Scalable Vector Graphics (SVG) for the Mobile Domain

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Open Mobile Alliance

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Contents

1. Scope

This section is informative.

Scalable Vector Graphics (SVG) is a W3C specification that provides an XML-based way to describe and render 2-Dimensional graphics and graphical applications. There are two mobile profiles of SVG which are targeted towards resource-constrained devices. These are SVG Mobile and SVG Tiny [SVGT].

Of these, SVG Tiny is the specification chosen by OMA to provide 2D graphical applications within the Wireless Applications Environment [WAE].

2. References

2.1 Normative References

NOTE: [SVGT] is not in recommendation status in W3C yet. This specification is written with the assumption that the latest (Jan 27 2006) last call draft is in a sufficiently stable state to allow referencing.

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

[SCRRULES] "SCR Rules and Procedures", Open Mobile Alliance™, OMA-ORG-SCR_Rules_and_Procedures, URL:http://www.openmobilealliance.org/

[SVGT] "Scalable Vector Graphics (SVG) Tiny", Version 1.2, W3C Candidate Recommendation, O. Andersson, R. Berjon, et al, 10 Aug 2006, URL: http://www.w3.org/TR/SVGMobile12/

2.2 Informative References

[HTML] "Hypertext Markup Language (HTML) Specification", Version 4.01, D. Raggett et. al, 24 December 1999, URL: http://www.w3.org/TR/html4/

[SMIL] "Synchronized Multimedia Integration Language (SMIL 2.0)", 2nd Edition, J. Ayars, D. Bulterman et. al., 07 January 2005. URL: http://www.w3.org/TR/2005/REC-SMIL2-20050107/

[SVG] "Scalable Vector Graphics (SVG) Full", Version 1.2, D. Jackson et. al, 13 April 2005, URL:http://www.w3.org/TR/SVG12/

[WAE] "Wireless Application Environment", Open Mobile Alliance™, OMA-WAP-TS-WAESpec-V2_3, URL:http://www.openmobilealliance.org/

[XLINK] "XML Linking Language", Version 1.0, S. DeRose et. al, 27 June 2001, URL:http://www.w3c.org/TR/xlink/

[XML-EVENTS] "XML Events", S. McCarron, S. Pemberton, et. al, 14 Oct 2003, URL:http://www.w3c.org/TR/xml-events/

3. Terminology and Conventions

3.1 Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except “Scope” and “Introduction”, are normative, unless they are explicitly indicated to be informative.

3.2 Abbreviations

DOM	Document Object Model
IRI	Internationalized Resource Identifier
OMA	Open Mobile Alliance
SMIL	Synchronized Multimedia Interaction Language
SVG	Scalable Vector Graphics
WAE	Wireless Application Environment
W3C	Word Wide Web Consortium
XML	Extensible Markup Language

4. Introduction

This section is informative.

Readers of this specification are assumed to be familiar with Scalable Vector Graphics as described in [SVG].

4.1 How to read this specification

The major part of this specification is a set of tables with normative references to the SVG Tiny 1.2 specification [SVGT].

Appendix A follows the syntax described in [**Error! Reference source not found.**] and is the Static Conformance Requirements (SCR) for the whole specification.

It is recommended that the specification is read in the following way:

1. Read Appendix A to get an overall view of what parts of the specification are mandatory and what parts are optional. The Static Conformance Requirements (SCRs) form a list of individual SVG features.

2. For each feature in the SCR list, details on conformance can be found in the referenced section.

4.2 Conformance

Conformance to this specification is defined in the Static Conformance Requirements (SCR) table in Appendix A. A conforming user agent may support additional SVG features.

Conformance is described using the [SVGT] notion of feature strings, which are URI pointers to groupings (or modules) of SVG features. The names of these feature strings correspond to values that can be taken on by the *requiredFeatures* attribute of SVG.

The overall conformance criteria for this specification is the requirements for a “Dynamic SVG viewer” as defined in [SVGT], represented by the feature string grouping http://www.w3.org/Graphics/SVG/feature/1.2/#SVG-all.

The above feature string grouping is in turn composed of the following feature strings :

- "http://www.w3.org/Graphics/SVG/feature/1.2/#CoreAttribute"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Structure"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#ConditionalProcessing"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#ConditionalProcessingAttribute"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Image"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Prefetch"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Shape"
- http://www.w3.org/Graphics/SVG/feature/1.2/#Text
- "http://www.w3.org/Graphics/SVG/feature/1.2/#TextFlow”
- "http://www.w3.org/Graphics/SVG/feature/1.2/#PaintAttribute"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#OpacityAttribute"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#GraphicsAttribute"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Gradient"

- "http://www.w3.org/Graphics/SVG/feature/1.2/#SolidColor"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#XlinkAttribute"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#ExternalResourcesRequiredAttribute"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Font"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Hyperlinking""
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Extensibility"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Scripting"
- “http://www.w3.org/Graphics/SVG/feature/1.2/#Listener”
- “http://www.w3.org/Graphics/SVG/feature/1.2/#TimedAnimation”
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Audio"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Video"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#MediaAttribute"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Animation"
- "http://www.w3.org/Graphics/SVG/feature/1.2/#Discard"

The detailed conformance criteria for each of the feature strings above comprise the section that follows.

5. Document Structure

This section is normative

5.1 Core Attributes

In order to support SVG core attributes conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string "http://www.w3.org/Graphics/SVG/feature/1.2/#CoreAttribute”

ATTRIBUTE	REFERENCE	STATUS
id	[SVGT] section 5.10.1	M
xml:base	[SVGT] section 5.10.1	M
xml:lang	[SVGT] section 5.10.1	M
xml:space	[SVGT] section 5.10.1	M
xml:id	[SVGT] section 5.10.1	M
class	[SVGT] section 5.10.1	M

5.2 Structure

The elements in this section define the overall structure of an SVG image.

In order to support SVG document structure conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Structure

ELEMENT	REFERENCE	STATUS
svg	[SVGT] section 5.1	M
g	[SVGT] section 5.2	M
defs	[SVGT] section 5.3	M
desc	[SVGT] section 5.5	M
title	[SVGT] section 5.5	M
metadata	[SVGT] section 18.2	M
use	[SVGT] section 5.6	M

5.3 Conditional Processing

Conditional processing provides the ability to specify alternate viewing based on the capabilities of a given user agent.

In order to support conditional processing conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string
http://www.w3.org/Graphics/SVG/feature/1.2/#ConditionalProcessing

ELEMENT	REFERENCE	STATUS
switch	[SVGT] section 5.8.2	M

In addition, conforming user agents MUST also implement all mandatory ("M") attributes in the following table. These attributes are often used in conjunction with the switch element for conditional processing. This section corresponds to [SVGT] feature string "http://www.w3.org/Graphics/SVG/feature/1.2/#ConditionalProcessingAttribute"

ATTRIBUTE	REFERENCE	STATUS
requiredFeatures	[SVGT] section 5.8.3	M
requiredFonts	[SVGT] section 5.8.7	M
requiredFormats	[SVGT] section 5.8.6	M
requiredExtensions	[SVGT] section 5.8.4	M
systemLanguage	[SVGT] section 5.8.5	M

5.4 Images

The image element allows the inclusion of an external raster image into an SVG object. Note that for external SVG images, the 'animation' element should be used. The 'animation' element is defined in section 15.3.

In order to support images in SVG content conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Image

ELEMENT	REFERENCE	STATUS
image	[SVGT] section 5.7	M

5.5 Prefetch

This element allows content developers to indicate that a particular item that is referenced in an SVG object should be prefetched from the server before it is needed for rendering in order to improve performance.

In order to support pre-fetching of content conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Prefetch

ELEMENT	REFERENCE	STATUS
prefetch	[SVGT] section 5.9.3	M

5.6 Discard

This element allows content authors to indicate when a particular element is no longer needed and may be discarded, thereby reducing resources required by a user agent.

In order to support the discarding of SVG elements at defined times, conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Discard

ELEMENT	REFERENCE	STATUS
discard	[SVGT] section 5.4	M

5.7 External Resources

This attribute conveys to the user agent whether the associated external resource is optional or required for rendering of the current SVG image.

In order to support references to external resources conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#ExternalResourcesRequiredAttribute

ATTRIBUTE	REFERENCE	STATUS
externalResourcesRequired	[SVGT] section 5.9	M

6. Shapes

This section is normative.

The following elements define the basic shapes used in creating an SVG image.

In order to support SVG shapes conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Shape

ELEMENT	REFERENCE	STATUS
rect	[SVGT] section 9.2	M
circle	[SVGT] section 9.3	M
ellipse	[SVGT] section 9.4	M
line	[SVGT] section 9.5	M
polyline	[SVGT] section 9.6	M
polygon	[SVGT] section 9.7	M
path	[SVGT] section 8.2	M

7. Text

This section is normative.

The following elements are used to incorporate textual content within an SVG image.

In order to support text within SVG conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string "http://www.w3.org/Graphics/SVG/feature/1.2/#Text"

ELEMENT	REFERENCE	STATUS
text	[SVGT] section 10.4	M
tspan	[SVGT] section 10.5	M

In addition, the *text* element has the following mandatory attribute which MUST be supported.

ATTRIBUTE	REFERENCE	STATUS
text-anchor	[SVGT] section 10.8.1	M

In addition, the *text, tspan* elements have the following mandatory attributes which MUST be supported.

ATTRIBUTE	REFERENCE	STATUS
font-family	[SVGT] section 10.9	M
font-size	[SVGT] section 10.9	M
font-style	[SVGT] section 10.9	M
font-weight	[SVGT] section 10.9	M
font-variant	[SVGT] section 10.9	M

In addition, the *text* and *textArea* elements have the following mandatory attribute which MUST be supported.

ATTRIBUTE	REFERENCE	STATUS
editable	[SVGT] section 10.12.1	M

7.1 Text Flow

In order to support SVG text flow conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#TextFlow

ELEMENT	REFERENCE	STATUS
TextArea	[SVGT] section 10.11.2	M
TBreak	[SVGT] section 10.11.3	M

In addition, the *textArea* element has the following mandatory attributes which MUST be supported.

ATTRIBUTE	REFERENCE	STATUS
line-increment	[SVGT] section 10.11.4	M
display-align	[SVGT] section 10.11.6	M
font-family	[SVGT] section 10.9	M
font-size	[SVGT] section 10.9	M
font-style	[SVGT] section 10.9	M
font-weight	[SVGT] section 10.9	M
font-variant	[SVGT] section 10.9	M

8. Painting

This section is normative.

8.1 Paint Attributes

The basic shapes defined in section 6 can be painted (i.e. filled or stroked) with a particular color or paint server, using the elements defined in this section.

In order to support paint attributes conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#PaintAttribute

ATTRIBUTE	REFERENCE	STATUS
color	[SVGT] section 11.14.2	M
color-rendering	[SVGT] section 11.10.1	M
fill	[SVGT] section 11.3	M
fill-rule	[SVGT] section 11.3	M
stroke	[SVGT] section 11.4	M
stroke-dash-array	[SVGT] section 11.4	M
stroke-dash-offset	[SVGT] section 11.4	M
stroke-linecap	[SVGT] section 11.4	M
stroke-linejoin	[SVGT] section 11.4	M
stroke-miterlimit	[SVGT] section 11.4	M
stroke-width	[SVGT] section 11.4	M
solid-color	[SVGT] section 11.14.2	M
viewport-fill	[SVGT] section 11.7	M

8.2 Opacity Attribute

This section is normative.

This property allows the content developer to specify the opacity (transparency) of the referenced object.

In order to support opacity conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string "http://www.w3.org/Graphics/SVG/feature/1.2/#OpacityAttribute"

ATTRIBUTE	REFERENCE	STATUS
fill-opacity	[SVGT] section 11.3	M

stroke-opacity	[SVGT] section 11.4	M
opacity	[SVGT] section 11.12	M
viewport-fill-opacity	[SVGT] section 11.4	M
solid-opacity	[SVGT] section 11.14.2	M
stop-opacity	[SVGT] section 11.16.3	M

8.3 Graphics Attribute

This section is normative.

This section contains various attributes related to graphics processing. The 'image-rendering', 'shape-rendering', and 'text-rendering' attributes all provide hints to the device about tradeoffs in speed vs. quality. The 'display' and 'visibility' properties control visibility of the associated elements. The 'pointer-events' attribute allows authors to specify under what circumstances a given graphics element can be the target of pointer events.

In order to support graphics attributes conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#GraphicsAttribute

ATTRIBUTE	REFERENCE	STATUS
display	[SVGT] section 11.10	M
image-rendering	[SVGT] section 11.11.4	M
pointer-events	[SVGT] section 13.6	M
shape-rendering	[SVGT] section 11.11.2	M
text-rendering	[SVGT] section 11.11.3	M
visibility	[SVGT] section 11.10	M
vector-effect	[SVGT] section 11.5	M

Note: The *-rendering attributes above are, by definition, hints to the user agent on quality vs. speed optimizations. Therefore, what is mandatory is the processing of these attribute semantics only, and no assumption is made about the actual user agent support of the proposed hint.

8.4 Gradient

This section is normative.

The elements in this section define continuous color transitions within an SVG element.

In order to support gradients conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Gradient

ELEMENT	REFERENCE	STATUS
linearGradient	[SVGT] section 11.16.1	M
radialGradient	[SVGT] section 11.16.2	M
stop	[SVGT] section 11.16.3	M

In addition, the *stop* element has the following mandatory attributes which MUST be supported.

ATTRIBUTE	REFERENCE	STATUS
stop-color	[SVGT] section 11.16.3	M

8.5 Solid Color

This section is normative.

This element is used to define a paint server of a single color with a given opacity.

In order to support the solid color paint server conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string "http://www.w3.org/Graphics/SVG/feature/1.2/#SolidColor"

ELEMENT	REFERENCE	STATUS
solidColor	[SVGT] section 11.15.1	M

9. Fonts

This section is normative.

The elements in this section define fonts and glyphs within an SVG object.

In order to support fonts conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Font

ELEMENT	REFERENCE	STATUS
font	[SVGT] section 17.3	M
glyph	[SVGT] section 17.4	M
missing-glyph	[SVGT] section 17.8.2	M
hkern	[SVGT] section 17.7	M
font-face	[SVGT] section 17.8.2	M
font-face-src	[SVGT] section 17.8.3	M
font-face-uri	[SVGT] section 17.8.4	M

10.Linking

This section is normative.

10.1 Referencing other objects (either within an SVG image or outside it) is achieved using internationalized resource identifiers (IRIs). Hyperlinks

The 'a' element in SVG is analogous to the same element in [HTML], and is used to indicate links to content.

In order to support references to internal and external SVG objects, conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Hyperlinking

ELEMENT	REFERENCE	STATUS
a	[SVGT] section 14.2	M

10.2 Xlink Attributes

IRI references in SVG are specified using attributes in the 'xlink' namespace, as defined in this section. Refer to [XLINK] for more information on this namespace.

In addition, conforming user agents MUST also implement all mandatory ("M") xlink attributes in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#XlinkAttribute

ATTRIBUTE	REFERENCE	STATUS
xlink:type	[SVGT] section 14.1.3	M
xlink:href	[SVGT] section 14.1.3	M
xlink:role	[SVGT] section 14.1.3	M
xlink:arcrole	[SVGT] section 14.1.3	M
xlink:title	[SVGT] section 14.1.3	M
xlink:show	[SVGT] section 14.1.3	M
xlink:actuate	[SVGT] section 14.1.3	M

11.Extensibility

The ‘foreignObject’ element allows the inclusion of content from another namespace into an SVG container.

In order to support the embedding of foreign object types, conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Extensibility

ELEMENT	REFERENCE	STATUS
foreignObject	[SVGT] section 19.3	M

12.SVG Micro DOM (uDOM)

The SVG uDOM allows access to the parent Document object, which forms the root node for accessing other document nodes and properties. The following section outlines the SVG uDOM interfaces/APIs which must be supported by conforming agents. For each interface, the detailed (IDL) definition and associated constants/attributes can be found in the referenced section of [SVGT].

12.1 DOM Core Interfaces

In order to support the DOM core interfaces, conforming user agents MUST implement all mandatory ("M") items in the following table.

INTERFACE	REFERENCE	STATUS
DOMException	[SVGT] section A.4.1	M
Node	[SVGT] section A.4.2	M
Element	[SVGT] section A.4.3	M
Document	[SVGT] section A.4.4	M
DOMImplementation	[SVGT] section A.4.5	M

12.2 Event Interfaces

In order to support SVG uDOM events, conforming user agents MUST implement all mandatory ("M") items in the following table.

INTERFACE	REFERENCE	STATUS
EventTarget	[SVGT] section A.5.1	M
EventListener	[SVGT] section A.5.2	M
Event	[SVGT] section A.5.3	M
MouseEvent	[SVGT] section A.5.4	M
WheelEvent	[SVGT] section A.5.5	M
TextEvent	[SVGT] section A.5.6	M
KeyboardEvent	[SVGT] section A.5.7	M
UIEvent	[SVGT] section A.5.8	M
ProgressEvent	[SVGT] section A.5.9	M
ConnectionEvent	[SVGT] section A.5.10	M

12.3 SMIL Interfaces

In order to support interacting with SMIL animations, conforming user agents MUST implement all mandatory ("M") items in the following table.

INTERFACE	REFERENCE	STATUS
ElementTimeControl	[SVGT] section A.6.1	M

12.4 Global Interfaces

In order to support global interfaces, conforming user agents MUST implement all mandatory ("M") items in the following table.

INTERFACE	REFERENCE	STATUS
Global	[SVGT] section A.7.1	M
GlobalException	[SVGT] section A.7.2	M
Connection	[SVGT] section A.7.3	M
Timer	[SVGT] section A.7.4	M

12.5 SVG Interfaces

In order to support SVG interfaces, conforming user agents MUST implement all mandatory ("M") items in the following table.

INTERFACE	REFERENCE	STATUS
SVGException	[SVGT] section A.8.1	M
SVGDocument	[SVGT] section A.8.2	M
SVGElementInstance	[SVGT] section A.8.3	M
SVGSVGElement	[SVGT] section A.8.4	M
SVGRGBColor	[SVGT] section A.8.5	M
SVGRect	[SVGT] section A.8.6	M
SVGPoint	[SVGT] section A.8.7	M
SVGPath	[SVGT] section A.8.8	M
SVGMatrix	[SVGT] section A.8.9	M
SVGLocatable	[SVGT] section A.8.10	M

SVGLocatableElement	[SVGT] section A.8.11	M
TraitAccess	[SVGT] section A.8.12	M
ElementTraversal	[SVGT] section A.8.14	M
SVGElement	[SVGT] section A.8.15	M
SVGTimedElement	[SVGT] section A.8.16	M
SVGVisualMediaElement	[SVGT] section A.8.17	M
EventListenerInitializer2	[SVGT] section A.8.18	M
TimeEvent	[SVGT] section A.8.19	M
SVGGlobal	[SVGT] section A.8.20	M
AsyncStatusCallback	[SVGT] section A.8.21	M
AsyncURLStatus	[SVGT] section A.8.22	M

13.Scripting

13.1 Script

The ‘script’ element allows the inclusion of code into the SVG object which adds interactivity.

In order to support interaction, conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Scripting

ELEMENT	REFERENCE	STATUS
script	[SVGT] section 15.2	M

13.2 Handler

The Handler element contains code that is to be executed in response to an event. (The script element, in contrast, encapsulates code that is generally executed when the document is loaded).

In order to support interaction, conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Handler

ELEMENT	REFERENCE	STATUS
handler	[SVGT] section 15.5	M

13.3 Listener

The ‘listener’ element is taken from [XML-EVENTS], and is used to declare event listeners and register them with specific nodes in the SVG uDOM.

In order to support interaction, conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Listener

ELEMENT	REFERENCE	STATUS
listener	[SVGT] section 15.4	M

14.Animation

Animation refers to the time-based modification of SVG content. This includes motion paths, fade-in and fade-out effects, growing and shrinking, etc.

14.1 Timed Animation

The following elements are used to specify the motion of a single graphical entity over time.

In order to support the animation of a single attribute or property over time, conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#TimedAnimation

ELEMENT	REFERENCE	STATUS
animate	[SVGT] section 16.2.11	M
set	[SVGT] section 16.2.12	M
animateMotion	[SVGT] section 16.2.13	M
mpath	[SVGT] section 16.2.14	M
animateColor	[SVGT] section 16.2.15	M
animateTransform	[SVGT] section 16.2.16	M

15.Multimedia

15.1 Audio

The ‘audio’ element is used to specify an audio file providing synchronized audio in the SVG object.

In order to support embedded audio, conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Audio

ELEMENT	REFERENCE	STATUS
audio	[SVGT] section 12.2	M

In addition, conforming user agents MUST also implement all mandatory (“M”) audio element attributes in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#MediaAttribute

ATTRIBUTE	REFERENCE	STATUS
audio-level	[SVGT] section 12.5	M

15.2 Video

The ‘video’ element is used to specify a video file providing synchronized video in the SVG object.

In order to support embedded video, conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Video

ELEMENT	REFERENCE	STATUS
video	[SVGT] section 12.3	M

In addition, conforming user agents MUST also implement all mandatory (“M”) video element attributes in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#MediaAttribute

ATTRIBUTE	REFERENCE	STATUS
audio-level	[SVGT] section 12.5	M

15.3 Animation

The ‘animation’ element is used to specify an animation file providing synchronized animated vector graphics in the SVG object.

In order to support embedded animations, conforming user agents MUST implement all mandatory (“M”) items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#Animation

ELEMENT	REFERENCE	STATUS
animation	[SVGT] section 12.4	M

In addition, conforming user agents MUST also implement all mandatory ("M") animation element attributes in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#MediaAttribute

ATTRIBUTE	REFERENCE	STATUS
audio-level	[SVGT] section 12.5	M

15.4 Media Attributes

The attributes in this section define properties of media objects.

In order to support media attributes, conforming user agents MUST implement all mandatory ("M") items in the following table. This section corresponds to [SVGT] feature string http://www.w3.org/Graphics/SVG/feature/1.2/#MediaAttribute

ATTRIBUTE	REFERENCE	STATUS
audio-level	[SVGT] section 12.5	M

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version –or- No previous version within OMA

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions: OMA-TS-SVG-V1_0	19 Oct 2005	N/A	Initial Version
	24 Oct 2005	5,6,7,8,9,12,13, 14,15, Appendix B	Updated with results from MAE F2F review in Sydney.
Draft Versions: OMA-TS-SVG_Mobile-V1_0	01 Feb 2006	13.2, 13.3	Added Handler section. Updated Listener section based on latest W3C SVGT1.2 Last Call draft.
	27 Nov 2006	Chaps 7, 8, 9, 10 plus minor changes throughout.	Updated with changes resulting from OMA-MAE-2006-0364R01-CR_SVG_Spec_Alignment.doc
	12 Sep 2008	All	Editorial updates as per comments in OMA-CONRR-SVG_Mobile-V1_0_0-20080528-D and: - 2008 template - History box fixed - Cross-references fixed
Candidate Version: OMA-TS-SVG_Mobile-V1_0	24 Oct 2008	All	Status changed to Candidate by TP: OMA-TP-2008-0396-INP_SVG_Mobile_Domain_V1_0_ERP_for_Candidate_Approval

Appendix B. Static Conformance Requirements (Normative)

The notation used in this appendix is specified in [**Error! Reference source not found.**]. In order to support SVG the user agent MUST implement all mandatory items ("M") and SHOULD support all optional items ("O").

Item	Function	Reference	Status
SVG-CORE-C-001	Core attributes	Section 5.1	M
SVG-STRUCTURE-001	Structure	Section 5.2	M
SVG-COND-001	Conditional Processing	Section 5.3	M
SVG-IMAGES-001	Images	Section 5.4	M
SVG-PREFETCH-001	Prefetch	Section 5.5	M
SVG-DISCARD-001	Discard	Section 5.6	M
SVG-EXT-001	External Resources	Section 5.7	M
SVG-SHAPES-001	Shapes	Section 6	M
SVG-TEXT-001	Text	Section 7	M
SVG-TEXTFLOW-001	Text Flow	Section 7.1	M
SVG-PAINTATTR-001	Paint attributes	Section 8.1	M
SVG-OPACITY-001	Opacity attributes	Section 8.2	M
SVG-GRAPHICS-001	Graphics	Section 8.3	M
SVG- GRADIENT -001	Gradient Properties	Section 8.4	M
SVG-SOLIDCOLOR-001	Solid color	Section 8.5	M
SVG-FONTS-001	Fonts	Section 9	M
SVG-HYPERLINK-001	Hyperlinks	Section 10.1	M
SVG-XLINK-001	Xlink Module	Section 10.2	M
SVG-FOREIGNOBJ-001	Extensibility	Section 11	M
SVG-DOMCOREINTF-001	DOM Core Interfaces	Section 12.1	M
SVG-EVENTINTF-001	Event Interfaces	Section 12.2	M
SVG-SMILINTF-001	SMIL	Section 12.3	M
SVG-GLOBALINTF-001	Global	Section 12.4	M
SVG-SVGINTF-001	SVG	Section 12.5	M
SVG-SCRIPT-001	Script element	Section 13.1	M
SVG-HANDLER-001	Handler element	Section 13.2	M
SVG-LISTENER-001	Listener Element	Section 13.3	M
SVG-TIMEDANIM-001	Timed Animation	Section 14.1	M
SVG-AUDIO-001	Audio	Section 15.1	M
SVG-VIDEO-001	Video	Section 15.2	M
SVG-ANIMATION-001	Animation	Section 15.3	M
SVG-MEDATTR-001	Media Attributes	Section 15.4	M