[MS-ISO8859]:

Microsoft 8-bit Single-byte Coded Graphic Character Sets Standards Support Document

Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation ("this documentation") for protocols, file formats, data portability, computer languages, and standards support. Additionally, overview documents cover inter-protocol relationships and interactions.
- **Copyrights**. This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you can make copies of it in order to develop implementations of the technologies that are described in this documentation and can distribute portions of it in your implementations that use these technologies or in your documentation as necessary to properly document the implementation. You can also distribute in your implementation, with or without modification, any schemas, IDLs, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications documentation.
- **No Trade Secrets**. Microsoft does not claim any trade secret rights in this documentation.
- **Patents**. Microsoft has patents that might cover your implementations of the technologies described in the Open Specifications documentation. Neither this notice nor Microsoft's delivery of this documentation grants any licenses under those patents or any other Microsoft patents. However, a given Open Specifications document might be covered by the Microsoft Open Specifications Promise or the Microsoft Community Promise. If you would prefer a written license, or if the technologies described in this documentation are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting iplg@microsoft.com.
- **License Programs**. To see all of the protocols in scope under a specific license program and the associated patents, visit the Patent Map.
- **Trademarks**. The names of companies and products contained in this documentation might be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights. For a list of Microsoft trademarks, visit www.microsoft.com/trademarks.
- **Fictitious Names**. The example companies, organizations, products, domain names, email addresses, logos, people, places, and events that are depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

Reservation of Rights. All other rights are reserved, and this notice does not grant any rights other than as specifically described above, whether by implication, estoppel, or otherwise.

Tools. The Open Specifications documentation does not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments, you are free to take advantage of them. Certain Open Specifications documents are intended for use in conjunction with publicly available standards specifications and network programming art and, as such, assume that the reader either is familiar with the aforementioned material or has immediate access to it.

Support. For questions and support, please contact dochelp@microsoft.com.

Revision Summary

Date	Revision History	Revision Class	Comments
3/26/2010	1.0	New	Released new document.
5/26/2010	1.2	None	Introduced no new technical or language changes.
9/8/2010	1.3	Major	Significantly changed the technical content.
2/10/2011	2.0	None	Introduced no new technical or language changes.
2/22/2012	3.0	Major	Significantly changed the technical content.
7/25/2012	3.1	Minor	Clarified the meaning of the technical content.
6/26/2013	4.0	Major	Significantly changed the technical content.
3/31/2014	4.0	None	No changes to the meaning, language, or formatting of the technical content.
1/22/2015	5.0	Major	Updated for new product version.
7/7/2015	5.1	Minor	Clarified the meaning of the technical content.
11/2/2015	5.2	Minor	Clarified the meaning of the technical content.
1/20/2016	5.3	Minor	Clarified the meaning of the technical content.
3/22/2016	5.3	None	No changes to the meaning, language, or formatting of the technical content.
11/2/2016	5.3	None	No changes to the meaning, language, or formatting of the technical content.
3/14/2017	5.3	None	No changes to the meaning, language, or formatting of the technical content.
10/3/2017	5.3	None	No changes to the meaning, language, or formatting of the technical content.
2/22/2018	5.3	None	No changes to the meaning, language, or formatting of the technical content.
3/23/2018	5.3	None	No changes to the meaning, language, or formatting of the technical content.
8/28/2018	5.3	None	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1   Introduction

This document describes the level of support provided by Microsoft web browsers for the following specifications:

- *International Organization for Standardization, Information Technology -- 8-Bit Single-Byte Coded Graphic Character Sets -- Part 1: Latin Alphabet No. 1", ISO/IEC 8859-1,* 1998, [ISO-8859-1]

- *International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 8: Latin/Hebrew alphabet*", 1999, [ISO-8859-8]

- *International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 9: Latin alphabet No. 5",* 1999 [ISO-8859-9]

- *International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 15: Latin alphabet No. 9*", 1999, [ISO-8859-15]

- *International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 16: Latin alphabet No. 10",* 2001, [ISO-8859-16]

The [ISO-8859-1], [ISO-8859-8], [ISO-8859-9], [ISO-8859-15], and [ISO-8859-16] specifications may contain guidance for authors of webpages and browser users, in addition to user agents (browser applications). Statements found in this document apply only to normative requirements in the specification targeted to user agents, not those targeted to authors.

1.1   Glossary

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. We will assist you in finding the relevant information.

[ISO-8859-15] International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 15: Latin alphabet No. 9", ISO/IEC 8859-15:1999 March 1999, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=29505

[ISO-8859-16] International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 16: Latin alphabet No. 10", ISO/IEC 8859-16:2001 July 2001, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=33428

[ISO-8859-1] International Organization for Standardization, "Information Technology -- 8-Bit Single-Byte Coded Graphic Character Sets -- Part 1: Latin Alphabet No. 1", ISO/IEC 8859-1:1998 April 1998, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=28245

[ISO-8859-8] International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 8: Latin/Hebrew alphabet", ISO/IEC 8859-8:1999 January 1999, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=28252

[ISO-8859-9] International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 9: Latin alphabet No. 5", ISO/IEC 8859-9:1999 January 1999, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=28253

[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

1.2.2   Informative References

[MS-XPATH] Microsoft Corporation, "Microsoft XML XPath Standards Support Document".

[MSDN-CODEPG-Win1252] Microsoft Corporation, "Windows 1252", Windows Code Pages, http://msdn.microsoft.com/en-us/goglobal/cc305145.aspx

[W3C-XSLT] World Wide Web Consortium, "XSL Transformations (XSLT) Version 1.0", W3C Recommendation 16 November 1999, http://www.w3.org/TR/1999/REC-xslt-19991116

[XPATH] Clark, J. and DeRose, S., "XML Path Language (XPath), Version 1.0", W3C Recommendation, November 1999, http://www.w3.org/TR/1999/REC-xpath-19991116/

1.3   Microsoft Implementations

The following Microsoft web browser versions implement some portion of the relevant specifications:

- Windows Internet Explorer 7

- Windows Internet Explorer 8

- Windows Internet Explorer 9

- Windows Internet Explorer 10

- Internet Explorer 11

- Internet Explorer 11 for Windows 10

- Microsoft Edge

Each browser version may implement multiple document rendering modes. The modes vary from one another in support of the standard. The following table lists the document modes supported by each browser version.

Browser Version	Documents Modes Supported
Internet Explorer 7	Quirks Mode Standards Mode
Internet Explorer 8	Quirks Mode IE7 Mode IE8 Mode
Internet Explorer 9	Quirks Mode IE7 Mode IE8 Mode

Browser Version	Documents Modes Supported
	IE9 Mode
Internet Explorer 10	Quirks Mode IE7 Mode IE8 Mode IE9 Mode IE10 Mode
Internet Explorer 11	Quirks Mode IE7 Mode IE8 Mode IE9 Mode IE10 Mode IE11 Mode
Internet Explorer 11 for Windows 10	Quirks Mode IE7 Mode IE8 Mode IE9 Mode IE10 Mode IE11 Mode
Microsoft Edge	EdgeHTML Mode

For each variation presented in this document there is a list of the document modes and browser versions that exhibit the behavior described by the variation. All combinations of modes and versions that are not listed conform to the specification. For example, the following list for a variation indicates that the variation exists in three document modes in all browser versions that support these modes:

Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

Note: "Standards Mode" in Internet Explorer 7 and "IE7 Mode" in Internet Explorer 8 refer to the same document mode. "IE7 Mode" is the preferred way of referring to this document mode across all versions of the browser.

Throughout this document, Microsoft XML Core Services (MSXML) 3.0 is referred to as *MSXML3* and Microsoft XML Core Services (MSXML) 6.0 is referred to as *MSXML6*.

MSXML3 is the only version of MSXML that is implemented in Internet Explorer 7 and Internet Explorer 8. Both MSXML3 and MSXML6 are implemented in Internet Explorer 9, Internet Explorer 10, Internet Explorer 11, and Internet Explorer 11 for Windows 10: MSXML3 is used in IE7 Mode and IE8 Mode, and MSXML6 is used in all other modes. MSXML6 is the only version of MSXML implemented in Microsoft Edge, which uses it only to implement XSLT [W3C-XSLT]. Microsoft Edge provides [XPATH] functionality natively; see [MS-XPATH] for more information.

1.4   Standards Support Requirements

To conform to [ISO-8859-1], [ISO-8859-8], [ISO-8859-9], [ISO-8859-15], and [ISO-8859-16], a user agent must implement all required portions of the specification. Any optional portions that have been implemented must also be implemented as described by the specification. Normative language is usually used to define both required and optional portions. (For more information, see [RFC2119].)

1.5 Notation

The following notations are used in this document to differentiate between notes of clarification, variation from the specification, and points of extensibility.

Notation	Explanation
C####	This identifies a clarification of ambiguity in the target specification. This includes imprecise statements, omitted information, discrepancies, and errata. This does not include data formatting clarifications.
V####	This identifies an intended point of variability in the target specification such as the use of MAY, SHOULD, or RECOMMENDED. (See [RFC2119].) This does not include extensibility points.
E####	Because the use of extensibility points (such as optional implementation-specific data) can impair interoperability, this profile identifies such points in the target specification.

For document mode and browser version notation, see also section 1.3.

2   Standards Support Statements

This section contains all variations and clarifications for the Microsoft implementation of [ISO-8859-1], [ISO-8859-8], [ISO-8859-9], [ISO-8859-15], and [ISO-8859-16].

- Section 2.1 describes normative variations from the MUST requirements of the specification.

- Section 2.2 describes clarifications of the MAY and SHOULD requirements.

- Section 2.3 considers error handling aspects of the implementation.

- Section 2.4 considers security aspects of the implementation.

2.1   Normative Variations

The following subsections describe normative variations from the MUST requirements of [ISO-8859-1], [ISO-8859-8], [ISO-8859-9], [ISO-8859-15], and [ISO-8859-16].

2.1.1   ISO-8859-1

All Document Modes (All Versions)

The following table describes variations from the [ISO-8859-1] character set:

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0080	U+0080	U+20AC	€
0x0082	U+0082	U+201A	‚
0x0083	U+0083	U+0192	ƒ
0x0084	U+0084	U+201E	„
0x0085	U+0085	U+2026	…
0x0086	U+0086	U+2020	†
0x0087	U+0087	U+2021	‡
0x0088	U+0088	U+02C6	ˆ

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0089	U+0089	U+2030	‰
0x008A	U+008A	U+0161	Š
0x008B	U+008B	U+2039	‹
0x008C	U+008C	U+0152	Œ
0x008E	U+008E	U+017D	Ž
0x0091	U+0091	U+2018	'
0x0092	U+0092	U+2019	'
0x0093	U+0093	U+201C	"
0x0094	U+0094	U+201D	"
0x0095	U+0095	U+2022	•
0x0096	U+0096	U+2013	–
0x0097	U+0097	U+2014	—
0x0098	U+0098	U+02DC	˜
0x0099	U+0099	U+2122	™
0x009A	U+009A	U+0161	š

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x009B	U+009B	U+203A	›
0x009C	U+009C	U+0153	œ
0x009E	U+009E	U+017E	ž
0x009F	U+009F	U+0178	Ÿ

The implementation of [ISO-8859-1] in Internet Explorer is closely related to the Windows-1252 code page [MSDN-CODEPG-Win1252]. The code ranges from 0x00 to 0x7F and from 0xA0 to 0xFF are the same in both [ISO-8859-1] and the Windows-1252 code page [MSDN-CODEPG-Win1252].

MSXML3 and MSXML6

There are no variations from the [ISO-8859-1] character set.

2.1.2 ISO-8859-8

All Document Modes (All Versions)

The following table describes variations from the [ISO-8859-8] character set:

Charset Hex value	Unicode Point	Expected Character	Internet Explorer Unicode Point	Internet Explorer
0x00FD	U+200E	LRM (left-to-right mark)	0xF7BF	<box>
0x00FE	U+200F	RLM (right-to-left mark)	0xF7C0	<box>

2.1.3 ISO-8859-9

All Document Modes (All Versions)

The following table describes variations from the [ISO-8859-9] character set:

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0080	U+0080	U+20AC	€

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0082	U+0082	U+201A	‚
0x0083	U+0083	U+0192	ƒ
0x0084	U+0084	U+201E	„
0x0085	U+0085	U+2026	…
0x0086	U+0086	U+2020	†
0x0087	U+0087	U+2021	‡
0x0088	U+0088	U+02C6	ˆ
0x0089	U+0089	U+2030	‰
0x008A	U+008A	U+0161	š
0x008B	U+008B	U+2039	‹
0x008C	U+008C	U+0152	Œ
0x008E	U+008E	U+017D	Ž
0x0091	U+0091	U+2018	'
0x0092	U+0092	U+2019	'
0x0093	U+0093	U+201C	"

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0094	U+0094	U+201D	”
0x0095	U+0095	U+2022	●
0x0096	U+0096	U+2013	–
0x0097	U+0097	U+2014	—
0x0098	U+0098	U+02DC	~
0x0099	U+0099	U+2122	TM
0x009A	U+009A	U+0161	š
0x009B	U+009B	U+203A	›
0x009C	U+009C	U+0153	œ
0x009E	U+009E	U+017E	ž
0x009F	U+009F	U+0178	Ÿ

The implementation of [ISO-8859-9] in Internet Explorer is closely related to the Windows-1252 code page [MSDN-CODEPG-Win1252].The code ranges from 0x00 to 0x7F and from 0xA0 to 0xFF are the same in both [ISO-8859-9] and the Windows-1252 code page [MSDN-CODEPG-Win1252].

MSXML3

There are no variations from the [ISO-8859-9] character set.

2.1.4 ISO-8859-15

There are no variations from the [ISO-8859-15] character set.

2.1.5 ISO-8859-16

All Document Modes (All Versions)

The following table describes variations from the [ISO-8859-16] character set:

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0080	U+0080	U+20AC	€
0x0082	U+0082	U+201A	,
0x0083	U+0083	U+0192	ƒ
0x0084	U+0084	U+201E	„
0x0085	U+0085	U+2026	…
0x0086	U+0086	U+2020	†
0x0087	U+0087	U+2021	‡
0x0088	U+0088	U+02C6	ˆ
0x0089	U+0089	U+2030	‰
0x008A	U+008A	U+0161	š
0x008B	U+008B	U+2039	‹
0x008C	U+008C	U+0152	Œ
0x008E	U+008E	U+017D	Ž

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0091	U+0091	U+2018	'
0x0092	U+0092	U+2019	'
0x0093	U+0093	U+201C	"
0x0094	U+0094	U+201D	"
0x0095	U+0095	U+2022	●
0x0096	U+0096	U+2013	—
0x0097	U+0097	U+2014	—
0x0098	U+0098	U+02DC	~
0x0099	U+0099	U+2122	TM
0x009A	U+009A	U+0161	š
0x009B	U+009B	U+203A	›
0x009C	U+009C	U+0153	œ
0x009E	U+009E	U+017E	ž
0x009F	U+009F	U+0178	Ÿ

The implementation of [ISO-8859-16] in Internet Explorer is closely related to the Windows-1252 code page [MSDN-CODEPG-Win1252].The code ranges from 0x00 to 0x7F and from 0xA0 to 0xFF are the same in both [ISO-8859-16] and the Windows-1252 code page [MSDN-CODEPG-Win1252].

MSXML3

There are no variations from the [ISO-8859-16] character set.

2.2   Clarifications

There are no clarifications of the MAY and SHOULD requirements of [ISO-8859-1], [ISO-8859-8], [ISO-8859-9], [ISO-8859-15], and [ISO-8859-16].

2.3   Error Handling

There are no additional error handling considerations.

2.4   Security

There are no additional security considerations.

3 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

4   Index

C

G

I

N

R

T