 0x11  | The write-reservation password of the document. This value MUST not exceed 15 characters in length.  |

The **SttbfAssoc** structure is an **STTB** structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cData (2 bytes):** This value MUST be 0x0012.

**cbExtra (2 bytes):** This value MUST be 0.

## 2.9.277 SttbfAtnBkmk

The **SttbfAtnBkmk** structure is an **STTB** whose strings are all of zero length. The **cData** field size of this **STTB** is two bytes. Although this **STTB** contains no strings, it is an extended **STTB**, meaning that its **cchData** field size is two bytes. The extra data that is appended to each string of this **STTB** is an

**ATNBE** which contains information about an annotation bookmark in the document. In a document, the number of annotation bookmarks **MUST NOT** exceed 0x3FFB.

| 0                                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                                      | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|--------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| fExtend (2 bytes)                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes)                         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>0</sub> (2 bytes)          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ExtraData <sub>0</sub> (10 bytes)    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>1</sub> (2 bytes)          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ExtraData <sub>1</sub> (10 bytes)    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ...                                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ExtraData <sub>cData-1</sub> (10 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

The **SttbfAtnBkmk** structure is an **STTB** structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value **MUST** be 0xFFFF.

**cbExtra (2 bytes):** This value **MUST** be 0xA.

**cData (2 bytes):** This value **MUST NOT** exceed 0x3FFC.

**cchData (2 bytes):** This value **MUST** be 0.

### 2.9.278 SttbfAutoCaption

The **SttbfAutoCaption** structure is an **STTB** that contains AutoCaption information. Each string is the **ProgID** of an OLE object that, when inserted into the document, automatically has a caption inserted with it. The extra data which is appended to each string is an unsigned 16-bit integer that specifies a zero-based index into **SttbfCaption**. The data at that index defines the caption that is inserted.

| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                             | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| fExtend (2 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes)                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>0</sub> (2 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|  |                                    |
|--|------------------------------------|
| Data <sub>0</sub> (variable)           |                                    |
| ...                                    |                                    |
| ExtraData <sub>0</sub> (2 bytes)       | cchData <sub>1</sub> (2 bytes)     |
| Data <sub>1</sub> (variable)           |                                    |
| ...                                    |                                    |
| ExtraData <sub>1</sub> (2 bytes)       | ...                                |
| cchData <sub>cData-1</sub> (2 bytes)   | Data <sub>cData-1</sub> (variable) |
| ...                                    |                                    |
| ExtraData <sub>cData-1</sub> (2 bytes) |                                    |

The **SttbfAutoCaption** structure is an **STTB** structure that has following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0002.

### 2.9.279 SttbfBkmk

The **SttbfBkmk** structure is an **STTB** structure whose strings specify the names of bookmarks in the document. The **cData** field size of this **STTB** structure is 2 bytes. The strings of this **STTB** contain extended (2-byte) characters, and there is no extra data appended to them—in other words, it is equivalent to an **SttbfBkmkBPRepairs** structure. The names in this table that begin with the Unicode character 0x005F correspond to hidden bookmarks. The strings in this table MUST be greater than 0 and less than 40 characters in length. The strings in this table MUST be unique, and there MUST NOT be more than 0x3FFB of them.

|                                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|--------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| 0                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                             | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |
| fExtend (2 bytes)              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes)                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| cbExtra (2 bytes)              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>0</sub> (2 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| Data <sub>0</sub> (variable)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| cchData <sub>1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | Data <sub>1</sub> (variable)   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ...                            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |

|                                    |                                      |
|------------------------------------|--------------------------------------|
| ...                                | cchData <sub>cData-1</sub> (2 bytes) |
| Data <sub>cData-1</sub> (variable) |                                      |
| ...                                |                                      |

The **SttbfBkmk** structure is an **STTB** structure with the following additional restrictions on its field values:

**fExtend (2 bytes):** MUST be 0xFFFF.

**cData (2 bytes):** MUST NOT exceed 0x3FFC.

**cbExtra (2 bytes):** MUST be 0.

**cchData (2 bytes):** MUST NOT exceed 40.

**Data (variable):** For the purpose of achieving the correct definition of "skip character", the following constraints MUST be evaluated using delayed evaluation and examination of characters in a string MUST take place in first-to-last order. Delayed evaluation requires that each constraint not be read until the result of that constraint is needed. For example, application of the following algorithm to the string "Abc" will never require reading of the constraints defining a single byte Katakana character.

To be a valid member of SttbfBkmk, all characters in the string that are not preceded by a skip character SHOULD<244> meet all of the following constraints:

- Is the first character of the name and satisfies all of the following constraints:
  - Is not Unicode character 0x3000.
  - Is not a double-byte digit, meaning that it is between 0xFF10 and 0xFF19, inclusive.
  - Is one of the following:
    - An alpha character, as defined later.
    - The hidden **bookmark** character, 0x005F.
    - A single-byte Katakana character, meaning that it is between 0xFF61 and 0xFF9F, inclusive.
    - A far-east, double-byte text character as defined later.
- Is not the first character of the name and satisfies all of the following constraints:
  - Is not Unicode character 0x3000.
  - Is one of the following:
    - An East Asian, double-byte text character as defined later.
    - An alpha character as defined later.
    - A digit character as defined later.
    - The hidden **bookmark** character, 0x005F.
    - A single-byte Katakana character, meaning it is between 0xFF61 and 0xFF9F, inclusive.



A digit character is defined as that which satisfies both of the following constraints:

- Is not 0xFFFF.
- Satisfies one of the following constraints:
  - Is between 0x0030 and 0x0039, inclusive.
  - Is between 0xFF10 and 0xFF19, inclusive.
  - Is between 0x0E50 and 0x0E59, inclusive.
  - Is between 0x0966 and 0x096F, inclusive.
  - Is between 0x0F18 and 0x0F19, inclusive.
  - Is between 0x0F20 and 0x0F33, inclusive.
  - Is between 0x0F3E and 0x0F3F, inclusive.
  - Is between 0x0ED0 and 0x0ED9, inclusive.
  - Is between 0x17E0 and 0x17F9, inclusive.

A bidirectional alpha character is defined as a character that satisfies one of the following constraints:

- Is 0x067E or 0x0686 or 0x0698 or 0x06AF or 0x05C4.
- Is between 0x0621 and 0x0652, inclusive.
- Is between 0x05D0 and 0x05EA, inclusive.
- Is between 0x05B0 and 0x05B9, inclusive.
- Is between 0x05BB and 0x05C2, inclusive.
- Is between 0x05F0 and 0x05F2, inclusive.
- Is between 0x0591 and 0x05A1, inclusive.
- Is between 0x05A3 and 0x05AF, inclusive.
- Is between 0x0710 and 0x072C, inclusive.
- Is between 0x0730 and 0x073F, inclusive.
- Is any linguistic character in a right-to-left alphabet.

An alpha character is defined as that which satisfies one of the following constraints:

- Is between 'a' and 'z', inclusive.
- Is between 'A' and 'Z', inclusive.
- Is an uppercase or lowercase character in a left-to-right, non-East Asian alphabet.
- Is a Hangul compatibility Jamo, meaning between 0x3131 and 0x318E, inclusive.
- Is a Hangul Jamo, meaning between 0xAC00 and 0xD7A3, inclusive.
- Is a Kanji character, meaning that it is 0x3005 or 0x3007 or between 0x4E00 and 0x9FFF, inclusive, or the Unicode sub-range of the character is either CJK Compatibility Ideographs or CJK Unified Ideographs Extension A.

- Is not a character that satisfies the definition of a digit given earlier, and satisfies one of the following constraints:
  - Is not 0x1780 and the top 2 bytes of the character are 0x900, 0xE00, 0xF00 or 0x1700 and satisfies one of the following constraints:
    - Is between 0x901 and 0x939, inclusive.
    - Is 0x93D.
    - Is between 0x93E and 0x94D, inclusive.
    - Is between 0x950 and 0x963, inclusive.
    - Is between 0x966 and 0x96F, inclusive.
    - Is between 0x0E01 and 0x0E2E, inclusive.
    - Is between 0x0E30 and 0x0E3A, inclusive.
    - Is between 0x0E40 and 0x0E4C, inclusive.
    - Is between 0x0E50 and 0x0E59, inclusive.
    - Is between 0x0E5A and 0x0E5B, inclusive.
    - Is between 0x0E80 and 0x0ECD, inclusive.
    - Is between 0x0EDC and 0x0EDD, inclusive.
    - Is between 0x0F00 and 0x0F07, inclusive.
    - Is between 0x0F15 and 0x0F17, inclusive.
    - Is between 0x0F1A and 0x0F1F, inclusive.
    - Is between 0x0F34 and 0x0F3D, inclusive.
    - Is between 0x0F40 and 0x0FCF, inclusive.
    - Is between 0x1780 and 0x17DD, inclusive.
  - Satisfies all of the following:
    - The top 2 bytes of the character are not 0x900, 0xE00, 0xF00 or 0x1700.
    - Is a Unicode 3 South Asian character—meaning that it is less than or equal to 0x900 and satisfies one of the following:
      - Is less than or equal to 0x109F.
      - Is between 0x1780 and 0x19FF, inclusive.
      - Is any linguistic character in a left-to-right, non-East Asian language.
- Satisfies the definition of bidirectional alpha character that was given earlier.
- Is a Vietnamese tonemark, meaning it is one of the following: 0x0300, 0x0301, 0x0303, 0x0309, or 0x0323.
- Is a low surrogate character, meaning that it is between 0xDC00 and 0xDFFF, inclusive.
- Is a high surrogate character, meaning that it is between 0xD840 and 0xD869, inclusive.

- Is between 0xA000 and 0xA4C6, inclusive.
- An East Asian double-byte text character is defined as that which satisfies one of the following constraints:
- Is between 0x3000 and 0x4DB5, inclusive.
  - Is between 0x1100 and 0x11F9, inclusive.
  - Is between 0xAC00 and 0xD7A3, inclusive.
  - Is between 0x4E00 and 0x9FFF, inclusive.
  - Is between 0xE815 and 0xE864, inclusive.
  - Is between 0xF900 and 0xFAFF, inclusive.
  - Is between 0xFE30 and 0xFE4F, inclusive.
  - Is between 0xFF00 and 0xFF5F, inclusive.
  - Is between 0xE000 and 0xE7FF, inclusive.
  - Is between 0x2460 and 0x24FF, inclusive.
  - Is between 0x0080 and satisfies both of the following constraints:
    - Is a high surrogate character, meaning it is between 0xD800 and 0xDBFF, inclusive. If this constraint is reached and satisfied during delayed evaluation of the conditions upon strings in SttbfBkmk, then it is a skip character.
    - Is between 0xD840 and 0xD869, inclusive.
  - Is greater than or equal to 0x0080 and satisfies all of the following constraints:
    - Not a high or low surrogate character, where a low surrogate character is defined as between 0xDC00 and 0xDFFF, inclusive.
    - Can be expressed as a multibyte character string in an East Asian code page.

### 2.9.280 SttbfBkmkBPRepairs

The **SttbfBkmkBPRepairs** structure is an **STTB** structure whose strings specify the descriptions of repair bookmarks in the document. The **cData** field size of this **STTB** structure is 2 bytes. The strings of this STTB structure contain extended (two-byte) characters, and there is no extra data appended to them—in other words, it is equivalent to an **SttbfBkmk**. The strings of this table are not null-terminated. In a document, the number of repair bookmarks MUST NOT exceed 0x7FF0.

| 0                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6                              | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| fExtend (2 bytes)            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| cbExtra (2 bytes)            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| Data <sub>0</sub> (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

|                                    |                                      |
|------------------------------------|--------------------------------------|
| cchData <sub>1</sub> (2 bytes)     | Data <sub>1</sub> (variable)         |
| ...                                |                                      |
| ...                                | cchData <sub>cData-1</sub> (2 bytes) |
| Data <sub>cData-1</sub> (variable) |                                      |
| ...                                |                                      |

The **SttbfBkmkBPREpairs** structure is an **STTB** structure with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cData (2 bytes):** This value MUST NOT exceed 0x7FF0.

**cbExtra (2 bytes):** This value MUST be 0.

### 2.9.281 SttbfBkmkFactoid

The **SttbfBkmkFactoid** structure is an **STTB** whose strings are **FACTOIDINFO** structures, each of which contains information about a smart tag bookmark in the document. The **cData** field size of this **STTB** is 2 bytes. This **STTB** is an extended **STTB**, meaning that its **cchData** field size is 2 bytes. There is no extra data appended to the strings of this **STTB**. In a document, the number of smart tag bookmarks MUST NOT exceed 0x7FF0.

|                                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                                 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fExtend (2 bytes)                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes)                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>0</sub> (2 bytes)     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>0</sub> (12 bytes)         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>1</sub> (2 bytes)       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | Data <sub>1</sub> (12 bytes)       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ...                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | Data <sub>cData-1</sub> (12 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|     |  |
|-----|--|
| ... |  |
| ... |  |
| ... |  |

The **SttbfBkmkFactoid** structure is an STTB structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cData (2 bytes):** This value MUST NOT exceed 0x7FF0.

**cbExtra (2 bytes):** This value MUST be 0.

**cchData (2 bytes):** This value MUST be 0x6.

### 2.9.282 SttbfBkmkFcc

The **SttbfBkmkFcc** structure is an **STTB** whose strings are **DPCID** structures. Each DPCID contains information about a format consistency-checker bookmark in the document. The **cData** field size of this **STTB** is 2 bytes. This **STTB** is an extended **STTB**, which means that its **cchData** field size is 2 bytes. There is no extra data appended to the strings of this **STTB**. In a document, the number of format consistency-checker bookmark elements MUST NOT exceed 0x7FF0.

| 0                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1                              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| fExtend (2 bytes)              |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cbExtra (2 bytes)              |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>0</sub> (20 bytes)   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                            |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                            |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                            |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                            |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cchData <sub>1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   | Data <sub>1</sub> (20 bytes)   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                            |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                            |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                            |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                                      |                                    |
|--------------------------------------|------------------------------------|
| ...                                  |                                    |
| ...                                  | ...                                |
| cchData <sub>cData-1</sub> (2 bytes) | Data <sub>cData-1</sub> (20 bytes) |
| ...                                  |                                    |
| ...                                  |                                    |
| ...                                  |                                    |
| ...                                  |                                    |
| ...                                  |                                    |
| ...                                  |                                    |

The **SttbfBkmkFcc** structure is an **STTB** structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cData (2 bytes):** This value MUST NOT exceed 0x7FF0.

**cbExtra (2 bytes):** This value MUST be 0.

**cchData (2 bytes):** This value MUST be 0xA.

### 2.9.283 SttbfBkmkProt

The **SttbfBkmkProt** structure is an [STTB](#) whose strings are all of length zero. The **cData** field of this STTB is four bytes. Although this STTB contains no strings, it is an extended STTB, which means that its **cchData** fields are two bytes in size. The extra data that is appended to each string of this STTB is a [PRTI](#) which contains information about the range-level protection bookmarks in the document. In a document, the number of range-level protection bookmarks MUST NOT exceed 0x00007FF0.

| 0                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1                                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| fExtend (2 bytes)                |   |   |   |   |   |   |   |   |   |   | cData (4 bytes)                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                              |   |   |   |   |   |   |   |   |   |   | cbExtra (2 bytes)                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| cchData <sub>0</sub> (2 bytes)   |   |   |   |   |   |   |   |   |   |   | ExtraData <sub>0</sub> (8 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                              |   |   |   |   |   |   |   |   |   |   |                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ...                              |   |   |   |   |   |   |   |   |   |   | cchData <sub>1</sub> (2 bytes)   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| ExtraData <sub>1</sub> (8 bytes) |   |   |   |   |   |   |   |   |   |   |                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

|  |  |  |  |  |  |  |  |                                      |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--------------------------------------|--|--|--|--|--|--|--|
| ...                                    |  |  |  |  |  |  |  |                                      |  |  |  |  |  |  |  |
| ...                                    |  |  |  |  |  |  |  | cchData <sub>cData-1</sub> (2 bytes) |  |  |  |  |  |  |  |
| ExtraData <sub>cData-1</sub> (8 bytes) |  |  |  |  |  |  |  |                                      |  |  |  |  |  |  |  |
| ...                                    |  |  |  |  |  |  |  |                                      |  |  |  |  |  |  |  |

The **SttbfBkmkProt** structure is an STTB structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cData (4 bytes):** This value MUST NOT exceed 0x00007FF0.

**cbExtra (2 bytes):** This value MUST be 0x8.

**cchData (2 bytes):** This value MUST be 0.

**ExtraData (8 bytes):** A PRTI.

### 2.9.284 SttbfBkmkSdt

The **SttbfBkmkSdt** structure is an **STTB** whose strings are **SDTI** structures, each of which contains information about a structured document tag bookmark in the document. The **cData** field size of this **STTB** is 4 bytes. This **STTB** is an extended **STTB**, which means that its **cchData** field size is 2 bytes. There is no extra data appended to the strings of this **STTB**. In a document, the number of structured document tag bookmarks MUST NOT exceed 0x7FFFFFFF.

| 0                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0                                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
|------------------------------------|---|---|---|---|---|---|---|---|---|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| fExtend (2 bytes)                  |   |   |   |   |   |   |   |   |   | cData (4 bytes)                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   | cbExtra (2 bytes)                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cchData <sub>0</sub> (2 bytes)     |   |   |   |   |   |   |   |   |   | Data <sub>0</sub> (variable)         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cchData <sub>1</sub> (2 bytes)     |   |   |   |   |   |   |   |   |   | Data <sub>1</sub> (variable)         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   | cchData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>cData-1</sub> (variable) |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

The **SttbfBkmkSdt** structure is an **STTB** structure that has the following additional constraints on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cData (4 bytes):** This value MUST NOT exceed 0x7FFFFFFF.

**cbExtra (2 bytes):** This value MUST be 0.

**cchData (2 bytes):** This value MUST be 0x000C.

**Data (variable):** An **SDTI**. The size of this field is 2 \* **cchData** bytes, incremented by the value of the **cbPlaceholder** of this **SDTI** plus the size, in bytes, of the **fsdaparray** of this **SDTI**.

### 2.9.285 SttbfCaption

The **SttbfCaption** structure is an **STTB** structure that defines captions. Each string in this **STTB** structure is the label of a caption, and MUST have less than or equal to 40 characters. The extra data appended to each string is a **CAPI** structure that specifies addition information about the caption.

| 0                                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                                 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|--------------------------------------|---|---|---|---|---|---|---|---|---|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| fExtend (2 bytes)                    |   |   |   |   |   |   |   |   |   | cData (2 bytes)                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)                    |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes)     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>0</sub> (variable)         |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extra <sub>0</sub> (6 bytes)         |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   | cchData <sub>1</sub> (2 bytes)     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>1</sub> (variable)         |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extra <sub>1</sub> (6 bytes)         |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   | ...                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   | Data <sub>cData-1</sub> (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extra <sub>cData-1</sub> (6 bytes)   |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                  |   |   |   |   |   |   |   |   |   |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



The **SttbfCaption** structure is an **STTB** structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0006.

**cchData (2 bytes):** This value MUST be less than or equal to 40.

### 2.9.286 SttbfFfn

The **SttbfFfn** structure is an **STTB** whose strings are **FFN** records that specify details of system fonts. Each font that is used in the document MUST have an entry in this list. There is no extra data appended to the strings of this **STTB**. Each **FFN** MUST be completely and accurately filled out with attributes that match the corresponding system font. This table MAY [<245>](#) contain fonts that are not referenced in the document.

| 0                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                           | 11 | 12 | 13 | 14 | 15 | 16                | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26                                  | 27 | 28 | 29 | 30 | 31 |  |  |  |  |
|------------------------------------|---|---|---|---|---|---|---|---|---|------------------------------|----|----|----|----|----|-------------------|----|----|----|----|----|----|----|----|----|-------------------------------------|----|----|----|----|----|--|--|--|--|
| cData (2 bytes)                    |   |   |   |   |   |   |   |   |   |                              |    |    |    |    |    | cbExtra (2 bytes) |    |    |    |    |    |    |    |    |    |                                     |    |    |    |    |    |  |  |  |  |
| cchData <sub>0</sub> (1 byte)      |   |   |   |   |   |   |   |   |   | Data <sub>0</sub> (variable) |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |                                     |    |    |    |    |    |  |  |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |                              |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |                                     |    |    |    |    |    |  |  |  |  |
| cchData <sub>1</sub> (1 byte)      |   |   |   |   |   |   |   |   |   | Data <sub>1</sub> (variable) |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |                                     |    |    |    |    |    |  |  |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |                              |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |                                     |    |    |    |    |    |  |  |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |                              |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    | cchData <sub>cData-1</sub> (1 byte) |    |    |    |    |    |  |  |  |  |
| Data <sub>cData-1</sub> (variable) |   |   |   |   |   |   |   |   |   |                              |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |                                     |    |    |    |    |    |  |  |  |  |
| ...                                |   |   |   |   |   |   |   |   |   |                              |    |    |    |    |    |                   |    |    |    |    |    |    |    |    |    |                                     |    |    |    |    |    |  |  |  |  |

The **SttbfFfn** structure is a non-extended character **STTB** that has the following additional restrictions on its field values:

**cData (2 bytes):** This value MUST NOT exceed 0x7FF0.

**cbExtra (2 bytes):** This value MUST be 0.

### 2.9.287 SttbfGlsy

The **SttbfGlsy** structure is an **STTB** structure in which the strings specify the names of the AutoText and rich text AutoCorrect items that are defined in this document. These names correspond to their respective entries in the parallel [PlcfGlsy](#). Each string in this STTB MUST have no more than 32 characters. The extra data that is appended to each string of this STTB is a [LEGOXTR\\_V11](#), which specifies additional data about the item with which the string is associated.

| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16              | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| fExtend (2 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                                    |                                      |
|------------------------------------|--------------------------------------|
| cbExtra (2 bytes)                  | cchData <sub>0</sub> (2 bytes)       |
| Data <sub>0</sub> (variable)       |                                      |
| ...                                |                                      |
| Extra <sub>0</sub> (4 bytes)       |                                      |
| cchData <sub>1</sub> (2 bytes)     | Data <sub>1</sub> (variable)         |
| ...                                |                                      |
| Extra <sub>1</sub> (4 bytes)       |                                      |
| ...                                | cchData <sub>cData-1</sub> (2 bytes) |
| Data <sub>cData-1</sub> (variable) |                                      |
| ...                                |                                      |
| Extra <sub>cData-1</sub> (4 bytes) |                                      |

The **SttbfGlsy** structure is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0004.

**cchData (2 bytes):** This value MUST be less than or equal to 32.

### 2.9.288 SttbFnm

The **SttbFnm** structure is an **STTB** structure in which the strings specify the file names of the external files that are referenced by this document. Each file name contains the full path of the file, including the name and extension of the file. The extra data that is appended to each string of this **STTB** is an **FNIF** which contains additional information about the path. **fnpf.fnpd** MUST be unique for all **FNIF** structures in this **STTB** structure that share the same **fnpf.fnpf**. Because **fnpf** is unique for all **FNIF** structures in this **STTB** structure, **FNPI** structures can be used by other structures to reference the file names in this **STTB** structure.

|                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6                              | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| fExtend (2 bytes)            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cbExtra (2 bytes)            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>0</sub> (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                                    |                                      |
|------------------------------------|--------------------------------------|
| Extra <sub>0</sub> (8 bytes)       |                                      |
| ...                                |                                      |
| cchData <sub>1</sub> (2 bytes)     | Data <sub>1</sub> (variable)         |
| ...                                |                                      |
| Extra <sub>1</sub> (8 bytes)       |                                      |
| ...                                |                                      |
| ...                                | cchData <sub>cData-1</sub> (2 bytes) |
| Data <sub>cData-1</sub> (variable) |                                      |
| ...                                |                                      |
| Extra <sub>cData-1</sub> (8 bytes) |                                      |
| ...                                |                                      |

The **SttbFnm** structure is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0008.

### 2.9.289 SttbRfs

The **SttbRfs** structure is an **STTB** structure that contains the strings for a mail merge. This structure SHOULD [<246>](#) contain 5 strings, and MUST contain at least 4 strings, as shown in the following table. There is no extra data appended to the strings of this **STTB**.

|                                |   |   |   |   |   |   |   |   |   |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------------|---|---|---|---|---|---|---|---|---|----|--------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11                             | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fExtend (2 bytes)              |   |   |   |   |   |   |   |   |   |    | cData (2 bytes)                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)              |   |   |   |   |   |   |   |   |   |    | cchData <sub>0</sub> (2 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>0</sub> (variable)   |   |   |   |   |   |   |   |   |   |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                            |   |   |   |   |   |   |   |   |   |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |    | Data <sub>1</sub> (variable)   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                            |   |   |   |   |   |   |   |   |   |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                                |                              |
|--------------------------------|------------------------------|
| cchData <sub>2</sub> (2 bytes) | Data <sub>2</sub> (variable) |
| ...                            |                              |
| cchData <sub>3</sub> (2 bytes) | Data <sub>3</sub> (variable) |
| ...                            |                              |
| cchData <sub>4</sub> (2 bytes) | Data <sub>4</sub> (variable) |
| ...                            |                              |

The **SttbfRfs** structure is an **STTB** structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cData (2 bytes):** This value SHOULD [<247>](#) be 0x0005, and MUST be either 0x0005 or 0x0004.

**cbExtra (2 bytes):** This value MUST be 0x0000.

**cchData<sub>0-4</sub> (2 bytes):** An unsigned integer that specifies the count of characters in the corresponding **Data** fields. This value MUST be less than 256.

**Data<sub>0</sub> (variable):** A Unicode string that specifies the connection string to the mail merge data source. This string MUST be identical to the string with **id**=0x0000 inside [ODSOPROPERTYBASE](#), if neither of these two strings is empty.

**Data<sub>1</sub> (variable):** A Unicode string that specifies the connection string to the source for the field names of the mail merge data. This string MUST be empty if the field names are from the same data source as **Data<sub>0</sub>**.

**Data<sub>2</sub> (variable):** A Unicode string that specifies the e-mail subject line if the mail merge is for e-mail.

**Data<sub>3</sub> (variable):** A Unicode string that specifies the name of the data column that contains either e-mail addresses, if the mail merge is for e-mail, or fax numbers, if the mail merge is for fax.

**Data<sub>4</sub> (variable):** This value MUST be ignored.

### 2.9.290 SttbfRMark

The **SttbfRMark** structure is an **STTB** structure where the strings specify the names of the authors of the revision marks, comments, and e-mail messages in the document. There is no extra data appended to the strings of this **STTB**. The first entry MUST be "Unknown".

|                              |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| 0                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4                              | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |  |  |
| fExtend (2 bytes)            |   |   |   |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| cbExtra (2 bytes)            |   |   |   |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| Data <sub>0</sub> (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

|                                      |                                    |
|--------------------------------------|------------------------------------|
| ...                                  |                                    |
| cchData <sub>1</sub> (2 bytes)       | Data <sub>1</sub> (variable)       |
| ...                                  |                                    |
| cchData <sub>cData-1</sub> (2 bytes) | Data <sub>cData-1</sub> (variable) |
| ...                                  |                                    |

The **SttbfRMark** structure is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0.

### 2.9.291 SttbGlsyStyle

The **SttbGlsyStyle** structure is an **STTB** structure in which the strings specify the names of the styles used by the AutoText and rich text AutoCorrect items that are defined in the parallel **SttbfGlsy**. The extra data that is appended to each string in this **STTB** is an unsigned 8-bit integer that specifies how many items use the style indicated by the string and that MUST be less than or equal to 0x32.

| 0                                    | 1 | 2 | 3                              | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8                            | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
|--------------------------------------|---|---|--------------------------------|---|---|---|---|---|---|---|------------------------------------|---|---|---|---|---|---|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| fExtend (2 bytes)                    |   |   |                                |   |   |   |   |   |   |   | cData (2 bytes)                    |   |   |   |   |   |   |                              |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cbExtra (2 bytes)                    |   |   |                                |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes)     |   |   |   |   |   |   |                              |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>0</sub> (variable)         |   |   |                                |   |   |   |   |   |   |   |                                    |   |   |   |   |   |   |                              |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                  |   |   |                                |   |   |   |   |   |   |   |                                    |   |   |   |   |   |   |                              |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Extra <sub>0</sub> (1 byte)          |   |   | cchData <sub>1</sub> (2 bytes) |   |   |   |   |   |   |   |                                    |   |   |   |   |   |   | Data <sub>1</sub> (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                  |   |   |                                |   |   |   |   |   |   |   |                                    |   |   |   |   |   |   |                              |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Extra <sub>1</sub> (1 byte)          |   |   | ...                            |   |   |   |   |   |   |   |                                    |   |   |   |   |   |   |                              |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cchData <sub>cData-1</sub> (2 bytes) |   |   |                                |   |   |   |   |   |   |   | Data <sub>cData-1</sub> (variable) |   |   |   |   |   |   |                              |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                  |   |   |                                |   |   |   |   |   |   |   |                                    |   |   |   |   |   |   |                              |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Extra <sub>cData-1</sub> (1 byte)    |   |   |                                |   |   |   |   |   |   |   |                                    |   |   |   |   |   |   |                              |   |   |   |   |   |   |   |   |   |   |   |   |   |

The **SttbfGlsyStyle** structure is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0001.

## 2.9.292 SttbListNames

The **SttbListNames** structure is an **STTB** structure whose strings are the names used by the **LISTNUM** field, as specified by **LISTNUM** in [fit](#), for each of the **LSTF** structures in the document. There is no extra data appended to the strings of this **STTB** structure. This **STTB** is parallel to [PifLst.rgLstf](#). If this **STTB** has more entries than [PifLst.rgLstf](#), the extra entries in this **STTB** MUST be ignored. If a list does not have a name, its corresponding string is an empty string. All non-empty strings in this **STTB** structure MUST be unique. Each string in this **STTB** structure MUST contain no more than 255 characters.

| 0                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1                                    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| fExtend (2 bytes)                  |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cbExtra (2 bytes)                  |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes)       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>0</sub> (variable)       |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cchData <sub>1</sub> (2 bytes)     |   |   |   |   |   |   |   |   |   |   | Data <sub>1</sub> (variable)         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   | cchData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>cData-1</sub> (variable) |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                                |   |   |   |   |   |   |   |   |   |   |                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

The **SttbListNames** structure is an **STTB** structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0000.

**cchData (2 bytes):** This value MUST be less than or equal to 0x00FF.

## 2.9.293 SttbProtUser

The **SttbProtUser** structure is an **STTB** structure in which the strings specify the usernames of users who have different roles with respect to a protected range of content in the document.

| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1                              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
|-------------------|---|---|---|---|---|---|---|---|---|---|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| fExtend (2 bytes) |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cbExtra (2 bytes) |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|  |                                    |
|--|------------------------------------|
| Data <sub>0</sub> (variable)           |                                    |
| ...                                    |                                    |
| ExtraData <sub>0</sub> (2 bytes)       | cchData <sub>1</sub> (2 bytes)     |
| Data <sub>1</sub> (variable)           |                                    |
| ...                                    |                                    |
| ExtraData <sub>1</sub> (2 bytes)       | ...                                |
| cchData <sub>cData-1</sub> (2 bytes)   | Data <sub>cData-1</sub> (variable) |
| ...                                    |                                    |
| ExtraData <sub>cData-1</sub> (2 bytes) |                                    |

Each string is either the name of a mapped Windows user or group account that MUST be in the form "DOMAIN\NAME" or a valid e-mail address as defined in [\[RFC2822\]](#). Each string in this **STTB** MUST be unique, and MUST have less than or equal to 255 characters. The extra data that is appended to each string of this **STTB** is a signed 16-bit integer that specifies the role for the username and MUST be one of the following values.

| Value  | Meaning                                       |
|--------|---|
| 0x0000 | There is no role specified for the user name. |
| 0xFFFC | The username specifies an owner.              |
| 0xFFFB | The username specifies an editor.             |

The **SttbProtUser** structure is an **STTB** structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0002.

**cchData (2 bytes):** This value MUST be less than or equal to 0x00FF.

### 2.9.294 SttbRgtplc

The **SttbRgtplc** structure is an **STTB** structure in which each string specifies the bullet/numbering formats for a hybrid bulleted/numbered multi-level list. Because such a list can have a maximum of 9 levels, each string, if not empty, is in fact an array of 9 32-bit **Tplc** elements. The first element in each array specifies the format of the outermost level in the hybrid list.

SttbRgtplc is used parallel to **PifLst** to specify the list formatting details. The index of each string inside SttbRgtplc corresponds to the **LSTF** of the same index inside **PifLst**, with each **Tplc** mapped to the corresponding **LVL** inside the **LSTF**.

If the **fHybrid** member of the LSTF corresponding to a string in SttbRgtplc is 1, then that string in **SttbRgtplc** is not used and thus can be empty. In that case, the **cchData** of that string in the following table can be zero.

There is no extra data appended to the strings of this **STTB**.

| 0                                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                                   | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| fExtend (2 bytes)                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes)                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)                       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>0</sub> (2 bytes)       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>0</sub> (0 or 36 bytes)       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>1</sub> (2 bytes)          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | Data <sub>1</sub> (0 or 36 bytes)    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>cData-1</sub> (2 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>cData-1</sub> (0 or 36 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

The **SttbRgtplc** structure is an **STTB** with the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cData (2 bytes):** This value MUST NOT exceed 0x7FF0.

**cbExtra (2 bytes):** This value MUST be 0.

**cchData (2 bytes):** This value MUST be either 0x0 or 0x12.

**Data (0 or 36 bytes):** An array that contains 9 **Tplc** elements. This does not exist if **cchData** is 0x0.

### 2.9.295 SttbSavedBy

The **SttbSavedBy** structure is an **STTB** structure that specifies the save history of this document. The strings in the **STTB** structure are arranged in pairs: A string that specifies the name of the author who saved the document, followed by a string that specifies the path and name of the saved file. These pairs are in order from the earliest saved file to the latest saved file. This **STTB** structure MUST have an even number of strings, and MUST have less than or equal to 20 strings. There is no extra data appended to the strings of this **STTB**.

| 0                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                             | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| fExtend (2 bytes)            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes)                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>0</sub> (2 bytes) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>0</sub> (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



|                                    |                                      |
|------------------------------------|--------------------------------------|
| ...                                |                                      |
| cchData <sub>1</sub> (2 bytes)     | Data <sub>1</sub> (variable)         |
| ...                                |                                      |
| ...                                | cchData <sub>cData-1</sub> (2 bytes) |
| Data <sub>cData-1</sub> (variable) |                                      |
| ...                                |                                      |

The **SttbSavedBy** structure is an **STTB** structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cData (2 bytes):** This value MUST be even and MUST be less than or equal to 0x0014.

**cbExtra (2 bytes):** This value MUST be 0x0000.

### 2.9.296 SttbTtmbd

The **SttbTtmbd** structure contains the list of TrueType fonts that are embedded in the document.

|      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                    |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|--------------------|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7                  | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| sttb |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                    |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                    |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   | rgTTMBD (variable) |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ...  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |                    |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

**sttb (10 bytes):** An [SttbW6](#) structure that specifies the number of TrueType fonts that are embedded in the document.

**rgTTMBD (variable):** An array of [Ttmbd](#) elements. The number of elements is equal to **sttb.ibstMac** and MUST NOT exceed 64.

### 2.9.297 SttbW6

The **SttbW6** structure specifies the count of TrueType fonts that are embedded in the document.

|         |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |         |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
|---------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---------|---|---|----|---|---|---|---|---|---|---|---|---|----|---|--|--|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7       | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |  |  |
| unused1 |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   | ibstMac |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |
| ibstMax |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   | unused2 |   |   |    |   |   |   |   |   |   |   |   |   |    |   |  |  |

|        |
|--------|
| brgbst |
|--------|

**unused1 (2 bytes):** This value MUST be 0 and MUST be ignored.

**ibstMac (2 bytes):** A signed integer that specifies the count of **Ttmbd** in **SttbTtmbd.rgTTMBD** (the number of TrueType fonts embedded in the document). This value MUST be nonnegative and MUST NOT exceed 64.

**ibstMax (2 bytes):** A signed integer that specifies the maximum number of embedded TrueType fonts that are supported by the document. This value MUST be 64.

**unused2 (2 bytes):** This value MUST be 0 and MUST be ignored.

**brgbst (2 bytes):** An unsigned integer that specifies the offset from the location of the **SttbW6** structure where **SttbTtmbd.rgTTMBD** begins. This value SHOULD [<248>](#) be 10 (the size of the **SttbW6** structure).

### 2.9.298 StwUser

The **StwUser** structure specifies the names and values of the user-defined variables that are stored in the document.

|                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| SttbNames (variable)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| rgxchNames (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**SttbNames (variable):** An extended-character **STTB** that specifies the names of the variables. Each string in this **STTB** specifies the name of a variable. The extra data appended to each string in this **STTB** is a 4-byte unsigned integer that MUST be ignored. Each string in this **STTB** MUST be unique. The name **"Sign"**, if it exists, SHOULD [<249>](#) specify the VBA digital signature variable. The name **"SignAgile"**, if it exists, SHOULD [<250>](#) specify the VBA digital signature variable.

|                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6                              | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
| fExtend (2 bytes)            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cData (2 bytes)                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cbExtra (2 bytes)            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | cchData <sub>0</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Data <sub>0</sub> (variable) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ...                          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Extra <sub>0</sub> (4 bytes) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                                    |                                      |
|------------------------------------|--------------------------------------|
| cchData <sub>1</sub> (2 bytes)     | Data <sub>1</sub> (variable)         |
| ...                                |                                      |
| Extra <sub>1</sub> (4 bytes)       |                                      |
| ...                                | cchData <sub>cData-1</sub> (2 bytes) |
| Data <sub>cData-1</sub> (variable) |                                      |
| ...                                |                                      |
| Extra <sub>cData-1</sub> (4 bytes) |                                      |

The **SttbNames** structure is an **STTB** structure that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x0004.

**rgxchValues (variable):** An array of [Xst](#) elements. This array is parallel to **SttbNames**. Each string in this array specifies the value of the variable that is named by the corresponding string in **SttbNames**. The value that corresponds to the "Sign" name string in **SttbNames**, if it exists, SHOULD <251> be a special value that specifies the VBA digital signature of the document. The bytes of this value, including the count prefix, specify a **WordSigBlob** structure, as specified in [\[MS-OSHARED\]](#) section 2.3.2.3. The **WordSigBlob** MUST have the **contentInfo** field of the **SignedData** structure ([\[MS-OSHARED\]](#) section 2.3.2.4.1) as an **SpcIndirectDataContent** structure ([\[MS-OSHARED\]](#) section 2.3.2.4.3.1). The value that corresponds to the "SignAgile" name string in **SttbNames**, if it exists, SHOULD <252> be a special value that specifies the VBA digital signature of the document. The bytes of this value, including the count prefix, specify a **WordSigBlob** structure, as specified in [\[MS-OSHARED\]](#) section 2.3.2.3. The **WordSigBlob** MUST have the **contentInfo** field of the **SignedData** structure ([\[MS-OSHARED\]](#) section 2.3.2.4.1) as an **SpcIndirectDataContentV2** structure ([\[MS-OSHARED\]](#) section 2.3.2.4.3.2).

## 2.9.299 Sty

The **Sty** structure is used by the [Selsf](#) structure and specifies the type of the selection that was made.

| Name           | Value  | Meaning  |
|----------------|--------|--|
| <b>styNil</b>  | 0x0000 | The selection type is undefined and is determined from the <b>Selsf</b> structure. |
| <b>styChar</b> | 0x0001 | The selection is one or more characters, an inline picture, or a text frame.       |
| <b>styWord</b> | 0x0002 | The selection is one or more whole words.  |
| <b>stySent</b> | 0x0003 | The selection is a sentence.   |
| <b>styPara</b> | 0x0004 | The selection is a paragraph or a table cell.                                      |
| <b>styLine</b> | 0x0005 | The selection is one or more whole lines of text.                                  |
| <b>styCol</b>  | 0x000C | The selection is one or more whole table cells.                                    |
| <b>styRow</b>  | 0x000D | The selection is one or more table rows.   |

| Name                 | Value  | Meaning  |
|----------------------|--------|--|
| <b>styColAll</b>     | 0x000E | The selection is one or more table columns.                                      |
| <b>styWholeTable</b> | 0x000F | The selection is a whole table.  |
| <b>styPrefix</b>     | 0x001B | The selection is a bullet or numbering character in a bulleted or numbered list. |

### 2.9.300 TabJC

The **TabJC** enumeration provides a 3-bit unsigned integer that specifies the type of alignment which is applied to the text that is entered at this tab stop. This MUST be one of the following values.

| Name             | Value | Meaning   |
|------------------|-------|---|
| <b>jcLeft</b>    | 0x0   | Left justification.   |
| <b>jcCenter</b>  | 0x1   | Center justification.   |
| <b>jcRight</b>   | 0x2   | Right justification.  |
| <b>jcDecimal</b> | 0x3   | Specifies that the current tab stop results in a location in the document at which all following text is aligned around the first decimal separator in the following text runs. If there is no decimal separator, text is aligned around the implicit decimal separator after the last digit of the first numeric value that appears in the following text. All text runs before the first decimal character appear before the tab stop; all text runs after it appear after the tab stop location. |
| <b>jcBar</b>     | 0x4   | Specifies that the current tab is a <b>bar tab</b> .  |
| <b>jcList</b>    | 0x6   | Specifies that the current tab is a <b>list tab</b> .   |

### 2.9.301 TabLC

The **TabLC** enumeration is a 3-bit unsigned integer that specifies the characters that are used to fill in the space which is created by a tab that ends at a custom tab stop. This MUST be one of the following values.

| Name                 | Value | Meaning                |
|----------------------|-------|------------------------|
| <b>tlcNone</b>       | 0x0   | No leader.             |
| <b>tlcDot</b>        | 0x1   | Dot leader.            |
| <b>tlcHyphen</b>     | 0x2   | Dashed leader.         |
| <b>tlcUnderscore</b> | 0x3   | Underscore leader.     |
| <b>tlcHeavy</b>      | 0x4   | Same as tlcUnderscore. |
| <b>tlcMiddleDot</b>  | 0x5   | Centered dot leader.   |
| <b>tlcDefault</b>    | 0x7   | Same as tlcNone.       |

### 2.9.302 TableBordersOperand

The **TableBordersOperand** structure specifies a set of borders for a table row.

|     |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|---------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | brcTop              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcLeft             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcBottom           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcRight            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcHorizontalInside |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcVerticalInside   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | ...                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size, in bytes, of this **TableBordersOperand** structure, not including this byte. This value **MUST** be 0x30.

**brcTop (8 bytes):** A [Brc](#) structure that specifies the top border of the row, if it is the first row in the table.

**brcLeft (8 bytes):** A **Brc** structure that specifies the logical left border of the row.

**brcBottom (8 bytes):** A **Brc** structure that specifies the bottom border of the row, if it is the last row in the table.

**brcRight (8 bytes):** A **Brc** structure that specifies the logical right border of the row.

**brcHorizontalInside (8 bytes):** A **Brc** structure that specifies the horizontal border between the row and the preceding and succeeding rows.

**brcVerticalInside (8 bytes):** A **Brc** structure that specifies the vertical border between the cells in the row.

### 2.9.303 TableBordersOperand80

The **TableBordersOperand80** structure is an operand that specifies the borders which are applied to a row of table cells.

|     |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|---------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | brcTop              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcLeft             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcBottom           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcRight            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcHorizontalInside |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   | brcVerticalInside   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size of this operand, not including this byte. This value MUST be 0x18.

**brcTop (4 bytes):** A [Brc80MayBeNil](#) structure that specifies the top border of the row, if it is the first row in the table.

**brcLeft (4 bytes):** A [Brc80MayBeNil](#) structure that specifies the logical left border of the row.

**brcBottom (4 bytes):** A [Brc80MayBeNil](#) structure that specifies the bottom border of the row, if it is the last row in the table.

**brcRight (4 bytes):** A [Brc80MayBeNil](#) structure that specifies the logical right border of the row.

**brcHorizontalInside (4 bytes):** A [Brc80MayBeNil](#) structure that specifies the horizontal border between cells in this table row and those in the preceding or succeeding table rows.

**brcVerticalInside (4 bytes):** A [Brc80MayBeNil](#) structure that specifies the vertical border between neighboring cells of this table row.

### 2.9.304 TableBrc80Operand

The **TableBrc80Operand** structure is an operand that specifies borders for a range of cells in a table row.

|     |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|-----|----|----|----|----|----|----|----|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22             | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | itc |    |    |    |    |    |    |    |    |    |    |    | bordersToApply |    |    |    |    |    |    |    |    |    |
| brc |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size, in bytes, of the remainder of this structure. The value MUST be 7.

**itc (2 bytes):** An [ItcFirstLim](#) structure that specifies the range of cell columns to apply the border type format.

**bordersToApply (1 byte):** An unsigned integer that specifies which borders are affected. The value MUST be the result of the bitwise OR of any subset of the following values that specifies an edge to be formatted:

0x01: Top border.

0x02: Logical left border.

0x04: Bottom border.

0x08: Logical right border.

**brc (4 bytes):** A [Brc80MayBeNil](#) structure that specifies the border type that is applied to the edges which are indicated by **bordersToApply**.

### 2.9.305 TableBrcOperand

The **TableBrcOperand** structure is an operand that specifies borders for a range of cells in a table row.

|     |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|-----|----|----|----|----|----|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20             | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | itc |    |    |    |    |    |    |    |    |    | bordersToApply |    |    |    |    |    |    |    |    |    |    |    |
| brc |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size, in bytes, of the remainder of this structure. This value MUST be 11.

**itc (2 bytes):** An [ItcFirstLim](#) structure that specifies the range of cell columns to which the border type format is applied.

**bordersToApply (1 byte):** An unsigned integer that specifies which borders are affected. The value MUST be the result of the bitwise OR of any subset of the following values that specifies an edge to be formatted:

0x01: Top border.

0x02: Logical left border.

0x04: Bottom border.

0x08: Logical right border.

0x10: Border line from top left to bottom right.

0x20: Border line from top right to bottom left.

**brc (8 bytes):** A [BrcMayBeNil](#) structure that specifies the border type that is applied to the edges which are indicated by **bordersToApply**.

### 2.9.306 TableCellWidthOperand

The **TableCellWidthOperand** structure is an operand that is used by the [sprmTCellWidth](#) value to specify the width of one or more table cells.

|     |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|-----|----|----|----|----|----|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22        | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | itc |    |    |    |    |    |    |    |    |    |    |    | FtsWWidth |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |

**cb (1 byte):** An unsigned integer that specifies the size of this operand in bytes, not including **cb**. The value of **cb** MUST be 5.

**itc (2 bytes):** An [ItcFirstLim](#) that specifies the cells to which this **TableCellWidthOperand** structure applies.

**FtsWWidth (3 bytes):** An [FtsWWidth TablePart](#) that specifies the width of cells **itc.itcFirst** through **itc.itcLim** - 1.

### 2.9.307 TableSel

The **TableSel** structure is used by [Selsf](#) to specify the range of cells in a table cell block selection. **Selsf.fTable** MUST be 1. If **Selsf.fBlock** is zero, the selection is one or more table rows; otherwise, the selection is a range of cells. If **Selsf.fBlock** is 1 and the selection includes rows with differing cell counts, the **TableSel** is interpreted based on the first row in the selection.

|          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16     | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| itcFirst |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | itcLim |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**itcFirst (2 bytes):** An integer that specifies the first cell that is included in the selection. Cell indices are zero-based. **itcFirst** MUST be at least zero, SHOULD NOT [<253>](#) exceed the number of cells in the row, and MUST NOT exceed 63. If **itcFirst** is greater than or equal to the number of cells in the row, the selection begins at the end of row mark. If **Selsf.fBlock** is zero, **itcFirst** MUST be zero.

**itcLim (2 bytes):** An integer that specifies the cell at which the selection ends, exclusive. Cell indices are zero-based. If the selection includes the last cell in the row, the **itcLim** value is the number of cells in the row. If the selection includes the end of row mark, **itcLim** is equal to the number of cells in the row incremented by 1. The **itcLim** value SHOULD [<254>](#) be greater than the **itcFirst** value and MUST NOT exceed 64. If **Selsf.fBlock** is zero, then **itcLim** MUST be 64. If the **itcLim** value is 64, the entire **Selsf** MAY [<255>](#) be ignored.

### 2.9.308 TableShadeOperand

The **TableShadeOperand** structure specifies a range of cells in a table row and the background shading to apply to those cells.

|     |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|-----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22  | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb  |   |   |   |   |   |   |   |   |   | itc |    |    |    |    |    |    |    |    |    |    |    | shd |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |     |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |



|     |
|-----|
| ... |
|-----|

**cb (1 byte):** Specifies the byte count of the remainder of this structure. The value MUST be 12.

**itc (2 bytes):** An [ItcFirstLim](#) that specifies a cell range in the table row.

**shd (10 bytes):** A [Shd](#) structure that specifies the background shading that is applied.

### 2.9.309 TBC

The **TBC** structure specifies a toolbar control.

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| tbch (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cid (optional)  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| tbcd (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**tbch (variable):** A structure of type **TBCHeader**, as specified in [\[MS-OSHARED\]](#), that contains toolbar control information.

**cid (4 bytes):** A structure of type [Cid](#) that specifies the command identifier for this toolbar control. This MUST only exist if **tbch.tcid** is not equal to 0x0001 and is not equal to 0x1051. Toolbar controls MUST have only **Cid** structures whose [Cmt](#) values are equal to 0x0001 or 0x0003.

**tbcd (variable):** A structure of type **TBCData**, as specified in [\[MS-OSHARED\]](#), that contains toolbar control data. This MUST exist if **tbch.tct** is not equal to 0x16. This MUST NOT exist if **tbch.tct** is equal to 0x016.

### 2.9.310 TBD

A **TBD** structure specifies the alignment type and the leader type for a custom tab stop.

|    |   |   |     |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|----|---|---|-----|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0  | 1 | 2 | 3   | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| jc |   |   | tlc |   |   | A |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**jc (3 bits):** A [TabJC](#) value that specifies the alignment (justification) type for the current custom tab stop.

**tlc (3 bits):** A [TabLC](#) value that specifies the leader type for the current custom tab stop. The value MUST be ignored if **jc** is equal to 0x4 (jcBar).

**A - UNUSED (2 bits):** This field MUST be ignored.

## 2.9.311 TBDelta

The **TBDelta** structure specifies a toolbar delta. When the toolbar delta involves adding or modifying a toolbar control, the affected toolbar control is stored in the **rtbdc** array of the **CTBWRAPPER** structure that contains the **rCustomizations** array, that contains the **Customization** structure that contains the **customizationData** array, that contains this structure.

|       |   |   |           |   |   |   |   |      |   |    |    |    |         |    |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------|---|---|-----------|---|---|---|---|------|---|----|----|----|---------|----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0     | 1 | 2 | 3         | 4 | 5 | 6 | 7 | 8    | 9 | 10 | 11 | 12 | 13      | 14 | 15  | 16  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A     |   | B | reserved1 |   |   |   |   | ibts |   |    |    |    | cidNext |    |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...   |   |   |           |   |   |   |   |      |   |    |    |    |         |    | cid |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...   |   |   |           |   |   |   |   |      |   |    |    |    |         |    | fc  |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...   |   |   |           |   |   |   |   |      |   |    |    |    |         |    | C   | iTB |    |    |    |    |    |    |    |    |    |    |    |    |    | D  | E  |
| cbTBC |   |   |           |   |   |   |   |      |   |    |    |    |         |    |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - dopr (2 bits):** These bits specify the type of toolbar delta operation. This MUST be one of the following values.

| Value<br>(Binary value in parenthesis) | Meaning                   |
|--|---------------------------|
| 0x00 (00)                              | Change a toolbar control. |
| 0x01 (01)                              | Insert a toolbar control. |
| 0x02 (10)                              | Modify a toolbar control. |

**B - fAtEnd (1 bit):** A bit that specifies if the toolbar control that is associated with this **TBDelta** was inserted at the end of the toolbar at the time the toolbar delta was created. A value of 1 specifies that the toolbar control that is associated with this **TBDelta** was inserted at the end of the toolbar. This bit MUST be 0 if **dopr** is not equal to 1.

**reserved1 (5 bits):** This value MUST be 0 and MUST be ignored.

**ibts (8 bits):** An unsigned integer that specifies the zero-based index of the toolbar control that was associated with this **TBDelta** in the toolbar at the time that the toolbar delta was created. It is possible for more than one **TBDelta** structure that affects the same toolbar to have the same value in the **ibts** field. This is because this field specifies the index of the toolbar control that was associated with the **TBDelta** in the toolbar at the time the toolbar delta was created.

**cidNext (4 bytes):** A signed integer value. This value MUST be one of the following.

| Condition  | Value of cidNext   |
|--|--|
| <b>dopr</b> equals 1 and <b>fAtEnd</b> equals 1  | 0xFFFFFFFF   |
| <b>dopr</b> equals 1, <b>fAtEnd</b> equals 0, and the toolbar control after the inserted toolbar control associated to this <b>TBDelta</b> at the time the <b>TBDelta</b> was created is not a <b>custom toolbar control</b> | A structure of type <b>Cid</b> that specifies the command identifier, at the time the toolbar delta was created, for the toolbar control after the inserted toolbar control associated to this <b>TBDelta</b> . Toolbar controls MUST only have <b>Cid</b> structures that have <b>Cmt</b> values equal to 0x0001 or 0x0003. |
| <b>dopr</b> equals 1, <b>fAtEnd</b> equals 0, and the toolbar control after the inserted toolbar control associated  | 0x00001EF9   |

| Condition  | Value of cidNext   |
|--|--|
| to this <b>TBDelta</b> at the time the <b>TBDelta</b> was created is a custom toolbar control  |  |
| <b>dopr</b> equals 0   | <b>cidNext</b> equals <b>cid</b> .   |
| <b>dopr</b> equals 2 and the toolbar control after the deleted toolbar control that was associated with this <b>TBDelta</b> at the time the <b>TBDelta</b> was created is not a custom toolbar control | A structure of type <b>Cid</b> that specifies the command identifier at the time that the toolbar delta was created for the toolbar control after the deleted toolbar control was associated with this <b>TBDelta</b> . Toolbar controls MUST only have <b>Cid</b> structures that have <b>Cmt</b> values equal to 0x0001 or 0x0003. |
| <b>dopr</b> equals 2 and the toolbar control after the deleted toolbar control associated to this <b>TBDelta</b> at the time the <b>TBDelta</b> was created is a custom toolbar control                | 0x00001EF9   |

**cid (4 bytes):** A structure of type **Cid** that specifies the command identifier for the toolbar control that is associated with this **TBDelta**. Toolbar controls MUST only have **Cid** structures that have **Cmt** values equal to 0x0001 or 0x0003.

**fc (4 bytes):** An unsigned integer that specifies the file offset in the [Table Stream](#) where the toolbar control that is associated with this **TBDelta** is stored. This value MUST be 0x00000000 if **fOnDisk** is not equal to 1.

**C - fOnDisk (1 bit):** A bit that specifies if a toolbar control that is associated with this **TBDelta** was written to the file. A value of 1 specifies that a toolbar control that is associated with this **TBDelta** was written to the file. This value MUST be 1 if **dopr** is equal to 0 or 1.

**iTB (13 bits):** This field MUST be used only when the toolbar control that is associated with this **TBDelta** is a custom toolbar control that drops a custom **menu toolbar**. This is an unsigned integer that specifies the index to the **Customization** structure, contained in the **rCustomizations** array, that also contains the **Customization** that contains the **customizationData** array that contains this structure, that contains the [CTB](#) structure that specifies the custom menu toolbar dropped by the toolbar control associated to this **TBDelta**. This value MUST be 0 if the toolbar control that is associated with this **TBDelta** is not a custom toolbar control that drops a custom menu toolbar. This value MUST be greater than or equal to 0 and SHOULD [<256>](#) be less than the value of the **cCust** field of the **CTBWRAPPER** structure that contains the **rCustomizations** array, that contains the **Customization** structure, that contains the **customizationData** array that contains this structure.

**D - reserved2 (1 bit):** This value MUST be 0 and MUST be ignored.

**E - fDead (1 bit):** A bit that specifies if the toolbar control that is associated with this **TBDelta** does not drop a menu toolbar. A value of 1 specifies that the toolbar control that is associated with this **TBDelta** does not drop a custom menu toolbar. This value MUST be 0 if the toolbar control that is associated with this **TBDelta** is not a custom toolbar control that drops a custom menu toolbar or if **dopr** is not equal to 1.

**cbTBC (2 bytes):** An unsigned integer that specifies the size, in bytes, of the toolbar control that is associated with this **TBDelta**. This field MUST only be used when **fOnDisk** equals 1. If **fOnDisk** is equal to 0, this value MUST be 0x0000.

### 2.9.312 Tbkd

The **Tbkd** structure is used by the [PlcftxbxBkd](#) and [PlcftxbxHdrBkd](#) structures to associate ranges of text from the [Textboxes Document](#) and the [Header Textboxes Document](#) with [FTXBXS](#) objects. Ranges of text from the Textboxes Document are associated with [FTXBXS](#) objects from [PlcftxbxBkd](#);

ranges of text from the Header Textboxes Document are associated with **FTXBXS** objects from [PlcfHdrtxbxTxt](#).

|           |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |           |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|-----------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|-----------|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6         | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| itxbxs    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   | dcpDepend |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| reserved1 |   |   |   |   |   |   |   |   |   | A  | B | C | D |   |   |           |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**itxbxs (2 bytes):** A signed integer that specifies the index of an **FTXBXS** object within the **PlcftxbxTxt** structure or the **PlcfHdrtxbxTxt** structure. The text range of this **Tbkd** object MUST be the same as the text range of the **FTXBXS** object, or else it MUST be a subset of that range. When the **FTXBXS** object specifies a chain of linked textboxes, the text range of each component textbox MUST be represented by its own **Tbkd** object and a discrete text range.

In all but the last **Tbkd** object, **itxbxs** MUST be a valid **FTXBXS** index. The final **Tbkd** is not associated with any **FTXBXS** object. The **itxbxs** value for the final **Tbkd** MUST be ignored.

**dcpDepend (2 bytes):** Specifies version-specific information about the quantity of text that was processed. This makes it possible to identify the end of the corresponding text range. This value SHOULD [<257>](#) be zero and SHOULD [<258>](#) be ignored.

**reserved1 (10 bits):** This value MUST be zero and MUST be ignored.

**A - fMarkDelete (1 bit):** This value MUST be zero and MUST be ignored.

**B - fUnk (1 bit):** Specifies version-specific information that flags the text range which corresponds to this **Tbkd** as not being used by a textbox. This value SHOULD [<259>](#) be zero and SHOULD [<260>](#) be ignored.

**C - fTextOverflow (1 bit):** Specifies version-specific information about whether the text that is associated with a textbox exceeds the amount that fits into the associated shape. This value SHOULD [<261>](#) be zero and SHOULD [<262>](#) be ignored.

**D - reserved2 (3 bits):** This value MUST be zero and MUST be ignored.

### 2.9.313 TC80

The **TC80** structure specifies the border and other formatting for a single cell in a table.

|           |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |        |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|-----------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|--------|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6      | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| tcgrf     |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   | wWidth |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| brcTop    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |        |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| brcLeft   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |        |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| brcBottom |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |        |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| brcRight  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |        |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**tcgrf (2 bytes):** A [TCGRF](#) that specifies table cell formatting.

**wWidth (2 bytes):** An integer that specifies the preferred width of the cell. The width includes cell margins, but does not include cell spacing. This value MUST be a non-negative number.

The unit of measurement depends on **tcgrf.ftsWidth**. If **tcgrf.ftsWidth** is set to **ftsPercent**, the value is a fraction of the width of the entire table.

**brcTop (4 bytes):** A **Brc80MayBeNil** structure that specifies the border to be used on the top side of the table cell.

**brcLeft (4 bytes):** A **Brc80MayBeNil** structure that specifies the border to be used on the logical left side of the table cell.

**brcBottom (4 bytes):** A **Brc80MayBeNil** that specifies the border to be used on the bottom side of the table cell.

**brcRight (4 bytes):** A **Brc80MayBeNil** that specifies the border to be used on the logical right side of the table cell.

### 2.9.314 TCellBrcTypeOperand

A **TCellBrcTypeOperand** structure specifies an array of border types for table cells.

|     |   |   |   |   |   |   |   |   |   |                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|-----|---|---|---|---|---|---|---|---|---|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                   | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| cb  |   |   |   |   |   |   |   |   |   | rgBrcType (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ... |   |   |   |   |   |   |   |   |   |                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**cb (1 byte):** **cb (1 byte):** An unsigned integer that specifies the size, in bytes, of **rgBrcType**. This value MUST be evenly divisible by four.

**rgBrcType (variable):** An array of **BrcType** that specifies border types for a set of table cells. Each cell corresponds to four bytes. Every four bytes specify the border types of the top, left, bottom and right borders, in that order.

### 2.9.315 Tcg

The **Tcg** structure specifies command-related customizations.

|         |   |   |   |   |   |   |   |   |   |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|---------|---|---|---|---|---|---|---|---|---|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10             | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| nTcgVer |   |   |   |   |   |   |   |   |   | tcg (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
| ...     |   |   |   |   |   |   |   |   |   |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**nTcgVer (1 byte):** A signed integer that specifies the version of the structure. This value MUST be 255.

**tcg (variable):** A **Tcg255** structure, as specified following.

## 2.9.316 Tcg255

The **Tcg255** structure contains a sequence of structures that specify command-related customizations. The type of each structure is specified by its first byte with a special value that acts as a terminator.

|                      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|----------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| rgtcgData (variable) |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| ...                  |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| chTerminator         |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**rgtcgData (variable):** A sequence of structures. Each structure is identified by its first byte, as follows.

| First byte | Structure   |
|------------|---|
| 0x01       | A <a href="#">P1fMcd</a> structure that specifies macro commands.   |
| 0x02       | A <a href="#">P1fAcd</a> structure that specifies allocated commands.   |
| 0x03       | A <a href="#">P1fKme</a> structure that contains key map entries ( <a href="#">Kme</a> ). Each key map entry MUST specify at least a primary key code, and the entries MUST be unique with regards to the key codes they specify.   |
| 0x04       | A <a href="#">P1fKme</a> structure that contains key map entries ( <a href="#">Kme</a> ). Unlike when the first byte is equal to 3, there are no restrictions on the <a href="#">Kme.kcm</a> or <a href="#">Kme.kcm2</a> of each entry. If a keyboard key map entry does not specify at least a primary key code, that entry MUST be ignored. If two or more entries specify the same key codes, all except the first such entry MUST be ignored. |
| 0x10       | A <a href="#">TcgSttbf</a> structure whose <a href="#">string table</a> contains macro names and allocated command arguments.   |
| 0x11       | A <a href="#">MacroNames</a> structure that contains macro names.   |
| 0x12       | A <a href="#">CTBWRAPPER</a> structure that specifies toolbar customizations.   |

**chTerminator (1 byte):** An unsigned integer that specifies a terminator for the sequence. This value MUST be 0x40.

## 2.9.317 TCGRF

A **TCGRF** structure specifies the text layout and cell merge properties for a single cell in a table.

|   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|---|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| A | B | C | D | E | F | G | H | I |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**A - horzMerge (2 bits):** A value that specifies how this cell merges horizontally with the neighboring cells in the same row. This value MUST be one of the following.

| Value | Meaning   |
|-------|---|
| 0     | The cell is not merged with the cells on either side of it.   |
| 1     | The cell is one of a set of horizontally merged cells. It contributes its layout region to the set and its own contents are not rendered. |

| Value | Meaning  |
|-------|--|
| 2, 3  | The cell is the first cell in a set of horizontally merged cells. The contents and formatting of this cell extend into any consecutive cells following it that are designated as part of the merged set. |

- B - textFlow (3 bits):** A value from the [TextFlow](#) enumeration that specifies rotation settings for the text in the cell.
- C - vertMerge (2 bits):** A value from the [VerticalMergeFlag](#) enumeration that specifies how this cell merges vertically with the cells above or below it.
- D - vertAlign (2 bits):** A value from the [VerticalAlign](#) enumeration that specifies how contents inside this cell are aligned.
- E - ftsWidth (3 bits):** An [Fts](#) value that specifies the unit of measurement for the **wWidth** field in the [TC80](#) structure.
- F - fFitText (1 bit):** Specifies whether the contents of the cell are to be stretched out such that the full cell width is used.
- G - fNoWrap (1 bit):** When set, specifies that the preferred layout of the contents of this cell is as a single line and that cell widths can be adjusted to accommodate long lines. This preference is ignored when the preferred width of this cell is set to **ftsDxa**.
- H - fHideMark (1 bit):** When set, specifies that this cell is rendered with no height if all cells in the row are empty.
- I - fUnused (1 bit):** This bit MUST be ignored.

### 2.9.318 TcgSttbf

The **TcgSttbf** structure specifies the command [string table](#) that is used to store the names of macros and the arguments to the allocated commands. This structure is used in the sequence of structures that specify command-related customizations in [Tcg255](#).

|     |   |   |   |   |   |   |   |   |   |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10               | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| ch  |   |   |   |   |   |   |   |   |   | sttbf (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

- ch (1 byte):** This value MUST be 16.
- sttbf (variable):** A [TcgSttbfCore](#) structure, as described following.

### 2.9.319 TcgSttbfCore

The **TcgSttbfCore** structure is an [STTB](#) structure whose strings are used by the [Accd](#) and [Mcd](#) structures. The **cData** field of this **STTB** structure is two bytes. This is an extended **STTB** structure, which means that its **chData** fields are 2 bytes in size. The extra data that is appended to each string of this **STTB** is an unsigned 16-bit integer that specifies the number of references that other structures have to that string.

|  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                                 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| fExtend (2 bytes)                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cData (2 bytes)                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cbExtra (2 bytes)                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>0</sub> (2 bytes)     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>0</sub> (variable)           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ExtraData <sub>0</sub> (2 bytes)       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | cchData <sub>1</sub> (2 bytes)     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Data <sub>1</sub> (variable)           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ExtraData <sub>1</sub> (2 bytes)       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | ...                                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cchData <sub>cData-1</sub> (2 bytes)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | Data <sub>cData-1</sub> (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ExtraData <sub>cData-1</sub> (2 bytes) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

The **TcgSttbfCore** structure is an **STTB** that has the following additional restrictions on its field values:

**fExtend (2 bytes):** This value MUST be 0xFFFF.

**cbExtra (2 bytes):** This value MUST be 0x2.

### 2.9.320 Tch

The **Tch** structure is used by **PlcfTch** and specifies table character information for the **CP** range.

|   |        |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|--------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | unused |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fUnk (1 bit):** A bit that specifies that the table character cache for the CP range is unknown. If **fUnk** is set, **unused** MUST be ignored.

**unused (31 bits):** A bit field that specifies information for the CP range. This value SHOULD [<263>](#) be zero and SHOULD be ignored.

### 2.9.321 TDefTableOperand

The **TDefTableOperand** structure is the operand that is used by the **sprmTDefTable** value. It specifies the initial layout of the columns in the current table row.



|                   |   |   |   |   |   |   |   |   |   |    |                 |    |    |    |    |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |
|-------------------|---|---|---|---|---|---|---|---|---|----|-----------------|----|----|----|----|----|----|----|----|----|----|------------------------|----|----|----|----|----|----|----|----|----|
| 0                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11              | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22                     | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cb                |   |   |   |   |   |   |   |   |   |    | NumberOfColumns |    |    |    |    |    |    |    |    |    |    | rgdxaCenter (variable) |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |                 |    |    |    |    |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |
| rgTc80 (variable) |   |   |   |   |   |   |   |   |   |    |                 |    |    |    |    |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |
| ...               |   |   |   |   |   |   |   |   |   |    |                 |    |    |    |    |    |    |    |    |    |    |                        |    |    |    |    |    |    |    |    |    |

**cb (2 bytes):** An unsigned integer that specifies the number of bytes that are used by the remainder of this structure, incremented by 1.

**NumberOfColumns (1 byte):** An integer that specifies the number of columns in this table. The number MUST be at least zero, and MUST NOT exceed 63.

**rgdxaCenter (variable):** An array of [XAS](#). There MUST be exactly one **XAS** value in this array for every column specified in **NumberOfColumns**, incremented by 1. The first entry specifies the horizontal position of the logical left edge of the table, as indented from the logical left page margin. The remaining entries specify the horizontal positions of the logical right edges of each cell progressing logical right across the row. More specifically, the positions for all edges between cells are the midpoints of the inter-cell spacing. The first and last entries specify the positions of the outer edges of the table, including all cell spacing. The values in the array MUST be in non-decreasing order.

**rgTc80 (variable):** An array of [TC80](#) that specifies the default formatting for a cell in the table. Each TC80 in the array corresponds to the equivalent column in the table. If there are fewer TC80s than columns, the remaining columns are formatted with the default TC80 formatting. If there are more TC80s than columns, the excess TC80s MUST be ignored.

### 2.9.322 TDxaColOperand

The **TDxaColOperand** structure is used by the [sprmTDxaCol](#) value and specifies a range of table cells and the width of each cell.

|     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16     | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| itc |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | dxaCol |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**itc (2 bytes):** An [ItcFirstLim](#) structure that specifies which cells this column width applies to.

**dxaCol (2 bytes):** An [XAS\\_nonNeg](#) value that specifies the width of each of the columns, measured in twips. The width of a column is the measurement from the midpoint of the cell spacing before it to the midpoint of the cell spacing after it. For the first and last columns in a row, the width additionally includes the remainder of the cell spacing out to the outer border of the table.

### 2.9.323 TextFlow

The **TextFlow** enumeration specifies the rotation settings for a block of text and for the individual East Asian characters in each line of the block.

A **TextFlow** value MUST be one of the following.

| Name               | Value  | Meaning  |
|--------------------|--------|--|
| <b>grpFTFirtb</b>  | 0x0000 | Specifies the standard vertical text arrangement. The text block is not rotated. Multiple lines are arranged top to bottom. The characters on a line are laid out left to right.   |
| <b>grpFTFtbl</b>   | 0x0001 | Specifies a 90-degree clockwise rotation of the standard vertical text block. The lines in the block are vertical and arranged right to left. The characters on a line are rotated 90 degrees in a clockwise direction and laid out top to bottom.   |
| <b>grpFTFbtlr</b>  | 0x0003 | Specifies a 90 degree, counter-clockwise rotation of the standard vertical text block. The lines in the block are vertical and arranged left to right. The characters on a line are rotated 90 degrees in a counter-clockwise direction and laid out bottom to top.                            |
| <b>grpFTFirtbv</b> | 0x0004 | Specifies the same line layout as <b>grpFTFirtb</b> , however, each East Asian character is rotated 90 degrees in a counter-clockwise direction. All other text is not rotated.  |
| <b>grpFTFtblrv</b> | 0x0005 | Specifies the same rotated line layout as <b>grpFTFtbl</b> , however, each East Asian character is rotated 90-degrees in a counter-clockwise direction within the block, canceling out the rotation in <b>grpFTFtbl</b> . All other text is left with the rotation found in <b>grpFTFtbl</b> . |

### 2.9.324 TInsertOperand

The **TInsertOperand** structure is an operand that is used by the [sprmTInsert](#) value and specifies a range of default table cell definitions to add to a table row.

|          |   |   |   |   |   |   |   |   |   |     |   |   |   |   |   |   |   |   |   |        |   |   |   |   |   |   |   |   |   |    |   |
|----------|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|--------|---|---|---|---|---|---|---|---|---|----|---|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| itcFirst |   |   |   |   |   |   |   |   |   | ctc |   |   |   |   |   |   |   |   |   | dxaCol |   |   |   |   |   |   |   |   |   |    |   |

**itcFirst (1 byte):** An unsigned integer that specifies the zero-based index of the first new table cell definition.

**ctc (1 byte):** An unsigned integer that specifies the number of new table cells. This value **MUST** be greater than zero. Table rows **MUST NOT** have more than 63 cells after the insertion.

**dxaCol (2 bytes):** An [XAS\\_nonNeg](#) value that specifies the width of each of the new cells. The total width of the table after inserting the new cells **MUST NOT** exceed 31680 twips.

### 2.9.325 TIQ

The **TIQ** structure specifies information about a structured document tag node, or an attribute on a structured document tag node, in the document.

|             |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|-------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| ixsdr       |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
| ixstElement |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**ixsdr (4 bytes):** An unsigned integer that specifies the [STTB](#) which is the namespace of the structured document tag node or attribute that is represented by the structure containing this **TIQ** structure. This value **MUST** be less than 0x7FFFFFFF. This **STTB** can be found by using the following algorithm:

1. The structure that contains this **TIQ** is contained in an [SttbfBkmkSdt](#) which is located at the offset specified by the **fcSttbfBkmkSdt** field of a [FibRgFcLcb2002](#) structure.
2. The **fcHpIxsdr** field of that [FibRgFcLcb2002](#) structure specifies the location of an [Hplxsdr](#).
3. **ixsdr** is the zero-based index of an [XSDR](#) within the **rgXSDR** array of that [Hplxsdr](#).
4. If this **TIQ** is a field of an [FSDAP](#) structure, the string table that is specified by this **ixsdr** is the **SttbElements** field of the **XSDR** in step 3. If this **TIQ** is a field of an [SDTI](#) structure, the string table is the **SttbAttributes** field.

**ixstElement (4 bytes):** An integer that specifies a zero-based index into the STTB namespace that is denoted by **ixsdr**. The string that is found at offset **ixstElement** is the name of the structured document tag node or attribute associated with the structure containing this **TIQ**.

### 2.9.326 TLP

The **TLP** structure specifies the table style options for the current table.

|     |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |        |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|-----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|--------|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6      | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| itl |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   | grfatl |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**itl (2 bytes):** A signed integer that MAY [<264>](#) specify the index of a predefined table auto-format. Formats applied through auto-formatting are distributed to all of the affected rows and cells, and can be changed independently of this value. As such, the value that is found here does not specify any formatting for the table as it exists now. The purpose of this data is to aid in the re-application of the auto-format in the future.

The list of auto-formats is application specific. The special values for **itl** are as follows.

| Name    | Value | Meaning  |
|---------|-------|--|
| itlNil  | -1    | No predefined table auto-format was applied to this table row.   |
| itlNone | 0     | A predefined table auto-format where all border, shading, font, and best fit formats are the defaults. |

**grfatl (2 bytes):** A bit field of [Fatl](#) flags that SHOULD [<265>](#) specify which optional formats are in effect from the table style or table auto-format applied to the table.

### 2.9.327 ToggleOperand

The **ToggleOperand** structure is an operand to an **SPRM** whose **spra** is 0 and whose **sgc** is 2. It modifies a Boolean character property.

|       |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|-------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| value |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**value (1 byte):** An unsigned integer which MUST be one of the following values.

| Value | Meaning  |
|-------|--|
| 0x00  | The Boolean property is set to 0, which means the property is turned OFF.  |
| 0x01  | The Boolean property is set to 1, which means the property is turned ON.   |
| 0x80  | The Boolean property is set to match the value of the property in the current style that is applied to the text. |

| Value | Meaning  |
|-------|--|
| 0x81  | The Boolean property is set to the opposite of the value of the property in the current style that is applied to the text. |

### 2.9.328 Tplc

The **Tplc** structure is a 32-bit unsigned integer that specifies the format of one level of a bulleted or numbered list.

If the first bit (lowest bit) is 1, **Tplc** specifies an application built-in format, as specified in [TplcBuildIn](#). If the first bit is 0, Tplc specifies a user-defined format, as specified in [TplcUser](#). See [SttbRqtplc](#) for more details about how Tplcs are mapped to [LVLs](#) inside [LSTF](#).

### 2.9.329 TplcBuildIn

The **TplcBuildIn** structure is a [Tplc](#) structure that specifies an application predefined format for the bulleted or numbered list.

|   |   |   |   |   |   |   |   |   |   |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11      | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27  | 28 | 29 | 30 | 31 |
| A |   |   |   |   |   |   |   |   |   |    | ilgpdM1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | lid |    |    |    |    |

**A - fBuildIn (1 bit):** This value MUST be 1.

**ilgpdM1 (15 bits):** An unsigned integer that specifies the predefined bulleted or numbered format and that MUST be one of the values from the following table. The precise rendering of the bulleted or numbering format is application-dependent.

| Value  | Bullet/numbering format |
|--------|-------------------------|
| 0x7FFF | (none)                  |
| 0x0000 | •                       |
| 0x0001 | ◦                       |
| 0x0002 | ▪                       |
| 0x0003 | ◻                       |
| 0x0004 | ❖                       |
| 0x0005 | ➤                       |
| 0x0006 | ➤                       |
| 0x0007 | 1.                      |
| 0x0008 | 1)                      |

| Value  | Bullet/numbering format |
|--------|-------------------------|
| 0x0009 | I.                      |
| 0x000A | A.                      |
| 0x000B | a)                      |
| 0x000C | a.                      |
| 0x000D | i.                      |

**lid (2 bytes):** A [LID](#) that specifies the language identifier for the bullet or number.

### 2.9.330 TplcUser

The **TplcUser** structure is a [Tplc](#) value that specifies a user-defined bulleted or numbered format. It MUST correspond to an [LSTF](#) structure (see [LSTF.tplc](#)) or it MUST correspond to an individual [LVL](#) structure. This [LVL](#) structure MUST correspond to an [LSTF](#) structure in the [PifLst](#) structure. The [LSTF](#) and [LVL](#) structures contain the detailed format specification. See the [SttbRqtplc](#) structure for more details about how [Tplc](#) values are mapped to [LVL](#) structures inside the [LSTF](#) structure.

|   |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | wRandom |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - fBuildIn (1 bit):** This value MUST be 0.

**wRandom (31 bits):** An unsigned random integer assigned by the application. Any unsigned integer is valid as long as it is unique for each user-defined bulleted or numbered format.

### 2.9.331 Ttmbd

The **Ttmbd** structure specifies information about an embedded TrueType font, including where to locate the font in the document.

|          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| 0        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18      | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |
| fc       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| iifn     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | A  | B  | unnamed |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| fcSubset |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

**fc (4 bytes):** An unsigned integer value that specifies an offset into the [WordDocument Stream](#) where the embedded TrueType font is stored. This value MUST be nonzero. The font data that is stored at this offset is written as specified in [\[Embed-Open-Type-Format\]](#).

**iiffn (2 bytes):** A signed integer value that specifies an index into the [SttbFfn](#) string table stored at [FibRgFcLcb97.fcSttbfff](#). This value MUST be a non-negative number.

**A - fBold (1 bit):** Specifies whether the font is bold.

**B - fItalic (1 bit):** Specifies whether the font is italic.

**unnamed (14 bits):** Undefined and MUST be ignored.

**fcSubset (4 bytes):** If entire fonts are embedded in the document, **fcSubset** MUST be 0xFFFFFFFF. If only the characters that are used by the document are embedded in the document, **fcSubset** is an unsigned integer that specifies the order in which fonts are first used. The first font to be used in the document has an **fcSubset** value that is equal to zero; all subsequent fonts are incremented by 1 in order of first use. **fcSubset** MUST be incremented for all fonts that are used in the document, including fonts that are not embedded in the document. This value MUST NOT exceed the total number of fonts used in the document.

### 2.9.332 UFEL

The **UFEL** structure specifies layout information for text in East Asian languages. See also [ECMA-376](#) part 4, section 2.3.2.8 eastAsianLayout paragraph property.

|   |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|---|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| A | B | C | D | E | F | G | H |   | I | J  | K | L | M |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**A - fTNY (1 bit):** A bit that specifies if the text displays horizontally within vertical text, or vertically within horizontal text. The text is rendered with a 90-degree rotation to the left from all other contents of the containing line, while keeping the text on the same line as all other text in the paragraph.

**B - fWarichu (1 bit):** A bit that specifies that the text displays on a single line by creating two sub-lines within the regular line, and laying out this text equally between those sub-lines.

**C - fKumimoji (1 bit):** This value MUST be zero and MUST be ignored.

**D - fRuby (1 bit):** This value MUST be zero and MUST be ignored.

**E - fLSFitText (1 bit):** The value MUST be zero and MUST be ignored.

**F - fVRuby (1 bit):** This value MUST be zero and MUST be ignored.

**G - spare1 (2 bits):** This value MUST be ignored.

**H - iWarichuBracket (3 bits):** An unsigned integer that specifies whether the two sub-lines within one line are enclosed within a pair of brackets when displayed, and the type of brackets that are displayed. If **fWarichu** is equal to 0x0, this value MUST be ignored.

The **iWarichuBracket** value MUST be one of the following.

| Value | Meaning               |
|-------|-----------------------|
| 0x0   | No brackets           |
| 0x1   | Round brackets, "()"  |
| 0x2   | Square brackets, "[]" |
| 0x3   | Angle brackets, "<>"  |
| 0x4   | Curly brackets, "{}"  |

**I - fWarichuNoOpenBracket (1 bit):** This value MUST be zero and MUST be ignored.

**J - fTNYCompress (1 bit):** A bit that specifies whether other [Sprm](#) structures were applied that cause the text to be scaled to fit within the existing line. A value of 0x1 means that other **Sprm** structures were applied. A value of 0x0 means that they were not.

**K - fTNYFetchTxm (1 bit):** This value MUST be zero and MUST be ignored.

**L - fCellFitText (1 bit):** This value MUST be zero and MUST be ignored.

**M - spare2 (1 bit):** This value MUST be ignored.

### 2.9.333 UID

The **UID** enumeration identifies common user types.

| Name                     | Value  | Meaning   |
|--------------------------|--------|---|
| <b>uidNone</b>           | 0x0000 | No users.   |
| <b>uidCurrent</b>        | 0xFFFA | The current user.                                   |
| <b>uidEditors</b>        | 0xFFFB | Editors of the document.                            |
| <b>uidOwners</b>         | 0xFFFC | Owners of the document.                             |
| <b>uidContributors</b>   | 0xFFFD | Contributors to the document.                       |
| <b>uidAdministrators</b> | 0xFFFE | Members of the administrator group on the computer. |
| <b>uidEveryone</b>       | 0xFFFF | All users.  |

### 2.9.334 UidSel

The **UidSel** structure is a 2-byte integer that identifies a user or group of users for the purpose of specifying range-level protection information about the given users. If the integer is greater than zero, it MUST be a 1-based index into the [SttbProtUser](#) at an offset of [FibRgFcLcb2003.fcSttbProtUser](#) in the [Table Stream](#). Otherwise, it is a **UID** type that MUST be one of the `uidEveryone`, `uidEditors`, or `uidOwners` values.

### 2.9.335 UIM

The **UIM** structure contains data that was provided by the Microsoft Windows Text Services Framework, a service provided by Microsoft Windows that enables the application to receive input from different input sources, such as handwriting.

|           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16        | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| iguidType |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | iclsidTip |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| fc        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cch       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| cb        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| dwPrivate |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**iguidType (2 bytes):** A signed integer value that specifies an index into the GUIDs that are listed in [PlfguidUim.rgguidUim](#). This value MUST be greater than or equal to 0 and less than [PlfguidUim.iMac](#). The referenced GUID specifies the Text Services category of the service that provided this data.

**iclsidTip (2 bytes):** A signed integer value that specifies an index into the GUIDs that are listed in [PlfguidUim.rgguidUim](#). This value MUST be greater than or equal to 0 and less than [PlfguidUim.iMac](#). The referenced GUID specifies the CLSID of the service that provided this data.

**fc (4 bytes):** A signed integer that specifies an offset into the [Table Stream](#). The data that is provided by the service which is identified by **iguidType** and **iclsidTip** begins at this offset. The size of this data, in bytes, is specified by **cb**. The meaning of this data is determined by the service that provided it.

**cch (4 bytes):** A signed integer that specifies the size of text, in count of characters, which starts at the corresponding [CP](#) in the [plcfUim](#) value of the main document.

**cb (4 bytes):** An unsigned integer that specifies the size, in bytes, of the data at offset **fc** in the Table Stream.

**dwPrivate (4 bytes):** An unsigned integer that specifies the private data that is generated by the service which is identified by **iguidType** and **iclsidTip**.

### 2.9.336 UpxChpx

The **UpxChpx** structure specifies the character formatting properties that differ from the parent style as defined by [StdBase.istdBase](#).

|                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| grpPrChpx (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| padding (variable)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**grpPrChpx (variable):** An array of [PrI](#) elements that specifies character formatting properties.



This array MUST contain only character [Sprm](#) structures. However, this array MUST NOT contain any **Sprm** structure that specifies a property that is preserved across the application of the [sprmCIstd](#) value. Finally, this array MUST NOT contain any of the following:

1. sprmCFSpecVanish
2. sprmCIstd
3. sprmCIstdPermute
4. sprmCPlain
5. sprmCMajority
6. sprmCDispFldRMark
7. sprmCIidsIRMarkDel
8. sprmCLbcCRJ
9. sprmCPbiIBullet
10. sprmCPbiGrf

Additionally, character, paragraph, and list styles MUST NOT contain the sprmCCnf value.

**padding (variable):** A [UPXPadding](#) structure that specifies the padding that is required to make the **UpxChpx** structure an even length.

### 2.9.337 UPXPadding

The **UPXPadding** structure specifies the padding that is used to pad the [UpxPapx](#), [UpxChpx](#), or [UpxTapx](#) structure if any of them are an odd number of bytes in length. The number of bytes that are required MUST be written as a zero value.

The **UpxPapx**, **UpxChpx**, and **UpxTapx** structures MUST be written as an even length, even if their contents are an odd length.

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| blob (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**blob (variable):** A structure that specifies any padding that is required to pad structures of an odd number of bytes in length so that they end on an even-byte boundary. It has a size of 1 byte if padding is needed, and 0 bytes if no padding is needed.

### 2.9.338 UpxPapx

The **UpxPapx** structure specifies the paragraph formatting properties that differ from the parent style, as defined by [StdBase.istdBase](#).

|                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                    | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| istd (optional) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | grpPrlPapx (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

|                    |
|--------------------|
| ...                |
| padding (variable) |
| ...                |

**istd (2 bytes):** An unsigned integer that specifies the [istd](#) value of the paragraph style. The **istd** value MUST be equal to the current style.

**grpprIPapx (variable):** An array of [PrI](#) elements that specify paragraph formatting properties. This array MUST contain only paragraph [Sprm](#) structures.

List styles MUST contain only the [sprmPIlfo](#) value.

Paragraph and table styles MUST NOT contain any **Sprm** structure that specifies a property that is preserved across the application of the **sprmPIstd** value. Additionally, paragraph and table styles MUST NOT contain any of the following:

- **sprmPIstd**
- **sprmPIstdPermute**
- **sprmPInclLvl**
- **sprmPNest80**
- **sprmPChgTabs**
- **sprmPDcs**
- **sprmPHugePapx**
- **sprmPFInnerTtp**
- **sprmPFOpenTch**
- **sprmPNest**
- **sprmPFNoAllowOverlap**
- **sprmPIstdListPermute**
- **sprmPTableProps**
- **sprmPTIstdInfo**

Additionally, paragraph styles MUST NOT contain **sprmPCnf**.

**padding (variable):** A [UPXPadding](#) value that specifies the padding that is required to make the **UpxPapx** structure an even length.

### 2.9.339 UpxRm

The **UpxRm** structure specifies that the style was revision-marked, and the date and author of the revision. A revision-marked style contains a set of formatting properties that specify the formatting of the style at the time that the style was modified for revision-marking.

|            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| date       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ibstAuthor |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**date (4 bytes):** A [DTIM](#) that specifies the date and time at which this style revision occurred.

**ibstAuthor (2 bytes):** A signed integer that specifies the index location of the string in the [SttbfRMark](#) string table that describes the author who modified the style.

### 2.9.340 UpxTapx

The **UpxTapx** structure specifies the table formatting properties that differ from the parent style, as defined by the [StdBase.istdBase](#) value.

|                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| grpPrTapx (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| padding (variable)   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**grpPrTapx (variable):** An array of [Prl](#) elements that specify table formatting properties. This array MUST contain only table [Sprm](#) structures.

Any [sprmTistd](#) value that is contained in the array MUST be ignored.

This array MUST NOT contain the **sprmTWidthBefore** value, except when specifying the table formatting properties for the table style with an [istd](#) of 0x000B, which MUST contain a **sprmTWidthBefore** value with an [FtsWWidth\\_TablePart](#) operand that specifies a **ftsWidth** of ftsDxa (0x03) and a **wWidth** of zero.

Additionally, this array MUST NOT contain any **Sprm** structure that specifies a property that is preserved across the application of the **sprmTistd** value.

Finally, this array MUST NOT contain any of the following:

1. sprmTDxaLeft
2. sprmTDefTable
3. sprmTDefTableShd80
4. sprmTDefTableShd3rd
5. sprmTDefTableShd
6. sprmTDefTableShd2nd
7. sprmTWidthAfter

8. sprmTFKeepFollow
9. sprmTBrctopCv
10. sprmTBrclftCv
11. sprmTBrctbtmCv
12. sprmTBrctrghtCv
13. sprmTSetBrc80
14. sprmTInsert
15. sprmTDelete
16. sprmTDxaCol
17. sprmTMerge
18. sprmTSplit
19. sprmTTextFlow
20. sprmTVertMerge
21. sprmTVertAlign
22. sprmTSetBrc
23. sprmTCellPadding
24. sprmTCellWidth
25. sprmTFitText
26. sprmTFCellNoWrap
27. sprmTCellFHideMark
28. sprmTSetShdTable
29. sprmTCellBrcType
30. sprmTFBiDi90
31. sprmTFNoAllowOverlap
32. sprmTIpgp
33. sprmTDefTableShdRaw
34. sprmTDefTableShdRaw2nd
35. sprmTDefTableShdRaw3rd
36. sprmTCellBrcTopStyle (except within a sprmTCnf)
37. sprmTCellBrcBottomStyle (except within a sprmTCnf)
38. sprmTCellBrcLeftStyle (except within a sprmTCnf)
39. sprmTCellBrcRightStyle (except within a sprmTCnf)

40. sprmTCellBrcInsideHStyle (except within a sprmTCnf)

41. sprmTCellBrcInsideVStyle (except within a sprmTCnf)

**padding (variable):** A [UPXPadding](#) value that specifies the padding that is required to make **UpxTapx** an even length.

### 2.9.341 VerticalAlign

The **VerticalAlign** enumeration specifies the vertical alignment of content within table cells.

| Name            | Value | Meaning   |
|-----------------|-------|---|
| <b>vaTop</b>    | 0x00  | Specifies that content is vertically aligned to the top of the cell.    |
| <b>vaCenter</b> | 0x01  | Specifies that content is vertically aligned to the center of the cell. |
| <b>vaBottom</b> | 0x02  | Specifies that content is vertically aligned to the bottom of the cell. |

### 2.9.342 VerticalMergeFlag

The **VerticalMergeFlag** enumeration provides a 2-bit value that specifies whether a table cell is merged with the cells above or below it. This MUST be one of the following values.

| Name              | Value | Meaning   |
|-------------------|-------|---|
| <b>fvmClear</b>   | 0x00  | The cell is not merged with cells above or below it. This is the default behavior.  |
| <b>fvmMerge</b>   | 0x01  | The cell is one of a set of vertically merged cells. It contributes its layout region to the set and its own contents are not rendered.   |
| <b>fvmRestart</b> | 0x03  | The cell is the first cell in a set of vertically merged cells. The contents and formatting of this cell extend down into any consecutive cells below it that are set to the <b>fvmMerge</b> value. |

### 2.9.343 VertMergeOperand

The **VertMergeOperand** structure is an operand that specifies the merge behavior of a cell in a table row with the equivalent cells in the rows immediately above or below it.

|    |   |   |   |   |   |   |   |   |   |     |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |    |   |
|----|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|----------------|---|---|---|---|---|---|---|---|---|----|---|
| 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| cb |   |   |   |   |   |   |   |   |   | itc |   |   |   |   |   |   |   |   |   | vertMergeFlags |   |   |   |   |   |   |   |   |   |    |   |

**cb (1 byte):** An integer value that specifies the byte count of the remainder of this structure. This value MUST be 2.

**itc (1 byte):** An integer that specifies the index of a cell in the table row. The first cell has an index of zero. All cells in the row are counted, even if they are vertically merged with cells above or below them. This value MUST be a valid index of a cell in the table row.

**vertMergeFlags (1 byte):** A value from the [VerticalMergeFlag](#) enumeration that specifies whether this cell is vertically merged with the cells above or below it.

### 2.9.344 Vjc

The **Vjc** enumeration provides an 8-bit unsigned integer that specifies the vertical alignment of text.

| Name             | Value | Meaning   |
|------------------|-------|-----------|
| <b>vjcTop</b>    | 0x00  | Top       |
| <b>vjcCenter</b> | 0x01  | Centered  |
| <b>vjcBoth</b>   | 0x02  | Justified |
| <b>vjcBottom</b> | 0x03  | Bottom    |

### 2.9.345 WHeightAbs

The **WHeightAbs** structure specifies the frame height.

|              |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |
|--------------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|----|---|
| 0            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| DyaHeightAbs |   |   |   |   |   |   |   |   |   |    |   |   |   |   | A |   |   |   |   |    |   |   |   |   |   |   |   |   |   |    |   |

**DyaHeightAbs (15 bits):** A [YAS nonNeg](#) value that specifies frame height. If this value is 0x0000, the frame height is automatically determined based on the height of its contents.

**A - fMinHeight (1 bit):** A bit that specifies whether **DyaHeightAbs** specifies minimum frame height. The **DyaHeightAbs** MUST NOT be 0x0000 when **fMinHeight** is set.

### 2.9.346 WKB

The **WKB** structure describes a subdocument.

|      |   |   |   |   |   |   |   |   |   |    |   |   |   |   |      |   |   |   |   |    |   |   |            |   |   |   |   |   |   |    |   |
|------|---|---|---|---|---|---|---|---|---|----|---|---|---|---|------|---|---|---|---|----|---|---|------------|---|---|---|---|---|---|----|---|
| 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5    | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3          | 4 | 5 | 6 | 7 | 8 | 9 | 30 | 1 |
| fn   |   |   |   |   |   |   |   |   |   |    |   |   |   |   | A    | B | C | D | E | F  | G | H | fReserved9 |   |   |   |   |   |   |    |   |
| lvl  |   |   |   |   |   |   |   |   |   |    |   |   |   |   | fnpi |   |   |   |   |    |   |   |            |   |   |   |   |   |   |    |   |
| pdod |   |   |   |   |   |   |   |   |   |    |   |   |   |   |      |   |   |   |   |    |   |   |            |   |   |   |   |   |   |    |   |

**fn (2 bytes):** This value MUST be zero.

**A - fReserved1 (1 bit):** This value MUST be zero.

**B - fReserved2 (1 bit):** This value MUST be zero.

**C - fReserved3 (1 bit):** This value is undefined and MUST be ignored.

**D - fReserved4 (1 bit):** This value MUST be zero.

**E - fReserved5 (1 bit):** This value MUST be zero.

**F - fReserved6 (1 bit):** This value MUST be 1.

**G - fReserved7 (1 bit):** This value MUST be zero.

**H - fReserved8 (1 bit):** This value is undefined and MUST be ignored.

**fReserved9 (1 byte):** This value MUST be zero.

**lvl (2 bytes):** This value MUST be 0x0002.

**fnpi (2 bytes):** An [FNPI](#) structure that specifies the type and identifier of a file name. The string that is contained in the [SttbFnm](#) structure and that is appended by an [FNIF](#) structure that has an **fnpi** which is identical to this one, is the file name of the file that this **WKB** references.

**pdod (4 bytes):** This value is unused and MUST be zero.

### 2.9.347 Wpms

The **Wpms** structure specifies the current state of the mail merge.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | B | C | D |   |   | E | F | G | H | I  | J  | K  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**A - wpmsMainDoc (1 bit):** Specifies whether the main document was selected for the mail merge.

**B - wpmsDF (1 bit):** Specifies whether the data source was selected for the mail merge.

**C - wpmsHF (1 bit):** Specifies whether the mail merge obtains the merge field names from a header file.

**D - wpmsType (4 bits):** An unsigned integer that specifies the document type of the mail merge. This value MUST be one of the following.

| Value | Meaning               |
|-------|-----------------------|
| 0x0   | No mail merge.        |
| 0x1   | Letters.              |
| 0x2   | Labels.               |
| 0x4   | Envelopes.            |
| 0x8   | Catalog or directory. |

**E - unused1 (1 bit):** This bit is undefined and MUST be ignored.

**F - wpmsAuto (1 bit):** Specifies whether this is an automatic label or envelope mail merge.

**G - unused2 (1 bit):** This value MUST be zero and MUST be ignored.

**H - wpmsSuppression (1 bit):** Specifies whether the blank lines in the data files MUST be suppressed.

**I - wpmsRecSelect (1 bit):** Specifies whether record selection is enabled.

**J - unused3 (1 bit):** This value MUST be zero and MUST be ignored.

**K - wpmsDest (3 bits):** An unsigned integer that specifies the destination of the mail merge. This MUST be one of the following values.

| Value | Meaning |
|-------|---------|
| 0x0   | None    |
| 0x1   | Printer |
| 0x2   | E-mail  |
| 0x4   | Fax     |

### 2.9.348 Wpmsdt

A **Wpmsdt** structure specifies the document type of the mail merge.

|         |   |   |   |   |   |   |   |   |   |        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |
|---------|---|---|---|---|---|---|---|---|---|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| 0       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10     | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |  |  |  |  |
| docType |   |   |   |   |   |   |   |   |   | unused |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |

**docType (6 bits):** An unsigned integer that specifies the document type of the mail merge. This MUST be one of the following values.

| Value | Meaning               |
|-------|-----------------------|
| 0x00  | No mail merge.        |
| 0x01  | Letters.              |
| 0x02  | Labels.               |
| 0x04  | Envelopes.            |
| 0x08  | Catalog or directory. |
| 0x10  | E-mail messages.      |
| 0x20  | Fax.                  |

**unused (26 bits):** This field is undefined and MUST be ignored.

### 2.9.349 XAS

The **XAS** value is a 16-bit signed integer that specifies horizontal distance in twips. This value MUST be greater than or equal to -31680 and less than or equal to 31680.

### 2.9.350 XAS\_nonNeg

The **XAS\_nonNeg** value is a 16-bit unsigned integer that specifies horizontal distance, in twips. This value MUST be less than or equal to 31680.

### 2.9.351 XAS\_plusOne

The **XAS\_plusOne** value is a 16-bit signed integer that specifies the horizontal distance, in twips, after the stored value is decremented by 1. This value MUST be greater than or equal to -31679 and less than or equal to 31681.



## 2.9.352 XSDR

The **XSDR** structure specifies a single reference to an XML schema definition.

|                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| wzURI (variable)              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| wzManifestLocation (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| sttbElements (variable)       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| sttbAttributes (variable)     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**wzURI (variable):** A Unicode string that indicates the URI of this schema definition. The string is length-prefixed with a 16-bit integer and is not null-terminated.

**wzManifestLocation (variable):** A Unicode string that is length-prefixed with a 16-bit integer and is not null-terminated. If this schema definition was loaded through an XML expansion pack, **wzManifestLocation** is the URI of the expansion pack manifest. If it was not loaded through an expansion pack, the string is empty.

**sttbElements (variable):** An **STTB** structure that contains all the elements within this XML schema. This structure uses a 4-byte **cData**.

**sttbAttributes (variable):** An **STTB** structure that contains all the attributes within this XML schema. This structure uses a 4-byte **cData**.

## 2.9.353 Xst

The **Xst** structure is a string. The string is prepended by its length and is not null-terminated.

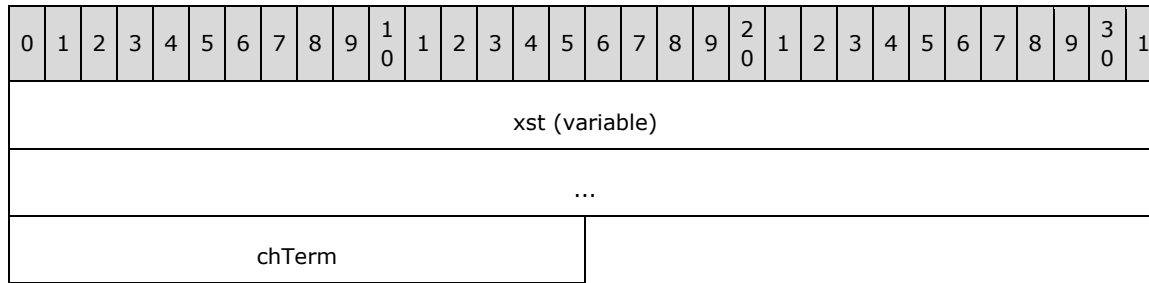
|     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16                 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| cch |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    | rgtchar (variable) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ... |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**cch (2 bytes):** An unsigned integer that specifies the number of characters that are contained in the **rgtchar** array.

**rgtchar (variable):** An array of 16-bit Unicode characters that make up a string.

### 2.9.354 Xstz

The **Xstz** structure is a string. The string is prepended by its length and is null-terminated.



**xst (variable):** An [Xst](#) structure that is prepended with a value which specifies the length of the string.

**chTerm (2 bytes):** A null-terminating character. This value MUST be zero.

### 2.9.355 YAS

The **YAS** value is a 16-bit signed integer that specifies vertical distance in twips. This value MUST be greater than or equal to -31680 and less than or equal to 31680.

### 2.9.356 YAS\_nonNeg

The **YAS\_nonNeg** value is a 16-bit unsigned integer that specifies vertical distance, in twips. This value MUST be less than or equal to 31680.

### 2.9.357 YAS\_plusOne

The **YAS\_plusOne** value is a 16-bit signed integer that specifies vertical distance, in twips, after the stored value is decremented by 1. This value MUST be greater than or equal to -31679 and less than or equal to 31681.

### 3 Structure Examples

This section contains examples of some of the most commonly used data structures in MS-DOC files. The examples are based on common computational tasks.

Section 3.1 provides examples of the data structures that are used to find the text of the document.

Section 3.2 provides examples of the data structures that are used to find the properties of a section, including page size and margins.

Section 3.3 provides examples of the data structures that are used to determine the ranges of bookmarks.

Sections 3.4 and 3.5 provide examples of the data structures that are used to determine direct character and paragraph formatting.

Section 3.6 provides an example of the use of the [sprmTInsert](#) value to define a table row and of the use of an [ItcFirstLim](#) structure to specify a range of cells to which a [Sprm](#) structure applies.

Finally, Section 3.7 provides an example of the data structures that are used to determine the formatting and number text of a list.

#### 3.1 Example of a Clx

The following is an example of a [Clx](#). This structure demonstrates the mapping between [CP](#) elements and the location of text in the file. See section 2.4.1, Retrieving Text.

| Offset   | Size | Structure                                       | Value      |
|----------|------|---|------------|
| 0000009A | 02E8 | <a href="#">FibRgFcLcb97</a> - <b>rgFcLcb97</b> |            |
| 0000009A | 0108 | ... (omitted for brevity) -                     |            |
| 000001A2 | 0004 | - <b>fcClx</b>                                  | 0x000001F8 |
| 000001A6 | 0004 | - <b>lcbClx</b>                                 | 0x0000002D |
| 000001AA | 01D8 | ... (omitted for brevity) -                     |            |

**Figure 3: Portions of the FibRgFcLcb97 structure, with emphasis on fcClx and lcbClx**

As with all Word Binary files, this file has a [Fib](#) at an offset of zero in the [WordDocument Stream](#). The preceding figure shows a portion of the **FibRgFcLcb97** that is contained in that Fib. The **FibRgFcLcb97** is very large. Most fields have been omitted here, for brevity.

**fcClx:** 0x000001F8 specifies the offset, in bytes, of a location in the [Table Stream](#). A **Clx** begins at this offset.

**lcbClx:** 0x0000002D specifies the size, in bytes, of the **Clx** at offset 0x000001F8 in the Table Stream.

The following shows the top level of the **Clx** at offset 0x000001F8 in the Table Stream.

| Offset   | Size | Structure                          | Value |
|----------|------|------------------------------------|-------|
| 000001F8 | 002D | Clx - <b>Clx</b>                   |       |
| 000001F8 | 0000 | RgPrc - <b>RgPrc</b>               |       |
| 000001F8 | 002D | <a href="#">Pcdt</a> - <b>Pcdt</b> |       |

| Offset   | Size | Structure                              | Value      |
|----------|------|--|------------|
| 000001F8 | 0001 | BYTE - <b>clxt</b>                     | 0x02       |
| 000001F9 | 0004 | ULONG - <b>lcb</b>                     | 0x00000028 |
| 000001FD | 0028 | <a href="#">PlcPcd</a> - <b>PlcPcd</b> |            |

**Figure 4: A Clx structure**

**RgPrc:** This optional member is not present in this **Clx** structure. Because the first byte of this **Clx** structure is 0x02, the **Clx** begins with a **Pcdt** structure and does not contain an array of [Prc](#) structures.

**Pcdt.clxt:** 0x02 specifies that this is a **Pcdt** structure, as opposed to a **Prc** structure.

**Pcdt.lcb:** 0x00000028 specifies the size, in bytes, of **PlcPcd**. A **PlcPcd** is a [Plc](#) structure whose data members are [Pcd](#) structures. A **Pcd** is 8 bytes in size, so this **PlcPcd** consists of three **Pcd** structures and four CP elements.

The following shows the top-level expansion of the **PlcPcd** that is contained in this **Clx**. The **Pcd** structures, which are expanded in later tables, specify the locations of text in the file.

| Offset   | Size | Structure              | Value      |
|----------|------|------------------------|------------|
| 000001FD | 0028 | PlcPcd - <b>PlcPcd</b> |            |
| 000001FD | 0004 | LONG - <b>cp[0]</b>    | 0x00000000 |
| 00000201 | 0004 | LONG - <b>cp[1]</b>    | 0x00000006 |
| 00000205 | 0004 | LONG - <b>cp[2]</b>    | 0x0000000D |
| 00000209 | 0004 | LONG - <b>cp[3]</b>    | 0x0000000E |
| 0000020D | 0008 | Pcd - <b>pcd[0]</b>    |            |
| 00000215 | 0008 | Pcd - <b>pcd[1]</b>    |            |
| 0000021D | 0008 | Pcd - <b>pcd[2]</b>    |            |

**Figure 5: The top-level expansion of a PlcPcd**

**cp[0]:** 0x00000000 specifies that **pcd[0]** applies to text starting at CP zero. Because **cp[1]** is 0x00000006, **pcd[0]** applies to CP values zero through 5, inclusive.

**cp[1]:** 0x00000006 specifies that **pcd[1]** applies to text starting at CP 0x00000006. Because **cp[2]** is 0x0000000D, **pcd[1]** applies to CP values 0x00000006 through 0x0000000C, inclusive.

**cp[2]:** 0x0000000D specifies that **pcd[2]** applies to text starting at CP 0x0000000D. Because **cp[3]** is 0x0000000E, **pcd[2]** applies only to CP value 0x0000000D.

**cp[3]:** 0x0000000E specifies that the last CP value to which **pcd[2]** applies is 0x0000000D.

**pcd[0]:** Specifies the location of text for CP values zero through 5, inclusive. This structure is expanded in the following table.

**pcd[1]:** Specifies the location of text for CP values 0x00000006 through 0x0000000C, inclusive. This structure is expanded following.

**pcd[2]:** Specifies the location of text for CP value 0x0000000D. This structure is expanded following.

The following table shows the expansion of **pcd[0]**. This structure specifies the location of the text at CP zero through 5, inclusive.

| Offset   | Size    | Structure                                | Value      |
|----------|---------|--|------------|
| 0000020D | 0008    | Pcd - <b>pcd</b>                         |            |
| 0000020D | 1 bit   | USHORT - <b>fNoParaLast</b>              | 0x1        |
| 0000020D | 1 bit   | USHORT - <b>fR1 (ignored)</b>            | 0x0        |
| 0000020D | 1 bit   | USHORT - <b>fDirty (ignored)</b>         | 0x0        |
| 0000020D | 13 bits | USHORT - <b>fR2 (ignored)</b>            | 0x0006     |
| 0000020F | 0004    | <a href="#">FcCompressed</a> - <b>fc</b> |            |
| 0000020F | 30 bits | ULONG - <b>fc</b>                        | 0x00000C22 |
| 0000020F | 1 bit   | ULONG - <b>fCompressed</b>               | 0x0        |
| 0000020F | 1 bit   | ULONG - <b>r1 (ignored)</b>              | 0x0        |
| 00000213 | 0002    | <a href="#">Prm0</a> - <b>prm0</b>       |            |
| 00000213 | 1 bit   | USHORT - <b>fComplex</b>                 | 0x0        |
| 00000213 | 7 bits  | USHORT - <b>isprm</b>                    | 0x00       |
| 00000213 | 8 bits  | USHORT - <b>val</b>                      | 0x00       |

**Figure 6: The expansion of pcd[0]**

**fNoParaLast:** 0x1 specifies that the text that is referenced by this **Pcd** structure does not contain any paragraph marks.

**fc.fc:** 0x00000C22 specifies the offset, in bytes, in the WordDocument Stream where the text at CP zero begins. Because **cp[1]** is 0x00000006, there are 6 characters of text at this offset.

**fc.fCompressed:** 0x0 specifies that the text at offset **fc.fc** in the WordDocument Stream consists of 16-bit Unicode characters.

**prm0.fComplex:** 0x0 specifies that this is a **Prm0** structure, as opposed to a [Prm1](#) structure.

**prm0.isprm:** 0x00 specifies that [sprmCLbcCRJ](#) is applied to the range of CPs that are referenced by this **Pcd** structure. However, an **isprm** of 0x0000, combined with a **val** of 0x0000, is a special case that specifies that the CPs that are referenced by this **Pcd** have no additional formatting from their **Pcd** structure

**prm0.val:** 0x00, combined with **isprm** 0x0000, specifies that the CPs that are referenced by this **Pcd** have no additional formatting from their **Pcd**.

The following shows the expansion of **pcd[1]**. This structure specifies the location of the text at CP 0x00000006 through 0x0000000C, inclusive.

| Offset   | Size  | Structure                     | Value |
|----------|-------|-------------------------------|-------|
| 00000215 | 0008  | Pcd - <b>pcd</b>              |       |
| 00000215 | 1 bit | USHORT - <b>fNoParaLast</b>   | 0x0   |
| 00000215 | 1 bit | USHORT - <b>fR1 (ignored)</b> | 0x0   |

| Offset   | Size    | Structure                        | Value      |
|----------|---------|----------------------------------|------------|
| 00000215 | 1 bit   | USHORT - <b>fDirty (ignored)</b> | 0x0        |
| 00000215 | 13 bits | USHORT - <b>fR2 (ignored)</b>    | 0x0006     |
| 00000217 | 0004    | FcCompressed - <b>fc</b>         |            |
| 00000217 | 30 bits | ULONG - <b>fc</b>                | 0x00000800 |
| 00000217 | 1 bit   | ULONG - <b>fCompressed</b>       | 0x1        |
| 00000217 | 1 bit   | ULONG - <b>r1 (ignored)</b>      | 0x0        |
| 0000021B | 0002    | Prm0 - <b>prm0</b>               |            |
| 0000021B | 1 bit   | USHORT - <b>fComplex</b>         | 0x0        |
| 0000021B | 7 bits  | USHORT - <b>isprm</b>            | 0x00       |
| 0000021B | 8 bits  | USHORT - <b>val</b>              | 0x00       |

**Figure 7: Expansion of pcd[1]**

**fNoParaLast:** 0x0 specifies that the text that is referenced by this **Pcd** might contain a paragraph mark. A value of 0x0001 specifies that there is no paragraph mark. A value of 0x0000 specifies that the referenced text might or might not contain a paragraph mark.

**fc.fc:** 0x00000800 specifies the offset, in bytes, in the WordDocument Stream where the text at CP 0x00000006 begins. Because **fCompressed** is 1, the actual offset is **fc/2**, or 0x00000400. Because **cp[2]** is 0x0000000D, there are 7 characters at this offset.

**fc.fCompressed:** 0x1 specifies that the text at offset **fc/2** consists of 8-bit ANSI characters, except for the values that are listed in the table in the specification of FcCompressed (section 2.9.73).

**prm0.fComplex:** 0x0 specifies that this is a **Prm0** structure, as opposed to a **Prm1** structure.

**prm0.isprm:** 0x00 specifies that sprmCLbcCRJ is applied to the range of CPs that are referenced by this **Pcd**. However, an **isprm** of 0x0000, combined with a **val** of 0x0000, is a special case that specifies that the CPs referenced by this **Pcd** have no additional formatting from their **Pcd**.

**prm0.val:** 0x00, combined with **isprm** 0x0000, specifies that the CPs that are referenced by this **Pcd** structure have no additional formatting from their **Pcd**.

The following shows the expansion of **pcd[2]**. This structure specifies the location of the text at CP 0x0000000D.

| Offset   | Size    | Structure                        | Value      |
|----------|---------|----------------------------------|------------|
| 0000021D | 0008    | Pcd - <b>pcd</b>                 |            |
| 0000021D | 1 bit   | USHORT - <b>fNoParaLast</b>      | 0x0        |
| 0000021D | 1 bit   | USHORT - <b>fR1 (ignored)</b>    | 0x0        |
| 0000021D | 1 bit   | USHORT - <b>fDirty (ignored)</b> | 0x0        |
| 0000021D | 13 bits | USHORT - <b>fR2 (ignored)</b>    | 0x0006     |
| 0000021F | 0004    | FcCompressed - <b>fc</b>         |            |
| 0000021F | 30 bits | ULONG - <b>fc</b>                | 0x0000080E |

| Offset   | Size   | Structure                   | Value |
|----------|--------|-----------------------------|-------|
| 0000021F | 1 bit  | ULONG - <b>fCompressed</b>  | 0x1   |
| 0000021F | 1 bit  | ULONG - <b>r1 (ignored)</b> | 0x0   |
| 00000223 | 0002   | Prm0 - <b>prm0</b>          |       |
| 00000223 | 1 bit  | USHORT - <b>fComplex</b>    | 0x0   |
| 00000223 | 7 bits | USHORT - <b>isprm</b>       | 0x00  |
| 00000223 | 8 bits | USHORT - <b>val</b>         | 0x00  |

**Figure 8: Expansion of pcd[2]**

**fNoParaLast:** 0x0 specifies that the text that is referenced by this **Pcd** might contain a paragraph mark. A value of 0x0001 specifies that there is no paragraph mark. A value of 0x0000 indicates that a paragraph mark might, or might not, be contained in the referenced text.

**fc.fc:** 0x0000080E specifies the offset, in bytes, in the WordDocument Stream where the text at CP 0x0000000D begins. Because **fCompressed** is 1, the actual offset is **fc/2**, or 0x00000407. Because **cp[3]** is 0x0000000E, there is 1 character at this offset.

**fc.fCompressed:** 0x1 specifies that the text at offset **fc/2** consists of 8-bit ANSI characters, except for the values that are listed in the table in the specification of **FcCompressed** (section 2.9.73).

**prm0.fComplex:** 0x0 specifies that this is a **Prm0** structure, as opposed to a **Prm1** structure.

**prm0.isprm:** 0x00 specifies that **sprmCLbcCRJ** is applied to the range of CPs that are referenced by this **Pcd**. However, an **isprm** of 0x0000, combined with a **val** of 0x0000, is a special case that specifies that the CPs that are referenced by this **Pcd** have no additional formatting from their **Pcd**.

**prm0.val:** 0x00, combined with **isprm** 0x0000, specifies that the CPs that are referenced by this **Pcd** have no additional formatting from their **Pcd**.

The following shows the Unicode text at offset 0x00000C22 in the WordDocument Stream. This is an array of two-byte characters. This array is not null-terminated.

| Offset   | Size | Structure                  | Value  |
|----------|------|----------------------------|--------|
| 00000C22 | 000C | USHORT array - <b>text</b> |        |
| 00000C22 | 0002 | USHORT - <b>text[0]</b>    | 0x0048 |
| 00000C24 | 0002 | USHORT - <b>text[1]</b>    | 0x0065 |
| 00000C26 | 0002 | USHORT - <b>text[2]</b>    | 0x006C |
| 00000C28 | 0002 | USHORT - <b>text[3]</b>    | 0x006C |
| 00000C2A | 0002 | USHORT - <b>text[4]</b>    | 0x006F |
| 00000C2C | 0002 | USHORT - <b>text[5]</b>    | 0x0020 |

**Figure 9: The text at offset 0x00000C22 in the Table Stream**

**text[0]:** 0x0048 Unicode 'H'.

**text[1]:** 0x0065 Unicode 'e'.

**text[2]:** 0x006C Unicode 'l'.

**text[3]:** 0x006C Unicode 'l'.

**text[4]:** 0x006F Unicode 'o'.

**text[5]:** 0x0020 Unicode space.

The following shows the ANSI text at offset 0x00000400 in the WordDocument Stream. This is an array of single byte characters. This array is not null-terminated.

| Offset   | Size | Structure                | Value |
|----------|------|--------------------------|-------|
| 00000400 | 0007 | BYTE array - <b>text</b> |       |
| 00000400 | 0001 | BYTE - <b>text[0]</b>    | 0x57  |
| 00000401 | 0001 | BYTE - <b>text[1]</b>    | 0x6F  |
| 00000402 | 0001 | BYTE - <b>text[2]</b>    | 0x72  |
| 00000403 | 0001 | BYTE - <b>text[3]</b>    | 0x6C  |
| 00000404 | 0001 | BYTE - <b>text[4]</b>    | 0x64  |
| 00000405 | 0001 | BYTE - <b>text[5]</b>    | 0x2E  |
| 00000406 | 0001 | BYTE - <b>text[6]</b>    | 0x0D  |

**Figure 10: The text at offset 0x00000400 in the WordDocument Stream**

**text[0]:** 0x57 ANSI 'W'.

**text[1]:** 0x6F ANSI 'o'.

**text[2]:** 0x72 ANSI 'r'.

**text[3]:** 0x6C ANSI 'l'.

**text[4]:** 0x64 ANSI 'd'.

**text[5]:** 0x2E ANSI period ('.').

**text[6]:** 0x0D ANSI paragraph mark.

The following structure shows the ANSI text at offset 0x00000407 in the WordDocument Stream. This is an array of single byte characters. This array is not null-terminated.

| Offset   | Size | Structure                | Value |
|----------|------|--------------------------|-------|
| 00000407 | 0001 | BYTE array - <b>text</b> |       |
| 00000407 | 0001 | BYTE - <b>text[0]</b>    | 0x0D  |

**Figure 11: The text at offset 0x00000407 in the WordDocument Stream**

**text[0]:** 0x0D ANSI paragraph mark.

The complete text of this document is therefore, "Hello World", followed by a period and two paragraph marks.



## 3.2 Example of a section

A document that is created by using this specification is divided into sections. Each section can store unique page-level formatting such as page size and orientation, in addition to other features such as headers and footers. A document contains at least 1 section.

[PlcfSed](#) contains information about how the document is divided into sections, as well as the properties of each section. The following is an example of a **PlcfSed** that was taken from a small document with two sections.

To find the **PlcfSed**, start in the `FibRgFclCb97`.

| Offset   | Size | Structure                                       | Value      |
|----------|------|---|------------|
| 0000009A | 02E8 | <a href="#">FibRgFclCb97</a> - <b>rgFclCb97</b> |            |
| 0000009A | 0030 | ... (omitted for brevity) -                     |            |
| 000000CA | 0004 | ULONG - <b>fcPlcfSed</b>                        | 0x000012D5 |
| 000000CE | 0004 | ULONG - <b>lcbPlcfSed</b>                       | 0x00000024 |
| 000000D2 | 02B0 | ... (omitted for brevity) -                     |            |

**Figure 12: Portions of the FibRgFclCb97 structure, highlighting fc/lcbPlcfSed**

The `FibRgFclCb97` structure is very large. Most fields have been omitted here for brevity.

**fcPlcfSed:** 0x000012D5 specifies that the **PlcfSed** structure begins at byte 0x12D5 in the [Table Stream](#).

**lcbPlcfSed:** 0x00000024 specifies that the **PlcfSed** structure is 36 bytes long. Because each [Sed](#) structure is 12 bytes, the **PlcfSed** structure contains exactly three [CPs](#) and two **Sed** structures.

Using the offset and length that are specified by **fcPlcfSed** and **lcbPlcfSed**, read the **PlcfSed** structure, shown following.

| Offset   | Size | Structure                | Value      |
|----------|------|--------------------------|------------|
| 000012D5 | 0024 | PlcfSed - <b>PlcfSed</b> |            |
| 000012D5 | 0004 | LONG - <b>cp[0]</b>      | 0x00000000 |
| 000012D9 | 0004 | LONG - <b>cp[1]</b>      | 0x0000000B |
| 000012DD | 0004 | LONG - <b>cp[2]</b>      | 0x00000016 |
| 000012E1 | 000C | Sed - <b>sed[0]</b>      |            |
| 000012E1 | 0002 | SHORT - <b>fn</b>        | 0x000D     |
| 000012E3 | 0004 | ULONG - <b>fcSepx</b>    | 0x00000E00 |
| 000012E7 | 0002 | SHORT - <b>fnMpr</b>     | 0x0000     |
| 000012E9 | 0004 | ULONG - <b>fcMpr</b>     | 0xFFFFFFFF |
| 000012ED | 000C | Sed - <b>sed[1]</b>      |            |
| 000012ED | 0002 | SHORT - <b>fn</b>        | 0x000D     |
| 000012EF | 0004 | ULONG - <b>fcSepx</b>    | 0x00000E2E |

| Offset   | Size | Structure            | Value      |
|----------|------|----------------------|------------|
| 000012F3 | 0002 | SHORT - <b>fnMpr</b> | 0x0004     |
| 000012F5 | 0004 | ULONG - <b>fcMpr</b> | 0xFFFFFFFF |

**Figure 13: The PlcfSed structure that is referenced by fcPlcfSed and lcbPlcfSed in the FibRgFclCb97 structure**

This **PlcfSed** structure is 36 bytes long. Because each **Sed** structure is 12 bytes, this **PlcfSed** structure contains exactly 3 CPs and 2 **Sed** structures and from that information it can be determined that there are 2 sections.

**cp[0]:** 0x00000000 specifies that the text for the first section begins at position 0 in the [main document](#).

**cp[1]:** 0x0000000B specifies that the text for the second section begins at position 11 in the main document. The last character in the first section is at position 10, and has a Unicode value of 0x0C.

**cp[2]:** 0x00000016 specifies that the remainder of this document is in the second section. The character position 21 does not need to be 0x0C, because no more sections follow it.

**sed[0]:** The **Sed** structure for the text range from **cp[0]** to **cp[1]**.

**sed[0].fcSepx:** 0x00000E00 specifies that the properties for the section are found at position 0x0E00 in the [WordDocument Stream](#).

**sed[0].fnMpr:** 0x0000, **sed[0].fcMpr:** 0xFFFFFFFF, and **sed[0].fn:** 0x000D are ignored.

**sed[1]:** The **Sed** structure for the text range from **cp[1]** to **cp[2]**. Its **fcSepx** field specifies that the properties for the second section are a [Sepx](#) structure that begins at byte 0x00000E2E in the WordDocument Stream.

The details for **sed[1]** are very similar to **sed[0]**. They have been omitted for brevity.

Use the offset specified in **sed[0].fcSepx** to find the **Sepx** structure that contains the properties of the first section.

| Offset   | Size | Structure                                       | Value  |
|----------|------|---|--------|
| 00000E00 | 002E | Sepx - <b>Sepx</b>                              |        |
| 00000E00 | 0002 | USHORT - <b>cb</b>                              | 0x002C |
| 00000E02 | 002C | GrpPrISepx - <b>grpPrI</b>                      |        |
| 00000E02 | 0004 | <a href="#">PrI</a> - <b>prI[0]</b>             |        |
| 00000E02 | 0002 | <a href="#">Sprm</a> - <b>sprmSDyaLinePitch</b> | 0x9031 |
| 00000E04 | 0002 | SHORT - <b>operand</b>                          | 0x0168 |
| 00000E06 | 0004 | PrI - <b>prI[1]</b>                             |        |
| 00000E06 | 0002 | Sprm - <b>sprmSXaPage</b>                       | 0xB01F |
| 00000E08 | 0002 | USHORT - <b>operand</b>                         | 0x2FD0 |
| 00000E0A | 0004 | PrI - <b>prI[2]</b>                             |        |
| 00000E0A | 0002 | Sprm - <b>sprmSYaPage</b>                       | 0xB020 |

| Offset   | Size | Structure                | Value  |
|----------|------|--------------------------|--------|
| 00000E0C | 0002 | USHORT - operand         | 0x3DE0 |
| 00000E0E | 0004 | PrI - prI[3]             |        |
| 00000E0E | 0002 | Sprm - sprmSDxaLeft      | 0xB021 |
| 00000E10 | 0002 | USHORT - operand         | 0x05A0 |
| 00000E12 | 0004 | PrI - prI[4]             |        |
| 00000E12 | 0002 | Sprm - sprmSDxaRight     | 0xB022 |
| 00000E14 | 0002 | USHORT - operand         | 0x05A0 |
| 00000E16 | 0004 | PrI - prI[5]             |        |
| 00000E16 | 0002 | Sprm - sprmSDyaTop       | 0x9023 |
| 00000E18 | 0002 | SHORT - operand          | 0x05A0 |
| 00000E1A | 0004 | PrI - prI[6]             |        |
| 00000E1A | 0002 | Sprm - sprmSDyaBottom    | 0x9024 |
| 00000E1C | 0002 | SHORT - operand          | 0x05A0 |
| 00000E1E | 0004 | PrI - prI[7]             |        |
| 00000E1E | 0002 | Sprm - sprmSDzaGutter    | 0xB025 |
| 00000E20 | 0002 | USHORT - operand         | 0x0000 |
| 00000E22 | 0004 | PrI - prI[8]             |        |
| 00000E22 | 0002 | Sprm - sprmSDyaHdrTop    | 0xB017 |
| 00000E24 | 0002 | USHORT - operand         | 0x02D0 |
| 00000E26 | 0004 | PrI - prI[9]             |        |
| 00000E26 | 0002 | Sprm - sprmSDyaHdrBottom | 0xB018 |
| 00000E28 | 0002 | USHORT - operand         | 0x02D0 |
| 00000E2A | 0004 | PrI - prI[10]            |        |
| 00000E2A | 0002 | Sprm - sprmSDxaColumns   | 0x900C |
| 00000E2C | 0002 | SHORT - operand          | 0x02D0 |

**Figure 14: The Sepx structure that is referenced by sed[0].fcSepx**

**cb:** 0x002C specifies that there are a total of 44 bytes (not counting this cb) of properties that apply to section 1. Given only this information, it cannot be determined how many properties this represents, because property sizes vary from property to property.

**grpPRI.prI[0]:** The first property. All properties contain a sprm to identify them and an operand which contains the property value.

**grpPRI.prI[0].sprmSDyaLinePitch:** 0x9031 specifies that this is the section property [sprmSDyaLinePitch](#) and that the operand is two bytes.

**grppl.prl[0].operand:** 0x0168 specifies that the line height of the document grid in section 1 is 360 twips (0.25 inches)

**grppl.prl[1].sprmSXaPage:** 0xB01F specifies that this is the section property sprmSXaPage and that the operand is two bytes.

**grppl.prl[1].operand:** 0x2FD0 specifies that the page width for pages in section 1 is 12,240 twips (8.5 inches).

**grppl.prl[2].sprmSYaPage:** 0xB020 specifies that this is the section property sprmSYaPage and that the operand is two bytes.

**grppl.prl[2].operand:** 0x3DE0 specifies that the page height for pages in section 1 is 15,840 twips (11 inches).

**grppl.prl[3].sprmSDxaLeft:** 0xB021 specifies that this is the section property sprmSDxaLeft and that the operand is two bytes.

**grppl.prl[3].operand:** 0x05A0 specifies that the left margin for pages in section 1 is 1440 twips (1 inch) wide.

**grppl.prl[4].sprmSDxaRight:** 0xB022 specifies that this is the section property sprmSDxaRight and that the operand is two bytes.

**grppl.prl[4].operand:** 0x05A0 specifies that the right margin for pages in section 1 is 1440 twips (1 inch) wide.

**grppl.prl[5].sprmSDyaTop:** 0x9023 specifies that this is the section property sprmSDyaTop and that the operand is two bytes.

**grppl.prl[5].operand:** 0x05A0 specifies that the top margin for pages in section 1 is 1440 twips (1 inch) high.

**grppl.prl[6].sprmSDyaBottom:** 0x9024 specifies that this is the section property sprmSDyaBottom and that the operand is two bytes.

**grppl.prl[6].operand:** 0x05A0 specifies that the bottom margin for pages in section 1 is 1440 twips (1 inch) high.

**grppl.prl[7].sprmSDzaGutter:** 0xB025 specifies that this is the section property sprmSDzaGutter and that the operand is two bytes.

**grppl.prl[7].operand:** 0x0000 specifies that the gutter margin for pages in section 1 is 0 twips (0 inches) wide.

**grppl.prl[8].sprmSDyaHdrTop:** 0xB017 specifies that this is the section property sprmSDyaHdrTop and that the operand is two bytes.

**grppl.prl[8].operand:** 0x02D0 specifies that headers for pages in section 1 are positioned 720 twips (0.5 inches) from the top edge of the page.

**grppl.prl[9].sprmSDyaHdrBottom:** 0xB018 specifies that this is the section property sprmSDyaHdrBottom and that the operand is two bytes.

**grppl.prl[9].operand:** 0x02D0 specifies that footers for pages in section 1 are positioned 720 twips (0.5 inches) from the bottom edge of the page.

**grppl.prl[10].sprmSDxaColumns:** 0x900C specifies that this is the section property sprmSDxaColumns and that the operand is two bytes.

**grpri.pri[10].operand:** 0x02D0 specifies that the spacing between columns, if there are multiple columns in section 1, is 720 twips (0.5 inches) wide.

**Sed[0].fcSpex** contains only some of the properties that apply to the **Sepx** structure. Properties that are not contained in **sed[0].fcSpex** take on their respective default values.

### 3.3 Example of a Bookmark

The following is an example of a standard bookmark. This structure demonstrates the mapping between the name of a bookmark, the **CP** of the first character of the bookmark, and the CP of the first character beyond the end of the bookmark.

| Offset   | Size | Structure                                       | Value      |
|----------|------|---|------------|
| 0000009A | 02E8 | <a href="#">FibRgFcLcb97</a> - <b>rgFcLcb97</b> |            |
| 0000009A | 0108 | ... (omitted for brevity) -                     |            |
| 00000142 | 0004 | - <b>fcSttbfBkmk</b>                            | 0x0000146B |
| 00000146 | 0004 | - <b>lcbSttbfBkmk</b>                           | 0x0000004E |
| 0000014A | 0004 | - <b>fcPlcfBkf</b>                              | 0x000014B9 |
| 0000014E | 0004 | - <b>lcbPlcfBkf</b>                             | 0x0000001C |
| 00000152 | 0004 | - <b>fcPlcfBkl</b>                              | 0x000014D5 |
| 00000156 | 0004 | - <b>lcbPlcfBkl</b>                             | 0x00000010 |
| 000001AA | 01D8 | ... (omitted for brevity) -                     |            |

**Figure 15: Portions of the FibRgFcLcb97 structure, highlighting the three fc/lcb pairs for standard bookmarks**

As with all MS-DOC files, this file has a **Fib** structure at offset zero in the [WordDocument Stream](#). The preceding table shows a portion of the **FibRgFcLcb97** structure that is contained in that **Fib**. The **FibRgFcLcb97** structure is very large. Most fields have been omitted here, for brevity.

**fcSttbfBkmk:** 0x0000146B specifies the offset, in bytes, of a location in the [Table Stream](#). An [SttbfBkmk](#) that contains the names of standard bookmarks in the document begins at this offset.

**lcbSttbfBkmk:** 0x0000004E specifies the size, in bytes, of the **SttbfBkmk** structure at offset 0x0000146B in the Table Stream.

**fcPlcfBkf:** 0x000014B9 specifies the offset, in bytes, of a location in the Table Stream. A [PlcfBkf](#) structure that contains information about standard bookmarks in the document begins at this offset. This **PlcfBkf** structure is parallel to the **SttbfBkmk** structure at offset **fcSttbfBkmk** in the Table Stream. Each data element in the **PlcfBkf** structure specifies information about the bookmark that is associated with the element which is located at the same offset in that **SttbfBkmk** structure.

**lcbPlcfBkf:** 0x0000001C specifies the size, in bytes, of the **PlcfBkf** structure at offset **fcPlcfBkf**.

**fcPlcfBkl:** 0x000014D5 specifies the offset, in bytes, of a location in the Table Stream. A [PlcfBkl](#) structure that contains information about standard bookmarks in the document begins at this offset. Each data element in the **PlcfBkl** structure is associated in a one-to-one correlation with a data element in the **PlcfBkf** structure at offset **fcPlcfBkf**.

**lcbPlcfBkl:** 0x00000010 specifies the size, in bytes, of the **PlcfBkl** structure at offset **fcPlcfBkl**.

The following table shows the expansion of the **SttbfBkmk** structure at offset 0x0000146B in the Table Stream.

| Offset   | Size | Structure                    | Value       |
|----------|------|------------------------------|-------------|
| 0000146B | 004E | SttbfBkmk - <b>sttbfBkmk</b> |             |
| 0000146B | 0002 | USHORT - <b>fExtend</b>      | 0xFFFF      |
| 0000146D | 0002 | USHORT - <b>cData</b>        | 0x0003      |
| 0000146F | 0002 | USHORT - <b>cbExtra</b>      | 0x0000      |
| 00001471 | 0002 | USHORT - <b>cchString[0]</b> | 0x000B      |
| 00001473 | 0016 | - <b>string[0]</b>           | BookmarkThr |
| 00001489 | 0002 | USHORT - <b>cchString[1]</b> | 0x000B      |
| 0000148B | 0016 | - <b>string[1]</b>           | BookmarkTwo |
| 000014A1 | 0002 | USHORT - <b>cchString[2]</b> | 0x000B      |
| 000014A3 | 0016 | - <b>string[2]</b>           | BookmarkOne |

**Figure 16: The expansion of an SttbfBkmk**

**fExtend:** 0xFFFF specifies that the **string** fields in this **STTB** contain extended (2-byte) characters.

**cData:** 0x0003 specifies that this string table contains three elements.

**cbExtra:** 0x0000 specifies that there is no extra data appended to the **string** fields in this table.

**cchString[0]:** 0x000B specifies the count of characters in **string[0]**.

**string[0]:** BookmarkThr specifies the name of a bookmark (1) in the file.

**cchString[1]:** 0x000B specifies the count of characters in **string[1]**.

**string[1]:** BookmarkTwo specifies the name of a bookmark (1) in the file.

**cchString[2]:** 0x000B specifies the count of characters in **string[2]**.

**string[2]:** BookmarkOne specifies the name of a bookmark (1) in the file.

The following table shows the top-level expansion of the **Plcfbkf** at offset 0x000014B9 in the Table Stream. Each CP in the **Plcfbkf** specifies the location of the start of a bookmark in the document. Each **FBKF** specifies further information about the bookmark starting at the corresponding CP. The **FBKF** structures are expanded in later figures.

| Offset   | Size | Structure                | Value      |
|----------|------|--------------------------|------------|
| 000014B9 | 001C | Plcfbkf - <b>PlcfBkf</b> |            |
| 000014B9 | 0004 | LONG - <b>cp[0]</b>      | 0x00000000 |
| 000014BD | 0004 | LONG - <b>cp[1]</b>      | 0x0000000D |
| 000014C1 | 0004 | LONG - <b>cp[2]</b>      | 0x00000011 |
| 000014C5 | 0004 | LONG - <b>cp[3]</b>      | 0x00000021 |
| 000014C9 | 0004 | FBKF - <b>fbkf[0]</b>    |            |

| Offset   | Size | Structure             | Value |
|----------|------|-----------------------|-------|
| 000014CD | 0004 | FBKF - <b>fbkf[1]</b> |       |
| 000014D1 | 0004 | FBKF - <b>fbkf[2]</b> |       |

**Figure 17: The top-level expansion of a PlcfBkf**

**cp[0]:** 0x00000000 specifies the character position of the beginning of the bookmark associated with **fbkf[0]**. The same bookmark is associated with **string[0]** in the **SttbfBkmk** at offset **fcSttbfBkmk** in the Table Stream, so its name is "BookmarkThr".

**cp[1]:** 0x0000000D specifies the character position of the beginning of the bookmark associated with **fbkf[1]**. The same bookmark is associated with **string[1]** in the **SttbfBkmk** at offset **fcSttbfBkmk** in the Table Stream, so its name is "BookmarkTwo".

**cp[2]:** 0x00000011 specifies the character position of the beginning of the bookmark associated with **fbkf[2]**. The same bookmark is associated with **string[2]** in the **SttbfBkmk** at offset **fcSttbfBkmk** in the Table Stream, so its name is "BookmarkOne".

**cp[3]:** 0x00000021 specifies the value one greater than the largest value that a CP marking the start or end of a standard bookmark is allowed to have, which is one beyond the character position of the end of all [document parts](#).

**fbkf[0]:** This value specifies further information about the bookmark named "BookmarkThr", whose range begins at CP 0x00000000. This structure is expanded in the following table.

**fbkf[1]:** This value specifies further information about the bookmark named "BookmarkTwo", whose range begins at CP 0x0000000D. This structure is expanded later.

**fbkf[2]:** This value specifies further information about the bookmark named "BookmarkOne", whose range begins at CP 0x00000011. This structure is expanded later.

The following table shows the expansion of **fbkf[0]** in the **Plcfbkf** structure at offset 0x000014B9 in the Table Stream.

| Offset   | Size | Structure                        | Value  |
|----------|------|----------------------------------|--------|
| 000014C9 | 0004 | FBKF - <b>fbkf</b>               |        |
| 000014C9 | 0002 | USHORT - <b>ibkl</b>             | 0x0002 |
| 000014CB | 0002 | <a href="#">BKC</a> - <b>bkc</b> |        |
| 000014CB | 0002 | USHORT - <b>itcFirst</b>         | 0x0000 |
| 000014CD | 0002 | USHORT - <b>fPub</b>             | 0x0000 |
| 000014CF | 0002 | USHORT - <b>itcLim</b>           | 0x0000 |
| 000014D1 | 0002 | USHORT - <b>fNative</b>          | 0x0000 |
| 000014D3 | 0002 | USHORT - <b>fCol</b>             | 0x0000 |

**Figure 18: Expansion of fbkf[0]**

**ibkl:** A value of 0x0002 specifies a zero-based index into the **PlcfBkl** structure at offset 0x000014D5 in the Table Stream. The entry found at said index specifies the location of the end of the bookmark named "BookmarkThr".

**bkc.itcFirst:** A value of 0x0000 is ignored, because the value of the **fCol** value that belongs to this **BKC** structure is 0.

**bkc.fPub:** A value of 0x0000 is ignored.

**bkc.itcLim:** A value of 0x0000 is ignored, because the value of the **fCol** value that belongs to this **BKC** structure is 0.

**bkc.fNative:** 0x0000 specifies that an application is expected to include the bookmark named "BookmarkThr" when saving its file as RTF (Rich text Format), HTML, or XML.

**bkc.fCol:** This value is 0x0000 because some of the text that is spanned by the bookmark named "BookmarkThr" is not inside a table, so the lowest table nesting depth within the span of text that is defined by its character positions is 0.

The following table shows the expansion of **fbkf[1]** in the **Plcfbkf** structure at offset 0x000014B9 in the Table Stream.

| Offset   | Size | Structure                | Value  |
|----------|------|--------------------------|--------|
| 000014CD | 0004 | FBKF - <b>fbkf</b>       |        |
| 000014CD | 0002 | USHORT - <b>ibkl</b>     | 0x0000 |
| 000014CF | 0002 | BKC - <b>bkc</b>         |        |
| 000014CF | 0002 | USHORT - <b>itcFirst</b> | 0x0001 |
| 000014D1 | 0002 | USHORT - <b>fPub</b>     | 0x0000 |
| 000014D3 | 0002 | USHORT - <b>itcLim</b>   | 0x0002 |
| 000014D5 | 0002 | USHORT - <b>fNative</b>  | 0x0000 |
| 000014D7 | 0002 | USHORT - <b>fCol</b>     | 0x0001 |

**Figure 19: Expansion of fbkf[1]**

**ibkl:** 0x0000 specifies a zero-based index into the **PlcfBkl** structure at offset 0x000014D5 in the Table Stream. The entry found at the index specifies the location of the end of the bookmark named "BookmarkTwo".

**bkc.itcFirst:** A value of 0x0001 specifies the zero-based index of the table column that is the start of the table column range associated with the bookmark named "BookmarkTwo".

**bkc.fPub:** A value of 0x0000 is ignored.

**bkc.itcLim:** A value of 0x0002 specifies that the zero-based index of the first column beyond the end of the table column range associated with the bookmark named "BookmarkTwo".

**bkc.fNative:** A value of 0x0000 specifies that an application is expected to include the bookmark named "BookmarkTwo" when saving its file as RTF (Rich text Format), HTML, or XML.

**bkc.fCol:** This value is 0x0001 because both of the following conditions hold:

- All of the text that is spanned by the bookmark named "BookmarkTwo" is inside a table, so the lowest table nesting depth within the span of text that is defined by its character positions is greater than 0.
- The span of text that is defined by the character positions of that bookmark contains a table cell mark from that table and nothing outside that table.

The following table shows the expansion of **fbkf[2]** in the **Plcfbkf** structure at offset 0x000014B9 in the Table Stream.



| Offset   | Size | Structure                | Value  |
|----------|------|--------------------------|--------|
| 000014D1 | 0004 | FBKF - <b>fbkf</b>       |        |
| 000014D1 | 0002 | USHORT - <b>ibkl</b>     | 0x0001 |
| 000014D3 | 0002 | BKC - <b>bkc</b>         |        |
| 000014D3 | 0002 | USHORT - <b>itcFirst</b> | 0x0000 |
| 000014D5 | 0002 | USHORT - <b>fPub</b>     | 0x0000 |
| 000014D7 | 0002 | USHORT - <b>itcLim</b>   | 0x0000 |
| 000014D9 | 0002 | USHORT - <b>fNative</b>  | 0x0000 |
| 000014DB | 0002 | USHORT - <b>fCol</b>     | 0x0000 |

**Figure 20: Expansion of fbkf[2]**

**ibkl:** A value of 0x0001 specifies a zero-based index into the **PlcfBkl** structure at offset 0x000014D5 in the Table Stream. The entry found at the index specifies the location of the end of the bookmark named "BookmarkOne".

**bkc.itcFirst:** A value of 0x0000 is ignored, because the value of the **fCol** that belongs to this **BKC** is 0.

**bkc.fPub:** A value of 0x0000 is ignored.

**bkc.itcLim:** A value of 0x0000 is ignored, because the value of the **fCol** that belongs to this **BKC** is 0.

**bkc.fNative:** A value of 0x0000 specifies that an application is expected to include the bookmark named "BookmarkOne" when saving its file as RTF (Rich text Format), HTML, or XML.

**bkc.fCol:** This value is 0x0000 because some of the text spanned by the bookmark named "BookmarkOne" is not inside a table, so the lowest table nesting depth within the span of text defined by its character positions is 0.

The following table shows the top-level expansion of the **Plcfbkl** structure at offset 0x000014D5 in the Table Stream. Each CP in the **Plcfbkl** structure specifies the location of the end of a bookmark (1) in the document.

| Offset   | Size | Structure                | Value      |
|----------|------|--------------------------|------------|
| 000014D5 | 0010 | Plcfbkl - <b>plcfBkl</b> |            |
| 000014D5 | 0004 | LONG - <b>cp[0]</b>      | 0x00000016 |
| 000014D9 | 0004 | LONG - <b>cp[1]</b>      | 0x0000001B |
| 000014DD | 0004 | LONG - <b>cp[2]</b>      | 0x0000001E |
| 000014E1 | 0004 | LONG - <b>cp[3]</b>      | 0x00000021 |

**Figure 21: The expansion of a PlcfBkl**

**cp[0]:** A value of 0x00000016 specifies the character position that is 1 beyond the end of the bookmark associated with **fbkf[1]** in the **PlcfBkl** structure at offset **fcPlcfBkl** in the Table Stream, whose name is "BookmarkTwo". This CP is known to be associated with **fbkf[1]** because **fbkf[1].ibkl** is 0.

**cp[1]:** A value of 0x0000001B specifies the character position that is 1 beyond the end of the bookmark associated with **fbkf[2]** in the **PlcfBkl** structure at offset **fcPlcfBkl** in the Table

Stream, whose name is "BookmarkOne". This CP is known to be associated with **fbkf[2]** because **fbkf[2].ibkl** is 1.

**cp[2]:** A value of 0x0000001E specifies the character position that is 1 beyond the end of the bookmark associated with **fbkf[0]** in the **PlcfBkf** structure at offset **fcPlcfBkf** in the Table Stream, whose name is "BookmarkThr". This CP is known to be associated with **fbkf[0]** because **fbkf[0].ibkl** is 2.

**cp[3]:** A value of 0x00000021 specifies a value that is 1 greater than the largest value that a CP marking the start or end of a standard bookmark is allowed to have, which is 1 beyond the character position of the end of all document parts.

### 3.4 Example of a PlcBteChpx

The following is an example of a **PlcBteChpx** structure. It demonstrates how to apply character formatting properties to text in a document. See section 2.4.6.2, Direct Character Formatting.

| Offset   | Size | Structure                                       | Value      |
|----------|------|---|------------|
| 0000009A | 02E8 | <a href="#">FibRgFcLcb97</a> - <b>rgFcLcb97</b> |            |
| 0000009A | 0060 | ... (omitted for brevity) -                     |            |
| 000000FA | 0004 | - <b>fcPlcfBteChpx</b>                          | 0x000000D6 |
| 000000FE | 0004 | - <b>lcbPlcfBteChpx</b>                         | 0x0000000C |
| 00000102 | 0280 | ... (omitted for brevity) -                     |            |

**Figure 22: Portions of the FibRgFcLcb97 structure, highlighting fc/lcbPlcfBteChpx**

The FibRgFcLcb97 structure is very large. Most fields have been omitted here for brevity.

**fcPlcfBteChpx:** A value of 0x000000D6 specifies the offset, in bytes, of a location in the [Table Stream](#). A **PlcBteChpx** structure begins at this offset.

**lcbPlcfBteChpx:** A value of 0x0000000C specifies the size, in bytes, of the **PlcBteChpx** at offset 0x000000D6 in the Table Stream. Because each **PnFkpChpx** structure is four bytes, this **PlcBteChpx** structure contains exactly two **CPs** and one **PnFkpChpx** structures.

The following table shows the top level of the **PlcBteChpx** at offset 0x000000D6 in the Table Stream.

| Offset   | Size    | Structure                      | Value      |
|----------|---------|--------------------------------|------------|
| 000000D6 | 000C    | PlcBteChpx - <b>PlcBteChpx</b> |            |
| 000000D6 | 0004    | LONG - <b>fc[0]</b>            | 0x00000400 |
| 000000DA | 0004    | LONG - <b>fc[1]</b>            | 0x00000411 |
| 000000DE | 0004    | PnFkpChpx - <b>pn[0]</b>       |            |
| 000000DE | 22 bits | LONG - <b>pn</b>               | 0x000003   |
| 000000DE | 10 bits | LONG - <b>unused</b>           | 0x000      |

**Figure 23: A PlcBteChpx**

**fc[0]:** 0x00000400 specifies the offset in the [WordDocument Stream](#) where a text range begins. This is the first and only text range that is specified; this is evident because there are only two FCs.

**fc[1]:** 0x00000411 specifies the offset in the WordDocument Stream immediately after the end of the text range. Because the text is 8-bit ANSI (see Section 2.4.1, Retrieving Text) the end of the text range is 0x410. If this document had more than one text range, 0x00000411 would also specify the start of the next text range.

**pn[0].pn:** 0x00000003 specifies the offset in the WordDocument Stream of the [ChpxFkp](#) structure that is applied to the text range. This **ChpxFkp** structure is referred to as **chpxfkp[0]**. The **chpxfkp[0]** element begins at offset  $3 * 512 = 1536 = 0x00000600$ . See the following table for the expansion of **chpxfkp[0]**.

**pn[0].unused:** Undefined and ignored.

The following table shows the expansion of **chpxfkp[0]**, which specifies the character formatting properties for the first and only text range in the document.

| Offset   | Size | Structure                    | Value      |
|----------|------|------------------------------|------------|
| 00000600 | 0200 | ChpxFkp - <b>chpxfkp[0]</b>  |            |
| 00000600 | 0010 | Array of ULONG - <b>rgfc</b> |            |
| 00000600 | 0004 | ULONG - <b>rgfc[0]</b>       | 0x00000400 |
| 00000604 | 0004 | ULONG - <b>rgfc[1]</b>       | 0x00000407 |
| 00000608 | 0004 | ULONG - <b>rgfc[2]</b>       | 0x00000410 |
| 0000060C | 0004 | ULONG - <b>rgfc[3]</b>       | 0x00000411 |
| 00000610 | 0003 | Array of BYTE - <b>rgb</b>   |            |
| 00000610 | 0001 | BYTE - <b>rgb[0]</b>         | 0xFA       |
| 00000611 | 0001 | BYTE - <b>rgb[1]</b>         | 0xF8       |
| 00000612 | 0001 | BYTE - <b>rgb[2]</b>         | 0x00       |
| 000007FF | 0001 | BYTE - <b>crun</b>           | 0x03       |

**Figure 24: Expansion of chpxfkp[0]**

**rgfc.rgfc[0]:** A value of 0x00000400 specifies the offset in the WordDocument Stream at which the first text run in the text range begins. This text run ends at 0x00000406, immediately before the start of the next run, and includes the text "Orange".

**rgfc.rgfc[1]:** A value of 0x00000407 specifies the offset in the WordDocument Stream at which the second text run in the text range begins. This text run ends at 0x0000040F, immediately before the start of the next run, and includes the text "Underline".

**rgfc.rgfc[2]:** A value of 0x00000410 specifies the offset in the WordDocument Stream at which the third text run in the text range begins. This text run ends at 0x00000410, and is therefore a single character, which is a paragraph marker.

**rgfc.rgfc[3]:** A value of 0x00000411 specifies the offset in the WordDocument Stream immediately after the end of the third text run in the text range.

**rgb.rgb[0]:** A value of 0xFA specifies the offset of the [Chpx](#) for the first text run, referred to as **chpx[0]** (see its expansion later). The **chpx[0]** element is  $2 * 0xFA = 0x1F4$  bytes from the start of **chpxfkp[0]**, or  $0x600 + 0x1F4 = 0x7F4$  bytes from the start of the Table Stream.

**rgb.rgb[1]:** A value of 0xF8 specifies the offset of the Chpx for the second text run, referred to as **chpx[1]** (see its expansion later). The **chpx[1]** element is  $2 * 0xF8 = 0x1F0$  bytes from the start of **chpxfkp[0]**, or  $0x600 + 0x1F0 = 0x7F0$  bytes from the start of the Table Stream.

**rgb.rgb[2]:** A value of 0x00 specifies that there are no character properties associated with the third text run.

**crun:** A value of 0x03 specifies the number of runs in this text range. This is equal to the number of elements in **rgb**, and is 1 less than the number of elements in **rgfc**.

The following table shows the expansion of the **chpx[0]** element, which specifies the character property information for the first text run of the text range.

| Offset   | Size | Structure                              | Value |
|----------|------|--|-------|
| 000007F4 | 000A | Chpx - <b>chpx[0]</b>                  |       |
| 000007F4 | 0001 | BYTE - <b>cb</b>                       | 0x09  |
| 000007F5 | 0009 | Array of Prl - <b>GrpPrl</b>           |       |
| 000007F5 | 0003 | <a href="#">Prl</a> - <b>GrpPrl[0]</b> |       |
| 000007F8 | 0006 | Prl - <b>GrpPrl[1]</b>                 |       |

**Figure 25: Expansion of chpx[0]**

**cb:** A value of 0x09 specifies that **GrpPrl** is 9 bytes long.

**GrpPrl:** The array of properties being applied.

**GrpPrl.GrpPrl[0]:** The first property that is being applied. See the **chpx[0].GrpPrl.GrpPrl[0]** element that is described later in this document.

**GrpPrl.GrpPrl[1]:** The second property that is being applied. See the **chpx[0].GrpPrl.GrpPrl[1]** element that is described later in this document. The fact that there are no more bytes left in the **GrpPrl** element after this property is read indicates that there are no more properties.

The **chpx[0]** element contains some of the properties that apply to the first run of the text range. The properties that are not contained in **chpx[0]** take on their respective default values.

The following table shows the expansion of the **chpx[0].GrpPrl.GrpPrl[0]** element, which is the first property that is applied to the first text run ("Orange "). It applies a color to the text.

| Offset   | Size   | Structure                             | Value |
|----------|--------|---------------------------------------|-------|
| 000007F5 | 0003   | Prl - <b>chpx[0].GrpPrl.GrpPrl[0]</b> |       |
| 000007F5 | 0002   | <a href="#">Sprm</a> - <b>sprm</b>    |       |
| 000007F5 | 9 bits | USHORT - <b>ispm</b>                  | 0x042 |
| 000007F5 | 1 bit  | USHORT - <b>fSpec</b>                 | 0x1   |
| 000007F5 | 3 bits | USHORT - <b>sgc</b>                   | 0x2   |
| 000007F5 | 3 bits | USHORT - <b>spra</b>                  | 0x1   |
| 000007F7 | 0001   | <a href="#">Ico</a> - <b>operand</b>  |       |
| 000007F7 | 0001   | BYTE - <b>value</b>                   | 0x07  |

**Figure 26: Expansion of chpx[0].GrpPrl.GrpPrl[0]**

**sprm:** The property being modified.

**sprm.ispmd:** If **ispmd** is equal to 0x0042 and **fSpec** is equal to 0x0001, this property has a value of [sprmCIco](#).

**sprm.sgc:** A value of 0x2 specifies that this is a character property.

**sprm.spra:** A value of 0x1 specifies that **operand** is 1 byte long.

**operand:** The property value, which is an RGB color value that is expressed by an **Ico** structure.

**operand.value:** A value of 0x07 specifies that the text color will be represented using RGB (0xFF, 0xFF, 0x00) values.

The following table shows the expansion of the **chpx[0].GrpPrl.GrpPrl[1]** element, which is the second property that is applied to the first text run ("Orange"). It also applies a color to the text. Because this property occurs after the occurrence of **sprmCIco**, the color it specifies takes precedence.

| Offset   | Size   | Structure                                 | Value |
|----------|--------|---|-------|
| 000007F8 | 0006   | Prl - <b>chpx[0].GrpPrl.GrpPrl[1]</b>     |       |
| 000007F8 | 0002   | Sprm - <b>sprm</b>                        |       |
| 000007F8 | 9 bits | USHORT - <b>ispmd</b>                     | 0x070 |
| 000007F8 | 1 bit  | USHORT - <b>fSpec</b>                     | 0x0   |
| 000007F8 | 3 bits | USHORT - <b>sgc</b>                       | 0x2   |
| 000007F8 | 3 bits | USHORT - <b>spra</b>                      | 0x3   |
| 000007FA | 0004   | <a href="#">COLORREF</a> - <b>operand</b> |       |
| 000007FA | 0001   | BYTE - <b>red</b>                         | 0xFF  |
| 000007FB | 0001   | BYTE - <b>green</b>                       | 0x99  |
| 000007FC | 0001   | BYTE - <b>blue</b>                        | 0x00  |
| 000007FD | 0001   | BYTE - <b>fAuto</b>                       | 0x00  |

**Figure 27: Expansion of chpx[0].GrpPrl.GrpPrl[1]**

**sprm:** The property that is being modified.

**sprm.ispmd:** If **ispmd** is equal to 0x0070 and **fSpec** is equal to 0x0000, the value of this property is **sprmCCv**.

**sprm.sgc:** A value of 0x2 specifies that this is a character property.

**sprm.spra:** A value of 0x3 specifies that **operand** is four bytes long.

**operand:** The property value, which is an RGB color value that is expressed by a **COLORREF**.

**operand.red:** A value of 0xFF specifies the red component of the RGB value.

**operand.green:** A value of 0x99 specifies the green component of the RGB value.

**operand.blue:** A value of 0x00 specifies the blue component of the RGB value.

**operand.fAuto:** A value of 0x00 specifies that the RGB value will be used as specified.

The following table shows the expansion of the **chpx[1]** element, which specifies the character property information for the second text run of the text range ("Underline").

| Offset   | Size | Structure                  | Value |
|----------|------|----------------------------|-------|
| 000007F0 | 0004 | Chpx - <b>chpx[1]</b>      |       |
| 000007F0 | 0001 | BYTE - <b>cb</b>           | 0x03  |
| 000007F1 | 0003 | GrpPrlChpx - <b>GrpPrl</b> |       |
| 000007F1 | 0003 | Prl - <b>GrpPrl[0]</b>     |       |

**Figure 28: Expansion of chpx[1]**

**cb:** A value of 0x03 specifies that **GrpPrl** is 3 bytes long.

**GrpPrl:** The array of properties that is being applied.

**GrpPrl.GrpPrl[0]:** The first and only property that is being applied. See the **chpx[1].GrpPrl.GrpPrl[0]** element in the following table.

The **chpx[1]** element contains only some of the properties that apply to the second run of the text range. The properties that are not contained in the **chpx[1]** element take on their respective default values.

The following table shows the expansion of the **chpx[1].GrpPrl.GrpPrl[0]** value, which is the first and only property that is applied to the second text run.

| Offset   | Size   | Structure                             | Value |
|----------|--------|---------------------------------------|-------|
| 000007F1 | 0003   | Prl - <b>chpx[1].GrpPrl.GrpPrl[0]</b> |       |
| 000007F1 | 0002   | Sprm - <b>sprm</b>                    |       |
| 000007F1 | 9 bits | USHORT - <b>ispm</b>                  | 0x03E |
| 000007F1 | 1 bit  | USHORT - <b>fSpec</b>                 | 0x1   |
| 000007F1 | 3 bits | USHORT - <b>sgc</b>                   | 0x2   |
| 000007F1 | 3 bits | USHORT - <b>spra</b>                  | 0x1   |
| 000007F3 | 0001   | <a href="#">Kul</a> - <b>operand</b>  | 0x01  |

**Figure 29: Expansion of chpx[1].GrpPrl.GrpPrl[0]**

**sprm:** The property that is being modified.

**sprm.ispm:** If **ispm** is equal to 0x003E and **fSpec** is equal to 0x0001, the value of this property is sprmCKul.

**sprm.sgc:** A value of 0x2 specifies that this is a character property.

**sprm.spra:** A value of 0x1 specifies that **operand** is 1 byte long.

**operand:** A value of 0x01 specifies that the text has a single underline.

### 3.5 Example of a PlcBtePapx

The following is an example of a [PlcBtePapx](#). This example demonstrates how to apply paragraph properties to text in a document. See section 2.4.6.1, Direct Paragraph Formatting.

| Offset   | Size | Structure                                | Value      |
|----------|------|--|------------|
| 0000009A | 02E8 | <a href="#">FibRgFcLcb97</a> - rgFcLcb97 |            |
| 0000009A | 0060 | ... (omitted for brevity) -              |            |
| 00000102 | 0004 | - fcPlcfBtePapx                          | 0x0000010E |
| 00000106 | 0004 | - lcbPlcfBtePapx                         | 0x0000000C |
| 0000010A | 0278 | ... (omitted for brevity) -              |            |

**Figure 30: Portions of the FibRgFcLcb97 structure, highlighting fc/lcbPlcfBtePapx**

The FibRgFcLcb97 structure is very large. Most fields are omitted for reasons of brevity.

**fcPlcfBtePapx:** A value of 0x0000010E specifies the offset, in bytes, of a location in the [Table Stream](#). A **PlcBtePapx** structure begins at this offset.

**lcbPlcfBtePapx:** A value of 0x0000000C specifies the size, in bytes, of the **PlcBtePapx** at offset 0x0000010E in the Table Stream. Because each [PnFkpPapx](#) structure is 4 bytes, this **PlcBtePapx** structure contains exactly two [CPs](#) and one **PnFkpPapx**.

The following table shows the top level of the **PlcBtePapx** structure at offset 0x0000010E in the Table Stream.

| Offset   | Size    | Structure                      | Value      |
|----------|---------|--------------------------------|------------|
| 0000010E | 000C    | PlcBtePapx - <b>PlcBtePapx</b> |            |
| 0000010E | 0004    | LONG - <b>fc[0]</b>            | 0x00000400 |
| 00000112 | 0004    | LONG - <b>fc[1]</b>            | 0x0000040B |
| 00000116 | 0004    | PnFkpPapx - <b>pn[0]</b>       |            |
| 00000116 | 22 bits | LONG - <b>pn</b>               | 0x000004   |
| 00000116 | 10 bits | LONG - <b>unused</b>           | 0x000      |

**Figure 31: A PlcBtePapx**

**fc[0]:** A value of 0x00000400 specifies the offset in the [WordDocument Stream](#) at which a text range begins. The fact that there are only two FCs indicates that this is the first and only text range that is specified.

**fc[1]:** A value of 0x0000040B specifies the offset in the WordDocument Stream immediately after the end of the text range. Because the text is 8-bit ANSI (see Section 2.4.1, Retrieving Text), the end of the text range is 0x40A. If this document had more than one text range, 0x0000040B would also specify the start of the next text range.

**pn[0].pn:** A value of 0x00000004 specifies the offset in the WordDocument Stream of the [PapxFkp](#) structure that is applied to any paragraph in the document which ends within the text range. This **PapxFkp** element is referred to as **papxfkp[0]**. The **papxfkp[0]** element begins at offset  $4 * 512 = 2048 = 0x00000800$ . See the following table for the expansion of the **papxfkp[0]** element.

**pn[0].unused:** This value is undefined and ignored.

The following table shows the expansion of the **papxfkp[0]** element, which specifies the paragraph formatting properties for all paragraphs ending in the first and only text range in the document. In this example all paragraphs in the document start and end within this text range.

| Offset   | Size | Structure                              | Value                               |
|----------|------|--|-------------------------------------|
| 00000800 | 0200 | PapxFkp - <b>papxfkp[0]</b>            |                                     |
| 00000800 | 0010 | Array of ULONG - <b>rgfc</b>           |                                     |
| 00000800 | 0004 | ULONG - <b>rgfc[0]</b>                 | 0x00000400                          |
| 00000804 | 0004 | ULONG - <b>rgfc[1]</b>                 | 0x00000405                          |
| 00000808 | 0004 | ULONG - <b>rgfc[2]</b>                 | 0x0000040A                          |
| 0000080C | 0004 | ULONG - <b>rgfc[3]</b>                 | 0x0000040B                          |
| 00000810 | 0027 | Array of BxPap - <b>rgbx</b>           |                                     |
| 00000810 | 000D | <a href="#">BxPap</a> - <b>rgbx[0]</b> |                                     |
| 00000810 | 0001 | BYTE - <b>bOffset</b>                  | 0xFA                                |
| 00000811 | 000C | FixedBlob - <b>reserved</b>            | 00 00 00 00 00 00 00 00 00 00 00 00 |
| 0000081D | 000D | BxPap - <b>rgbx[1]</b>                 |                                     |
| 0000081D | 0001 | BYTE - <b>bOffset</b>                  | 0xF6                                |
| 0000081E | 000C | FixedBlob - <b>reserved</b>            | 00 00 00 00 00 00 00 00 00 00 00 00 |
| 0000082A | 000D | BxPap - <b>rgbx[2]</b>                 |                                     |
| 0000082A | 0001 | BYTE - <b>bOffset</b>                  | 0xF4                                |
| 0000082B | 000C | FixedBlob - <b>reserved</b>            | 00 00 00 00 00 00 00 00 00 00 00 00 |
| 000009FF | 0001 | BYTE - <b>cpara</b>                    | 0x03                                |

**Figure 32: Expansion of papxfkp[0]**

**rgfc.rgfc[0]:** A value of 0x00000400 specifies the offset in the WordDocument Stream at which the first paragraph in the text range begins. This paragraph ends at offset 0x00000404, and spans the text "Test" followed by a newline character.

**rgfc.rgfc[1]:** A value of 0x00000405 specifies the offset in the WordDocument Stream at which the second paragraph in the text range begins. This paragraph ends at 0x00000409, immediately before the start of the next paragraph, and includes the text "Test" followed by a newline character.

**rgfc.rgfc[2]:** A value of 0x0000040A specifies the offset in the WordDocument Stream at which the third paragraph in the text range begins. This paragraph ends at 0x0000040A, and is therefore a single character, which is a newline character.

**rgfc.rgfc[3]:** A value of 0x0000040B specifies the offset in the WordDocument Stream immediately after where the third paragraph in the text range ends.

**rgbx.rgbx[0].bOffset:** A value of 0xFA specifies the offset of the [PapxFkp](#) structure for the first paragraph, referred to as **papxfkp[0]** (see the following table for its expansion). The **papxfkp[0]** element is  $2 * 0xFA = 0x1F4$  bytes from the start of the **papxfkp[0]** element, or  $0x800 + 0x1F4 = 0x9F4$  bytes from the start of the Table Stream.

**rgbx.rgbx[0].reserved:** This value is ignored.

**rgbx.rgbx[1].bOffset:** A value of 0xF6 specifies the offset of the **PapxFkp** for the second paragraph, referred to as **papxfkp[1]** (see its expansion later). The **papxfkp[1]** element is 2



\* 0xF6 = 0x1EC bytes from the start of the **papxfkp[1]** element, or 0x800 + 0x1EC = 0x9EC bytes from the start of the Table Stream.

**rgbx.rgbx[1].reserved:** This value is ignored.

**rgbx.rgbx[2].bOffset:** A value of 0xF4 specifies the offset of the PapxFkp for the first paragraph, referred to as **papxinfkp[2]** (see the following expansion of this element). The **papxinfkp[2]** element is 2 \* 0xF4 = 0x1E8 bytes from the start of the **papxfkp[2]** element, or 0x800 + 0x1E8 = 0x9E8 bytes from the start of the Table Stream.

**rgbx.rgbx[2].reserved:** This value is ignored.

**cpara:** A value of 0x03 specifies the number of paragraphs in this text range. This is equal to the number of elements in **papxfkp[0].rgbx**, and 1 less than the number of elements in **papxfkp[0].rgfc**.

The following table shows the expansion of the **papxinfkp[0]** element, which specifies the paragraph property information for the first paragraph of the text range.

| Offset   | Size | Structure                                     | Value  |
|----------|------|---|--------|
| 000009F4 | 000A | PapxFkp - <b>papxinfkp[0]</b>                 |        |
| 000009F4 | 0001 | BYTE - <b>cb</b>                              | 0x00   |
| 000009F5 | 0001 | BYTE - <b>cb'</b>                             | 0x04   |
| 000009F6 | 0008 | <a href="#">GrpPriAndIstd</a> - <b>GrpPri</b> |        |
| 000009F6 | 0002 | USHORT - <b>istd</b>                          | 0x0000 |
| 000009F8 | 0003 | <a href="#">Pri</a> - <b>GrpPri[0]</b>        |        |
| 000009FB | 0003 | Pri - <b>GrpPri[1]</b>                        |        |

**Figure 33: Expansion of papxinfkp[0]**

**cb:** A value of 0x00 specifies that size of **GrpPri** is determined by **cb'**.

**cb':** A value of 0x04 specifies that there are 2 \* 4 = 8 bytes in **GrpPri**.

**GrpPri.istd:** A value of 0x0000 specifies that the Normal style will be applied to this paragraph. See Section 2.4.6.5, Determining Properties of a Style.

**GrpPri.GrpPri[0]:** The first property that is being applied. See the **papxinfkp[0].GrpPri.GrpPri[0]** element in the following table.

**GrpPri.GrpPri[1]:** The second property that is being applied. See the **papxinfkp[0].GrpPri.GrpPri[1]** element that follows.

The **papxinfkp[0]** element contains only some of the properties that apply to the first paragraph of the text range. The properties that are not contained in the **papxinfkp[0]** element take on their respective default values.

The following table shows the expansion of the **papxinfkp[0].GrpPri.GrpPri[0]** element, which is the first property that is applied to the first paragraph ("Test" followed by a newline character). This element specifies that the paragraph will be center-justified.

| Offset   | Size | Structure                                  | Value |
|----------|------|--|-------|
| 000009F8 | 0003 | Pri - <b>papxinfkp[0].GrpPri.GrpPri[0]</b> |       |

| Offset   | Size   | Structure                          | Value |
|----------|--------|------------------------------------|-------|
| 000009F8 | 0002   | <a href="#">Sprm</a> - <b>sprm</b> |       |
| 000009F8 | 9 bits | USHORT - <b>ispm</b> d             | 0x003 |
| 000009F8 | 1 bit  | USHORT - <b>fSpec</b>              | 0x0   |
| 000009F8 | 3 bits | USHORT - <b>sgc</b>                | 0x1   |
| 000009F8 | 3 bits | USHORT - <b>spra</b>               | 0x1   |
| 000009FA | 0001   | BYTE - <b>operand</b>              | 0x01  |

**Figure 34: Expansion of papxinfkp[0].GrpPrI.GrpPrI[0]**

**sprm:** The property that is being modified.

**sprm.ispm**d: If **ispm**d is equal to 0x0003 and **fSpec** is equal to 0x0000, this property is [sprmPJc80](#).

**sprm.sgc:** A value of 0x1 specifies that this is a paragraph property.

**sprm.spra:** A value of 0x1 specifies that **operand** is 1 byte long.

**operand:** The property value, which is an unsigned integer specifying the paragraph justification. A value of 0x1 specifies that the paragraph will be center-justified.

The following table shows the expansion of **papxinfkp[0].GrpPrI.GrpPrI[1]**, which is the second property that is applied to the first paragraph ("Test" followed by a newline character). This value specifies that the paragraph will be center-justified. Because this property occurs after the occurrence of [sprmPJc80](#), the justification that it specifies takes precedence. In this case they both specify center justification, so the paragraph justification is unchanged.

| Offset   | Size   | Structure                               | Value |
|----------|--------|---|-------|
| 000009FB | 0003   | PrI - <b>papxinfkp[0].GrpPrI.prl[1]</b> |       |
| 000009FB | 0002   | <a href="#">Sprm</a> - <b>sprm</b>      |       |
| 000009FB | 9 bits | USHORT - <b>ispm</b> d                  | 0x061 |
| 000009FB | 1 bit  | USHORT - <b>fSpec</b>                   | 0x0   |
| 000009FB | 3 bits | USHORT - <b>sgc</b>                     | 0x1   |
| 000009FB | 3 bits | USHORT - <b>spra</b>                    | 0x1   |
| 000009FD | 0001   | BYTE - <b>operand</b>                   | 0x01  |

**Figure 35: Expansion of papxinfkp[0].GrpPrI.GrpPrI[1]**

**sprm:** The property that is being modified.

**sprm.ispm**d: If **ispm**d is equal to 0x0061 and **fSpec** is equal to 0x0000, this property is [sprmPJc](#).

**sprm.sgc:** A value of 0x1 specifies that this is a paragraph property, which is appropriate because **fcPlcfBtePapx** specifies paragraph properties.

**sprm.spra:** A value of 0x1 specifies that **operand** is 1 byte long.

**operand:** The property value, which is an unsigned integer that specifies the paragraph justification. A value of 0x01 specifies that the paragraph will be center-justified.

The following table shows the expansion of the **papxinfkp[1]** element, which specifies the paragraph property information for the second paragraph of the text range.

| Offset   | Size | Structure                       | Value  |
|----------|------|---------------------------------|--------|
| 000009EC | 0008 | PapxInFkp - <b>papxinfkp[1]</b> |        |
| 000009EC | 0001 | BYTE - <b>cb</b>                | 0x00   |
| 000009ED | 0001 | BYTE - <b>cb'</b>               | 0x03   |
| 000009EE | 0006 | GrpPrIAndIstd - <b>GrpPrI</b>   |        |
| 000009EE | 0002 | USHORT - <b>istd</b>            | 0x0000 |
| 000009F0 | 0004 | PrI - <b>GrpPrI[0]</b>          |        |

**Figure 36: Expansion of papxinfkp[1]**

**cb:** A value of 0x00 specifies that the size of **GrpPrI** is determined by **cb'**.

**cb':** A value of 0x03 specifies that there are  $2 * 3 = 6$  bytes in **GrpPrI**.

**GrpPrI.istd:** A value of 0x0000 specifies that the Normal style will be applied to this paragraph. See section 2.4.6.5, Determining Properties of a Style.

**GrpPrI.GrpPrI[0]:** The first and only property that is being applied. See **papxinfkp[1].GrpPrI.GrpPrI[0]** in the following table.

**papxinfkp[1]** contains only some of the properties that apply to the second paragraph of the text range. The properties that are not contained in **papxinfkp[1]** take on their respective default values.

The following table shows the expansion of the **papxinfkp[1].GrpPrI.GrpPrI[0]** element, which is the first property that is applied to the second paragraph ("Test" followed by a newline character). It specifies that there are 0x0168 twips of vertical space before this paragraph.

| Offset   | Size   | Structure                                  | Value  |
|----------|--------|--|--------|
| 000009F0 | 0004   | PrI - <b>papxinfkp[1].GrpPrI.GrpPrI[0]</b> |        |
| 000009F0 | 0002   | Sprm - <b>sprm</b>                         |        |
| 000009F0 | 9 bits | USHORT - <b>ispmD</b>                      | 0x013  |
| 000009F0 | 1 bit  | USHORT - <b>fSpec</b>                      | 0x0    |
| 000009F0 | 3 bits | USHORT - <b>sgc</b>                        | 0x1    |
| 000009F0 | 3 bits | USHORT - <b>spra</b>                       | 0x5    |
| 000009F2 | 0002   | USHORT - <b>operand</b>                    | 0x0168 |

**Figure 37: Expansion of papxinfkp[1].GrpPrI.GrpPrI[0]**

**sprm:** The property that is being modified.

**sprm.ispmD:** If **ispmD** is equal to 0x0013 and **fSpec** is equal to 0x0000, this property is **sprmPDyaBefore**.

**sprm.sgc:** A value of 0x1 specifies that this is a paragraph property, which is appropriate because **fcPlcfBtePapx** specifies paragraph properties.

**sprm.spra:** A value of 0x5 specifies that **operand** is two bytes long.

**operand:** The property value, which is an unsigned integer that specifies the number of twips of vertical space before this paragraph. A value of 0x0168 specifies there should be 0x0168 twips of vertical space before this paragraph.

The following table shows the expansion of **papxinfkp[2]**, which specifies the paragraph property information for the third paragraph of the text range.

| Offset   | Size | Structure                       | Value  |
|----------|------|---------------------------------|--------|
| 000009E8 | 0004 | PapxInFkp - <b>papxinfkp[2]</b> |        |
| 000009E8 | 0001 | BYTE - <b>cb</b>                | 0x00   |
| 000009E9 | 0001 | BYTE - <b>cb'</b>               | 0x01   |
| 000009E9 | 0002 | GrpPrlAndIstd - <b>GrpPrl</b>   |        |
| 000009EA | 0002 | USHORT - <b>istd</b>            | 0x0000 |

**Figure 38: Expansion of papxinfkp[2]**

**cb:** A value of 0x00 specifies that the size of **GrpPrl** is determined by **cb'**.

**cb':** A value of 0x01 specifies that there are  $2 * 1 = 2$  bytes in **GrpPrl**. The **GrpPrl.istd** element takes up two bytes; this means that **GrpPrl** has no **Prl** elements.

**GrpPrl.istd:** A value of 0x0000 specifies that the Normal style will be applied to this paragraph. See section 2.4.6.5, Determining Properties of a Style.

Because **papxinfkp[2]** contains no properties, all properties for the third paragraph of the text range take on their respective default values.

### 3.6 Example of Table Row Properties

This example assumes that the application has found a table terminating paragraph mark by following the algorithm in section 2.4.5, Determining Row Boundaries, or through some other means such as sequentially retrieving characters. The application has located the direct paragraph formatting for this paragraph mark by using the algorithm in section 2.4.6.1, Direct Paragraph Formatting. The following table shows the first **Prl** ( section 2.2.5.2) of the direct formatting.

| Offset   | Size   | Structure                          | Value      |
|----------|--------|------------------------------------|------------|
| 00000D05 | 0006   | Prl - <b>prl</b>                   |            |
| 00000D05 | 0002   | <a href="#">Sprm</a> - <b>sprm</b> |            |
| 00000D05 | 9 bits | USHORT - <b>ispm</b>               | 0x06B      |
| 00000D05 | 1 bit  | USHORT - <b>fSpec</b>              | 0x0        |
| 00000D05 | 3 bits | USHORT - <b>sgc</b>                | 0x1        |
| 00000D05 | 3 bits | USHORT - <b>spra</b>               | 0x3        |
| 00000D07 | 0004   | LONG - <b>operand</b>              | 0x00000000 |

**Figure 39: The first Prl of the direct formatting**

**sprm.ispm:** If this value is 0x06B and **fSpec** is set to 0x0, this is [sprmPTableProps](#).

**sprm.sgc:** A value of 0x1 specifies that **sprm** modifies a paragraph property.

**sprm.spra:** A value of 0x3 specifies that **operand** is 4 bytes in size.

**operand:** A value of 0x00000000 specifies the byte offset in the [Data Stream](#) where a [PrcData](#) begins.

This example assumes that the application can process sprmPTableProps. It therefore ignores the rest of the array of **Prl** that contains the sprmPTableProps and instead processes the **PrcData** at offset zero of the Data Stream.

The following table shows the **PrcData** at offset zero of the Data Stream.

| Offset   | Size | Structure                    | Value  |
|----------|------|------------------------------|--------|
| 00000000 | 004C | PrcData - <b>PrcData</b>     |        |
| 00000000 | 0002 | SHORT - <b>cbGrpprl</b>      | 0x004A |
| 00000002 | 004A | Array of Prl - <b>GrpPrl</b> |        |

**Figure 40: A PrcData element that contains table row property modifiers**

**cbGrpprl:** A value of 0x004A specifies the size, in bytes, of **GrpPrl**. Because **Prl** elements are variably sized, this does not give any information about the number of **Prl** elements that are contained in **GrpPrl** other than the fact that there is at least one **Prl** element.

**GrpPrl:** An array of **Prl**, expanded in the following figures.

The following table shows the first **Prl** element that is contained in **GrpPrl**.

| Offset   | Size   | Structure              | Value |
|----------|--------|------------------------|-------|
| 00000002 | 0003   | Prl - <b>GrpPrl[0]</b> |       |
| 00000002 | 0002   | Sprm - <b>sprm</b>     |       |
| 00000002 | 9 bits | USHORT - <b>ispmnd</b> | 0x016 |
| 00000002 | 1 bit  | USHORT - <b>fSpec</b>  | 0x0   |
| 00000002 | 3 bits | USHORT - <b>sgc</b>    | 0x1   |
| 00000002 | 3 bits | USHORT - <b>spra</b>   | 0x1   |
| 00000004 | 0001   | BYTE - <b>operand</b>  | 0x01  |

**Figure 41: The first Prl in GrpPrl**

**sprm.ispmnd:** If this value is 0x016 and **fSpec** is set to 0x0, this is sprmPFInTable.

**sprm.sgc:** A value of 0x1 specifies that **sprm** modifies a paragraph property.

**sprm.spra:** A value of 0x1 specifies that **operand** is 1 byte in size.

**operand:** A value of 0x01 specifies that this paragraph is in a table.

The **GrpPrl[0]** element is 3 bytes in size, leaving 0x47 bytes for the rest of **GrpPrl**.

The following table shows the second **Prl** that is contained in **GrpPrl**.

| Offset   | Size | Structure              | Value |
|----------|------|------------------------|-------|
| 00000005 | 0003 | Prl - <b>GrpPrl[1]</b> |       |

| Offset   | Size   | Structure              | Value |
|----------|--------|------------------------|-------|
| 00000005 | 0002   | Sprm - <b>sprm</b>     |       |
| 00000005 | 9 bits | USHORT - <b>ispm</b> d | 0x017 |
| 00000005 | 1 bit  | USHORT - <b>fSpec</b>  | 0x0   |
| 00000005 | 3 bits | USHORT - <b>sgc</b>    | 0x1   |
| 00000005 | 3 bits | USHORT - <b>spra</b>   | 0x1   |
| 00000007 | 0001   | BYTE - <b>operand</b>  | 0x01  |

**Figure 42: The second Prl in GrpPrl**

**sprm.ispm**d: If this value is 0x017 and **fSpec** is equal to 0x0, this is sprmPFTtp.

**sprm.sgc**: A value of 0x1 specifies that this **Sprm** modifies a paragraph property.

**sprm.spra**: A value of 0x1 specifies that **operand** is one byte in size.

**operand**: A value of 0x01 specifies that the paragraph mark is a table terminating paragraph mark. [SprmPFTtp](#) is only valid at table a table depth of 1. Nested tables use sprmPFInnerTtp.

The **GrpPrl[1]** element is 3 bytes in size, leaving 0x44 bytes for the rest of the **GrpPrl** element.

The following table shows the third **Prl** element in **GrpPrl**.

| Offset   | Size   | Structure              | Value      |
|----------|--------|------------------------|------------|
| 00000008 | 0006   | Prl - <b>GrpPrl[2]</b> |            |
| 00000008 | 0002   | Sprm - <b>sprm</b>     |            |
| 00000008 | 9 bits | USHORT - <b>ispm</b> d | 0x049      |
| 00000008 | 1 bit  | USHORT - <b>fSpec</b>  | 0x1        |
| 00000008 | 3 bits | USHORT - <b>sgc</b>    | 0x1        |
| 00000008 | 3 bits | USHORT - <b>spra</b>   | 0x3        |
| 0000000A | 0004   | LONG - <b>operand</b>  | 0x00000001 |

**Figure 43: The third Prl in GrpPrl**

**sprm.ispm**d: If this value is 0x049 and **fSpec** is set to 0x1, this is sprmPItap.

**sprm.sgc**: A value of 0x1 specifies that **sprm** modifies a paragraph property.

**sprm.spra**: A value of 0x3 specifies that **operand** is 4 bytes in size.

**operand**: A value of 0x00000001 specifies that the table depth of this table row is 1. This table is not nested in another table.

The **GrpPrl[2]** element is 6 bytes in size, leaving 0x3E bytes for the rest of **GrpPrl**.

The following table shows the fourth **Prl** in **GrpPrl**.

| Offset   | Size | Structure              | Value |
|----------|------|------------------------|-------|
| 0000000E | 0004 | Prl - <b>GrpPrl[3]</b> |       |

| Offset   | Size   | Structure              | Value  |
|----------|--------|------------------------|--------|
| 0000000E | 0002   | Sprm - <b>sprm</b>     |        |
| 0000000E | 9 bits | USHORT - <b>ispm</b> d | 0x001  |
| 0000000E | 1 bit  | USHORT - <b>fSpec</b>  | 0x1    |
| 0000000E | 3 bits | USHORT - <b>sgc</b>    | 0x5    |
| 0000000E | 3 bits | USHORT - <b>spra</b>   | 0x4    |
| 00000010 | 0002   | SHORT - <b>operand</b> | 0x0000 |

**Figure 44: The fourth Prl in GrpPrl**

**sprm.ispm**d: If this value is 0x001 and **fSpec** is set to 0x1, this is [sprmTDxaLeft](#).

**sprm.sgc**: A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra**: A value of 0x4 specifies that **operand** is two bytes in size.

**operand**: A value of 0x0000 specifies that the horizontal origin of the table is the logical left margin. This is further modified in **GrpPrl[10]**.

The **GrpPrl[3]** element is 4 bytes in size, leaving 0x3A bytes for the rest of the **GrpPrl** element.

The following table shows the fifth **Prl** in **GrpPrl**.

| Offset   | Size   | Structure                                       | Value  |
|----------|--------|---|--------|
| 00000012 | 0006   | Prl - <b>GrpPrl[4]</b>                          |        |
| 00000012 | 0002   | Sprm - <b>sprm</b>                              |        |
| 00000012 | 9 bits | USHORT - <b>ispm</b> d                          | 0x021  |
| 00000012 | 1 bit  | USHORT - <b>fSpec</b>                           | 0x1    |
| 00000012 | 3 bits | USHORT - <b>sgc</b>                             | 0x5    |
| 00000012 | 3 bits | USHORT - <b>spra</b>                            | 0x3    |
| 00000014 | 0004   | <a href="#">TInsertOperand</a> - <b>operand</b> |        |
| 00000014 | 0001   | BYTE - <b>itcFirst</b>                          | 0x00   |
| 00000015 | 0001   | BYTE - <b>ctc</b>                               | 0x02   |
| 00000016 | 0002   | USHORT - <b>dxaCol</b>                          | 0x0168 |

**Figure 45: The fifth Prl in GrpPrl**

**sprm.ispm**d: If this value is 0x021 and **fSpec** is set to 0x1, this is [sprmTInsert](#).

**sprm.sgc**: A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra**: A value of 0x3 specifies that **operand** is 4 bytes in size.

**operand.itcFirst**: A value of 0x00 specifies the zero-based index of the first cell definition to be inserted. Because no cells are defined, 0x00 is the only valid value for **itcFirst**.

**operand.ctc**: A value of 0x02 specifies the number of cell definitions to insert. This row has two cells.

**operand.dxaCol:** A value of 0x0168 specifies that each of the newly inserted cells is 0x0168 twips wide.

The **GrpPrI[4]** element is 6 bytes in size, leaving 0x34 for the rest of the **GrpPrI** element.

The following table shows the sixth **PrI** in the **GrpPrI** element.

| Offset   | Size   | Structure  | Value  |
|----------|--------|--|--------|
| 00000018 | 0008   | PrI - <b>GrpPrI[5]</b>                                 |        |
| 00000018 | 0002   | Sprm - <b>sprm</b>                                     |        |
| 00000018 | 9 bits | USHORT - <b>ispmd</b>                                  | 0x035  |
| 00000018 | 1 bit  | USHORT - <b>fSpec</b>                                  | 0x1    |
| 00000018 | 3 bits | USHORT - <b>sgc</b>                                    | 0x5    |
| 00000018 | 3 bits | USHORT - <b>spra</b>                                   | 0x6    |
| 0000001A | 0006   | <a href="#">TableCellWidthOperand</a> - <b>operand</b> |        |
| 0000001A | 0001   | BYTE - <b>cb</b>                                       | 0x05   |
| 0000001B | 0002   | <a href="#">ItcFirstLim</a> - <b>itc</b>               |        |
| 0000001B | 0001   | SHORT - <b>itcFirst</b>                                | 0x00   |
| 0000001B | 0001   | SHORT - <b>itcLim</b>                                  | 0x01   |
| 0000001D | 0003   | <a href="#">FtsWWidth_TablePart</a> - <b>FtsWWidth</b> |        |
| 0000001D | 0001   | <a href="#">Fts</a> - <b>ftsWidth</b>                  | 0x03   |
| 0000001E | 0002   | SHORT - <b>wWidth</b>                                  | 0x114C |

**Figure 46: The sixth PrI in GrpPrI**

**sprm.ispmd:** If this value is 0x035 and **fSpec** is set to 0x1, this is **sprmTCellWidth**.

**sprm.sgc:** A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra:** A value of 0x6 specifies that the first byte of **operand** specifies the size of the rest of **operand**.

**operand.cb:** A value of 0x05 specifies that **operand** is 5 bytes in size, not including **operand.cb**.

**operand.itc.itcFirst:** A value of 0x0000 specifies the first zero-based index of the first cell to which **FtsWWidth** applies.

**operand.itc.itcLim:** A value of 0x0001 specifies the zero-based index of the first cell outside the range of cells to which **FtsWWidth** applies. **FtsWWidth** thus only applies to the first cell in the row.

**operand.FtsWWidth.ftsWidth:** A value of 0x03 specifies that **wWidth** is a measurement in twips.

**operand.FtsWWidth.wWidth:** A value of 0x114C specifies the preferred width of the first cell of the row, in twips.

The **GrpPrI[5]** element is 8 bytes in size, leaving 0x2C bytes for the rest of **GrpPrI**.

The following table shows the seventh **PrI** element in **GrpPrI**.



| Offset   | Size   | Structure                       | Value  |
|----------|--------|---------------------------------|--------|
| 00000020 | 0008   | Prl - GrpPrl[6]                 |        |
| 00000020 | 0002   | Sprm - sprm                     |        |
| 00000020 | 9 bits | USHORT - ispm�                  | 0x035  |
| 00000020 | 1 bit  | USHORT - fSpec                  | 0x1    |
| 00000020 | 3 bits | USHORT - sgc                    | 0x5    |
| 00000020 | 3 bits | USHORT - sprā                   | 0x6    |
| 00000022 | 0006   | TableCellWidthOperand - operand |        |
| 00000022 | 0001   | BYTE - cb                       | 0x05   |
| 00000023 | 0002   | ItcFirstLim - itc               |        |
| 00000023 | 0001   | SHORT - itcFirst                | 0x01   |
| 00000023 | 0001   | SHORT - itcLim                  | 0x02   |
| 00000025 | 0003   | FtsWWidth_TablePart - FtsWWidth |        |
| 00000025 | 0001   | Fts - ftsWidth                  | 0x03   |
| 00000026 | 0002   | SHORT - wWidth                  | 0x114C |

**Figure 47: The seventh Prl in GrpPrl.**

**sprm.ispm�:** If this value is 0x035 and **fSpec** is set to 0x0001, this is sprmTCellWidth.

**sprm.sgc:** A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.sprā:** A value of 0x6 specifies that the first byte of **operand** specifies the size of the rest of **operand**.

**operand.cb:** A value of 0x05 specifies that **operand** is 5 bytes in size, not including **operand.cb**.

**operand.itc.itcFirst:** A value of 0x0001 specifies the first zero-based index of the first cell to which **FtsWWidth** applies.

**operand.itc.itcLim:** A value of 0x0002 specifies the zero-based index of the first cell outside the range of cells to which **FtsWWidth** applies. This means that the **FtsWWidth** value applies only to the second cell in the row.

**operand.FtsWWidth.ftsWidth:** A value of 0x03 specifies that **wWidth** is a measurement in twips.

**operand.FtsWWidth.wWidth:** A value of 0x114C specifies the preferred width of the second cell of the row, in twips.

The **GrpPrl[6]** element is 8 bytes in size, leaving 0x24 for the rest of the **GrpPrl** element.

The following table shows the eighth **Prl** in the **GrpPrl** element.

| Offset   | Size | Structure       | Value |
|----------|------|-----------------|-------|
| 00000028 | 0006 | Prl - GrpPrl[7] |       |
| 00000028 | 0002 | Sprm - sprm     |       |

| Offset   | Size   | Structure                                       | Value  |
|----------|--------|---|--------|
| 00000028 | 9 bits | USHORT - <b>ispm</b> d                          | 0x023  |
| 00000028 | 1 bit  | USHORT - <b>fSpec</b>                           | 0x1    |
| 00000028 | 3 bits | USHORT - <b>sgc</b>                             | 0x5    |
| 00000028 | 3 bits | USHORT - <b>spra</b>                            | 0x3    |
| 0000002A | 0004   | <a href="#">TDxaColOperand</a> - <b>operand</b> |        |
| 0000002A | 0002   | ItcFirstLim - <b>itc</b>                        |        |
| 0000002A | 0001   | SHORT - <b>itcFirst</b>                         | 0x00   |
| 0000002A | 0001   | SHORT - <b>itcLim</b>                           | 0x02   |
| 0000002C | 0002   | SHORT - <b>dx</b> aCol                          | 0x114C |

**Figure 48: The eighth Prl in GrpPrl**

**sprm.ispm**d: If this value is 0x023 and **fSpec** is set to 0x1, this is sprmTDxaCol.

**sprm.sgc**: A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra**: A value of 0x3 specifies that **operand** is 4 bytes in size.

**operand.itc.itcFirst**: A value of 0x0000 specifies the first zero-based index of the first cell to which **dx**aCol applies.

**operand.itc.itcLim**: A value of 0x0002 specifies the zero-based index of the first cell outside the range of cells to which **dx**aCol applies. This means that the **DxaCol** value applies to both cells in the row.

**operand.dxaCol**: A value of 0x114C specifies the width of each cell, in twips. This value overrides the widths that are specified in the **GrpPrl[4]** element.

The **GrpPrl[7]** element is 6 bytes in size, leaving 0x1E bytes for the rest of **GrpPrl**.

The following table shows the ninth **Prl** in the **GrpPrl** element.

| Offset   | Size   | Structure               | Value  |
|----------|--------|-------------------------|--------|
| 0000002E | 0004   | Prl - <b>GrpPrl[8]</b>  |        |
| 0000002E | 0002   | Sprm - <b>sprm</b>      |        |
| 0000002E | 9 bits | USHORT - <b>ispm</b> d  | 0x03A  |
| 0000002E | 1 bit  | USHORT - <b>fSpec</b>   | 0x1    |
| 0000002E | 3 bits | USHORT - <b>sgc</b>     | 0x5    |
| 0000002E | 3 bits | USHORT - <b>spra</b>    | 0x2    |
| 00000030 | 0002   | USHORT - <b>operand</b> | 0x000F |

**Figure 49: The ninth Prl in GrpPrl**

**sprm.ispm**d: If this value is 0x03A and **fSpec** is set to 0x1, this is sprmTIstd.

**sprm.sgc**: A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra:** A value of 0x2 specifies that **operand** is two bytes in size.

**operand:** A value of 0x000F specifies the **istd** of this table. To find the properties that are specified by this style, an application would implement the algorithm from section 2.4.6.5, Determining Properties of a Style. This is outside the scope of this example.

The **GrpPrI[8]** element is 4 bytes in size, leaving 0x1A bytes for the rest of **GrpPrI**.

The following table shows the tenth **PrI** in **GrpPrI**.

| Offset   | Size   | Structure              | Value  |
|----------|--------|------------------------|--------|
| 00000032 | 0004   | PrI - <b>GrpPrI[9]</b> |        |
| 00000032 | 0002   | Sprm - <b>sprm</b>     |        |
| 00000032 | 9 bits | USHORT - <b>ispmnd</b> | 0x002  |
| 00000032 | 1 bit  | USHORT - <b>fSpec</b>  | 0x1    |
| 00000032 | 3 bits | USHORT - <b>sgc</b>    | 0x5    |
| 00000032 | 3 bits | USHORT - <b>spra</b>   | 0x4    |
| 00000034 | 0002   | SHORT - <b>operand</b> | 0x006C |

**Figure 50: The tenth PrI in GrpPrI**

**sprm.ispmnd:** If this value is 0x002 and **fSpec** is set to 0x0001, this is sprmTDxaGapHalf.

**sprm.sgc:** A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra:** A value of 0x4 specifies that operand is two bytes in size.

**operand:** A value of 0x006C specifies the distance, in twips, from the logical left margin to the logical left origin of this row.

The **GrpPrI[9]** element is 4 bytes in size, leaving 0x16 bytes for the rest of **GrpPrI**.

The following table shows the eleventh **PrI** in **GrpPrI**.

| Offset   | Size   | Structure                            | Value  |
|----------|--------|--------------------------------------|--------|
| 00000036 | 0006   | PrI - <b>GrpPrI[10]</b>              |        |
| 00000036 | 0002   | Sprm - <b>sprm</b>                   |        |
| 00000036 | 9 bits | USHORT - <b>ispmnd</b>               | 0x00A  |
| 00000036 | 1 bit  | USHORT - <b>fSpec</b>                | 0x0    |
| 00000036 | 3 bits | USHORT - <b>sgc</b>                  | 0x5    |
| 00000036 | 3 bits | USHORT - <b>spra</b>                 | 0x3    |
| 00000038 | 0004   | <a href="#">TLP</a> - <b>operand</b> |        |
| 00000038 | 0002   | SHORT - <b>itl</b>                   | 0x0000 |
| 0000003A | 0002   | <a href="#">FatI</a> - <b>grfatI</b> |        |
| 0000003A | 1 bit  | USHORT - <b>fatIBorders</b>          | 0x0    |

| Offset   | Size   | Structure                         | Value |
|----------|--------|-----------------------------------|-------|
| 0000003A | 1 bit  | USHORT - <b>fatIShading</b>       | 0x0   |
| 0000003A | 1 bit  | USHORT - <b>fatIFont</b>          | 0x0   |
| 0000003A | 1 bit  | USHORT - <b>fatIColor</b>         | 0x0   |
| 0000003A | 1 bit  | USHORT - <b>fatIBestFit</b>       | 0x0   |
| 0000003A | 1 bit  | USHORT - <b>fatIHdrRows</b>       | 0x1   |
| 0000003A | 1 bit  | USHORT - <b>fatILastRow</b>       | 0x1   |
| 0000003A | 1 bit  | USHORT - <b>fatIHdrCols</b>       | 0x1   |
| 0000003A | 1 bit  | USHORT - <b>fatILastCol</b>       | 0x1   |
| 0000003A | 1 bit  | USHORT - <b>fatINoRowBands</b>    | 0x0   |
| 0000003A | 1 bit  | USHORT - <b>fatINoColBands</b>    | 0x0   |
| 0000003A | 5 bits | USHORT - <b>padding (ignored)</b> | 0x00  |

**Figure 51: The eleventh Prl in GrpPrl**

**sprm.ispmd:** If this value is 0x0A and **fSpec** is set to 0x0, this is sprmTTlp.

**sprm.sgc:** A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra:** A value of 0x3 specifies that **operand** is 4 bytes in size.

**operand.itl:** A value of 0x0000 specifies that either a table autoformat has not been applied to this table or that the last time that a table autoformat was applied to this table, all border, shading, font, and best fit formats were reset to the default values. The user could have applied other properties since the last table autoformat.

**operand.grfatl.fatIBorders:** A value of 0x0 specifies that either a table autoformat has not been applied to this table or that borders were not applied as part of the last table autoformat.

**operand.grfatl.fatIShading:** A value of 0x0 specifies that either a table autoformat has never been applied to this table or that shading was not applied as part of the last table autoformat.

**operand.grfatl.fatIFont:** A value of 0x0 specifies that either a table autoformat has not been applied to this table or that a font was not applied as part of the last table autoformat.

**operand.grfatl.fatIColor:** A value of 0x0 specifies that either a table autoformat has not been applied to this table, or that the monochrome variant of the last table autoformat was used, or that the last table autoformat did not have separate color and monochrome variant.

**operand.grfatl.fatIBestFit:** A value of 0x0 specifies that either a table autoformat has not been applied to this table or that the table columns were not resized to fit their contents as part of the last table autoformat.

**operand.grfatl.fatIHdrRows:** A value of 0x1 specifies that the first row of this table receives special formatting if the table style specifies special formatting for them. Special formatting is specified by any or all of [sprmCCnf](#), sprmPCnf, and sprmTCnf in the style definition.

**operand.grfatl.fatILastRow:** A value of 0x1 specifies that the last row of this table receives special formatting if the table style specifies special formatting for them. Special formatting is specified by any or all of sprmCCnf, sprmPCnf, and sprmTCnf in the style definition.

**operand.grfatl.fatIHdrCols:** A value of 0x1 specifies that the logical left column of this table receives special formatting if the table style specifies special formatting for them. Special formatting is specified by any or all of sprmCCnf, sprmPCnf, and sprmTCnf in the style definition.

**operand.grfatl.fatILastCol:** A value of 0x1 specifies that the logical right column of this table receives special formatting if the table style specifies special formatting for them. Special formatting is specified by any or all of sprmCCnf, sprmPCnf, and sprmTCnf in the style definition.

**operand.grfatl.fatINoRowBands:** 0x0 specifies that the rows in odd-numbered row bands receive special formatting if the table style specifies special formatting for them. Special formatting is specified by any or all of sprmCCnf, sprmPCnf, and sprmTCnf in the style definition. The number of rows in a row band is specified by sprmTCHorzBands in the style definition.

**operand.grfatl.fatINoColBands:** 0x0 specifies that the rows in odd-numbered column bands receive special formatting if the table style specifies special formatting for them. Special formatting is specified by any or all of sprmCCnf, sprmPCnf, and sprmTCnf in the style definition. The number of columns in a column band is specified by sprmTCVertBands in the style definition.

The **GrpPrl[10]** element is 6 bytes in size, leaving 0x10 bytes for the rest of **GrpPrl**.

The following table shows the twelfth **Prl** in **GrpPrl**.

| Offset   | Size   | Structure  | Value  |
|----------|--------|--|--------|
| 0000003C | 0005   | Prl - <b>GrpPrl[11]</b>                          |        |
| 0000003C | 0002   | Sprm - <b>sprm</b>                               |        |
| 0000003C | 9 bits | USHORT - <b>ispm</b> d                           | 0x014  |
| 0000003C | 1 bit  | USHORT - <b>fSpec</b>                            | 0x1    |
| 0000003C | 3 bits | USHORT - <b>sgc</b>                              | 0x5    |
| 0000003C | 3 bits | USHORT - <b>spra</b>                             | 0x7    |
| 0000003E | 0003   | <a href="#">FtsWWidth Table</a> - <b>operand</b> |        |
| 0000003E | 0001   | Fts - <b>ftsWidth</b>                            | 0x01   |
| 0000003F | 0002   | SHORT - <b>wWidth</b>                            | 0x0000 |

**Figure 52: The twelfth Prl in GrpPrl**

**sprm.ispm**d: If this value is 0x014 and **fSpec** is set to 0x01, this is sprmTTableWidth.

**sprm.sgc**: A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra**: A value of 0x7 specifies that operand is 3 bytes in size.

**operand.ftsWidth**: A value of 0x01 specifies that the table has no preferred width.

**operand.wWidth**: A value of 0x0000 is ignored.

The **GrpPrl[11]** element is 5 bytes in size, leaving 0x0B for the rest of **GrpPrl**.

The following table shows the thirteenth **Prl** in **GrpPrl**.

| Offset   | Size | Structure               | Value |
|----------|------|-------------------------|-------|
| 00000041 | 0003 | Prl - <b>GrpPrl[12]</b> |       |

| Offset   | Size   | Structure              | Value |
|----------|--------|------------------------|-------|
| 00000041 | 0002   | Sprm - <b>sprm</b>     |       |
| 00000041 | 9 bits | USHORT - <b>ispm</b> d | 0x015 |
| 00000041 | 1 bit  | USHORT - <b>fSpec</b>  | 0x1   |
| 00000041 | 3 bits | USHORT - <b>sgc</b>    | 0x5   |
| 00000041 | 3 bits | USHORT - <b>spra</b>   | 0x1   |
| 00000043 | 0001   | BYTE - <b>operand</b>  | 0x01  |

**Figure 53: The thirteenth Prl in GrpPrl**

**sprm.ispm**d: A value of 0x015 and **fSpec** 0x1 specifies that this is [sprmTFAutoFit](#).

**sprm.sgc**: A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra**: A value of 0x1 specifies that **operand** is 1 byte in size.

**operand**: A value of 0x01 specifies that the columns are to be resized to fit the contents.

The **GrpPrl[12]** element is 3 bytes in size, leaving 0x08 for the rest of **GrpPrl**.

The following table shows the fourteenth **Prl** in **GrpPrl**.

| Offset   | Size   | Structure                              | Value  |
|----------|--------|--|--------|
| 00000044 | 0008   | Prl - <b>GrpPrl[13]</b>                |        |
| 00000044 | 0002   | Sprm - <b>sprm</b>                     |        |
| 00000044 | 9 bits | USHORT - <b>ispm</b> d                 | 0x035  |
| 00000044 | 1 bit  | USHORT - <b>fSpec</b>                  | 0x1    |
| 00000044 | 3 bits | USHORT - <b>sgc</b>                    | 0x5    |
| 00000044 | 3 bits | USHORT - <b>spra</b>                   | 0x6    |
| 00000046 | 0006   | TableCellWidthOperand - <b>operand</b> |        |
| 00000046 | 0001   | BYTE - <b>cb</b>                       | 0x05   |
| 00000047 | 0002   | ItcFirstLim - <b>itc</b>               |        |
| 00000047 | 0001   | SHORT - <b>itcFirst</b>                | 0x00   |
| 00000047 | 0001   | SHORT - <b>itcLim</b>                  | 0x02   |
| 00000049 | 0003   | FtsWWidth_TablePart - <b>FtsWWidth</b> |        |
| 00000049 | 0001   | Fts - <b>ftsWidth</b>                  | 0x03   |
| 0000004A | 0002   | SHORT - <b>wWidth</b>                  | 0x114C |

**Figure 54: The fourteenth Prl in GrpPrl**

**sprm.ispm**d: If this value is 0x035 and **fSpec** is set to 0x1, this is **sprmTCellWidth**.

**sprm.sgc**: A value of 0x5 specifies that **sprm** modifies a table property.

**sprm.spra:** A value of 0x6 specifies that the first byte of **operand** specifies the size of the rest of **operand**.

**operand.cb:** A value of 0x05 specifies the size of **operand**, not including **operand.cb**.

**operand.itc.itcFirst:** A value of 0x0000 specifies the first zero-based index of the first cell to which **FtsWWidth** applies.

**operand.itc.itcLim:** A value of 0x0002 specifies the zero-based index of the first cell outside the range of cells to which **FtsWWidth** applies. This means that the **FtsWWidth** value applies to both cells in the row.

**operand.FtsWWidth.ftsWidth:** A value of 0x03 specifies that **wWidth** is a measurement in twips.

**operand.FtsWWidth.wWidth:** A value of 0x114C specifies the preferred width of each cell, in twips. This value overrides the widths that are specified in **GrpPrI[5]** and **GrpPrI[6]**.

The **GrpPrI[13]** element is 8 bytes in size, consuming all remaining space in **GrpPrI**.

### 3.7 Example of a List

The following is an example of a list. It demonstrates how [LFO](#) structures, [LSTF](#) structures, and [LVL](#) structures define the list formatting of a paragraph. See [Determining List Formatting](#) for information about how a paragraph is related to these structures.

| Offset   | Size | Structure                                | Value      |
|----------|------|--|------------|
| 0000009A | 02E8 | <a href="#">FibRgFcLcb97</a> - rgFcLcb97 |            |
| 0000009A | 0108 | ... (omitted for brevity)                |            |
| 000002E2 | 0004 | ULONG - fcPflLst                         | 0x00000536 |
| 000002E6 | 0004 | ULONG - lcbPflLst                        | 0x0000001E |
| 000002EA | 0004 | ULONG - fcPflLfo                         | 0x000007E1 |
| 000002EE | 0004 | ULONG - lcbPflLfo                        | 0x00000018 |
| 000002F2 | 01D8 | ... (omitted for brevity)                |            |

**Figure 55: Portions of the FibRgFcLcb97 structure, highlighting the two fc/lcb pairs used for lists**

As with all Word Binary files, this file has a [Fib](#) at offset zero in the [WordDocument Stream](#). The preceding table shows a portion of the FibRgFcLcb97 that is contained in that **Fib**. The FibRgFcLcb97 is very large. Most fields have been omitted here for brevity.

**fcPflLst:** A value of 0x00000536 specifies the offset, in bytes, of a location in the [Table Stream](#). A [PflLst](#) containing list formatting information begins at this offset. An array of **LVL** structures is directly appended to the **PflLst**. The offset, in bytes, of the array of **LVL** structures in the Table Stream is equal to **fcPflLst + lcbPflLst**, which in this case is 0x00000554.

**lcbPflLst:** A value of 0x0000001E specifies the size, in bytes, of the **PflLst** at offset 0x00000536 in the Table Stream. This does not account for the size of the array of **LVL** structures that is appended to the **PflLst**. The size of the array of **LVL**s cannot be determined without reading each **LVL**, as each **LVL** is of a variable size that can only be determined by reading that **LVL**. The number of **LVL** structures in the array, however, is equal to ((number of **LSTFs** in **PflLst** such that **lstf.fSimpleList** is equal to 1) + (number of **LSTFs** in **PflLst** such that **lstf.fSimpleList** is equal to zero) \* 9), which in this case is 9.

**fcPifLfo:** A value of 0x000007E1 specifies the offset, in bytes, of a location in the Table Stream. A [PifLfo](#) containing list format override information begins at this offset.

**lcbPifLfo:** A value of 0x00000018 specifies the size, in bytes, of the PifLfo at offset 0x000007E1 in the Table Stream.

The following table shows the expansion of the **PifLst** at offset 0x00000536 in the Table Stream.

| Offset   | Size | Structure                     | Value  |
|----------|------|-------------------------------|--------|
| 00000536 | 001E | PifLst - <b>PifLst</b>        |        |
| 00000536 | 0002 | SHORT - <b>cLst</b>           | 0x0001 |
| 00000538 | 001C | Array of LSTF - <b>rgLstf</b> |        |
| 00000538 | 001C | LSTF - <b>lstf[0]</b>         |        |

**Figure 56: Expansion of a PifLst**

In this particular example, there is only one list definition stored in the document, so **rgLstf** contains only one **LSTF**. It is common for **rgLstf** to contain multiple **LSTF** structures.

**cLst:** 0x0001 specifies that **rgLstf** contains one **LSTF**.

**rgLstf:** An array that contains the **LSTF** that is stored in the document.

**rgLstf.lstf[0]:** An **LSTF** that defines formatting of a list.

The following table shows the expansion of **rgLstf.lstf[0]** in the **PifLst** at offset 0x00000536 in the Table Stream.

| Offset   | Size   | Structure                              | Value      |
|----------|--------|--|------------|
| 00000538 | 001C   | LSTF - <b>lstf[0]</b>                  |            |
| 00000538 | 0004   | LONG - <b>lsid</b>                     | 0x44F53D09 |
| 0000053C | 0004   | LONG - <b>tplc</b>                     | 0x31200A2C |
| 00000540 | 0012   | Array of SHORT - <b>rgstdPara</b>      |            |
| 00000540 | 0002   | SHORT - <b>istdPara[0]</b>             | 0x0FFF     |
| 00000542 | 000E   | ... (omitted for brevity)              |            |
| 00000550 | 0002   | SHORT - <b>istdPara[8]</b>             | 0x0FFF     |
| 00000552 | 1 bit  | BYTE - <b>fSimpleList</b>              | 0x0        |
| 00000552 | 1 bit  | BYTE - <b>unused1</b>                  | 0x0        |
| 00000552 | 1 bit  | BYTE - <b>fAutoNum</b>                 | 0x0        |
| 00000552 | 1 bit  | BYTE - <b>unused2</b>                  | 0x0        |
| 00000552 | 1 bit  | BYTE - <b>fHybrid</b>                  | 0x0        |
| 00000552 | 3 bits | BYTE - <b>reserved1</b>                | 0x0        |
| 00000553 | 0001   | <a href="#">grfhic</a> - <b>grfhic</b> |            |

**Figure 57: Expansion of an LSTF**



**lsid:** A value of 0x44F53D09 specifies a unique list identifier. **LFO** structures used these unique identifier to refer to specific **LSTF** structures. The **lfo[0].lsid** in the **PifLfo** at the offset 0x000007E1 is equal to this value, which means that **lfo[0]** corresponds to this particular **LSTF**.

**tplc:** 0x31200A2C specifies a value that is used internally by the list gallery user interface. For purposes of this example, ignore this value.

**rgistdPara:** Each element is the **istd** of the style which is linked to the level that corresponds to the index of the element. In this example, there are no styles linked to any level in the list, so the value of each element is 0x0FFF, which is common. This contains 9 elements, all but the first and last of which have been omitted for brevity.

**rgistdPara.istdPara[0]:** A value of 0x0FFF specifies that the first level of this list has no style linked to it.

**rgistdPara.istdPara[8]:** A value of 0x0FFF specifies that the ninth level of this list has no style linked to it.

**fSimpleList:** A value of 0x0 specifies that this list contains 9 levels, and that therefore there are 9 elements in the array of **LVL** structures at offset 0x00000554 that correspond to this **LSTF**.

**unused1:** A value of 0x0 is ignored.

**fAutoNum:** A value of 0x0 specifies that this list is not used by any field.

**unused2:** A value of 0x0 is ignored.

**fHybrid:** A value of 0x0 specifies that this list is not a hybrid list.

**reserved1:** A value of 0x0 is ignored.

**grfhic:** This structure contains information that is only useful for HTML compatibility. This example does not cover list HTML compatibility.

The following table shows the expansion of the array of **LVL** structures at offset 0x00000554 in the Table Stream.

| Offset   | Size | Structure                   | Value |
|----------|------|-----------------------------|-------|
| 0000009A | 028D | Array of LVL - <b>rgLvl</b> |       |
| 00000554 | 0047 | LVL - <b>lvl[0]</b>         |       |
| 0000059B | 004B | LVL - <b>lvl[1]</b>         |       |
| 000005E6 | 004B | LVL - <b>lvl[2]</b>         |       |
| 00000631 | 01B0 | ... (omitted for brevity)   |       |

**Figure 58: Expansion of an array of LVLs**

As specified by **lstf[0].fSimpleList**, this contains 9 **LVL** structures that correspond to **lstf[0]**. If **PifLst** had more than just one **LSTF** (as specified by **PifLst.cLst**), this array would contain the additional **LVL** structures that would correspond to the extra **LSTF** structures (the number of which would be specified by the **fSimple** field of those **LSTFs**). The **LVLs** stored in this array are stored in same order as the **LSTFs** in **PifLst**. The **LVLs** corresponding to each **LSTF** are stored in level order, starting with the most significant level. For brevity, only the first three **LVL** structures are included and will be expanded.

**lvl[0]:** This **LVL** specifies the level formatting of the first level in the list.

**lvl[1]:** This **LVL** specifies the level formatting of the second level in the list.

**lvl[2]:** This **LVL** specifies the level formatting of the third level in the list.

The following table shows the expansion of **lvl[0]** in the array of **LVL** structures at offset 0x00000554 in the Table Stream. This specifies the level formatting of the first level in the list corresponding to **lstf[0]**.

| Offset   | Size   | Structure                          | Value      |
|----------|--------|------------------------------------|------------|
| 00000554 | 0047   | LVL - <b>lvl[0]</b>                |            |
| 00000554 | 001C   | <a href="#">LVLF</a> - <b>lvlf</b> |            |
| 00000554 | 0004   | LONG - <b>iStartAt</b>             | 0x00000001 |
| 00000558 | 0001   | MSONFC - <b>nfc</b>                | 0x00       |
| 00000559 | 2 bits | BYTE - <b>jc</b>                   | 0x0        |
| 00000559 | 1 bit  | BYTE - <b>fLegal</b>               | 0x0        |
| 00000559 | 1 bit  | BYTE - <b>fNoRestart</b>           | 0x0        |
| 00000559 | 1 bit  | BYTE - <b>fIndentSav</b>           | 0x0        |
| 00000559 | 1 bit  | BYTE - <b>fConverted</b>           | 0x0        |
| 00000559 | 1 bit  | BYTE - <b>unused1</b>              | 0x0        |
| 00000559 | 1 bit  | BYTE - <b>fTentative</b>           | 0x0        |
| 0000055A | 0009   | Array of BYTE - <b>rgbxchNums</b>  |            |
| 0000055A | 0001   | BYTE - <b>xchNums[0]</b>           | 0x01       |
| 0000055B | 0001   | BYTE - <b>xchNums[1]</b>           | 0x00       |
| 0000055C | 0007   | ... (omitted for brevity)          |            |
| 00000563 | 0001   | BYTE - <b>ixchFollow</b>           | 0x00       |
| 00000564 | 0004   | LONG - <b>dxaindentSav</b>         | 0x00000000 |
| 00000568 | 0004   | ULONG - <b>unused2</b>             | 0x00000000 |
| 0000056C | 0001   | BYTE - <b>cbGrppriChpx</b>         | 0x0D       |
| 0000056D | 0001   | BYTE - <b>cbGrppriPapx</b>         | 0x18       |
| 0000056E | 0001   | BYTE - <b>ilvlRestartLim</b>       | 0x00       |
| 0000056F | 0001   | grfhic - <b>grfhic</b>             |            |
| 00000570 | 0018   | Array of Prl - <b>grppriPapx</b>   |            |
| 00000588 | 000D   | Array of Prl - <b>grppriChpx</b>   |            |
| 00000595 | 0006   | <a href="#">Xst</a> - <b>xst</b>   | \0x0000.   |

**Figure 59: Expansion of lvl[0]**

**lvlf.iStartAt:** A value of 0x00000001 specifies that the number sequence of this level starts at 1.

**lvlf.nfc:** A value of 0x00 specifies that any [level number](#) inherited from this level that replaces a placeholder in the number text of any level (see the **xst** field of **LVL** for information about

placeholders) has Arabic formatting (for example, 1, 2, 3, 4...), unless otherwise specified by the **lvlf.fLegal** field of the **LVL** of that level.

**lvlf.jc:** A value of 0x0 specifies that the number text that is specified by **xst** is left-justified.

**lvlf.fLegal:** A value of 0x0 specifies that this level does not override the formatting of inherited level numbers.

**lvlf.fNoRestart:** A value of 0x0 specifies that number sequence of this level restarts after any more significant level. Because this **LVL** specifies the most significant level, this is ignored.

**lvlf.fIndentSav:** A value of 0x0 specifies that this level does not need to replace an indent when a paragraph is taken out of the level.

**lvlf.fConverted:** A value of 0x0 specifies that **lvlf.nfc** was not converted from an old value used for compatibility purposes.

**lvlf.unused1:** A value of 0x0 is ignored.

**lvlf.fTentative:** A value of 0x0 is ignored because this level is not in a hybrid list, as specified by **lstf[0].fHybrid**.

**lvlf.rgbxchNums:** An array that specifies the 1-based indexes of the placeholders in **xst** (see the **xst** field of **LVL** for information about placeholders). This array has 9 elements, but it is zero-terminated. The elements that follow the first terminating zero are omitted for brevity.

**lvlf.rgbxchNums.xchNums[0]:** A value of 0x01 specifies that the first character in the string which is specified by **xst** is a placeholder for a level number.

**lvlf.rgbxchNums.xchNums[1]:** A value of 0x00 specifies that this element and those that follow are ignored.

**lvlf.ixchFollow:** A value of 0x00 specifies that a tab immediately follows the number text which is specified by **xst**.

**lvlf.dxaIndentSav:** A value of 0x00000000 is ignored because **lvlf.fIndentSav** is zero.

**lvlf.unused2:** A value of 0x00000000 is ignored.

**lvlf.cbGrppriChpx:** A value of 0x0D specifies that the size of **grppriChpx** is 13 bytes.

**lvlf.cbGrppriPapx:** A value of 0x18 specifies that the size of **grppriPapx** is 24 bytes.

**lvlf.ilvlRestartLim:** A value of 0x00 is ignored because **lvlf.fNoRestart** is zero.

**lvlf.grfhic:** This structure contains information that is only useful for HTML compatibility. This example does not cover list HTML compatibility.

**grppriPapx:** Contains paragraph properties that are applied to the paragraph after number text is applied to the paragraph. See Determining List Formatting.

**grppriChpx:** Contains character properties that are applied to the number text. See Determining List Formatting.

**xst:** "\0x0000." specifies the number text of the level. '\0x0000' is a non-printable character, which is actually the integer 0x0000. This character is a placeholder for the first level in the list. It is the first character in the string, as specified by **lvlf.rgbxchNums.xchNums[0]**. This placeholder will be replaced by the current level number of the first level in the list for each paragraph in this level. The number text for the first paragraph in this level will be "1."

The following table shows the expansion of **lvl[1]** in the array of **LVL** structures at offset 0x00000554 in the Table Stream. This specifies the level formatting of the second level in the list corresponding to **lstf[0]**.

| Offset   | Size   | Structure                         | Value            |
|----------|--------|-----------------------------------|------------------|
| 0000059B | 004B   | LVL - <b>lvl[1]</b>               |                  |
| 0000059B | 001C   | LVLf - <b>lvlf</b>                |                  |
| 0000059B | 0004   | LONG - <b>iStartAt</b>            | 0x00000003       |
| 0000059F | 0001   | MSONFC - <b>nfc</b>               | 0x04             |
| 000005A0 | 2 bits | BYTE - <b>jc</b>                  | 0x0              |
| 000005A0 | 1 bit  | BYTE - <b>fLegal</b>              | 0x0              |
| 000005A0 | 1 bit  | BYTE - <b>fNoRestart</b>          | 0x0              |
| 000005A0 | 1 bit  | BYTE - <b>fIndentSav</b>          | 0x0              |
| 000005A0 | 1 bit  | BYTE - <b>fConverted</b>          | 0x0              |
| 000005A0 | 1 bit  | BYTE - <b>unused1</b>             | 0x0              |
| 000005A0 | 1 bit  | BYTE - <b>fTentative</b>          | 0x0              |
| 000005A1 | 0009   | Array of BYTE - <b>rgbxchNums</b> |                  |
| 000005A1 | 0001   | BYTE - <b>xchNums[0]</b>          | 0x01             |
| 000005A2 | 0001   | BYTE - <b>xchNums[1]</b>          | 0x03             |
| 000005A3 | 0001   | BYTE - <b>xchNums[2]</b>          | 0x00             |
| 000005A4 | 0006   | ... (omitted for brevity)         |                  |
| 000005AA | 0001   | BYTE - <b>ixchFollow</b>          | 0x00             |
| 000005AB | 0004   | LONG - <b>dxaiIndentSav</b>       | 0x00000000       |
| 000005AF | 0004   | ULONG - <b>unused2</b>            | 0x00000000       |
| 000005B3 | 0001   | BYTE - <b>cbGrpprIChpx</b>        | 0x0D             |
| 000005B4 | 0001   | BYTE - <b>cbGrpprIPapx</b>        | 0x18             |
| 000005B5 | 0001   | BYTE - <b>ilvlRestartLim</b>      | 0x01             |
| 000005B6 | 0001   | grfhic - <b>grfhic</b>            |                  |
| 000005B7 | 0018   | Array of Prl - <b>grpprIPapx</b>  |                  |
| 000005CF | 000D   | Array of Prl - <b>grpprIChpx</b>  |                  |
| 000005DC | 000A   | Xst - <b>xst</b>                  | \0x0000-\0x0001) |

**Figure 60: Expansion of lvl[1]**

**lvlf.iStartAt:** A value of 0x00000003 specifies that the number sequence of this level starts at 3.

**lvlf.nfc:** A value of 0x04 specifies that any level number inherited from this level that replaces a placeholder in the number text of any level (see the **xst** field of **LVL** for information about

placeholders) has lowercase letter formatting (for example, a, b, c, d...), unless otherwise specified by the **lvlf.fLegal** field of the LVL belonging to that level.

**lvlf.jc:** A value of 0x0 specifies that the number text specified by **xst** is left-justified.

**lvlf.fLegal:** A value of 0x0 specifies that this level does not override the formatting of inherited level numbers.

**lvlf.fNoRestart:** A value of 0x0 specifies that the number sequence of this level restarts after any more significant level. As this **LVL** represents the second level, this means that the number sequence of this level restarts after any paragraph that is in the first level of this same list is encountered.

**lvlf.fIndentSav:** A value of 0x0 specifies that this level does not need to replace an indent when a paragraph is taken out of the level.

**lvlf.fConverted:** A value of 0x0 specifies that **lvlf.nfc** was not converted from an old value used for compatibility purposes.

**lvlf.unused1:** A value of 0x0 is ignored.

**lvlf.fTentative:** A value of 0x0 is ignored because this level is not in a hybrid list, as specified by **lstf[0].fHybrid**.

**lvlf.rgbxchNums:** An array that specifies the 1-based indexes of the placeholders in **xst** (see the **xst** field of LVL). This array has 9 elements, but it is zero-terminated. The elements that follow the first terminating zero are omitted for brevity.

**lvlf.rgbxchNums.xchNums[0]:** A value of 0x01 specifies that the first character in the string specified by **xst** is a placeholder for a level number.

**lvlf.rgbxchNums.xchNums[1]:** A value of 0x03 specifies that the third character in the string specified by **xst** is a placeholder for a level number.

**lvlf.rgbxchNums.xchNums[2]:** A value of 0x00 specifies that this element and those that follow are ignored.

**lvlf.ixchFollow:** A value of 0x00 specifies that a tab immediately follows the number text that is specified by **xst**.

**lvlf.dxaIndentSav:** A value of 0x00000000 is ignored because **lvlf.fIndentSav** is zero.

**lvlf.unused2:** A value of 0x00000000 is ignored.

**lvlf.cbGrpprIChpx:** A value of 0x0D specifies that the size of **grpprIPapx** is 13 bytes.

**lvlf.cbGrpprIPapx:** A value of 0x18 specifies that the size of **grpprIPapx** is 24 bytes.

**lvlf.ilvlRestartLim:** A value of 0x01 is ignored because **lvlf.fNoRestart** is zero.

**lvlf.grfhic:** This structure contains information that is only useful for HTML compatibility. This example does not cover list HTML compatibility.

**grpprIPapx:** Contains paragraph properties that are applied to the paragraph after the paragraph receives number text. See Determining List Formatting.

**grpprIChpx:** Contains character properties that are applied to the number text. See Determining List Formatting.

**xst:** A value of "\0x0000-\0x0001)" specifies the number text of the level. '\0x0000' and '\0x0001' are non-printable characters, which are actually the integers 0x0000 and 0x0001, respectively.

These characters are the placeholders for the first and second levels in the list. These are placeholders because their indexes are specified in the elements of **lvlf.rgbxchNums**. These placeholders will be replaced by the current level numbers of the first and second levels in the list for each paragraph in this level. The number text for the first paragraph in this level that is the child of the first paragraph in the first level will be "1-a)".

The following table shows the expansion of **lvi[2]** in the array of **LVL** structures at offset 0x00000554 in the Table Stream. This specifies the level formatting of the first level in the list corresponding to **lstf[0]**.

| Offset   | Size   | Structure                         | Value      |
|----------|--------|-----------------------------------|------------|
| 000005E6 | 004B   | LVL - <b>lvi[2]</b>               |            |
| 000005E6 | 001C   | LVLf - <b>lvlf</b>                |            |
| 000005E6 | 0004   | LONG - <b>iStartAt</b>            | 0x00000001 |
| 000005EA | 0001   | MSONFC - <b>nfc</b>               | 0xFF       |
| 000005EB | 2 bits | BYTE - <b>jc</b>                  | 0x1        |
| 000005EB | 1 bit  | BYTE - <b>fLegal</b>              | 0x0        |
| 000005EB | 1 bit  | BYTE - <b>fNoRestart</b>          | 0x1        |
| 000005EB | 1 bit  | BYTE - <b>fIndentSav</b>          | 0x0        |
| 000005EB | 1 bit  | BYTE - <b>fConverted</b>          | 0x0        |
| 000005EB | 1 bit  | BYTE - <b>unused1</b>             | 0x0        |
| 000005EB | 1 bit  | BYTE - <b>fTentative</b>          | 0x0        |
| 000005EC | 0009   | Array of BYTE - <b>rgbxchNums</b> |            |
| 000005EC | 0001   | BYTE - <b>xchNums[0]</b>          | 0x00       |
| 000005ED | 0008   | ... (omitted for brevity)         |            |
| 000005F5 | 0001   | BYTE - <b>ixchFollow</b>          | 0x01       |
| 000005F6 | 0004   | LONG - <b>dxaiIndentSav</b>       | 0x00000000 |
| 000005FA | 0004   | ULONG - <b>unused2</b>            | 0x00000000 |
| 000005FE | 0001   | BYTE - <b>cbGrppriChpx</b>        | 0x0D       |
| 000005FF | 0001   | BYTE - <b>cbGrppriPapx</b>        | 0x10       |
| 00000600 | 0001   | BYTE - <b>ilviRestartLim</b>      | 0x00       |
| 00000601 | 0001   | grfhic - <b>grfhic</b>            |            |
| 00000602 | 0010   | Array of Prl - <b>grppriPapx</b>  |            |
| 00000612 | 000D   | Array of Prl - <b>grppriChpx</b>  |            |
| 0000061F | 0012   | Xst - <b>xst</b>                  | Example:   |

**Figure 61: Expansion of lvi[2]**

This level does not have a number sequence because the number text for this level does not have a placeholder for this level.

**lvlf.iStartAt:** A value of 0x00000001 is ignored, because this level does not have a number sequence.

**lvlf.nfc:** A value of 0xFF specifies that this level does not have a number style.

**lvlf.jc:** A value of 0x1 specifies that the number text specified by **xst** is center-justified.

**lvlf.fLegal:** A value of 0x0 specifies that this level does not override the formatting of inherited level numbers.

**lvlf.fNoRestart:** A value of 0x1 is ignored, because this level does not have a number sequence.

**lvlf.fIndentSav:** A value of 0x0 specifies that this level does not need to replace an indent when a paragraph is taken out of the level.

**lvlf.fConverted:** A value of 0x0 specifies that **lvlf.nfc** was not converted from an old value used for compatibility purposes.

**lvlf.unused1:** A value of 0x0 is ignored.

**lvlf.fTentative:** A value of 0x0 is ignored because this level is not in a hybrid list, as specified by **lstf[0].fHybrid**.

**lvlf.rgbxchNums:** An array that specifies the 1-based indexes of the placeholders in **xst** (see the **xst** field of **LVL**). This array has 9 elements, but is zero-terminated. The elements that follow the first terminating zero are omitted for brevity.

**lvlf.rgbxchNums.xchNums[0]:** A value of 0x00 specifies that this element and those that follow are ignored. Because this is the first element in the array, this means that there are no placeholders in **xst**, and therefore it is a static string.

**lvlf.ixchFollow:** A value of 0x01 specifies that a space immediately follows the number text that is specified by **xst**.

**lvlf.dxaIndentSav:** A value of 0x00000000 is ignored because **lvlf.fIndentSav** is zero.

**lvlf.unused2:** A value of 0x00000000 is ignored.

**lvlf.cbGrppriChpx:** A value of 0x0D specifies that the size of **grppriPapx** is 13 bytes.

**lvlf.cbGrppriPapx:** 0x10 specifies that the size of **grppriChpx** is 16 bytes.

**lvlf.ilvlRestartLim:** A value of 0x00 is ignored because this level does not have a number sequence.

**lvlf.grfhic:** This structure contains information that is only useful for HTML compatibility. This example does not cover list HTML compatibility.

**grppriPapx:** Contains paragraph properties that are applied to the paragraph after it receives number text. See Determining List Formatting.

**grppriChpx:** Contains character properties that are applied to the number text. See Determining List Formatting.

**xst:** "Example:" specifies the number text of the level. As specified by **lvlf.rgbxchNums**, this does not have any placeholders in it. Therefore, this text is static and every paragraph in this level starts with "Example: ".

The following table shows the expansion of the **PifLfo** at offset 0x000007E1 in the Table Stream.

| Offset   | Size | Structure              | Value |
|----------|------|------------------------|-------|
| 000007E1 | 0018 | PifLfo - <b>PifLfo</b> |       |

| Offset   | Size | Structure                                   | Value      |
|----------|------|---|------------|
| 000007E1 | 0004 | ULONG - <b>lfoMac</b>                       | 0x00000001 |
| 000007E5 | 0010 | Array of LFO - <b>rgLfo</b>                 |            |
| 000007E5 | 0010 | LFO - <b>lfo[0]</b>                         |            |
| 000007F5 | 0004 | Array of LFOData - <b>rgLfoData</b>         |            |
| 000007F5 | 0004 | <a href="#">LFOData</a> - <b>lfoData[0]</b> |            |
| 000007F5 | 0004 | LONG - <b>cp</b>                            | 0xFFFFFFFF |
| 000007F9 | 0000 | Array of LFOLVL - <b>rgLfoLvl</b>           |            |

**Figure 62: Expansion of PifLfo**

This contains the list format override information in the document.

**lfoMac:** A value of 0x00000001 specifies that **rgLfo** and **rgLfoData** each have one element.

**rgLfo:** An array of LFO structures.

**rgLfo.lfo[0]:** An LFO structure that specifies a list format override.

**rgLfoData:** An array of additional list format override data.

**rgLfoData.lfoData[0]:** An LFOData structure that specifies addition list format override.

**rgLfoData.lfoData[0].cp:** A value of 0xFFFFFFFF is ignored.

**rgLfoData.lfoData[0].rgLfoLvl:** An empty array, because **rgLfo.lfo[0].clfolvl** is zero.

The following table shows the expansion of **rgLfo.lfo[0]** in the **PifLfo** at offset 0x000007E1 in the Table Stream.

| Offset   | Size | Structure                    | Value      |
|----------|------|------------------------------|------------|
| 000007E5 | 0010 | LFO - <b>lfo[0]</b>          |            |
| 000007E5 | 0004 | LONG - <b>lsid</b>           | 0x44F53D09 |
| 000007E9 | 0004 | LONG - <b>unused1</b>        | 0x00000000 |
| 000007ED | 0004 | LONG - <b>unused2</b>        | 0x00000000 |
| 000007F1 | 0001 | BYTE - <b>clfolvl</b>        | 0x00       |
| 000007F2 | 0001 | BYTE - <b>ibstFltAutoNum</b> | 0x00       |
| 000007F3 | 0001 | grfhic - <b>grfhic</b>       |            |
| 000007F4 | 0001 | BYTE - <b>unused3</b>        | 0x00       |

**Figure 63: Expansion of lfo[0]**

This **LFO** is used as a level of indirection between the paragraphs in a list and the **LSTF** that defines the list that they are in. An **LFO**, along with its corresponding **LFOData**, can specify information that overrides the formatting information specified by an **LSTF** and its corresponding **LVL** structures. In this example, as in most cases, there is no such overriding information specified.



**Isid:** A value of 0x44F53D09 specifies the value of the **Isid** field of the **LSTF** that this **LFO** corresponds to. In this example, this value is equal to **Istf[0].Isid** in the **PifLst** at offset 0x00000536 in the Table Stream. Therefore, the list formatting of any paragraph that uses this **LFO** is specified by **Istf[0]** in the **PifLst** at offset 0x00000536 in the Table Stream.

**unused1:** A value of 0x00000000 is ignored.

**unused2:** A value of 0x00000000 is ignored.

**clfolvl:** A value of 0x00 specifies that there are no [LFOLVL](#) structures in **rgLfoData.lfoData[0].rgLfoLvl** in the **PifLfo** at offset 0x000007E1 in the Table Stream.

**ibstFltAutoNum:** A value of 0x00 specifies that this **LFO** is not used by any field.

**grfhic:** This structure contains information that is only useful for HTML compatibility. This example does not cover list HTML compatibility.

**unused3:** 0x00 is ignored.

## 4 Security Considerations

### 4.1 Encryption and Obfuscation (Password to Open)

When XOR obfuscation (section [2.2.6.1](#)) is used, data can be easily extracted and the document password might be retrievable.

When obfuscation or encryption is used, the [ObjectPool storage](#), [Macros storage](#), [Custom XML Data storage](#), [XML Signatures storage](#), and [Signatures stream](#) are not obfuscated or encrypted.

When XOR obfuscation (section 2.2.6.1) or Office binary document RC4 encryption (section [2.2.6.2](#)) is used or when Office binary document RC4 CryptoAPI encryption (section [2.2.6.3](#)) is used with **fDocProps** set to **false** in **EncryptionHeader.Flags**, the [Document Summary Information](#) stream and the [Summary Information stream](#) are not obfuscated or encrypted.

When Office binary document RC4 encryption (section 2.2.6.2) or Office binary document RC4 CryptoAPI encryption (section 2.2.6.3) is used, the same block numbers are reused in the [WordDocument stream](#), the [Table stream](#), and the entire [Data stream](#). This reuse can occur potentially with known cleartext, implying that certain portions of encrypted data can be directly extracted or easily retrieved.

See [\[MS-OFFCRYPTO\]](#) section 4.1.3 for additional security considerations with encryption and obfuscation in Word binary files.

### 4.2 Write Reservation Password

The write-reservation password is embedded in cleartext in the file. Be aware that protection with a write reservation password is not considered a security mechanism. The protection can be easily removed by using a binary editor. Protection with a write-reservation password is meant to protect against accidental modification only.

## 5 Appendix A: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs.

- Microsoft Word 97
- Microsoft Word 2000
- Microsoft Word 2002
- Microsoft Office Word 2003
- Microsoft Office Word 2007
- Microsoft Word 2010
- Microsoft Word 2013
- Microsoft Word 2016

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

[<1> Section 1.5](#): This persistence format provides interoperability with applications that create or read documents conforming to this structure, including Word 97, Word 2000, Word 2002, and Office Word 2003. This persistence format can also be used for interoperability with Office Word 2007, Word 2010, and Word 2013 when compatibility with Word 97, Word 2000, Word 2002, and Office Word 2003 is a primary concern.

[<2> Section 2.1.4.3](#): Word 97 and Word 2000 do not generate this stream when saving files and ignore it when loading files. Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 read this stream when loading files and generate it when saving files if the object supports a separate print presentation and provides that presentation in Enhanced Metafile format.

[<3> Section 2.1.10](#): Office Word 2007, Word 2010, and Word 2013 read this storage. Word 97, Word 2000, Word 2002, and Office Word 2003 ignore it.

[<4> Section 2.1.11](#): Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 read this stream. Word 97 and Word 2000 ignore it.

[<5> Section 2.1.12](#): Office Word 2003, Office Word 2007, Word 2010, and Word 2013 read streams and storages from inside the [Protected Content Stream](#). Word 97, Word 2000, and Word 2002 ignore the Information Rights Management Data Space Storage and the Protected Content Stream.

[<6> Section 2.1.12](#): Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore streams and storages which instead are read from inside the Protected Content Stream. Word 97, Word 2000, and Word 2002 ignore the Protected Content Stream and read storages and streams located outside the Protected Content Stream.

[<7> Section 2.2.5](#): The following table lists the ranges of [Sprm.ispmd](#) that each version of Microsoft Word processes. All versions of Microsoft Word skip [PrIs](#) that they cannot process.

| <b>Version</b>   | <b>Sprm.sgc</b> | <b>Range of Sprm.ispmd processed</b> |
|------------------|-----------------|--------------------------------------|
| Word 97          | 1 (paragraph)   | 0x00 - 0x48                          |
|                  | 2 (character)   | 0x00 - 0x10, 0x30 - 0x6F             |
|                  | 3 (picture)     | 0x00 - 0x07                          |
|                  | 4 (section)     | 0x00 - 0x33                          |
|                  | 5 (table)       | 0x00 - 0x0C, 0x20, 0x2C              |
| Word 2000        | 1 (paragraph)   | 0x00 - 0x63                          |
|                  | 2 (character)   | 0x00 - 0x13, 0x30 - 0x81             |
|                  | 3 (picture)     | 0x00 - 0x0B                          |
|                  | 4 (section)     | 0x00 - 0x38                          |
|                  | 5 (table)       | 0x00 - 0x39, 0x60 - 0x65             |
| Word 2002        | 1 (paragraph)   | 0x00 - 0x6E                          |
|                  | 2 (character)   | 0x00 - 0x18, 0x30 - 0x88             |
|                  | 3 (picture)     | 0x00 - 0x0B                          |
|                  | 4 (section)     | 0x00 - 0x42                          |
|                  | 5 (table)       | 0x00 - 0x3D, 0x60 - 0x8A             |
| Office Word 2003 | 1 (paragraph)   | 0x00 - 0x6F                          |
|                  | 2 (character)   | 0x00 - 0x18, 0x30 - 0x89, 0x90       |
|                  | 3 (picture)     | 0x00 - 0x0B                          |

| Version  | Sprm.sgc      | Range of Sprm.ispmd processed         |
|--|---------------|---------------------------------------|
|  | 4 (section)   | 0x00 – 0x43                           |
|  | 5 (table)     | 0x00 – 0x3E, 0x60 – 0x90              |
| Office Word 2007,<br>Word 2010,<br>and Word 2013 | 1 (paragraph) | 0x00 – 0x73                           |
|  | 2 (character) | 0x00 – 0x1D, 0x30 – 0x89, 0x90 – 0x95 |
|  | 3 (picture)   | 0x00 – 0x0B                           |
|  | 4 (section)   | 0x00 – 0x44                           |
|  | 5 (table)     | 0x00 – 0x42, 0x60 – 0x90              |

<8> [Section 2.2.6](#): Word 97 and Word 2000 cannot open files which are password protected with Office binary document RC4 CryptoAPI encryption.

<9> [Section 2.2.6.3](#): Neither Word 97 nor Word 2000 support this encryption method.

<10> [Section 2.4.3](#): Word 97 and Word 2000 require that each row have [sprmTDefTable](#) applied. These versions do not process [sprmPTableProps](#). Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 require [sprmTDefTable](#) or [sprmTInsert](#). These versions do process [sprmPTableProps](#).

A [sprmTDefTable](#) applied to a TTP mark overrides any formatting inherited from the table style. Word 97 and Word 2000 do not have a table style feature. For this reason, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 only emit [sprmTDefTable](#) for versions that do not process [sprmPTableProps](#).

If an application does not emit [sprmTDefTable](#) for the benefit of readers that do not process [sprmPTableProps](#), the documents that are generated by that application are not compatible with Word 97 or Word 2000.

<11> [Section 2.4.6](#): Word 97 and Word 2000 do not support table styles, and thus ignore [sprmTlstD](#), among others. [SprmPTableProps](#) can be used to separate Prls intended for Word 97 and Word 2000 from those intended for all other versions, as specified in section [2.4.3](#), Overview of Tables.

<12> [Section 2.5.2](#): A special empty document is installed with Word 97, Word 2000, Word 2002, and Office Word 2003 to allow "Create New Word Document" from the operating system. This document has an nFib of 0x00C0. In addition the BiDi build of Word 97 differentiates its documents by saving 0x00C2 as the nFib. In both cases treat them as if they were 0x00C1.

<13> [Section 2.5.2](#): Picture watermarks could be present in the document even if **fHasPic** is 0.

<14> [Section 2.5.2](#): The **nFibBack** field is treated as if it is set to 0x00BF when a locale-specific version of Word 97 sets it to 0x00C1.

<15> [Section 2.5.2](#): Word 97, Word 2000, Word 2002, and Office Word 2003 install a minimal .doc file for use with the New- Microsoft Word Document of the shell. This minimal .doc file has **fEmptySpecial** set to 1.

<16> [Section 2.5.2](#): Word uses this flag to identify a document that was created by using the New – Microsoft Word Document of the operating system shell.

<17> [Section 2.5.3](#): Word 97 and Word 2000 sometimes put a value here when performing an incremental save ([FibBase.fComplex](#)).

<18> [Section 2.5.3](#): Word 97 and Word 2000 sometimes put a value here when performing an incremental save ([FibBase.fComplex](#)).

<19> [Section 2.5.3](#): Word 97 and Word 2000 sometimes put a value here when performing an incremental save ([FibBase.fComplex](#)).

<20> [Section 2.5.3](#): Word 97 and Word 2000 will sometimes put a value here when performing an incremental save ([FibBase.fComplex](#)).

<21> [Section 2.5.3](#): Word 97 and Word 2000 will sometimes put a value here when performing an incremental save ([FibBase.fComplex](#)).

<22> [Section 2.5.3](#): Word 97 and Word 2000 will sometimes put a value here when performing an incremental save ([FibBase.fComplex](#)).

<23> [Section 2.5.3](#): Word 97 and Word 2000 will sometimes put a value here when performing an incremental save ([FibBase.fComplex](#)).

<24> [Section 2.5.3](#): Word 97 and Word 2000 will sometimes put a value here when performing an incremental save ([FibBase.fComplex](#)).

<25> [Section 2.5.3](#): Word 97 and Word 2000 will sometimes put a value here when performing an incremental save ([FibBase.fComplex](#)).

<26> [Section 2.5.4](#): Word 97, Word 2000, Word 2002, and Office Word 2003 write a nonzero value here when saving a document template with changes that require the saving of an AutoText document.

<27> [Section 2.5.6](#): Word 97, Word 2000, and Word 2002 emit this information when performing an incremental save. Office Word 2003, Office Word 2007, Word 2010, and Word 2013 do not emit this information.

<28> [Section 2.5.6](#): Word 97 reads this information if **FibBase.nFib** is 193. Word 2000 reads this information if [FibRgCswNew.nFibNew](#) is 217. Word 2002 reads this information if **FibRgCswNew.nFibNew** is 257. Office Word 2003, Office Word 2007, Word 2010, and Word 2013 do not read this information.

<29> [Section 2.5.6](#): Office Word 2007, Word 2010, and Word 2013 ignore this data.

<30> [Section 2.5.6](#): Word 97 emits information at offset **fcPgdMotherOldOld**. Neither Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<31> [Section 2.5.6](#): Word 97 reads this information. Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<32> [Section 2.5.6](#): Word 97 emits information at offset **fcBkdMotherOldOld**. Neither Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<33> [Section 2.5.6](#): Word 97 reads this information. Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<34> [Section 2.5.6](#): Word 97 emits information at offset **fcPgdFtnOldOld**. Neither Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<35> [Section 2.5.6](#): Word 97 reads this information. Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<36> [Section 2.5.6](#): Word 97 emits information at offset **fcBkdFtnOldOld**. Neither Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<37> [Section 2.5.6](#): Word 97 reads this information. Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<38> [Section 2.5.6](#): Word 97 emits information at offset **fcPgdEdnOldOld**. Neither Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<39> [Section 2.5.6](#): Word 97 reads this information. Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<40> [Section 2.5.6](#): Word 97 emits information at offset **fcBkdEdnOldOld**. Neither Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<41> [Section 2.5.6](#): Only Word 97 reads this information.

<42> [Section 2.5.6](#): fcRouteSlip is only saved and read by Word 97, Word 2000, Word 2002, and Office Word 2003.

<43> [Section 2.5.6](#): SttbSavedBy is only saved and read by Word 97 and Word 2000.

<44> [Section 2.5.6](#): SttbSavedBy is only saved and read by Word 97 and Word 2000.

<45> [Section 2.5.6](#): Word 97 and Word 2000 write this information when the user chooses to save versions in the document. Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 do not write this information.

<46> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 read this information. Office Word 2007, Word 2010, and Word 2013 ignore it.

<47> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 write this information when the user chooses to save versions in the document. Neither Office Word 2007, Word 2010, nor Word 2013 write this information.

<48> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 read this information. Office Word 2007, Word 2010, and Word 2013 ignore it.

<49> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 write this information when the user chooses to save versions in the document. Neither Office Word 2007, Word 2010, nor Word 2013 write this information.

<50> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 read this information. Office Word 2007, Word 2010, and Word 2013 ignore it.

<51> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 write this information when the user chooses to save versions in the document. Neither Office Word 2007, Word 2010, nor Word 2013 write this information.

<52> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 read this information. Office Word 2007, Word 2010, and Word 2013 ignore it.

<53> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 write this information when the user chooses to save versions in the document. Neither Office Word 2007, Word 2010, nor Word 2013 write this information.

<54> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 read this information. Office Word 2007, Word 2010, and Word 2013 ignore it.

<55> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 write this information when the user chooses to save versions in the document. Neither Office Word 2007, Word 2010, nor Word 2013 write this information.

<56> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 read this information. Office Word 2007, Word 2010, and Word 2013 ignore it.

<57> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 write this information. Neither Office Word 2007, Word 2010, nor Word 2013 write this information.

<58> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 read this information. Office Word 2007, Word 2010, and Word 2013 ignore it.

<59> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 write the size of the deprecated numbering field cache at offset **fcPlcfBteLvc** in the [Table Stream](#). Office Word 2007, Word 2010, and Word 2013 write zero.

<60> [Section 2.5.6](#): Word 97 emits information at offset **fcPlcfLvcPre10** when performing an incremental save. Word 2000 emits information at offset **fcPlcfLvcPre10** on every save. Neither Word 2002, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit information at offset **fcPlcfLvcPre10** and the value of **fcPlcfLvcPre10** is undefined.

<61> [Section 2.5.6](#): Word 97 and Word 2000 read this information. Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore it.

<62> [Section 2.5.6](#): Word 97 and Word 2000 write **lcbPlcfLvcPre10** with the size, in bytes, of the information emitted at offset **fcPlcfLvcPre10**. Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write 0 to **lcbPlcfLvcPre10**.

<63> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 write this information when the user chooses to save versions in the document. Neither Office Word 2007, Word 2010, nor Word 2013 write this information.

<64> [Section 2.5.6](#): Word 97, Word 2000, Word 2002, and Office Word 2003 read this information. Office Word 2007, Word 2010, and Word 2013 ignore it.

<65> [Section 2.5.7](#): Office Word 2007, Word 2010, and Word 2013 ignore this information. Word 2000, Word 2002, and Office Word 2003 read this information, however the information is an optional, deprecated cache that can be calculated by reading the document content.

<66> [Section 2.5.7](#): Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this value.

<67> [Section 2.5.7](#): Word 2000 and Word 2002 emit information at offset **fcPgdMotherOld**. Neither Word 97, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<68> [Section 2.5.7](#): Word 2000 and Word 2002 read this information. Word 97, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<69> [Section 2.5.7](#): Word 2000 and Word 2002 emit information at offset **fcBkdMotherOld**. Neither Word 97, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<70> [Section 2.5.7](#): Word 2000 and Word 2002 read this information. Word 97, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<71> [Section 2.5.7](#): Word 2000 and Word 2002 emit information at offset **fcPgdFtnOld**. Neither Word 97, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.



<72> [Section 2.5.7](#): Word 2000 and Word 2002 read this information. Word 97, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<73> [Section 2.5.7](#): Word 2000 and Word 2002 emit information at offset **fcBkdFtnOld**. Neither Word 97, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<74> [Section 2.5.7](#): Word 2000 and Word 2002 read this information. Word 97, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<75> [Section 2.5.7](#): Word 2000 and Word 2002 emit information at offset **fcPgdEdnOld**. Neither Word 97, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<76> [Section 2.5.7](#): Word 2000 and Word 2002 read this information. Word 97, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<77> [Section 2.5.7](#): Word 2000 and Word 2002 emit information at offset **fcBkdEdnOld**. Neither Word 97, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<78> [Section 2.5.7](#): Word 2000 and Word 2002 read this information. Word 97, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<79> [Section 2.5.8](#): Office Word 2007, Word 2010, and Word 2013 ignore this value.

<80> [Section 2.5.8](#): Word 2002 and Office Word 2003 write this information when the user chooses to save versions in the document. Neither Word 97, Word 2000, Office Word 2007, Word 2010, nor Word 2013 write this information.

<81> [Section 2.5.8](#): Word 2002 and Office Word 2003 read this information. Word 97, Word 2000, Office Word 2007, Word 2010, and Word 2013 ignore it.

<82> [Section 2.5.8](#): Word 2002 emits information at offset **fcPlcfpmiOldXP**. Neither Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfpmiOldXP** is undefined.

<83> [Section 2.5.8](#): Word 2002 reads this information. Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore it.

<84> [Section 2.5.8](#): Word 2002 writes **lcbPlcfpmiOldXP** with the size, in bytes, of the information emitted at offset **fcPlcfpmiOldXP**. Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write 0 to **lcbPlcfpmiOldXP**. Neither Word 97 nor Word 2000 write a [FibRgFcLcb2002](#).

<85> [Section 2.5.8](#): Word 2002 emits information at offset **fcPlcfpmiNewXP**. Neither Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfpmiNewXP** is undefined.

<86> [Section 2.5.8](#): Word 2002 reads this information. Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore it.

<87> [Section 2.5.8](#): Word 2002 writes **lcbPlcfpmiNewXP** with the size, in bytes, of the information emitted at offset **fcPlcfpmiNewXP**. Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write 0 to **lcbPlcfpmiNewXP**. Neither Word 97 nor Word 2000 write a **FibRgFcLcb2002**.

<88> [Section 2.5.8](#): Word 2002 emits information at offset **fcPlcfpmiMixedXP**. Neither Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfpmiMixedXP** is undefined.

<89> [Section 2.5.8](#): Word 2002 reads this information. Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore it.

<90> [Section 2.5.8](#): Word 2002 writes **lcbPlcfpmiMixedXP** with the size, in bytes, of the information emitted at offset **fcPlcfpmiMixedXP**. Office Word 2003, Office Word 2007, Word 2010,

and Word 2013 write 0 to **IcbPlcfpmiMixedXP**. Neither Word 97 nor Word 2000 write a **FibRgFcLcb2002**.

<91> [Section 2.5.8](#): Word 2002 emits information at offset **fcPlcfIvcOldXP**. Neither Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfIvcOldXP** is undefined.

<92> [Section 2.5.8](#): Word 2002 reads this information. Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore it.

<93> [Section 2.5.8](#): Word 2002 writes **IcbPlcfIvcOldXP** with the size, in bytes, of the information emitted at offset **fcPlcfIvcOldXP**. Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write 0 to **IcbPlcfIvcOldXP**. Neither Word 97 nor Word 2000 write a **FibRgFcLcb2002**.

<94> [Section 2.5.8](#): Word 2002 emits information at offset **fcPlcfIvcNewXP**. Neither Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfIvcNewXP** is undefined.

<95> [Section 2.5.8](#): Word 2002 reads this information. Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore it.

<96> [Section 2.5.8](#): Word 2002 writes **IcbPlcfIvcNewXP** with the size, in bytes, of the information emitted at offset **fcPlcfIvcNewXP**. Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write 0 to **IcbPlcfIvcNewXP**. Neither Word 97 nor Word 2000 write a **FibRgFcLcb2002**.

<97> [Section 2.5.8](#): Word 2002 emits information at offset **fcPlcfIvcMixedXP**. Neither Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfIvcMixedXP** is undefined.

<98> [Section 2.5.8](#): Word 2002 reads this information. Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore it.

<99> [Section 2.5.8](#): Word 2002 writes **IcbPlcfIvcMixedXP** with the size, in bytes, of the information emitted at offset **fcPlcfIvcMixedXP**. Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write 0 to **IcbPlcfIvcMixedXP**. Neither Word 97 nor Word 2000 write a **FibRgFcLcb2002**.

<100> [Section 2.5.9](#): Only Office Word 2003 emits information at offset **fcPlcfpmiOld**; Neither Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfpmiOld** is undefined.

<101> [Section 2.5.9](#): Only Office Word 2003 reads this information.

<102> [Section 2.5.9](#): Office Word 2003 writes **IcbPlcfpmiOld** with the size, in bytes, of the information emitted at offset **fcPlcfpmiOld**; Office Word 2007, Word 2010, and Word 2013 write 0 to **IcbPlcfpmiOld**.

<103> [Section 2.5.9](#): Only Office Word 2003 emits information at offset **fcPlcfpmiOldInline**; Neither Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfpmiOldInline** is undefined.

<104> [Section 2.5.9](#): Only Office Word 2003 reads this information.

<105> [Section 2.5.9](#): Office Word 2003 writes **IcbPlcfpmiOldInline** with the size, in bytes, of the information emitted at offset **fcPlcfpmiOldInline**; Office Word 2007, Word 2010, and Word 2013 write 0 to **IcbPlcfpmiOldInline**.

<106> [Section 2.5.9](#): Only Office Word 2003 emits information at offset **fcPlcfpmiNew**; Neither Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfpmiNew** is undefined.

<107> [Section 2.5.9](#): Only Office Word 2003 reads this information.

<108> [Section 2.5.9](#): Office Word 2003 writes **lcbPlcfpmiNew** with the size, in bytes, of the information emitted at offset **fcPlcfpmiNew**; Office Word 2007, Word 2010, and Word 2013 write 0 to **lcbPlcfpmiNew**.

<109> [Section 2.5.9](#): Only Office Word 2003 emits information at offset **fcPlcfpmiNewInline**; Neither Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcfpmiNewInline** is undefined.

<110> [Section 2.5.9](#): Only Office Word 2003 reads this information.

<111> [Section 2.5.9](#): Office Word 2003 writes **lcbPlcfpmiNewInline** with the size, in bytes, of the information emitted at offset **fcPlcfpmiNewInline**; Office Word 2007, Word 2010, and Word 2013 write 0 to **lcbPlcfpmiNewInline**.

<112> [Section 2.5.9](#): Only Office Word 2003 emits information at offset **fcPlcflvcOld**; Neither Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcflvcOld** is undefined.

<113> [Section 2.5.9](#): Only Office Word 2003 reads this information.

<114> [Section 2.5.9](#): Office Word 2003 writes **lcbPlcflvcOld** with the size, in bytes, of the information emitted at offset **fcPlcflvcOld**; Office Word 2007, Word 2010, and Word 2013 write 0 to **lcbPlcflvcOld**.

<115> [Section 2.5.9](#): Only Office Word 2003 emits information at offset **fcPlcflvcOldInline**; Neither Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcflvcOldInline** is undefined.

<116> [Section 2.5.9](#): Only Office Word 2003 reads this information.

<117> [Section 2.5.9](#): Office Word 2003 writes **lcbPlcflvcOldInline** with the size, in bytes, of the information emitted at offset **fcPlcflvcOldInline**; Office Word 2007, Word 2010, and Word 2013 write 0 to **lcbPlcflvcOldInline**.

<118> [Section 2.5.9](#): Only Office Word 2003 emits information at offset **fcPlcflvcNew**; Neither Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcflvcNew** is undefined.

<119> [Section 2.5.9](#): Only Office Word 2003 reads this information.

<120> [Section 2.5.9](#): Office Word 2003 writes **lcbPlcflvcNew** with the size, in bytes, of the information emitted at offset **fcPlcflvcNew**; Office Word 2007, Word 2010, and Word 2013 write 0 to **lcbPlcflvcNew**.

<121> [Section 2.5.9](#): Only Office Word 2003 emits information at offset **fcPlcflvcNewInline**; Neither Office Word 2007, Word 2010, nor Word 2013 emit information at this offset and the value of **fcPlcflvcNewInline** is undefined.

<122> [Section 2.5.9](#): Only Office Word 2003 reads this information.

<123> [Section 2.5.9](#): Office Word 2003 writes **lcbPlcflvcNewInline** with the size, in bytes, of the information emitted at offset **fcPlcflvcNewInline**; Office Word 2007, Word 2010, and Word 2013 write 0 to **lcbPlcflvcNewInline**.

<124> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcPgdMother**. Neither Word 97, Word 2000, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<125> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<126> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcBkdMother**. Neither Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<127> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<128> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcAfdMother**. Neither Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<129> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<130> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcPgdFtn**. Neither Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<131> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<132> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcBkdFtn**. Neither Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<133> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<134> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcAfdFtn**. Neither Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<135> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<136> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcPgdEdn**. Neither Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<137> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<138> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcBkdEdn**. Neither Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<139> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<140> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcAfdEdn**. Neither Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, nor Word 2013 emit this information.

<141> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<142> [Section 2.5.9](#): Office Word 2003 emits information at offset **fcAfd**. Neither Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, nor Word 2013 emit information at this offset.

<143> [Section 2.5.9](#): Office Word 2003 reads this information. Word 97, Word 2000, Word 2002, Office Word 2007, Word 2010, and Word 2013 ignore this information.

<144> [Section 2.5.10](#): Neither Office Word 2007, Word 2010, nor Word 2013 write 0 here, but all three ignore this value when loading files.

<145> [Section 2.5.10](#): Neither Office Word 2007, Word 2010, nor Word 2013 write 0 here, but all three ignore this value when loading files.

<146> [Section 2.6.1](#): Office Word 2007, Word 2010, and Word 2013 ignore this property when running in compatibility mode for previous versions of Word. Word 97, Word 2000, Word 2002, and Office Word 2003 do not process this Sprm, and thus ignore this property.

<147> [Section 2.6.1](#): When sprmCFSpec is unexpectedly applied to a character that can be displayed, the character can be displayed in the same manner as a character that is not fSpec. If, on the other hand, the character cannot be displayed, it can be ignored.

<148> [Section 2.6.1](#): This property is compatible with Word 97, and for that version the default color for right-to-left text is **cvAuto**. Later versions do not use this property, and instead the color of all text is specified by [sprmCico](#).

<149> [Section 2.6.2](#): Word implements this property by acting as if there is a page break before the paragraph if it would not otherwise fit on the remainder of the page. If sprmPFKeepFollow is applied to the preceding paragraph with a value of 1, Word favors keeping this paragraph's lines together over keeping this paragraph on the same page as the previous paragraph. If the paragraph is too long to fit on a full page by itself, Word ignores this property. If the paragraph is in a table, Word ignores this property.

<150> [Section 2.6.2](#): Word implements this property by acting as if there is a page break before the paragraph if there would otherwise be a page break between the end of this paragraph and the beginning of the next one. If sprmPFKeep is applied to the next paragraph with a value of 1, Word avoids breaking the next paragraph across pages even if it means ignoring sprmPFKeepFollow.

<151> [Section 2.6.3](#): Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this property. Word 2000 and Word 97 do not split table rows across pages when the table rows set this property to 0x01.

<152> [Section 2.6.3](#): Word 97 stops working if merged cells are split across page break boundaries; setting this property for merged cells avoids this problem.

<153> [Section 2.6.3](#): Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this property.

<154> [Section 2.6.3](#): Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 evaluate sprmTFCantSplit instead of this property.

<155> [Section 2.6.3](#): Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 evaluate sprmTFCantSplit instead of this property.

<156> [Section 2.6.3](#): If the cell has a fixed-width, this property is false (0), and content cannot fit on a single line in the cell, then content will word wrap. If the cell does not have a fixed-width, this property is false (0), and content cannot fit on a single line in the cell, then the cell can grow to fit the content; however, if the cell has no more room to grow, then the content will word wrap instead.

<157> [Section 2.6.3](#): If the cell does not have a fixed width and this property is true, the cell will automatically grow to fit more content, shrinking adjacent cells in the row if necessary so that content in this cell does not wrap. However, if the cell content is too large to fit in the table, then the content will be forced to wrap. If multiple cells in the row have this property set and content will not fit on a single line for any them, widths will be adjusted proportionately according to how much content is in each cell (the cell with the most content receives the most width).

<158> [Section 2.6.4](#): Word 97, Word 2000, and Word 2002 emit [sprmSDxaColumns](#) only when the space between columns differs from the default.

<159> [Section 2.6.4](#): Word falls back to **msonfcArabic**.

<160> [Section 2.6.4](#): Word 97, Word 2000, and Word 2002 emit sprmSDyaHdrTop only when the header's distance from the top edge of the page differs from the default.



[<161> Section 2.6.4](#): Word 97, Word 2000, and Word 2002 emit `sprmSDyaHdrBottom` only when the footer distance from the bottom edge of the page differs from the default.

[<162> Section 2.6.4](#): Word's user interface allows starting line numbers only up to 32767, corresponding to a `SPRM` value of 32766. However, bigger values can be read in (for example from ECMA-376 files) and subsequently stored into an MS-DOC file.

[<163> Section 2.6.4](#): Office Word 2007, Word 2010, and Word 2013 support larger values.

[<164> Section 2.6.4](#): Word 97, Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this value when there is only one available paper format as defined by the currently selected printer driver.

[<165> Section 2.7.2](#): With Word 97, Word 2000, Word 2002, and Office Word 2003 it is possible for the `fLockRev` value or the `fLockAtn` value to be set to 1 when `fProtEnabled` is 1.

[<166> Section 2.7.2](#): With Word 97, Word 2000, Word 2002, and Office Word 2003 it is possible for the `fLockRev` value or the `fLockAtn` value to be set to 1 when `fProtEnabled` is 1.

[<167> Section 2.7.2](#): Word 97 allows independent viewing and printing of revision markup. This means that the value of `fRMPrint` is not always the same as the value of `fRMView`.

[<168> Section 2.7.2](#): With Word 97, Word 2000, Word 2002, and Office Word 2003, it is possible for the `fLockRev` value or the `fLockAtn` value to be set to 1 when `fProtEnabled` is 1.

[<169> Section 2.7.2](#): Word stores either the date and time the document was created or the date and time when personal information was scrubbed.

[<170> Section 2.7.2](#): Word stores either the date and time the document was printed or 4 bytes of zeros (0) if personal information was scrubbed or if the document was never printed.

[<171> Section 2.7.2](#): Word will store a 0 here if personal information was scrubbed.

[<172> Section 2.7.2](#): Word will store a 0 here for certain locales and if personal information was scrubbed. Word does not prevent this value from overflowing if the document was opened for editing more than 0x7FFFFFFF minutes.

[<173> Section 2.7.2](#): Word sets up the save dialog so that, if it is not altered, it saves a comma-delimited text file but does not prevent the user from altering the file type in the dialog.

[<174> Section 2.7.4](#): If Office Word 2007, Word 2010, or Word 2013 saved this file as a background operation, this value is 9.

[<175> Section 2.7.4](#): Word 97 sets this value when it loads files through the Microsoft HTML converter (`html32.cnv`).

[<176> Section 2.7.4](#): Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write 0. Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore any value on load.

[<177> Section 2.7.4](#): Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write 0. Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore any value on load.

[<178> Section 2.7.4](#): Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 neither read nor write this value.

[<179> Section 2.7.4](#): Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 neither read nor write this value.

[<180> Section 2.7.5](#): All background saves and all saves by Office Word 2007, Word 2010, and Word 2013 result in 0 here.

[<181> Section 2.7.5](#): All background saves and all saves by Office Word 2007, Word 2010, and Word 2013 result in 0 here.

[<182> Section 2.7.5](#): Word does not consistently set this when tentative lists are in the document so it is best to assume that a 1 was written here.

[<183> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<184> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<185> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<186> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<187> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<188> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<189> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<190> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<191> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<192> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<193> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<194> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<195> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<196> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<197> Section 2.7.13](#): Only supported in Office Word 2007, Word 2010, and Word 2013.

[<198> Section 2.7.14](#): The Word object model does not validate input and does allow values other than those listed.

[<199> Section 2.7.16](#): Only Word 97 uses this setting. Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 use **iCustomKsu** and **fJapaneseUseLevel2** instead. If Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, or Word 2013 loads a Word 97 file, it deduces its settings based on **iCustomKsu** and **fJapaneseUseLevel2** if either are present, or on the contents of **rgxchFPunct** and **rgxchLPunct**. Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 save only the values 0 and 2 and purely for backward compatibility. The value of 1 (strict) is instead saved as 2 (custom) with the characters saved in **rgxchFPunct** and **rgxchLPunct**.

[<200> Section 2.7.16](#): Word 97 does not read or write **iCustomKsu**.

[<201> Section 2.7.16](#): Word 97 does not read or write **fJapaneseUseLevel2**.

[<202> Section 2.8.29](#): Office Word 2007, Word 2010, and Word 2013 ignore this information. Word 2000, Word 2002, and Office Word 2003 read this information.

[<203> Section 2.8.29](#): Office Word 2007, Word 2010, and Word 2013 write the information specified. Word 2000, Word 2002, and Office Word 2003 write information that depends on the state of the application's internal table character cache at the time the document was saved.

[<204> Section 2.9.23](#): Word 97, Word 2000, and Word 2002 emit this information. Office Word 2003 and 2007 emit 0.

[<205> Section 2.9.23](#): Word 97, Word 2000, and Word 2002 read this information. Office Word 2003 and 2007 ignore it.

[<206> Section 2.9.24](#): Word 97, Word 2000, and Word 2002 ignore this data.

[<207> Section 2.9.36](#): Word 97 does not follow this rule when reading a file.

[<208> Section 2.9.36](#): Word 2000 and Word 97 do not follow this rule when reading a file.

[<209> Section 2.9.43](#): Office Word 2007, Word 2010, and Word 2013 write [COLORREFs](#) that have `fAuto` set to `0xFF` but the other members set to nonzero values. They do this when the user chooses a theme color for the borders of a [PGPInfo](#) structure. Because the Word Binary File format does not support Word 2007's theme colors, these `COLORREF` values are undefined and result in inconsistent behavior across different versions of Word.

[<210> Section 2.9.43](#): Word takes its default color from the window text color of the operating system. If applied shading would result in text being difficult to read, Word switches to the window background color of the operating system. Word also changes its default colors to comply with system-wide accessibility settings.

[<211> Section 2.9.48](#): In Office Word 2003 this structure also contains the toolbar visual information for when the application is in the **Reading Layout view**.

[<212> Section 2.9.69](#): Word 97 through Office Word 2003 do not always enable or disable optional formats based on these flags. Instead, they sometimes use these flags to record which formats were specified the last time the table was auto-formatted. In such cases, these values are only used as an aid when re-applying a table auto-format. See the details of each flag for specific version behavior.

[<213> Section 2.9.69](#): Word 97, Word 2000, Word 2002, and Office Word 2003 record the setting from the last auto-format on the table. Office Word 2007, Word 2010, and Word 2013 ignore the value.

[<214> Section 2.9.69](#): Word 97, Word 2000, Word 2002, and Office Word 2003 record the setting from the last auto-format on the table. Office Word 2007, Word 2010, and Word 2013 ignore the value.

[<215> Section 2.9.69](#): Word 97, Word 2000, Word 2002, and Office Word 2003 record the setting from the last auto-format on the table. Office Word 2007, Word 2010, and Word 2013 ignore the value.

[<216> Section 2.9.69](#): Word 97, Word 2000, Word 2002, and Office Word 2003 record the setting from the last auto-format on the table. Office Word 2007, Word 2010, and Word 2013 ignore the value.

[<217> Section 2.9.69](#): Word 97, Word 2000, Word 2002, and Office Word 2003 record the setting from the last auto-format on the table. Office Word 2007, Word 2010, and Word 2013 ignore the value.

[<218> Section 2.9.69](#): Office Word 2007, Word 2010, and Word 2013 table styles and Word 97, Word 2000, Word 2002, and Office Word 2003 table auto-formats can have optional formatting for the top row of a table. In Word 97 and Word 2000, the value only reflects whether the optional formatting was applied, rather than what the format is now.

[<219> Section 2.9.69](#): Office Word 2007, Word 2010, and Word 2013 table styles and Word 97, Word 2000, Word 2002, and Office Word 2003 table auto-formats can have optional formatting for the bottom row of a table. In Word 97 and Word 2000, the value only reflects whether the optional formatting was applied, rather than what the format is now.



<220> [Section 2.9.69](#): Office Word 2007, Word 2010, and Word 2013 table styles and Word 97, Word 2000, Word 2002, and Office Word 2003 table auto-formats can have optional formatting for the logically leftmost column of a table. In Word 97 and Word 2000, the value only reflects whether the optional formatting was applied, rather than what the format is now.

<221> [Section 2.9.69](#): Office Word 2007, Word 2010, and Word 2013 table styles and Word 97, Word 2000, Word 2002, and Office Word 2003 table auto-formats can have optional formatting for the logically rightmost column of a table. In Word 97 and Word 2000, the value only reflects whether the optional formatting was applied, rather than what the format is now.

<222> [Section 2.9.69](#): Office Word 2007, Word 2010, and Word 2013 table styles and Word 97, Word 2000, Word 2002, and Office Word 2003 table auto-formats can have optional formatting for the odd numbered rows of a table. In Word 97 and Office Word 2003, the value only reflects whether the optional formatting was applied, rather than what the format is now.

<223> [Section 2.9.69](#): Office Word 2007, Word 2010, and Word 2013 table styles and Word 97, Word 2000, Word 2002, and Office Word 2003 table auto-formats can have optional formatting for the odd numbered columns of a table. In Word 97 and Office Word 2003, the value only reflects whether the optional formatting was applied, rather than what the format is now.

<224> [Section 2.9.90](#): Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 do not change the data or header file.

<225> [Section 2.9.112](#): Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 recalculate the appropriate `sprmCRgLid0_80` and `sprmCRgLid1_80` to apply to each style if `f97LidsSet` is 0. Thus it is safe to set this value to 0. Word 97 does not need to apply the compatibility Sprms.

<226> [Section 2.9.121](#): No version of Word has these additional patterns available through its user interface. However, all versions of Word have these available through **macros**.

<227> [Section 2.9.147](#): Word 97, Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 use this [Tplc](#) to link a graphical representation of this list format in the Word List UI to this LSTF.

<228> [Section 2.9.158](#): Word 97, Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 allow the user to directly edit field codes. This can cause the binary data to mismatch the field type.

<229> [Section 2.9.161](#): Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore the values in the [OcxInfo](#) structure but, for backward compatibility, emit values based on the OLE controls in the document. The values are populated by finding all the control [FLDs](#) in the document and saving the values for the corresponding OLE controls. Previous versions of Word expect that the values in `OcxInfo` structures and the values of the controls all match. The description of `OcxInfo` fields specifies the values that are written.

<230> [Section 2.9.169](#): Word 2000 and Word 97 use this value to store a reference count of the shape. Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore this value.

<231> [Section 2.9.181](#): Word 2002 occasionally writes a value of -31681. This behavior is deprecated.

<232> [Section 2.9.182](#): Word 2002, Office Word 2003 and Office Word 2007 ignore the instance of `sprmPChgTabs` in this scenario.

<233> [Section 2.9.224](#): Word 2002, Office Word 2003, and Office Word 2007 use all of the columns of the data source when computing the hash. Word 2010 and Word 2013 ignore the last column when Microsoft Outlook is the data source.

<234> [Section 2.9.230](#): **SttbAuthorAttrib** is ignored and not saved by Word 97, Office Word 2007, Word 2010, and Word 2013. It is ignored but saved if read by Word 2000, Word 2002, and Office Word 2003.

<235> [Section 2.9.230](#): **SttbAuthorValue** is ignored and not saved by Word 97, Office Word 2007, Word 2010, and Word 2013. It is ignored but saved if read by Word 2000, Word 2002, and Office Word 2003.

<236> [Section 2.9.230](#): **SttbMessageAttrib** is ignored and not saved by Word 97, Office Word 2007, Word 2010, and Word 2013. It is ignored but saved if read by Word 2000, Word 2002, and Office Word 2003.

<237> [Section 2.9.230](#): **SttbMessageValue** is ignored and not saved by Word 97, Office Word 2007, Word 2010, and Word 2013. It is ignored but saved if read by Word 2000, Word 2002, and Office Word 2003.

<238> [Section 2.9.244](#): Office Word 2007, Word 2010, and Word 2013 write 1 if the selection is a bullet or number character from a bulleted or numbered list. All versions of Word ignore this bit. Office Word 2007, Word 2010, and Word 2013 write 0 for **fPrefix**.

<239> [Section 2.9.256](#): Word 97 uses multiple splf values for grammatical errors.

<240> [Section 2.9.260](#): Word 97, Word 2000, and Word 2002 set this value to 1 when performing an incremental save and the style has been modified in such a way that it can affect the height of paragraphs with that style. Office Word 2003, Office Word 2007, Word 2010, and Word 2013 set the value to 0. If the [Plc](#) specified by **fcPlcfPhe** is not emitted, it is safe to set this value to 0.

<241> [Section 2.9.271](#): Styles that are used in the document are not empty. Styles that are unused in the document (latent) are allowed to be empty.

<242> [Section 2.9.274](#): The following table lists the value of **stiMaxWhenSaved** that each version of Word writes.

| Version          | stiMaxWhenSaved |
|------------------|-----------------|
| Word 97          | 91              |
| Word 2000        | 105             |
| Word 2002        | 156             |
| Office Word 2003 | 156             |
| Office Word 2007 | 267             |
| Word 2010        | 267             |
| Word 2013        | 267             |

<243> [Section 2.9.274](#): The value of **nVerBuiltInNamesWhenSaved** is used to optimize the performance of loading files. Word displays and saves built-in styles with the current application defined style name as the primary style name. However, if the application defined style names differ between versions (or if the user interface language is different than that in use when the file was saved) when opening a file Word strips off the primary style name of any application defined style and then replaces it with the current name. If the value of **nVerBuiltInNamesWhenSaved** in the file matches the current value known to the version of Word opening the file, Word knows that the set of application defined style names saved to the file matches the current set of application defined style names, and replacing is not necessary (at least for that reason.)

Specifying a value of 0 is recommended for maximum compatibility, as it will cause all versions of Word to update the names to whatever set of application defined style names is current, with little performance penalty.

The following table lists the value of **nVerBuiltInNamesWhenSaved** that each version of Word writes.

| Version          | nVerBuiltInNamesWhenSaved |
|------------------|---------------------------|
| Word 97          | 2                         |
| Word 2000        | 3                         |
| Word 2002        | 3                         |
| Office Word 2003 | 4                         |
| Office Word 2007 | 7                         |
| Word 2010        | 7                         |
| Word 2013        | 7                         |

<244> [Section 2.9.279](#): Word 97, Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 do not allow creation of a bookmark whose name violates the constraints upon valid strings described in this section but if a string violating them is written to file, it will be handled without error and displayed as expected.

<245> [Section 2.9.286](#): When a new font is applied in a document, Word adds it to the font table if it is not already there. However, when the user edits a document such that a font is no longer used, the entry is not removed from the font table. Thus, the font table will accumulate unused font references over time.

<246> [Section 2.9.289](#): Word 97 only writes 4 strings.

<247> [Section 2.9.289](#): Word 97 emits 0x0004 for cData.

<248> [Section 2.9.297](#): Word 97 and Word 2000 incorrectly write 26. Regardless, Word 97 and Word 2000 correctly read and write [SttbTtmbd.rgTTMBD](#) 10 bytes after the beginning of [SttbW6](#). Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write 10.

<249> [Section 2.9.298](#): Word 97, Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, Word 2013, and Word 2016 allow a value to be set using the name "**Sign**" that is not the VBA digital signature if the document does not contain a VBA project or if the file contains a VBA project but is unsigned. In the case where a VBA project is present but is not signed, specifying a value with this name will cause Microsoft Word to view the file as having an invalid signature for the VBA project on a subsequent load.

<250> [Section 2.9.298](#): Word 97, Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 allow a value to be set using the name "**SignAgile**" that is not the VBA digital signature. Word 2016 allows a value to be set using this name that is not the VBA digital signature if the document does not contain a VBA project or if the file contains a VBA project but is unsigned. In the case where a VBA project is present but is not signed, specifying a value with this name will cause Word 2016 to view the file as having an invalid signature for the VBA project on a subsequent load.

<251> [Section 2.9.298](#): Word 97, Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, Word 2013, and Word 2016 allow a value to be set using this name that is not the VBA digital signature if the document does not contain a VBA project or if the file contains a VBA project but is unsigned. In the case where a VBA project is present but is not signed, specifying a value with this name will cause Microsoft Word to view the file as having an invalid signature for the VBA project on a subsequent load.

<252> [Section 2.9.298](#): Word 97, Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 allow a value to be set using this name that is not the VBA digital signature. Word 2016 allows a value to be set using this name that is not the VBA digital signature if the document does not contain a VBA project or if the file contains a VBA project but is unsigned. In

the case where a VBA project is present but is not signed, specifying a value with this name will cause Word 2016 to view the file as having an invalid signature for the VBA project on a subsequent load.

<253> [Section 2.9.307](#): If the first row in the selection contains fewer cells than the last row in the selection, and the selection began at a cell index greater than the number of cells in the first row, then **itcFirst** will be greater than the number of cells in the first row, and the selection is interpreted as being the end of row mark.

<254> [Section 2.9.307](#): In some cases when the selection spans rows with differing cell counts, Word 97, Word 2000, Word 2002, Office Word 2003, Office Word 2007, Word 2010, and Word 2013 write an **itcLim** that is less than or equal to **itcFirst**.

<255> [Section 2.9.307](#): Office Word 2003, Office Word 2007, Word 2010, and Word 2013 ignore the **Selsf** if **itcLim** is 64.

<256> [Section 2.9.311](#): If the toolbar control associated to this [TBDelta](#) is a custom toolbar control of type Popup, but the toolbar control does not drop a custom menu toolbar, the value of **itB** can be greater or equal than the value of the **cCust** field of the [CTBWRAPPER](#) structure that contains the **rCustomizations** array that contains the [Customization](#) structure that contains the **customizationData** array that contains this structure, and is ignored.

<257> [Section 2.9.312](#): Word 97, Word 2000, Word 2002 and Office Word 2003 emit this information. Office Word 2007, Word 2010, and Word 2013 emit 0.

<258> [Section 2.9.312](#): Word 97, Word 2000, Word 2002 and Office Word 2003 read this information. Neither Office Word 2007, Word 2010, nor Word 2013 read this information.

<259> [Section 2.9.312](#): Word 97, Word 2000, Word 2002 and Office Word 2003 emit this information. Office Word 2007, Word 2010, and Word 2013 emit 0.

<260> [Section 2.9.312](#): Word 97, Word 2000, Word 2002 and Office Word 2003 read this information. Neither Office Word 2007, Word 2010, nor Word 2013 read this information.

<261> [Section 2.9.312](#): Word 97, Word 2000, Word 2002 and Office Word 2003 emit this information. Office Word 2007, Word 2010, and Word 2013 emit 0.

<262> [Section 2.9.312](#): Word 97, Word 2000, Word 2002 and Office Word 2003 will read this information. Neither Office Word 2007, Word 2010, nor Word 2013 read this information.

<263> [Section 2.9.320](#): Office Word 2007, Word 2010, and Word 2013 write 0 and ignore the **Tch**. Word 2000, Word 2002, and Office Word 2003 read and write this information.

<264> [Section 2.9.326](#): Word 97 and Word 2000 set this value to the index of the predefined table auto-format that was last applied to this table. Neither Word 2002, Office Word 2003, Office Word 2007, Word 2010, nor Word 2013 set this value.

<265> [Section 2.9.326](#): Word 97, Word 2000, and Office Word 2003 do not always enable or disable optional formats based on these flags. Instead, they sometimes use these flags to record which formats were specified the last time the table was auto-formatted. In such cases, these values are only used as an aid when re-applying a table auto-format. See the details of each flag for specific version.

## 6 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

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