[MS-DOM2EE]:
Internet Explorer Extensions to the Document Object Model (DOM) Level 2 Events Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
09/08/2010	0.1	New	Released new document.
10/13/2010	0.2	Minor	Clarified the meaning of the technical content.
02/10/2011	1.0	No change	Introduced no new technical or language changes.
02/22/2012	2.0	Major	Significantly changed the technical content.
07/25/2012	2.1	Minor	Clarified the meaning of the technical content.

Table of Contents

1   Introduction

This document describes extensions provided by Windows® Internet Explorer® for the *Document Object Model (DOM) Level 2 Events Specification Version 1.0* [DOM Level 2 - Events], W3C Recommendation 13 November, 2000.

Sections 1.7 and 2 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. All other sections and examples in this specification are informative.

1.1   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.

1.2   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.

1.2.1   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.

[DOM Level 2 - Events] W3C, "Document Object Model (DOM) Level 2 Events Specification Version 1.0", W3C Recommendation, November 2000, http://www.w3.org/TR/2000/REC-DOM-Level-2-Events-20001113/

[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

[CSS-Level2-2009] Bos, B., Celik, T., Hickson, I., and Wium Lie, H., Eds., "Cascading Style Sheets Level 2 Revision 1 (CSS 2.1) Specification", W3C Candidate Recommendation 08 September 2009, http://www.w3.org/TR/2009/CR-CSS2-20090908/

[DOM Level 2 - Core] W3C, "Document Object Model (DOM) Level 2 Core Specification Version 1.0", W3C Recommendation 13 November, 2000, http://www.w3.org/TR/DOM-Level-2-Core/

[DOM Level 2 - HTML] W3C, "Document Object Model (DOM) Level 2 HTML Specification Version 1.0", W3C Recommendation, January 2003, http://www.w3.org/TR/2003/REC-DOM-Level-2-HTML-20030109/

[DOM Level 2 - Style] W3C, "Document Object Model (DOM) Level 2 Style Specification Version 1.0", W3C Recommendation, November 2000, http://www.w3.org/TR/2000/REC-DOM-Level-2-Style-20001113/

Release: July 25, 2012

[ECMA-262] ECMA International, "ECMAScript Language Specification" ECMA-262, December 1999, http://www.ecma-international.org/publications/standards/Ecma-262.htm

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

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

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

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

1.3 Extension Overview (Synopsis)

The extensions that are described in this document are selected for their applicability to [DOM Level 2 - Events].

1.3.1 Organization of This Documentation

The following sections describe additional attributes for the following interfaces:

- **Event**

- **MouseEvent**

1.4 Relationship to Standards and Other Extensions

The following documents provide information about additional extensions:

- [MS-CSS21E]: Extensions to the [CSS-Level2-2009] and [DOM Level 2 - Style] specifications.

- [MS-HTML401E]: Extensions to the [HTML] and the [DOM Level 2 - HTML] specifications.

- [MS-DOM2CE]: Extensions to the [DOM Level 2 - Core] specification for DOM Level 2 Core Services.

- [MS-DOM2CEX]: Extensions to the [HTML] and the [DOM Level 2 - HTML] specifications for Microsoft XML Core Services (MSXML).

- [MS-ES3EX]: Extensions to the ECMAScript [ECMA-262] specification.

1.5 Applicability Statement

This document specifies a set of extensions to the [DOM Level 2 - Events] specification. The extensions in this document provide access to some features that are unique to Windows® Internet Explorer® 9 and Windows® Internet Explorer® 10.

2   Extensions

This section specifies additional attributes for interfaces from [DOM Level 2 - Events] that are available in Windows® Internet Explorer®.

The extensions are as follows:

- Extensions to the Event Interface

- Extensions to the MouseEvent Interface

2.1   Extensions to the Event Interface

The **Event** interface as specified in the [DOM Level 2 - Events] specification is extended by the addition of the following attributes:

- **cancelBubble**

- **srcElement**

2.1.1   cancelBubble Attribute

cancelBubble of type `boolean`, **read/write**

Gets or sets a value that indicates whether the current event should bubble up the hierarchy of event handlers. Specifies one of the following values:

- `false` - Bubbling is enabled for this event. The next event handler in the hierarchy receives the event.

- `true` - Bubbling is disabled for this event. The next event handler in the hierarchy does not receive the event.

The default value is `false`.

Using the **cancelBubble** attribute to cancel bubbling for an event does not affect subsequent events.

2.1.2   srcElement Attribute

srcElement of type `Element`, **read-only**

Gets the element that raised the event. The value of the **srcElement** attribute is the element that specifies or receives the event that occurred. When a non-element is the target of an event, the **srcElement** attribute returns `null`.

The **srcElement** attribute is read-only and has no default value.

2.2   Extensions to the MouseEvent Interface

The **MouseEvent** interface as specified in the [DOM Level 2 - Events] is extended by the addition of the following attributes:

- **fromElement**

- **layerX**

- **layerY**

- **toElement**

2.2.1 fromElement Attribute

fromElement of type `Element`, **read-only**

Gets the element from which activation or the mouse pointer is exiting during the event. The **fromElement** attribute is read-only and has no default value.

2.2.2 layerX Attribute

layerX of type `long`, `read-only`

Gets the horizontal coordinate of the event, relative to the whole document, unless the event occurs inside a positioned element. When the event occurs within a positioned element, the **layerX** attribute gets the horizontal coordinate of the event relative to that positioned element.

The **layerX** attribute is read-only and has no default value.

2.2.3 layerY Attribute

layerY of type `long`, `read-only`

Gets the vertical coordinate of the event, relative to the whole document, unless the event occurs inside a positioned element. When the event occurs within a positioned element, the **layerY** attribute gets the vertical coordinate of the event relative to that positioned element.

The **layerY** attribute is read-only and has no default value.

2.2.4 toElement Attribute

toElement of type `Element`, **read-only**

Gets the element toward which the user is moving the mouse pointer. The **toElement** attribute is read-only and has no default value.

3   Security Considerations

There are no additional security considerations.

4   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:

- Windows® Internet Explorer® 9

- Windows® Internet Explorer® 10

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.

5 Change Tracking

This section identifies changes that were made to the [MS-DOM2EE] 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 Introduction	Updated document to remove beta tagging.	N	Content updated.

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