[MS-IEDOCO]:
Internet Explorer Standards Support Documentation Overview

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Revision Summary

Date	Revision History	Revision Class	Comments
02/24/2010	0.1	New	Released new document.
03/17/2010	0.2	Minor	Clarified the meaning of the technical content.
03/26/2010	1.0	Minor	Clarified the meaning of the technical content.
05/26/2010	1.2	None	Introduced no new technical or language changes.
06/29/2010	1.21	Editorial	Changed language and formatting in the technical content.
09/08/2010	1.3	Major	Significantly changed the technical content.
02/10/2011	2.0	Minor	Clarified the meaning of the technical content.
12/07/2011	2.1	Minor	Clarified the meaning of the technical content.
02/22/2012	3.0	Major	Significantly changed the technical content.
07/25/2012	3.1	Minor	Clarified the meaning of the technical content.

Table of Contents

1 Documentation Scope and Objectives 4
1.1 Audience 4
1.2 Glossary 4
1.3 References 4
1.3.1 Normative References 4
1.3.2 Informative References 7
1.4 Microsoft Implementations 7

2 Documentation Architecture 8
2.1 Overview and Reference Documents 8
2.1.1 Versions of Standards 8
2.1.2 Document Modes 8
2.1.2.1 How Internet Explorer Chooses Between Document Modes 9
2.1.2.2 Developer Tools 10
2.1.2.3 iframe Handling 10
2.1.2.4 X-UA-Compatibility Meta Tag and HTTP Response Header 11
2.1.2.5 Compatibility View 14
2.1.2.6 <!DOCTYPE> Declaration 16
2.1.2.7 X-UA-Compatible Processing Instruction 16
2.1.3 Microsoft XML Core Services (MSXML) 17
2.1.4 Character Set Standards 18
2.2 Standards Summary 18

3 Change Tracking 23

4 Index 25

1 Documentation Scope and Objectives

This document provides an overview of certain final approved web standards supported by Windows® Internet Explorer®. It is intended for use in conjunction with publicly available specifications and assumes that the reader either is familiar with this material or has immediate access to it.

1.1 Audience

The documentation set provides the following levels of audience support:

- **For implementers**—Provides conceptual and reference information for implementation of one or more specifications.
- **For reviewers**—Provides a resource for readers who want to evaluate or understand one or more specification implemented by Windows® Internet Explorer®.

1.2 Glossary

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.

1.3 References

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

1.3.1 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.

[HTML] World Wide Web Consortium, "HTML 4.01 Specification", December 1999, http://www.w3.org/TR/html4/

[MS-CSS21] Microsoft Corporation, "Internet Explorer Cascading Stylesheets (CSS) 2.1 Standards Support Document".

[MS-CSS21E] Microsoft Corporation, "Internet Explorer Extensions to the Cascading Style Sheets (CSS) 2.1 Specification".

[MS-CSS3COLR] Microsoft Corporation, "Internet Explorer CSS Color Module Level 3 Standards Support".

[MS-CSS3NS] Microsoft Corporation, "Internet Explorer CSS Namespaces Module Level 3 Standards Support".

[MS-CSS3SEL] Microsoft Corporation, "Internet Explorer CSS Selectors Module Level Standards Support".

[MS-DOM1] Microsoft Corporation, "Internet Explorer Document Object Model (DOM) Level 1 Standards Support Document".

[MS-DOM1X] Microsoft Corporation, "Microsoft XML Document Object Model (DOM) Level 1 Standards Support".

[MS-DOM2C] Microsoft Corporation, "Internet Explorer Document Object Model (DOM) Level 2 Core Standards Support Document".

[MS-DOM2CE] Microsoft Corporation, "Internet Explorer Extensions to the Document Object Model (DOM) Level 2 Core Specification".

[MS-DOM2CEX] Microsoft Corporation, "Microsoft XML Extensions to the Document Object Model (DOM) Level 2 Core Specification".

[MS-DOM2CX] Microsoft Corporation, "Microsoft XML Document Object Model (DOM) Level 2 Core Standards Support".

[MS-DOM2E] Microsoft Corporation, "Internet Explorer Document Object Model (DOM) Level 2 Events Standards Support Document".

[MS-DOM2EE] Microsoft Corporation, "Internet Explorer Extensions to the DOM Level 2 Events Specification".

[MS-DOM2H] Microsoft Corporation, "Internet Explorer Document Object Model (DOM) Level 2 HTML Standards Support Document".

[MS-DOM2S] Microsoft Corporation, "Internet Explorer Document Object Model (DOM) Level 2 Standards Support Document".

[MS-DOM2TR] Microsoft Corporation, "Internet Explorer Document Object Model (DOM) L2 Traversal and Range Standards Support Document".

[MS-DOM2V] Microsoft Corporation, "Internet Explorer Document Object Model (DOM) Level 2 Views Standards Support Document".

[MS-DOM3C] Microsoft Corporation, "Internet Explorer Document Object Model (DOM) Level 3 Core Standards Support Document".

[MS-ES3] Microsoft Corporation, "Microsoft JScript ECMAScript Language Specification 3rd Edition Standards Support Document".

[MS-ES3EX] Microsoft Corporation, "Microsoft JScript Extensions to the ECMAScript Language Specification 3rd Edition".

[MS-ES5] Microsoft Corporation, "Internet Explorer ECMA-262 ECMAScript Language Specification Fifth Edition Standards Support Document".

[MS-ES5EX] Microsoft Corporation, "Microsoft Internet Explorer Extensions to the ECMAScript Language Specification Fifth Edition".

[MS-HTML401] Microsoft Corporation, "Internet Explorer HTML 4.01 Standards Support Document".

[MS-HTML401E] Microsoft Corporation, "Internet Explorer Extensions to the HTML 4.01 Specification".

[MS-ISO10646] Microsoft Corporation, "Internet Explorer ISO 10646 Universal Character Set Standards Support Document".

[MS-ISO8859] Microsoft Corporation, "Internet Explorer ISO 8859 8-bit Single Byte Code Graphic Character Sets Standards Support Document".

[MS-P3P] Microsoft Corporation, "Internet Explorer Platform for Privacy Preferences (P3P) Standards Support Document".

[MS-PICSL] Microsoft Corporation, "Internet Explorer PICS Label Standards Support Document".

[MS-PICSRL] Microsoft Corporation, "Internet Explorer PICSRules Standards Support Document".

[MS-PICSRS] Microsoft Corporation, "Internet Explorer PICS Rating Services and Systems Standards Support Document".

[MS-PNG] Microsoft Corporation, "Internet Explorer Portable Network Graphics (PNG) Standards Support Document".

[MS-RUBY] Microsoft Corporation, "Internet Explorer Ruby Annotation Standards Support Document".

[MS-SVG] Microsoft Corporation, "Internet Explorer Scalable Vector Graphics (SVG) Standards Support Document".

[MS-TTML] Microsoft Corporation, "Internet Explorer Timed Text Markup Language (TTML) 1.0 Standards Support Documentation".

[MS-XHTML] Microsoft Corporation, "Internet Explorer Extensible HyperText Markup Language (XHTML) Standards Support Document".

[MS-XML] Microsoft Corporation, "Microsoft Extensible Markup Language (XML) Fourth Edition Standards Support Document".

[MS-XMLH] Microsoft Corporation, "Internet Explorer XML 1.0 (Fourth Edition) Standards Support Document".

[MS-XMLNS] Microsoft Corporation, "Microsoft XML Namespaces Standards Support Document".

[MS-XMLNSH] Microsoft Corporation, "Internet Explorer XML Namespaces 1.0 Standards Support Document".

[MS-XMLSD] Microsoft Corporation, "Microsoft XML Schema (Part 2: Datatypes) Standards Support Document".

[MS-XMLSS] Microsoft Corporation, "Microsoft XML Schema (Part 1: Structures) Standards Support Document".

[MS-XMLSTYL] Microsoft Corporation, "Microsoft XML Style Sheets Standards Support Document".

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

[MS-XSLT] Microsoft Corporation, "Microsoft XSL Transformations (XSLT) Standards Support Document".

[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

[W3C-XHTML1.0] W3C HTML Working Group, "XHTML™ 1.0 The Extensible HyperText Markup Language (Second Edition)", A Reformulation of HTML 4 in XML 1.0 W3C Recommendation 26 January 2000, revised 1 August 2002, http://www.w3.org/TR/xhtml1/

[W3C-XML-StyleSheets] Clark, J., Ed., "Associating Style Sheets with XML documents Version 1.0", W3C Recommendation 29 June 1999, http://www.w3.org/TR/xml-stylesheet/

[W3C-XSLT] Clark, J., Ed., "XSL Transformations (XSLT) Version 1.0", W3C Recommendation, November 1999, http://www.w3.org/TR/1999/REC-xslt-19991116

[XML10] World Wide Web Consortium, "Extensible Markup Language (XML) 1.0 (Third Edition)", February 2004, http://www.w3.org/TR/REC-xml

[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/

1.3.2 Informative References

[MSDN-DefiningDocCompat] Microsoft Corporation, "Defining Document Compatibility in Windows® Internet Explorer 8", http://msdn.microsoft.com/en-us/library/cc288325(VS.85).aspx

[MSDN-EncodeXMLData] Microsoft Corporation, "How to Encode XML Data", March 2000, http://msdn.microsoft.com/en-us/library/aa468560.aspx

[MSDN-METATagsLocking] Microsoft Corporation, "META Tags and Locking in Future Compatibility", http://msdn.microsoft.com/en-us/library/cc817574.aspx

[MSDN-responseXML] Microsoft Corporation, "responseXML Property", HTML and DHTML Reference, http://msdn.microsoft.com/en-us/library/ms534370(VS.85).aspx

[MSDN-SECZONES] Microsoft Corporation, "About URL Security Zones", http://msdn.microsoft.com/en-us/library/ms537183.aspx

[MSDN-UnderstandingCompViewList] Microsoft Corporation, "Understanding the Compatibility View List", http://msdn.microsoft.com/en-us/library/dd567845(VS.85).aspx

[MSDN-XMLDataIslands] Microsoft Corporation, "XML Data Islands", http://msdn.microsoft.com/en-us/library/ms766512(VS.85).aspx

1.4 Microsoft Implementations

The implementation of the specifications listed in section 2.2 is applicable to the following versions of Windows® Internet Explorer®:

- Windows® Internet Explorer® 7
- Windows® Internet Explorer® 8
- Windows® Internet Explorer® 9
- Windows® Internet Explorer® 10

This document covers and is limited to variations and clarifications by these versions of Internet Explorer to the implementation of the listed final approved web standards.

2 Documentation Architecture

This section discusses the scope and organization of the Windows® Internet Explorer® standards support documentation.

2.1 Overview and Reference Documents

Windows® Internet Explorer® relies on certain final approved web standards—including HTML 4.01 [HTML] and CSS 2.1 [MS-CSS21] —for some of its behavior. This documentation details the variations or extensions from the standards listed in the Standards Summary as implemented by Internet Explorer.

2.1.1 Versions of Standards

It is common for web standards to evolve over time, and multiple versions of the same standard may exist. This documentation covers the version of each standard that was targeted by the Windows® Internet Explorer® implementation. For example, HTML 4.01 is documented, but HTML 3.2, which is superseded by the 4.01 version, is not.

2.1.2 Document Modes

Each major release of Windows® Internet Explorer® adds new features. As Internet Explorer adds features, there is a risk that websites that are designed for older versions of the browser might not display as they are intended. To minimize this risk, Internet Explorer includes document compatibility, which enables a web developer to specify which Internet Explorer versions that a website is designed to support. Internet Explorer uses the "document modes," such as IE7 mode and IE8 mode, to interpret and render the website. For example, "quirks mode" displays webpages as if users view them with older versions of the browser. For more information, see "Defining Document Compatibility" at [MSDN-DefiningDocCompat].

Windows® Internet Explorer® 7 and Windows® Internet Explorer® 8 features increased support for industry standards, and Windows® Internet Explorer® 9 features contain the highest level of support.

The following table shows the document modes that each version of Internet Explorer supports.

Browser version	Supported document modes
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 IE9 mode
Internet Explorer 10	Quirks mode IE7 mode IE8 mode

Browser version	Supported document modes
	IE9 mode IE10 mode

The standards mode of Internet Explorer 7 implements standards that have the same variations and extensions as IE7 mode in Internet Explorer 8 unless it is otherwise indicated in the individual specifications of the standards that the browser supports, as listed in section 2.2.

The standards mode of Internet Explorer 8 implements standards that have the same variations and extensions as IE8 mode in Internet Explorer 9 unless it is otherwise indicated in the individual specifications of the standards that the browser supports.

The document mode name sometimes includes "standards", such as IE8 standards mode, to differentiate the mode from "Almost Standards" mode. For brevity, the extra word is not included in this documentation.

Note Almost Standards mode in Internet Explorer 8 and Internet Explorer 9 enables the browser to properly render sliced-images-in-tables layouts. Rendering in Almost Standards mode matches standards mode except for the layout of images inside table cells. This type of table layout is handled the same way that quirks mode handles it. For more information, see [MS-CSS21], section 6, Appendix D: Almost Standards Mode.

Inline elements contribute to line height only under conditions described in [MS-CSS21], section 6.2. Otherwise, rendering is handled the same as in standards mode.

2.1.2.1 How Internet Explorer Chooses Between Document Modes

By default, Windows® Internet Explorer® 8 uses IE8 mode, Windows® Internet Explorer® 9 uses IE9 mode and Windows® Internet Explorer® 10 uses IE10 mode. However, Windows® Internet Explorer® uses several criteria to determine which document mode to use. For example, if an HTML page contains a valid `<!DOCTYPE>` declaration (see [HTML]), Internet Explorer uses one of the standards-based document modes. But, if there is no valid `<!DOCTYPE>` declaration, Internet Explorer uses quirks mode.

The following rules determine how Internet Explorer selects the document mode:

1. The **Developer Tools** setting overrides any document mode specified by a webpage. The setting remains active for the lifetime of the tab.

2. In Internet Explorer 9, if the document is hosted in an **iframe** element, the document mode is determined by the document mode of the top-level webpage. Subdocuments cannot be rendered in IE9 mode unless the top-level document is also in IE9 mode.

3. A **meta** tag with a value of `X-UA-Compatible` or a HTTP response header can override items in the **Compatibility View Settings** list and the doctype unless the **X-UA-Compatible** value is a Compatibility View setting, such as `IE=EmulateIE7` or `IE=EmulateIE8`.

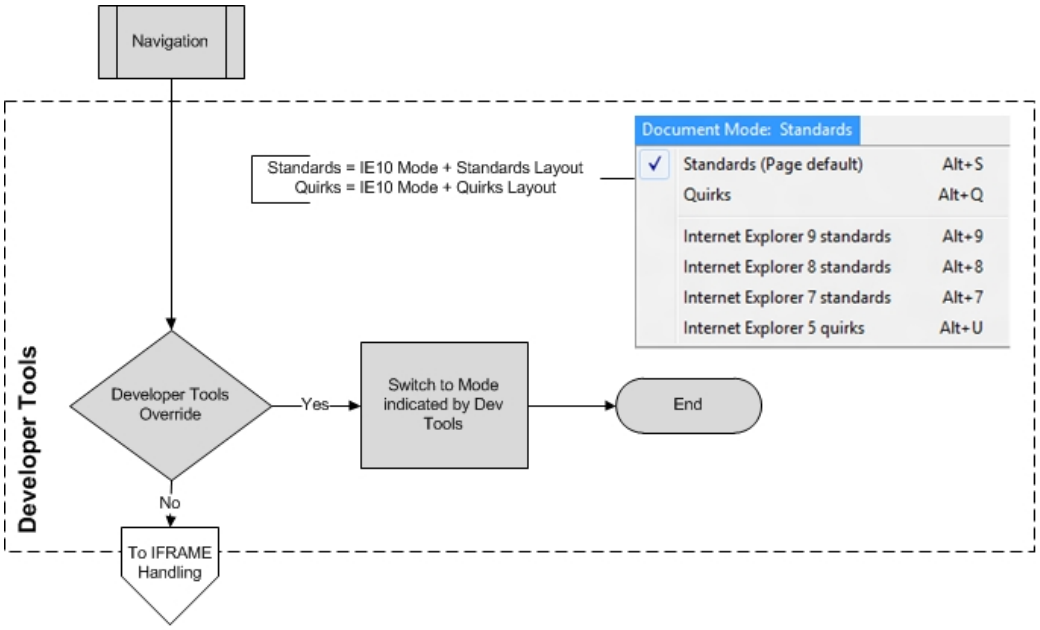
4. The Compatibility View settings can force a webpage to be displayed in a less-standard document mode.

5. If none of these rules apply, the `<!DOCTYPE>` declaration determines whether the webpage renders in a standards mode, Almost Standards mode, or quirks mode.

The following sections explain how these rules affect how Internet Explorer selects between document modes.

2.1.2.2 Developer Tools

A user can select the browser mode and document mode by using the Developer Tools (F12) in Windows® Internet Explorer®. These settings remain active for subsquent navigations in the same tab. The following diagram shows how Developer Tools settings impact the browser mode and document mode. This diagram also includes a screen shot of the **Document Mode** menu in the **Developer Tools** window.

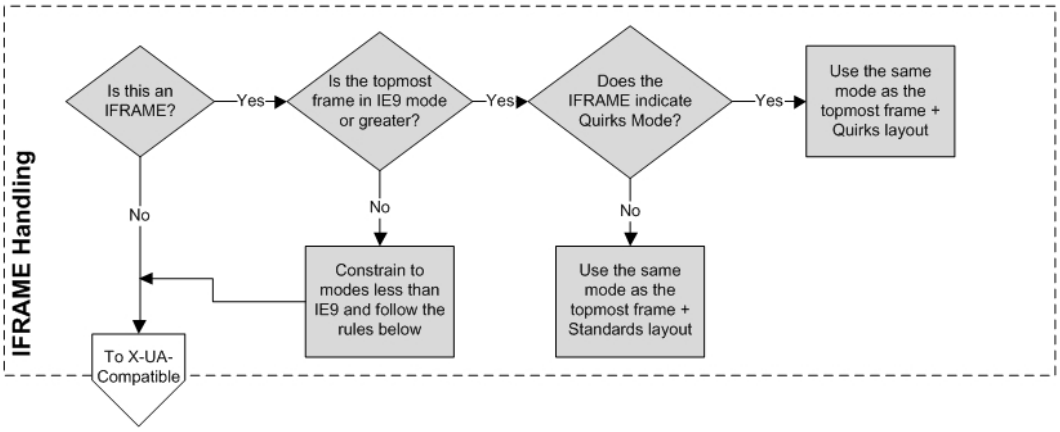


2.1.2.3 iframe Handling

Windows® Internet Explorer® 9 restricts the document mode of webpages that are hosted within **iframe** elements. If the top-level page is not in IE9 mode, the **iframe** element cannot render its contents in IE9 mode, even if the web developer specifies it.

This behavior is available only in Internet Explorer 9. The following diagram shows how **iframe** elements impact the document mode.

ie10 uses IE10 Quirks Mode emulation if the top-level page is not in IE10 Mode. IE10 Quirks Mode is based on the definition of Quirks Mode from the HTML5 standard.



2.1.2.4 X-UA-Compatibility Meta Tag and HTTP Response Header

Web developers can also specify a document mode by including instructions in a **meta** element or HTTP response header:

- Webpages that include a **meta** element (see [HTML]) with an http-equivalent value of `X-UA-Compatible`.
- Webpages that are served with an HTTP header named "X-UA-Compatible".

If both of these instructions are sent, the developer's preference (**meta** element) takes precedence over the web server setting (HTTP header).

For more information about how to control default rendering with document modes, see "META Tags and Locking in Future Compatibility" at [MSDN-METATagsLocking].

The following table indicates which document mode that Windows® Internet Explorer® 9 uses based on the `X-UA-Compatible` value.

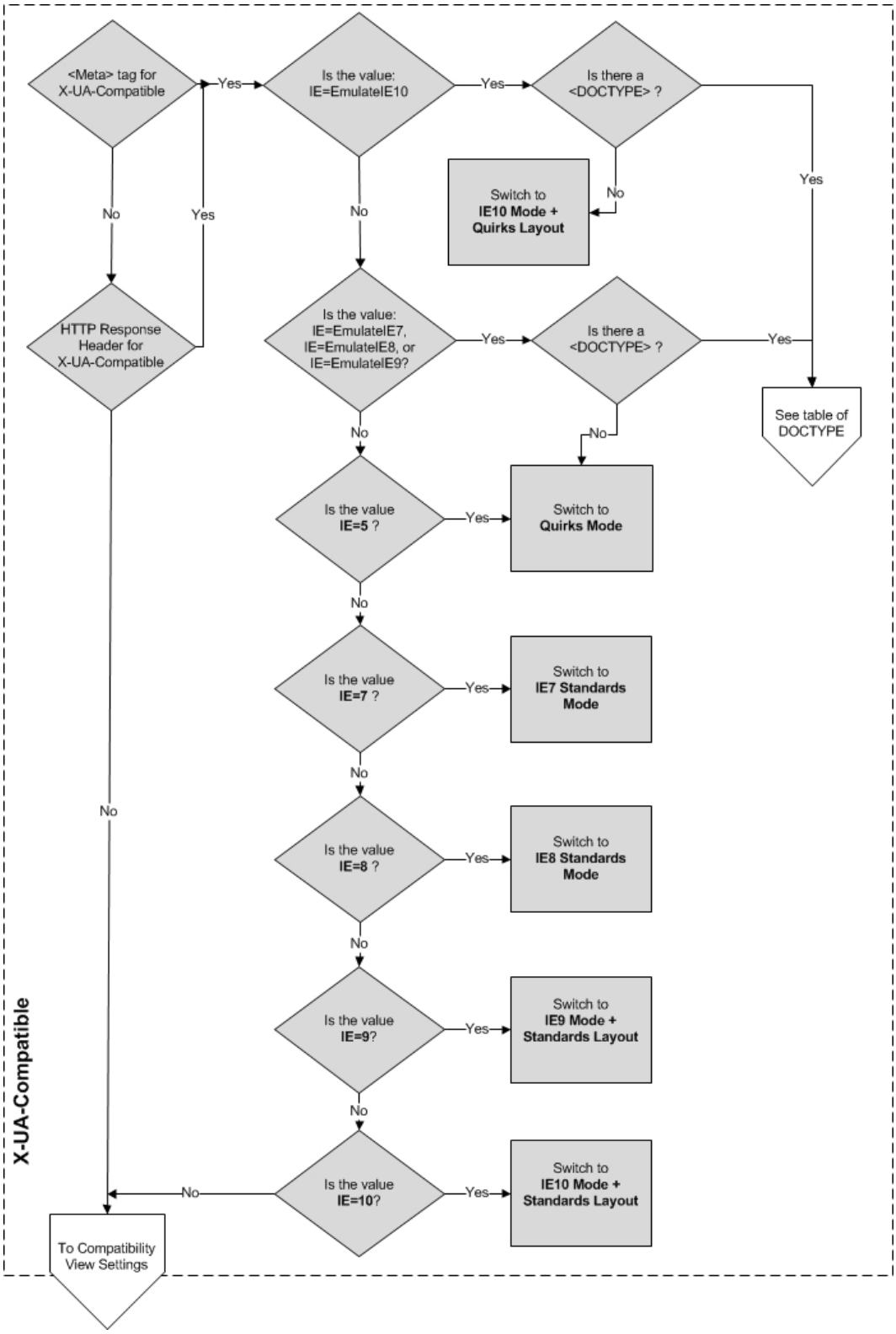
X-UA-Compatible value	Document modes
IE=5	Quirks mode
IE=7	IE7 mode
IE=8	IE8 mode
IE=9	IE9 mode
IE=10	IE10 mode
IE=edge	The highest supported document mode of the browser
IE=EmulateIE7	IE7 mode (if a valid `<!DOCTYPE>` declaration is present) Quirks mode (otherwise)
IE=EmulateIE8	IE8 mode (if a valid `<!DOCTYPE>` declaration is present) Quirks mode (otherwise)
IE=EmulateIE9	IE9 mode (if a valid `<!DOCTYPE>` declaration is present)

X-UA-Compatible value	Document modes
	Quirks mode (otherwise)
IE=EmulateIE10	IE10 mode (if a valid `<!DOCTYPE>` declaration is present) Quirks mode (otherwise)

For example, in Windows® Internet Explorer® 8, `IE=9`, `IE=Edge`, and `IE=EmulateIE9` result in IE8 mode.

Browser emulation modes are not document modes. They instruct Windows® Internet Explorer® about how to select a document mode when a valid `<!DOCTYPE>` declaration is included.

The following diagram shows how Internet Explorer determines the appropriate document mode based on the **meta** element or HTTP header.

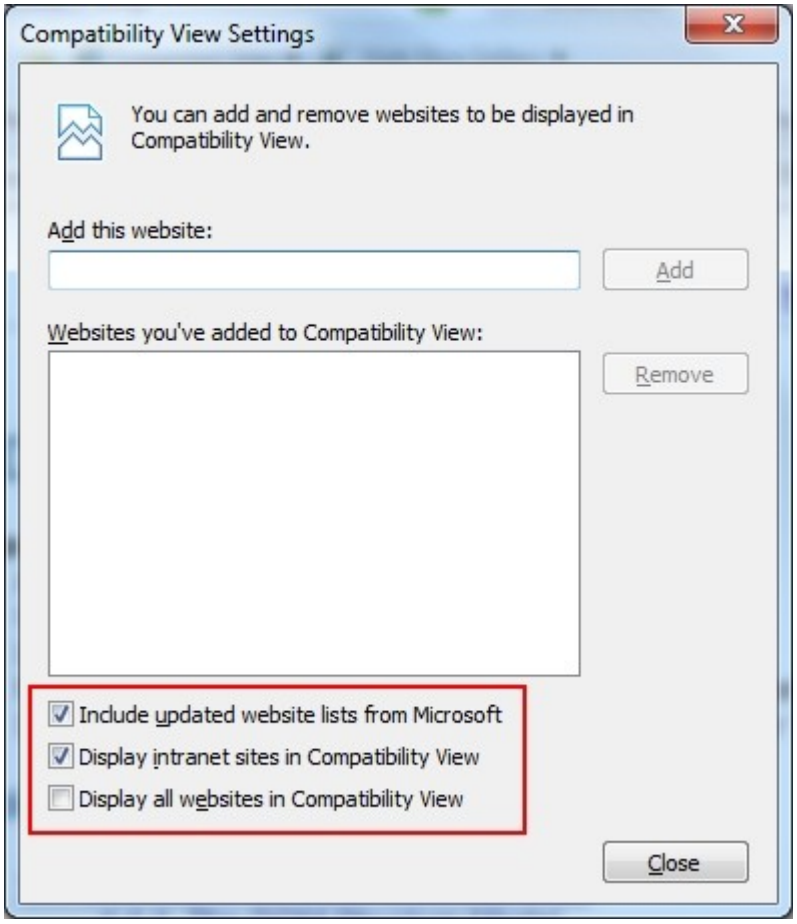


2.1.2.5 Compatibility View

Compatibility View settings can also impact the document mode selection:

- If a webpage is retrieved from a website in the Local intranet zone (see "About URL Security Zones" at [MSDN-SECZONES]), IE7 mode is used.
- If the webpage is retrieved from a site in a domain on the Compatibility View list (and the list is active), IE7 mode is used (see "Understanding the Compatibility View List" at [MSDN-UnderstandingCompViewList]).

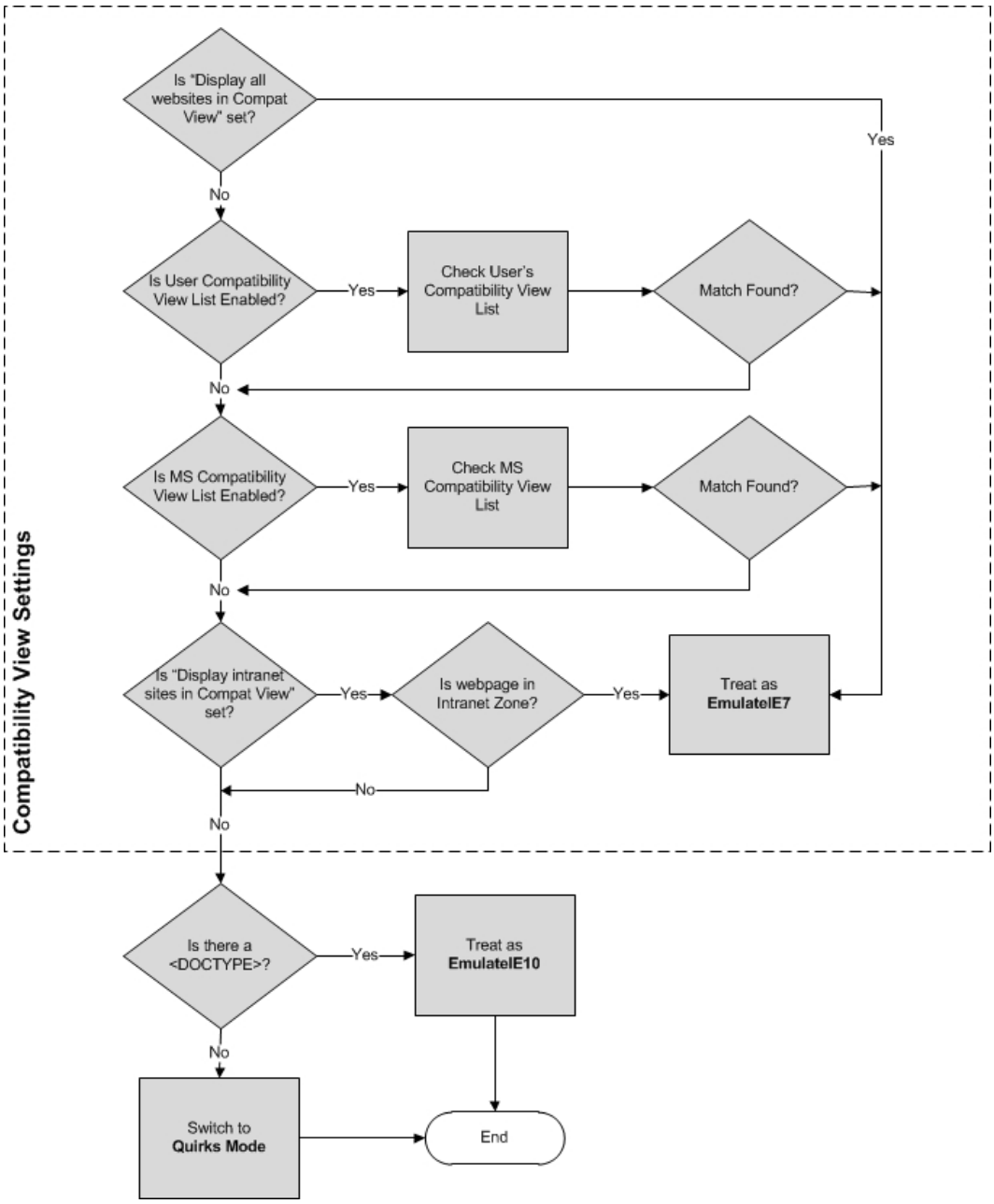
Compatibility View is controlled by browser settings. When a user clicks the **Compatibility View** button next to the **Address** bar in Windows® Internet Explorer®, the website is added to a local list of exceptions called the "Compatibility View list." The user can manage the list in the **Compatibility View Settings** dialog box.



In addition to the user's local Compatibility View list, Microsoft regularly publishes a list of popular sites that render better in Compatibility View. The user can choose to use this list by selecting the **Include updated website lists from Microsoft** check box in the **Compatibility View Settings** dialog box.

Finally, the user can choose to view all websites or intranet sites in Compatibility View by selecting the **Display intranet sites in Compatibility View** or **Display all websites in Compatibility View** check boxes in the **Compatibility View Settings** dialog box.

The following diagram shows how Internet Explorer determines the appropriate document mode based on Compatibility View settings.



2.1.2.6 <!DOCTYPE> Declaration

The following table lists examples of the most common <!DOCTYPE> declarations and how they influence which document mode is used.

<!DOCTYPE> declaration	Document Mode Impact
HTML 4.0 and higher <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN"> <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"> <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN" "http://www.w3org/TR/html4/strict.dtd"> <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3org/TR/html4/strict.dtd"> **XHTML with or without a system identifier** <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN" "http://www.w3org/TR/xhtml11/DTD/xhtml11.dtd"> <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML Basic 1.0//EN" "http://www.w3org/TR/xhtml-basic/xhtml-basic10.dtd"> <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3org/TR/xhtml1/DTD/xhtml1-strict.dtd"> **Unknown** <!DOCTYPE html>	Standards mode
XHTML Transitional or Frameset <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"> <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Frameset//EN"> <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhmlt1-transitional.dtd"> **HTML 4.0 or HTML 4.01 Transitional or Frameset with a system identifier** <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN" "http://www.w3org/TR/html4/loose.dtd"> <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3org/TR/html4/loose.dtd"> <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN" "http://www.w3org/TR/1999/REC-html401-19991224/loose.dtd">	"Almost Standards" mode (standards mode in IE7)
HTML 4 and lower, or no DOCTYPE <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2 Final//EN"> <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN"> <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"> None	Quirks mode

2.1.2.7 X-UA-Compatible Processing Instruction

ie10 uses the "x-ua-compatible" processing instruction to switch the document mode of XML and XHTML documents.

```
<?x-ua-compatible content="IE=10"?>
```

This processing instruction (PI), in combination with other IE document mode settings, produces the following behavior for XML:

The x-ua-compatible PI can affect document mode just like the meta tag in HTML

1. The X-UA-Compatible HTTP header can affect the document mode just like in HTML
2. The minimum selectable document mode for XML is 9 (this differs from HTML)
   - Note that if the Browser Mode (set via CV List, CV Button, Dev Tools, Intranet, etc.) is less than IE9, then the legacy MSXML Mime Viewer will be used for "text/xml" documents regardless of any other versioning information.
3. Quirks emulation mode (QME) is not supported in XML documents.
4. The x-ua-compatible PI can only be preceded by the XML Declaration and/or whitespace, anything else causes it to be ignored.
5. The value of the x-ua-compatible PI must in the form of well-formed XML attributes, else it will be ignored.
6. Only the "content" attribute from the x-ua-compatible PI will be read, but other attributes are allowed.
7. The supported format for the "content" attribute on the x-ua-compatible PI must match the meta tag from HTML.
8. Using the x-ua-compatible PI prior to an XSLT transform sets the "ceiling" mode of the output from XSLT. For example if the PI opts into IE9 mode in IE10 and the transform produces HTML output with the HTML5 DOCTYPE, then that output will render in IE9 mode. Conversely if the output does not contain a DOCTYPE, it will render in Quirks mode.

2.1.3 Microsoft XML Core Services (MSXML)

Microsoft XML Core Services (MSXML) version 3 provides the XML functionality of Windows® Internet Explorer® in Quirks Mode, IE7 Mode, and IE8 Mode. In IE9 Mode, MSXML6 is used for rendering XSLT [W3C-XSLT], however Windows® Internet Explorer® 9 natively implements XML [XML10], XHTML [W3C-XHTML1.0], XML Namespaces [XMLNS], and XML Stylesheets [W3C-XML-StyleSheets].

The MSXML or native parser is loaded whenever Internet Explorer encounters one or more of the following conditions:

- A document is served with one of the following Content-Type HTTP headers:
  - text/xml
  - application/xml
  - application/xml+xhtml (Internet Explorer 9)
  - image/svg+xml
- An **XMLHttpRequest** object provides access to an XML DOM containing the network response in the **responseXML** property (see [MSDN-responseXML]).
- An XML data island is accessed with the **XMLDocument** property (see [MSDN-XMLDataIslands]). Data islands are not supported IE10 Mode in Windows® Internet Explorer® 10.

The Internet Explorer Standards Support Documentation also includes documents that describe MSXML and Internet Explorer 9 conformance to DOM and XML standards.

2.1.4 Character Set Standards

Character sets in the HTML 4.01 standard [HTML] are referenced in ISO/IEC 10646-2003, *Information technology -- Universal Multiple-Octet Coded Character Set (UCS)* (see [MS-ISO10646]). All versions of Windows® Internet Explorer® support ISO/IEC 8859-1 and others, *Information Technology -- 8-bit Single-byte Coded Graphic Character Sets* (see [MS-ISO8859]). In general, string handling is performed as UTF-16.

Character set values are supplied to HTML using either the Content-Type header or the `META` element. The following example specifies the character set for the Latin alphabet set number 1:

```
<META HTTP-EQUIV="Content-Type" CONTENT="text/html; charset=ISO-8859-1">
```

The following example does the same with an XML processing instruction:

```
<?xml version="1.0" charset="iso-8859-1"?>
```

For more information, see [MSDN-EncodeXMLData].

2.2 Standards Summary

The tables below provide a list of certain final-approved Internet standards implemented by Windows® Internet Explorer®.

Standards in this table enable functionality in HTML documents.

Standard Name	Description	Link
Cascading Style Sheets (CSS) 1.0 and 2.1	CSS is a style sheet language that allows authors and users to attach style (such as fonts and spacing) to structured documents (such as HTML documents and XML applications).	[MS-CSS21]
	This document describes extensions to CSS 2.1 and DOM Level 2 Style support in Internet Explorer.	[MS-CSS21E]
CSS3 Color Module Level 3	CSS (Cascading Style Sheets) is a language for describing the rendering of HTML and XML documents on screen, on paper, in speech, etc. It uses color-related properties and values to color the text, backgrounds, borders, and other parts of elements in a document. This specification describes color values and properties for foreground color and group opacity. These include properties and values from CSS level 2 and new values.	[MS-CSS3COLR]
CSS Namespaces Module	This CSS Namespaces module defines the syntax for using namespaces in CSS. It defines the @namespace rule for declaring the default namespace and binding namespaces to namespace prefixes, and it also defines a syntax that other specifications can adopt for using those prefixes in namespace-qualified names	[MS-CSS3NS]
Selectors Level 3	Selectors are patterns that match against elements in a tree, and as such form one of several technologies that can be used to select nodes in an XML document. Selectors have been optimized	[MS-CSS3SEL]

Standard Name	Description	Link
	for use with HTML and XML, and are designed to be usable in performance-critical code.	
Document Object Model (DOM) Level 1	DOM Level 1 provides a platform- and language-neutral interface that allows programs and scripts to dynamically access and update the content, structure and style of documents. The Document Object Model provides a standard set of objects for representing HTML and XML documents, a standard model of how these objects can be combined, and a standard interface for accessing and manipulating them. This document applies to HTML documents in Internet Explorer.	[MS-DOM1]
Document Object Model (DOM) Level 2 Core	The DOM Level 2 Core is made of a set of core interfaces to create and manipulate the structure and contents of a document. The Core also contains specialized interfaces dedicated to XML. The DOM Level 2 Core builds on the DOM Level 1 Core. This document applies to HTML documents in Internet Explorer.	[MS-DOM2C]
	This document describes extensions to DOM Level 2 Core and HTML 4.01 support in Internet Explorer.	[MS-DOM2CE]
Document Object Model (DOM) Level 2 Events	DOM Level 2 Events is a platform- and language-neutral interface that gives to programs and scripts a generic event system. The DOM Level 2 Events builds on the DOM Level 2 Core and on DOM Level 2 Views. This document applies to HTML documents in Internet Explorer.	[MS-DOM2E]
	This document describes extensions for DOM Level 2 Events support in Internet Explorer.	[MS-DOM2EE]
Document Object Model (DOM) Level 2 HTML	DOM Level 2 HTML is a platform- and language-neutral interface that allows programs and scripts to dynamically access and update the content and structure of HTML and XHTML documents. The DOM Level 2 HTML builds on the DOM Level 2 Core and is not backward compatible with DOM Level 1. This document applies to HTML documents in Internet Explorer.	[MS-DOM2H]
Document Object Model (DOM) Level 2 Style	DOM Level 2 Style is a platform- and language-neutral interface that allows programs and scripts to dynamically access and update the content of style sheets documents. The DOM Level 2 Style builds on the DOM Level 2 Core and on the DOM Level 2 Views. This document applies to HTML documents in Internet Explorer.	[MS-DOM2S]
Document Object Model (DOM) Level 2 Views	DOM Level 2 Views is a platform- and language-neutral interface that allows programs and scripts to dynamically access and update the content of a representation of a document. The DOM Level 2 Views builds on the DOM Level 2 Core. This document applies to HTML documents in Internet Explorer.	[MS-DOM2V]
Element Traversal Specification	New for Windows® Internet Explorer® 9. This specification defines the `ElementTraversal` interface, which allows script navigation of the elements of a DOM tree, excluding all other nodes in the DOM, such as text nodes.	[MS-DOM2TR]
Document Object Model (DOM) Level 3	DOM Level 3 Core is a platform- and language-neutral interface that allows programs and scripts to dynamically access and update the content, structure and style of documents. The DOM	[MS-DOM3C]

Standard Name	Description	Link
Core	Level 3 Core builds on the DOM Level 2 Core. This document applies to HTML documents in Internet Explorer.	
Element Traversal Specification	The Element Traversal Specification describes navigation of the elements in a DOM tree, excluding all other nodes, such as text nodes, and provides an attribute to expose the number of child elements of an element. Note: Internet Explorer 9 and Windows® Internet Explorer® 10 support the Element Traversal specification with no variations or extensions.	
HTML 4.01	HyperText Markup Language (HTML) is the publishing language of the World Wide Web. It defines how to describe structured documents with headings, text, tables, lists, photos, hypertext links, and forms.	[MS-HTML401]
	This document describes extensions to HTML 4.01 and DOM Level 2 HTML support in Internet Explorer.	[MS-HTML401E]
Platform for Privacy Preferences 1.0 (P3P1.0)	The Platform for Privacy Preferences (P3P) enables Web sites to express their privacy practices in a standard format that can be retrieved automatically and interpreted easily by user agents.	[MS-P3P]
PICS Label Distribution Label Syntax and Communication Protocols	The PICS specifications enable labels (metadata) to be associated with Internet content. It was originally designed to help parents and teachers control what children access on the Internet, but they also facilitate other uses for labels, including code signing and privacy. The PICS Label specification defines a general format for labels and methods by which these labels may be transmitted.	[MS-PICSL]
PICSRules 1.1	The PICSRules specification defines a language for writing profiles, which are filtering rules that allow or block access to URLs based on PICS labels that describe those URLs. This language is intended as a transmission format; Internet Explorer reads specifications in this language.	[MS-PICSRL]
PICS Rating Services and Systems Version 1.1	The PICS Rating Services specification defines a language for describing rating services. Internet Explorer reads service descriptions written in this language in order to interpret content labels.	[MS-PICSRS]
Ruby Annotation	"Ruby" are short runs of text alongside the base text, typically used in East Asian documents to indicate pronunciation or to provide a short annotation. Internet Explorer implements Ruby in HTML documents.	[MS-RUBY]
Scalable Vector Graphics 1.1 (First Edition)	New for Internet Explorer 9. SVG is a modularized language for describing two-dimensional vector and mixed vector/raster graphics in XML.	[MS-SVG]
Timed Text Markup Language (TTML) 1.0	New for Internet Explorer 10. The Timed Text Markup Language is a content type that represents timed text media for the purpose of interchange among authoring systems. Timed text is textual information that is intrinsically or extrinsically associated with timing information.	[MS-TTML]
XHTML™ 1.0 The	XHTML is a family of current and future document types and	[MS-

Standard Name	Description	Link
Extensible HyperText Markup Language (Second Edition)	modules that reproduce, subset, and extend HTML 4. XHTML family document types are XML based, and ultimately are designed to work in conjunction with XML-based user agents.	XHTML]

Standards in this table enable functionality in XML documents.

Internet Explorer provides built-in support for some specifications, where Windows® Internet Explorer® 7 and Windows® Internet Explorer® 8 use MSXML3. Internet Explorer 9 uses MSXML3 to support such specifications in quirks mode, IE7 mode, and IE8 mode. In this table, [MS-XMLH] and [MS-XMLNSH] describe Internet Explorer 9 built-in support.

Standard Name	Description	Link
Document Object Model (DOM) Level 1	This document applies to XML documents in Internet Explorer.	[MS-DOM1X]
Document Object Model (DOM) Level 2 Core	This document applies to XML documents in Internet Explorer.	[MS-DOM2CX]
	This document describes extensions to DOM Level 2 Core support in Microsoft XML.	[MS-DOM2CEX]
Extensible Markup Language (XML) 1.0 (Fourth Edition)	The Extensible Markup Language (XML) allows generic data to be served, received, and processed on the Web in the way that is now similar to HTML. XML was designed for ease of implementation and for interoperability with both SGML and HTML.	[MS-XML] [MS-XMLH]
Namespaces in XML 1.1 (Second Edition)	XML namespaces provide a simple method for qualifying element and attribute names used in Extensible Markup Language (XML) documents by associating them with namespaces identified by IRI references.	[MS-XMLNS] [MS-XMLNSH]
XML Path Language (XPath) Version 1.0	XPath is a language for addressing parts of an XML document. It also provides basic facilities for manipulation of strings, numbers and Booleans.	[MS-XPATH]
XML Schema Part 1: Structures (Second Edition)	This specification sets out the structural part of the XML Schema definition language.	[MS-XMLSS]
Associating Style Sheets with XML Documents	This specification describes how a style sheet can be associated with an XML document by including one or more processing instructions.	[MS-XMLSTYL]
XML Schema Part 2: Datatypes Second Edition	This specification defines facilities for defining datatypes to be used in XML Schemas as well as other XML specifications. The datatype language provides a superset of the capabilities found in XML 1.0 document type definitions (DTDs) for specifying datatypes.	[MS-XMLSD]
XSL Transformations (XSLT) Version 1.0	XSLT is a language for transforming XML documents into other XML documents.	[MS-XSLT]

Standards in this table enable support of image files (for Internet Explorer 7 and Internet Explorer 8 only.)

Standard Name	Description	Link
Portable Network Graphics (PNG)	PNG is an extensible file format for the lossless, portable, well-compressed storage of raster images. It is also published as ISO/IEC 15948:2003.	[MS-PNG]
ISO-10918-1:1994	Specifies processes for converting source image data to compressed image data. ISO-10918-1 is used in images commonly referred to as "JPEG" files. Note: Internet Explorer supports the ISO 10918-1:1994 specification with no variations or extensions.	

Standards in this table enable support of character sets.

Standard Name	Description	Link
Information technology -- Universal Multiple-Octet Coded Character Set (UCS)	Specifies the representation, transmission, interchange, processing, storage, input and presentation of the written form of the languages of the world as well as additional symbols.	[MS-ISO10646]
Information technology -- 8-bit single-byte coded graphic character sets -- Parts 1, 8, 9, 15 and 16	Specifies the character-encoding scheme for characters such as "Latin alphabet no. 1" consisting of 191 characters from the Latin script.	[MS-ISO8859]

Standards in this table enable support of the Microsoft JScript Object Model.

Standard Name	Description	Link
ECMA-262: ECMAScript Language Specification 3rd Edition	ECMAScript is a scripting language defined in the *ECMAScript Language Specification* 3rd Edition used by web pages.	[MS-ES3]
	This document describes extensions to the ECMA 262 support in JScript.	[MS-ES3EX]
ECMA-262: ECMAScript Language Specification 5th Edition	ECMAScript is a scripting language defined in the *ECMAScript Language Specification* 5th Edition used by web pages.	[MS-ES5]
	This document describes extensions to the ECMA 262 support in ECMAScript.	[MS-ES5EX]

3 Change Tracking

This section identifies changes that were made to the [MS-IEDOCO] protocol document between the February 2012 and July 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
1 Documentation Scope and Objectives	Updated document to remove beta tagging.	N	Content updated.
1 Documentation Scope and Objectives	Updated document to remove beta tagging.	N	Content updated.
2.1.2.6 <!DOCTYPE> Declaration	Simplified table.	N	Content updated.
2.2 Standards Summary	Added link to [MS-TTML].	N	New content added.

4 Index

C

Change tracking 23

D

Document modes 8

G

Glossary 4

S

Specifications
- Associating Style Sheets with XML Documents 18
- Cascading Style Sheets Level 1 18
- Cascading Style Sheets Level 2 Revision 1 18
- Document Object Model (DOM) Level 1 (section 2.2 18, section 2.2 18)
- Document Object Model (DOM) Level 2 Core (section 2.2 18, section 2.2 18)
- Document Object Model (DOM) Level 2 Events 18
- Document Object Model (DOM) Level 2 HTML 18
- Document Object Model (DOM) Level 2 Style 18
- Document Object Model (DOM) Level 2 Views 18
- ECMAScript Language Specification 3rd Edition 18
- ECMAScript Language Specification 5th Edition 18
- Element Traversal 18
- Element Traversal Specification 18
- Extensible Markup Language (XML) 1.0 (Fourth Edition) 18
- HTML 4.01 Specification 18
- Information Technology -- 8-bit Single-byte Coded Graphic Character Sets (section 2.1.4 18, section 2.2 18)
- Information technology -- Universal Multiple-Octet Coded Character Set (UCS) (section 2.1.4 18, section 2.2 18)
- ISO/IEC 10646-2003 (section 2.1.4 18, section 2.2 18)
- ISO/IEC 8859-1 (section 2.1.4 18, section 2.2 18)
- ISO-10918-1-1994 18
- Namespaces in XML 1.1 (Second Edition) 18
- PICS Label Distribution Label Syntax and Communication Protocols 18
- PICS Rating Services and Systems Version 1.1 18
- PICSRules 1.1 18
- Platform for Privacy Preferences 1.0 (P3P1.0) 18
- Portable Network Graphics (PNG) 18
- Ruby Annotation 18
- Scalable Vector Graphics (SVG) 18
- Timed Text Markup Language 18
- XHTML™ 1.0 The Extensible HyperText Markup Language (Second Edition) 18
- XML Path Language (XPath) Version 1.0 18
- XML Schema Part 1
  - Structures Second Edition 18
- XML Schema Part 2
  - Datatypes Second Edition 18
- XSL Transformations (XSLT) Version 1.0 18

T

Tracking changes 23