**[MS-SVG]:**

**Internet Explorer Scalable Vector Graphics (SVG)**

**Standards Support Document**



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**Revision Summary**

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|  | **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 | |  |  | Minor |  | Clarified the meaning of the technical content. | | |  |
|  | |  |  | |  |  |  |  |  | | |  |
| 02/28/2011 | |  | 1.1 | |  |  | Major |  | Significantly changed the technical content. | | |  |
|  | |  |  | |  |  |  |  |  | | |  |
| 03/23/2011 | |  | 1.2 | |  |  | Minor |  | Clarified the meaning of the technical content. | | |  |
|  | |  |  | |  |  |  |  |  | | |  |
| 02/22/2012 | |  | 2.0 | |  |  | Major |  | Significantly changed the technical content. | | |  |
|  | |  |  | |  |  |  |  |  | | |  |
| 07/25/2012 | |  | 2.1 | |  |  | Minor |  | Clarified the meaning of the technical content. | | |  |
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**1 Introduction**

This document describes the level of support provided by Windows® Internet Explorer® 9 and Windows® Internet Explorer® 10 for the *Scalable Graphics (SVG) 1.1 Specification (Second Edition)*

[[W3C-SVG1.1/2],](http://go.microsoft.com/fwlink/?LinkId=182739) W3C Recommendation published August 16, 2011.

The  [[W3C-SVG1.1/2]](http://go.microsoft.com/fwlink/?LinkId=182739) specification 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. **Glossary**

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used asdescribed in  [[RFC2119](http://go.microsoft.com/fwlink/?LinkId=90317)]. All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1. **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. **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.co](mailto:dochelp@microsoft.com)m. We will assist you in finding the relevant information. Please check the archive site,  [http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C962](http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624)4, as an additional source.

[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.tx](http://go.microsoft.com/fwlink/?LinkId=90317)t

[W3C-SVG1.1/2] Andersson, O., et al., "Scalable Vector Graphics (SVG) 1.1 (Second Edition)", W3C Working Draft 22 June 2010,  [http://www.w3.org/TR/SVG11](http://go.microsoft.com/fwlink/?LinkId=182739)/

[W3C-SVG1.1] W3C, "Scalable Vector Graphics (SVG) 1.1 Specification", W3C Recommendation 14 January 2003, edited in place 30 April 2009,  [http://www.w3.org/TR/2003/REC-SVG11-20030114](http://go.microsoft.com/fwlink/?LinkId=196117)/

1. **Informative References**

None.

1. **Microsoft Implementations**

The following Microsoft products implement some portion of the SVG specification:

Windows® Internet Explorer® 9

Windows® Internet Explorer® 10

In addition, each version of Windows® Internet Explorer® implements multiple document modes, which can vary individually in their support of the standard. The following table lists the document modes available in each version of Internet Explorer.



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|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Browser Version** |  |  | **Document Modes Supported** |  |  |
|  |  |  |  |  |
|  |  |  |  |  |  |  |
| Internet Explorer 9 | |  |  | Quirks Mode | |  |
|  |  |  |  | IE7 Mode | |  |
|  |  |  |  | IE8 Mode | |  |
|  |  |  |  | IE9 Mode | |  |
|  | |  |  |  | |  |
| Internet Explorer 10 | |  |  | Quirks Mode | |  |
|  |  |  |  | IE7 Mode | |  |
|  |  |  |  | IE8 Mode | |  |
|  |  |  |  | IE9 Mode | |  |
|  |  |  |  | IE10 Mode | |  |
|  |  |  |  |  |  |  |

Note that IE9 mode and IE10 Mode are the only document modes that support SVG.

Throughout this document, the document mode appears first followed by the browser version in parentheses. Only those document modes and versions of Internet Explorer for which there is a variation note will be listed. If the document mode is not listed, conformance to the specification can be assumed.

1. **Standards Support Requirements**

To conform to  [[W3C-SVG1.1/2](http://go.microsoft.com/fwlink/?LinkId=182739)], 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](http://go.microsoft.com/fwlink/?LinkId=90317)].)

The following table lists the sections of  [[W3C-SVG1.1/2]](http://go.microsoft.com/fwlink/?LinkId=182739) and whether they are considered normative or informative.

|  |  |  |  |  |  |  |  |  |
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|  | |  |  |  |  | |  |  |
| Appendices F, G, O | |  |  |  | Normative | |  |  |
|  | |  |  |  |  | |  |  |
| Appendices H-N, P | |  |  |  | Informative | |  |  |
|  |  |  |  |  |  |  |  |  |

1. **Notation**

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Notation** |  |  | **Explanation** |  |  |
|  |  |  |  |  |
|  |  |  |  |  |  |  |
| C#### | | |  | 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. | |  |
|  |  |  |  |  |  |  |



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|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Notation** |  |  | **Explanation** |  |  |
|  |  |  |  |  |
|  |  |  |  |  |  |  |
| V#### | | |  | Identifies an intended point of variability in the target specification such as the use of MAY, |  |  |
|  |  |  |  | SHOULD, or RECOMMENDED. (See  [[RFC2119](http://go.microsoft.com/fwlink/?LinkId=90317)].) This does not include extensibility points. |  |  |
|  | | |  |  |  |  |
| E#### | | |  | Identifies extensibility points (such as optional implementation-specific data) in the target |  |  |
|  |  |  |  | specification, which can impair interoperability. |  |  |
|  |  |  |  |  |  |  |

For document mode and browser version notation, see section  [1.3](#page5).



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**2 Standards Support Statements**

This section contains a full list of variations, clarifications, and extension points in the Microsoft implementation of **[W3C-SVG1.1/2]**.

Section  [2.1](#page8) includes only those variations that violate a MUST requirement in the target specification.

Section  [2.2](#page17) describes further variations from MAY and SHOULD requirements.

Section  [2.3](#page20) identifies variations in error handling.

Section  [2.4](#page20) identifies variations that impact security.

1. **Normative Variations**

The following subsections detail the normative variations from MUST requirements in  [[W3C](http://go.microsoft.com/fwlink/?LinkId=182739)- [SVG1.1/2]](http://go.microsoft.com/fwlink/?LinkId=182739).

1. **[SVG11] Section 5.10.2, The xml:lang and xml:space attributes**

V0030:

The specification states:

xml:space = "{default | preserve}"

Standard XML attribute to specify whether white space is preserved in character data. The only possible values are 'default' and 'preserve'.

*IE9 Mode and IE10 Mode (All Versions)*

The **xml:space** attribute is not supported in SVG.

1. **[SVG11] Section 7.7, The viewBox attribute**

V0032:

The specification states:

All elements that establish a new viewport (see elements that establish viewports), plus the 'marker', 'pattern' and 'view' elements have attribute viewBox. The value of the viewBox attribute is a list of four numbers <min-x>, <min-y>, <width> and <height>, separated by whitespace and/or a comma, which specify a rectangle in user space which should be mapped to the bounds of the viewport established by the given element, taking into account attribute preserveAspectRatio. If specified, an additional transformation is applied to all descendants of the given element to achieve the specified effect.

A negative value for <width> or <height> is an error (see Error processing). A value of zero disables rendering of the element.

*IE9 Mode and IE10 Mode (All Versions)*

A value of 0 on the **viewBox** height or width does not disable rendering of the element.



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1. **[SVG11] Section 7.11, Object bounding box units**

V0003:

The specification states:

Element: 'filter'

Attribute: ‘filterUnits’

Effect: Indicates that the attributes which define the filter effects region (x, y, width, height) represent fractions or percentages of the bounding box of the element to which the filter is applied.

*IE9 Mode (All Versions)*

The **filter** element and the **filterUnits** attribute are not supported.

V0006:

The specification states:

Element: 'mask'

Attribute: primitiveUnits="objectBoundingBox"

Effect: Indicates that the various length values within the filter primitives represent

fractions or percentages of the bounding box of the element to which the filter is applied.

*IE9 Mode (All Versions)*

The **filter** element and the **primitiveUnits** attribute are not supported.

1. **[SVG11] Section 8.5, DOM interfaces**

V0035:

The specification states:

DOM attribute normalizedPathSegList provides normalized access to the static/base contents of the d attribute where all path data commands are expressed in terms of the following subset of SVGPathSeg types: SVG\_PATHSEG\_MOVETO\_ABS (M), SVG\_PATHSEG\_LINETO\_ABS (L), SVG\_PATHSEG\_CURVETO\_CUBIC\_ABS (C) and SVG\_PATHSEG\_CLOSEPATH (z).and two lists to access the current animated values of the d attribute:

*IE9 Mode and IE10 Mode (All Versions)*

The **normalizedPathSegList** attribute is not supported. C0022:

The specification defines the **pathLength** attribute of the **SVGPathElement** interface as follows:

readonly attribute SVGAnimatedNumber pathLength;

*IE9 Mode and IE10 Mode (All Versions)*



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The **pathLength** attribute is not supported.

1. **[SVG11] Section 10.6, The 'tref' element**

V0008:

The specification states:

The textual content for a ‘text’ can be either character data directly embedded within the ‘text’ element or the character data content of a referenced element, where the referencing is specified with a ‘tref’ element.

*IE9 Mode and IE10 Mode (All Versions)*

The **tref** element and its attributes are not supported.

1. **[SVG11] Section 10.7.3, Glyph orientation within a text run**

V0036:

The specification states:

In some cases, it is required to alter the orientation of a sequence of characters relative to the inline-progression-direction. The requirement is particularly applicable to vertical layouts of East Asian documents, where sometimes narrow-cell Latin text is to be displayed horizontally and other times vertically.

Two properties control the glyph orientation relative to the reference orientation for each of the two possible inline-progression-directions. 'glyph-orientation-vertical' controls glyph orientation when the inline-progression-direction is vertical. 'glyph-orientation-horizontal' controls glyph orientation when the inline-progression-direction is horizontal.

*IE9 Mode and IE10 Mode (All Versions)*

The **glyph-orientation-horizontal** and **glyph-orientation-vertical** attributes are not supported.

1. **[SVG11] Section 10.9.2, Baseline alignment properties**

V0037:

The specification states:

‘dominant-baseline'

Value: auto | use-script | no-change | reset-size | ideographic | alphabetic | hanging | | mathematical | central | middle | text-after-edge | text-before-edge | inherit

Initial: auto

Applies to: text content elements Inherited: no

Percentages: N/A Media: visual Animatable: yes

*IE9 Mode and IE10 Mode (All Versions)*



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The **dominant-baseline** attribute is not supported.

C0023:

The specification states:

'alignment-baseline'

Value: auto | baseline | before-edge | text-before-edge | middle | central | after-edge | text-after-edge | ideographic | alphabetic | hanging | mathematical | inherit

Initial: auto

Applies to: 'tspan', 'tref', 'altGlyph', 'textPath' elements Inherited: no

Percentages: N/A Media: visual Animatable: yes

*IE9 Mode and IE10 Mode (All Versions)*

The **alignment-baseline** property is not supported.

V0038:

The specification states:

‘baseline-shift'

Value: baseline | sub | super | <percentage> | <length> | inherit Initial: baseline

Applies to: 'tspan', 'tref', 'altGlyph', 'textPath' elements Inherited: no

Percentages: refers to the "line-height" of the 'text' element, which in the case of SVG is defined to be equal to the 'font-size'

Media: visual Animatable:

*IE9 Mode and IE10 Mode (All Versions)*

The **baseline-shift** attribute is not supported.

1. **[SVG11] Section 10.11, Spacing properties**

V0039:

The specification states:

‘kerning'

Value: auto | <length> | inherit Initial: auto

Applies to: text content elements Inherited: yes

Percentages: N/A Media: visual Animatable: yes

*IE9 Mode and IE10 Mode (All Versions)*



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The **kerning** attribute is not supported.

1. **[SVG11] Section 10.14.1, The ‘altGlyph’ element**

V0040:

The specification states:

The 'altGlyph' element provides control over the glyphs used to render particular character data.

*IE9 Mode and IE10 Mode (All Versions)*

The **altGlyph** element is not supported.

1. **[SVG11] Section 10.15, White space handling**

V0007:

The specification states (see also [SVG11] Section 5.10., The xml:lang and xml:space attributes):

SVG supports the standard XML attribute xml:space to specify the handling of white space characters within a given 'text' element's character data. The SVG user agent has special processing rules associated with this attribute as described below. These are behaviors that occur subsequent to XML parsing and any construction of a Document Object Model.

*IE9 Mode and IE10 Mode (All Versions)*

The **xml:space** attribute is not supported.

1. **[SVG11] Section 11.6.2, The 'marker' element**

V0010:

The specification states:

Properties inherit into the 'marker' element from its ancestors; properties do not inherit from the element referencing the 'marker' element.

'marker' elements are never rendered directly; their only usage is as something that can be referenced using the 'marker', 'marker-start', 'marker-end' and 'marker-mid' properties. The 'display' property does not apply to the 'marker' element; thus, 'marker' elements are not directly rendered even if the 'display' property is set to a value other than none, and 'marker' elements are available for referencing even when the 'display' property on the 'marker' element or any of its ancestors is set to none.

Event attributes and event listeners attached to the contents of a 'marker' element are not processed; only the rendering aspects of 'marker' elements are processed.

*IE9 Mode and IE10 Mode (All Versions)*

Properties of a **marker** element inherit at the point of reference, not from the ancestors of the **marker** element.



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**2.1.12 [SVG11] Section 11.7.1, Color interpolation properties: 'color-interpolation' and 'color-interpolation-filters'**

V0011:

The specification defines the **color-interpolation** and **color-interpolation-filters** properties.

*IE9 Mode and IE10 Mode (All Versions)*

The **color-interpolation** and **color-interpolation-filters** properties are not supported.

1. **[SVG11] Section 11.7.2, The 'color-rendering' property**

V0013:

The specification defines the **color-rendering** property.

*IE9 Mode and IE10 Mode (All Versions)*

The **color-rendering** property is not supported.

1. **[SVG11] Section 11.7.4, The 'text-rendering' property**

V0014:

The specification defines the **text-rendering** property.

*IE9 Mode and IE10 Mode (All Versions)*

The **text-rendering** property is not supported.

1. **[SVG11] Section 11.7.5, The 'image-rendering' property**

V0015:

The specification defines the **image-rendering** property.

*IE9 Mode and IE10 Mode (All Versions)*

The **image-rendering** property is not supported.

1. **[SVG11] Section 13.3, Patterns**

V0049:

The specification states:

‘pattern' elements are never rendered directly; their only usage is as something that can be referenced using the 'fill' and 'stroke' properties. The 'display' property does not apply to the 'pattern' element; thus, 'pattern' elements are not directly rendered even if the 'display' property is set to a value other than none, and 'pattern' elements are available for referencing even when the 'display' property on the 'pattern' element or any of its ancestors is set to none.

*IE9 Mode and IE10 Mode (All Versions)*

The **display** property affects **pattern** elements and references to those **pattern** elements.



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1. **[SVG11] Section 14.3.3, The 'overflow' and 'clip' properties**

V0018:

The specification states:

'clip'

Value: <shape> | auto | inherit Initial: auto

Applies to: elements which establish a new viewport, 'pattern' elements and 'marker' elements

Inherited: no Percentages: N/A Media: visual Animatable: yes

The ‘clip’ property has the same parameter values as defined in CSS2 ([CSS2], section

11.1.2). Unitless values, which indicate current user coordinates, are permitted on the coordinate values on the <shape>. The value of auto defines a clipping path along the bounds of the viewport created by the given element.

*IE9 Mode and IE10 Mode (All Versions)*

The **clip** property is not supported.

1. **[SVG11] Section 14.3.5, Establishing a new clipping path**

V0019:

The specification states:

A 'clipPath' element can contain 'path' elements, 'text' elements, basic shapes (such as 'circle') or a 'use' element. If a 'use' element is a child of a 'clipPath' element, it must directly reference 'path', 'text' or basic shape elements. Indirect references are an error (see Error processing).

*IE9 Mode and IE10 Mode (All Versions)*

The **clipPath** element allows indirect references. Indirect references are not an error.

1. **[SVG11] Section 16.7, Magnification and panning**

V0021:

The specification states:

The outermost 'svg' element in an SVG document fragment has attribute zoomAndPan, which takes the possible values of disable and magnify, with the default being magnify.

If disable, the user agent shall disable any magnification and panning controls and not allow the user to magnify or pan on the given document fragment.

If magnify, in environments that support user interactivity, the user agent shall provide controls to allow the user to perform a "magnify" operation on the document fragment.

If a zoomAndPan attribute is assigned to an inner 'svg' element, the zoomAndPan setting on the inner 'svg' element will have no effect on the SVG user agent.



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Animatable: no.

*IE9 Mode and IE10 Mode (All Versions)*

The **zoomAndPan** attribute is not supported, except for the default magnify operation.

1. **[SVG11] Section 16.12, Cursor Module**

V0022:

The specification states:

‘cursor’

Categories:

None

Content model:

Any number of the following elements, in any order: descriptive elements — ‘desc’, ‘metadata’, ‘title’

Attributes:

core attributes — ‘id’, ‘xml:base’, ‘xml:lang’, ‘xml:space’

conditional processing attributes — ‘requiredFeatures’, ‘requiredExtensions’, ‘systemLanguage’

xlink attributes — ‘xlink:href’, ‘xlink:show’, ‘xlink:actuate’, ‘xlink:type’, ‘xlink:role’, ‘xlink:arcrole’, ‘xlink:title’

‘externalResourcesRequired’

‘x’

‘y’

‘xlink:href’

DOM Interfaces:

SVGCursorElement

*IE9 Mode and IE10 Mode (All Versions)*

The **cursor** element and its attributes are not supported.

1. **[SVG11] Section 17.2.2, SVG fragment identifiers**

V0055:

The specification states:

If the SVG fragment identifier addresses specific SVG view (e.g., MyDrawing.svg#svgView(viewBox(0,200,1000,1000))), then the document fragment defined by the closest ancestor 'svg' element is displayed in the viewport using the SVG view specification provided by the SVG fragment identifier.

*IE9 Mode and IE10 Mode (All Versions)*

Parameters for **viewBox** elements in fragment specifications may be delimited by single spaces in addition to commas.



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1. **[SVG11] Section 17.5, ExternalResourcesRequired Attribute Module**

V0024:

The specification states:

Collection Name: External.attrib

Attributes in Collection: externalResourcesRequired

*IE9 Mode and IE10 Mode (All Versions)*

The **externalResourcesRequired** attribute is not supported.

1. **[SVG11] Section 19, Animation**

V0025:

The specification describes Synchronized Multimedia Integration Language (SMIL) Animation.

*IE9 Mode and IE10 Mode (All Versions)*

SMIL animation is not supported. In addition, no references to animation elements, properties, attributes, interfaces, or data types in other chapters of  [[W3C-SVG1.1]](http://go.microsoft.com/fwlink/?LinkId=196117) are supported.

For data types that can be animated, the default setting for the **animVal** attribute is **animVal** = baseVal.

1. **[SVG11] Section 23.3, The 'foreignObject' element**

V0026:

The specification states:

Categories:

None

Content model:

Any elements or character data.

Attributes:

core attributes — ‘id’, ‘xml:base’, ‘xml:lang’, ‘xml:space’

conditional processing attributes — ‘requiredFeatures’, ‘requiredExtensions’, ‘systemLanguage’

graphical event attributes — ‘onfocusin’, ‘onfocusout’, ‘onactivate’, ‘onclick’, ‘onmousedown’, ‘onmouseup’, ‘onmouseover’, ‘onmousemove’, ‘onmouseout’, ‘onload’ presentation attributes — ‘alignment-baseline’, ‘baseline-shift’, ‘clip’, ‘clip-path’, ‘clip-rule’, ‘color’, ‘color-interpolation’, ‘color-interpolation-filters’, ‘color-profile’, ‘color-rendering’, ‘cursor’, ‘direction’, ‘display’, ‘dominant-baseline’, ‘enable-background’, ‘fill’, ‘fill-opacity’, ‘fill-rule’, ‘filter’, ‘flood-color’, ‘flood-opacity’, ‘font-family’, ‘font-size’, ‘font-size-adjust’, ‘font-stretch’, ‘font-style’, ‘font-variant’, ‘font-weight’, ‘glyph-orientation-horizontal’, ‘glyph-orientation-vertical’, ‘image-rendering’, ‘kerning’, ‘letter-spacing’, ‘lighting-color’, ‘marker-end’, ‘marker-mid’, ‘marker-start’, ‘mask’, ‘opacity’, ‘overflow’, ‘pointer-events’, ‘shape-rendering’, ‘stop-color’, ‘stop-opacity’, ‘stroke’, ‘stroke-dasharray’, ‘stroke-dashoffset’, ‘stroke-linecap’, ‘stroke-linejoin’, ‘stroke-miterlimit’, ‘stroke-opacity’, ‘stroke-width’, ‘text-anchor’, ‘text-decoration’, ‘text-rendering’, ‘unicode-bidi’, ‘visibility’, ‘word-spacing’, ‘writing-mode’



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‘class’

‘style’

‘externalResourcesRequired’

‘transform’

‘x’

‘y’

‘width’

‘height’

DOM Interfaces:

SVGForeignObjectElement

*IE9 Mode and IE10 Mode (All Versions)*

The **foreignObject** element is not supported.

1. **[SVG11] Section B.5, Relationship with DOM2 events**

V0060:

The specification states:

The SVG DOM supports the following mouse event types [ DOM2-MOUSEEVENTS]: click

mousedown mouseup mouseover mousemove mouseout

clientX and clientY parameters for mouse events represent the mouse coordinates at which the event occurred relative to the DOM Implementation's client area. relatedTarget is used to identify a secondary EventTarget related to a UI event. Currently this attribute is used with the mouseover event to indicate the EventTarget which the pointing device exited and with the mouseout event to indicate the EventTarget which the pointing device entered.

*IE9 Mode and IE10 Mode (All Versions)*

The **title** attribute supports the **click** event even though it should not be supported.

1. **[SVG11] Section C., IDL Definitions**

C0024:

The specification defines the **currentView** attribute of the **SVGSVGElement** as follows:

readonly attribute SVGViewSpec currentView;

*IE9 Mode and IE10 Mode (All Versions)*

The **currentView** attribute is not supported.

1. **Clarifications**

The following subsections identify clarifications to recommendations made by  [[W3C-SVG1.1]](http://go.microsoft.com/fwlink/?LinkId=196117).



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1. **[SVG11] Section 6.18, Aural style sheets**

C0004:

The specification defines aural style sheets, which are optional.

*IE9 Mode and IE10 Mode (All Versions)*

Aural style sheets are not supported.

1. **[SVG11] Section 7.12, Geographic Coordinate Systems**

C0005:

The specification defines geographic coordinate systems, which are optional.

*IE9 Mode and IE10 Mode (All Versions)*

Geographic coordinate systems are not supported.

1. **[SVG11] Section 8.3.9, The grammar for path data**

V0027:

The specification states:

The following is the BNF for SVG paths.

svg-path:

wsp\* moveto-drawto-command-groups? wsp\* moveto-drawto-command-groups:

moveto-drawto-command-group

| moveto-drawto-command-group wsp\* moveto-drawto-command-groups moveto-drawto-command-group:

moveto wsp\* drawto-commands? drawto-commands:

drawto-command

| drawto-command wsp\* drawto-commands drawto-command:

closepath | lineto

| horizontal-lineto | vertical-lineto | curveto

| smooth-curveto

| quadratic-bezier-curveto

| smooth-quadratic-bezier-curveto | elliptical-arc

moveto:

( "M" | "m" ) wsp\* moveto-argument-sequence moveto-argument-sequence:

coordinate-pair

| coordinate-pair comma-wsp? lineto-argument-sequence closepath:

("Z" | "z") lineto:

( "L" | "l" ) wsp\* lineto-argument-sequence lineto-argument-sequence:



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coordinate-pair

| coordinate-pair comma-wsp? lineto-argument-sequence horizontal-lineto:

( "H" | "h" ) wsp\* horizontal-lineto-argument-sequence horizontal-lineto-argument-sequence:

coordinate

| coordinate comma-wsp? horizontal-lineto-argument-sequence vertical-lineto:

( "V" | "v" ) wsp\* vertical-lineto-argument-sequence vertical-lineto-argument-sequence:

coordinate

| coordinate comma-wsp? vertical-lineto-argument-sequence

*IE9 Mode and IE10 Mode (All Versions)*

White spaces and commas in the Backus-Naur Form (BNF) grammar are interchangeable. White spaces and commas can both delimit command groups.

1. **[SVG11] Section 11.7.3, The 'shape-rendering' property**

V0028:

The specification defines the **shape-rendering** property.

*IE9 Mode and IE10 Mode (All Versions)*

The **shape-rendering** property is not supported.

1. **[SVG11] Section 13.3, Patterns**

C0022:

The specification states:

SVG's user agent style sheet sets the 'overflow' property for 'pattern' elements to hidden, which causes a rectangular clipping path to be created at the bounds of the pattern tile. Unless the 'overflow' property is overridden, any graphics within the pattern which goes outside of the pattern rectangle will be clipped. Example pattern01 below shows the effect of clipping to the pattern tile.

*IE9 Mode and IE10 Mode (All Versions)*

The **overflow** property on **pattern** elements is always treated as if the value hidden is assigned to it; it cannot be overridden.

1. **[SVG11] Section 14.3.3, The 'overflow' and 'clip' properties**

C0011:

The specification describes the **overflow** property as follows:

• The initial value for 'overflow' as defined in [CSS2-overflow] is 'visible'; however, SVG's user agent style sheet overrides this initial value and set the 'overflow' property on



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elements that establish new viewports (e.g., 'svg' elements), 'pattern' elements and 'marker' elements to the value 'hidden'.

*IE9 Mode and IE10 Mode (All Versions)*

On the outermost **svg** element that is inline in HTML5, the initial value for the **overflow** property is visible.

1. **Error Handling**

There are no additional considerations for error handling.

1. **Security**

There are no additional security considerations.



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**3 Change Tracking**

This section identifies changes that were made to the [MS-SVG] 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.



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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, andmethods) as well as interfaces.

**Protocol revision** refers to changes made to a protocol that affect the bits that are sent overthe wire.

The changes made to this document are listed in the following table. For more information, please contact  [protocol@microsoft.com](mailto:protocol@microsoft.com).



|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Major** |  |
|  | **Tracking number (if applicable)** | **change** |  |
| **Section** | **and description** | **(Y or N)** | **Change type** |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Updated the document to remove beta tagging. | N | Content updated. |
| Introduction |  |  |  |



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