

[MS-DSEXPRT]: Document Set Package Format

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Revision Summary

Date	Revision History	Revision Class	Comments
07/13/2009	0.1	Major	Initial Availability
08/28/2009	0.2	Editorial	Revised and edited the technical content
11/06/2009	0.3	Editorial	Revised and edited the technical content
02/19/2010	1.0	Minor	Updated the technical content
03/31/2010	1.01	Editorial	Revised and edited the technical content
04/30/2010	1.02	Editorial	Revised and edited the technical content
06/07/2010	1.03	Editorial	Revised and edited the technical content
06/29/2010	1.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
09/27/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
11/15/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
12/17/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
06/10/2011	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	2.0	Major	Significantly changed the technical content.

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1 Introduction

This document specifies the Document Set Package Format. This file format stores the contents of a document set that has been exported from a document library.

Sections 1.7 and 2 of this specification are normative and contain RFC 2119 language. All other sections and examples in this specification are informative.

1.1 Glossary

The following terms are defined in [\[MS-OFCGLOS\]](#):

content type
content type identifier
document library
field internal name
URL encode

The following terms are specific to this document:

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

1.2 References

References to Microsoft Open Specification documents do not include a publishing year because links are to the latest version of the documents, which are updated frequently. References to other documents include a publishing year when one is available.

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. We will assist you in finding the relevant information. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[ISO/IEC-29500-2] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 2: Open Packaging Conventions", ISO/IEC 29500-2:2008, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51459

[MS-WSSCAML] Microsoft Corporation, "[Collaborative Application Markup Language \(CAML\) Structure Specification](#)".

[MS-WSSTS] Microsoft Corporation, "[Windows SharePoint Services Technical Specification](#)".

[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>

[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

[XMLSCHEMA1] Thompson, H.S., Ed., Beech, D., Ed., Maloney, M., Ed., and Mendelsohn, N., Ed., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/>

[XMLSCHEMA2] Biron, P.V., Ed. and Malhotra, A., Ed., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

1.2.2 Informative References

[MS-OFCGLOS] Microsoft Corporation, "[Microsoft Office Master Glossary](#)".

1.3 Structure Overview (Synopsis)

This file format stores the contents of a document set outside a **document library**. A document set is a container for managing a collection of documents. Document sets allow the user to perform actions on a collection of documents such as synchronizing metadata across the documents and moving the document set to a different location. Document sets can be packaged to be moved to another location. This file format enables the document set to retain internal relationships and metadata properties. If the document set package is imported or moved to another location, it can be recreated as a document set.

1.4 Relationship to Protocols and Other Structures

The Document Set Package Format structure is implemented following specifications described in [ISO/IEC-29500-2](#). It uses relationship parts and a content type part to describe the contents of the package.

1.5 Applicability Statement

This file format maintains the metadata properties and relationships of items in a document set so that it can be moved to a different document library and retain its relationships and properties. The internal structure of a document set package file is not used or modified outside the document library that contains the document set. The document set package file is intended as a storage mechanism so that document sets can be archived or moved to another location.

1.6 Versioning and Localization

This file format has no generic localization mechanism. Individual structures in this file format can have attributes that are specific to localization.

1.7 Vendor-Extensible Fields

This file format consists of a collection of mandatory files in a fixed format. Vendors can add their own application-specific files or properties to the package. Those files MUST have names that are unique within the package.

2 Structures

A Document Set Package Format structure is implemented as specified in [\[ISO/IEC-29500-2\]](#) and consists of several XML package parts, as well as files of an arbitrary format that are contained in the package. For the document set itself and for each of the files that it contains, a property manifest is required. The property manifest is a list of all of the metadata properties for the document set or file that it describes. The property manifest for the document set MUST be located at `/Resources/Properties.xml`. The property manifests for individual files in the document set MUST use the following naming convention: `/Resources/FilePath/FileName.extension_Properties.xml`^{<1>} where *FilePath* is the full path to the document, where the Document Set itself is the root and *FileName* is the name of the file to which the property manifest applies and *extension* is the extension of the file. For example document.docx in the root of the Document set would have a property manifest named `document.docx_Properties.xml` and be placed in the Resources directory. And subfolder1/subfolder2/document.docx would also have a property manifest named `document.docx_Properties.xml` but be placed in the Resources/subfolder1/subfolder2 directory. Additionally, each subfolder in the Document Set that contains at least one file, will also have a property manifest located in `/FolderProps/FolderPath_Properties.xml` where *FolderPath* is the full path to the folder starting from the root of the Document Set and with all '/' replaced by '_'^{<2>}; for example a subfolder named subfolder2 with path subfolder1/subfolder2/ would have a manifest file `/FolderProps/Subfolder1_subfolder2__Properties.xml`.

All file names including path inside the document set package MUST be **URL-encoded**. If a file in the document set has a file name which, when URL-encoded, has length greater than or equal to 200 characters, the file name MUST be shortened to a new file name for use within the document set package. The new file name MUST be unique within the document set package and MUST be URL-encoded. The original file extension SHOULD^{<3>} be retained. A mapping of the new file name to the original file name MUST be stored in the package part `/Resources/FileNameMapping.xml`. If there are multiple mappings, they are all kept in that package part. If there are no mappings, then that package part is not required.

File and package part relationships are specified in [\[ISO/IEC-29500-2\]](#), section 9.3. A document set package MUST contain the following relationship types:

- **`http://microsoft.com/docset/MainProperties`**: Main property manifest package part, which describes the document set properties.
- **`http://microsoft.com/docset/FileProperties`**: Property manifest package parts.

A document set package MUST contain the following relationship type if any file name is shortened to a new file name because the URL-encoded file name is greater than or equal to 200 characters.

- **`http://microsoft.com/docset/FileNameMapping`**: Package part that contains file name mappings.

A document set package MUST contain the following relationship type if it contains files other than the parts required for the document set package:

- **`http://microsoft.com/docset/File`**: Files that are contained in the document set.

Also as specified in [\[ISO/IEC-29500-2\]](#), the content type of each package part and file MUST be defined in `/[Content_Types].xml`. A document set package can have but does not require all of the following content types be present. No other content types are allowed.

- **`text/xml`**: XML package parts
- **`application/vnd.openxmlformats-package.relationships+xml`**: Relationship parts

- **application/octet-stream:** Files

2.1 Property Manifest

A property manifest is a list of metadata properties and their values. One property manifest describes the properties of the document set itself, and additional property manifests describe the properties of the files within the document set. A separate property manifest is required for each file within the document set. Thus, if a document set contains two files, there are three property manifests: one for the document set and two for the files (one for each file). Each property manifest MUST be located at /Resources/.

The root element of the property manifest is defined as follows:

```
<xs:element name="Properties" type="DSProperties" />
```

2.1.1 Namespaces

This specification defines and references XML namespaces using the mechanisms specified in [\[XMLNS\]](#). Although this specification associates a specific XML namespace prefix for each XML namespace that is used, the choice of a specific XML namespace prefix is implementation-specific and not significant for interoperability.

The following table described these namespaces.

Prefix	Namespace URI	Reference
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1] [XMLSCHEMA2]
(none)	urn:deployment-manifest-schema	

2.1.2 Complex Types

2.1.2.1 DSProperties

The **DSProperties** complex type specifies the **content type** name, **content type identifier**, and properties of the document set or file. This type is defined as follows:

```
<xs:complexType name="DSProperties">
  <xs:sequence>
    <xs:element name="ContentType" type="xs:string" />
    <xs:element name="ContentTypeName" type="xs:string" />
    <xs:element maxOccurs="unbounded" name="Property" type="DSProperty">
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

2.1.2.1.1 Child Elements

ContentType: The content type identifier of the document set or file. It MUST be formatted as specified in [\[MS-WSSCAML\]](#) section 2.3.1.4.

ContentTypeName: The name of the content type of the document set or file, as specified in [\[MS-WSSCAML\]](#) section 2.4.1.

Property: A property of the document set or file, as specified in [\[MS-WSSTS\]](#) section 2.1.2.9. Lookup field values are ignored on import so it does not matter if they are exported.

2.1.2.2 DSProperty

The **DSProperty** complex type specifies the name and value of a property. This type is defined as follows:

```
<xs:complexType name="DSProperty">
  <xs:sequence>
    <xs:element name="Name" type="xs:string" />
    <xs:element name="Value" type="xs:string" />
    <xs:element name="Type" type="xs:string" />
  </xs:sequence>
</xs:complexType>
```

2.1.2.2.1 Child Elements

Name: The **field internal name** of the property.

Value: The value of the property, which is a value appropriate for the Type as specified in [\[MS-WSSTS\]](#) section 2.3.

Type: The type of the property, as specified in [\[MS-WSSTS\]](#) section 2.1.2.9.1.

2.2 File Name Mapping

The file name mapping XML document specifies the list of documents from the document set whose names within the document set package have been shortened so as not to exceed the 200 character limit when encoded. For each such document, the file name mapping XML document contains an entry that maps the name of the document in the document set package to the original name of the document in the document set.

The root element of the file name mapping is defined as follows:

```
<xs:element name="Files" type="FileNameMapping" />
```

2.2.1 Namespaces

File name mapping does not require a namespace.

2.2.2 Complex Types

2.2.2.1 FileNameMapping

The **FileNameMapping** complex type specifies the mapping from shortened file names to full, original file names, as follows.

```
<xs:complexType name="FileNameMapping">
  <xs:sequence>
    <xs:any minOccurs="0" maxOccurs="unbounded">
    </xs:any>
  </xs:sequence>
</xs:complexType>
```

2.2.2.1.1 Child Elements

The **xs:any** part specifies a single mapping from a shortened file name to the original file name. The name of each **xs:any** part MUST be the shortened file name and the type of the **xs:any** part MUST be **originalFileName**.

2.2.2.2 OriginalFileName

The **OriginalFileName** complex type specifies the original file name. This type is defined as follows:

```
<xs:complexType name="originalFileName">  
  <xs:attribute name="originalFileName" type="xs:string" use="required" />  
</xs:complexType>
```

2.2.2.2.1 Attributes

OriginalFileName: The original name of the file.

3 Structure Examples

3.1 Property Manifest

The following is an example of a property manifest with content type "Document Set A" and three properties.

```
<Properties>
  <ContentType>0x0120D5200079D38D8510120240BF8C36A3DFF2A81C</ContentType>
  <ContentTypeName>Document Set A</ContentTypeName>
  <Property>
    <Name>ContentTypeId</Name>
    <Value>0x0120D5200079D38D8510120240BF8C36A3DFF2A81C</Value>
    <Type>ContentTypeId</Type>
  </Property>
  <Property>
    <Name>_ModerationComments</Name>
    <Value></Value>
    <Type>Note</Type>
  </Property>
  <Property>
    <Name>FileLeafRef</Name>
    <Value>Example</Value>
    <Type>File</Type>
  </Property>
</Properties>
```

3.2 File Name Mapping

The following is an example of a file name mapping with two mappings.

```
<Files>
  <_File_1792867176.docx originalFileName="examplefilename.docx" />
  <_File_1940293843.docx originalFileName="examplefilename2.docx" />
</Files>
```

4 Security

4.1 Security Considerations for Implementers

None.

Preliminary

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® SharePoint® Server 2010
- Microsoft® SharePoint® Server 15 Technical Preview

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 2:](#) *FilePath* MUST be empty for SharePoint Server 2010.

[<2> Section 2:](#) Folders aren't allowed inside Document Sets in SharePoint Server 2010, so no property files for folders will be contained within the package.

[<3> Section 2:](#) SharePoint Server 2010 does not retain the original file extension.

6 Change Tracking

This section identifies changes that were made to the [MS-DSEXPRT] protocol document between the June 2011 and January 2012 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
2 Structures	Added product behavior note regarding retention of original extension for long file names.	Y	New product behavior note added.
2 Structures	Modified structure description to include description of the subfolder handling.	N	Content updated due to protocol revision.
2 Structures	Added information and a product behavior note about folder support.	Y	New content added.
5 Appendix A: Product Behavior	Updated products list.	N	Content updated.

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