

[MS-TTML]: Internet Explorer Timed Text Markup Language (TTML) 1.0 Standards Support Documentation

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Revision Summary

Date	Revision History	Revision Class	Comments
02/22/2012	0.1	New	Released new document.
07/25/2012	1.0	Major	Significantly changed the technical content.

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1 Introduction

This document describes the level of support provided by Windows® Internet Explorer® 10 for the *Timed Text Markup Language (TTML) 1.0* specification, published November 18, 2010.

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.

[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-TTML-1.0] Dolan, M., Freed, G., Hayes, S., et al., "Internet Explorer Timed Text Markup Language (TTML) 1.0 Standards Support Documentation", W3C Recommendation 18 November 2010, <http://www.w3.org/TR/2010/REC-ttaf1-dfxp-20101118/>

1.2.2 Informative References

None.

1.3 Microsoft Implementations

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

- 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.

Browser Version	Document Modes Supported
Internet Explorer 10	Quirks Mode IE7 Mode IE8 Mode IE9 Mode IE10 Mode

Note TTML is supported in IE10 Mode only.

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.

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

1.4 Standards Support Requirements

To conform to [\[W3C-TTML-1.0\]](#) a user agent must implement all required portions of the specification. Any optional portions that have been implemented must also be implemented as described by the specification. Normative language is usually used to define both required and optional portions. (For more information, see [\[RFC2119\]](#).)

1.5 Notation

The following notations are used in this document to differentiate between notes of clarification, variation from the specification, and 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.
V####	Identifies an intended point of variability in the target specification such as the use of MAY, SHOULD, or RECOMMENDED. (See [RFC2119] .) This does not include extensibility points.
E####	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](#).

2 Standards Support Statements

This section contains a full list of variations, clarifications, and extension points in the Microsoft implementation of [\[W3C-TTML-1.0\]](#).

- Section [2.1](#) includes only those variations that violate a MUST requirement in the target specification.
- Section [2.2](#) describes further variations from MAY and SHOULD requirements.
- Section [2.3](#) identifies variations in error handling.
- Section [2.4](#) identifies variations that impact security.

2.1 Normative Variations

The following subsections detail the normative variations from MUST requirements in [\[W3C-TTML-1.0\]](#).

2.1.1 [\[\[W3C-TTML-1.0\]\]](#) Section 6.1, Parameter Element Vocabulary

V0001:

The specification describes elements that are defined in the TT Parameter Namespace.

IE10 Mode (All Versions)

The following elements are not supported:

- **ttp:profile**
- **ttp:features**
- **ttp:feature**
- **ttp:extensions**
- **ttp:extension**

2.1.2 [\[\[W3C-TTML-1.0\]\]](#) Section 6.2, Parameter Element Vocabulary

V0002:

The specification describes attributes that are defined in the TT Parameter Namespace.

IE10 Mode (All Versions)

The following attributes are not supported:

- **ttp:cellResolution**
- **ttp:clockMode**
- **ttp:dropMode**
- **ttp:frameRate**
- **ttp:frameRateMultiplier**

- **ttp:markerMode**
- **ttp:pixelAspectRatio**
- **ttp:profile**
- **ttp:subFrameRate**
- **ttp:timeBase**

Note: The **ttp:tickRate** attribute is supported.

2.1.3 [[W3C-TTML-1.0]] Section 7.1.5, p

V0003:

The specification states:

If no `timeContainer` attribute is specified on a `p` element, then it must be interpreted as having parallel time containment semantics.

IE10 Mode (All Versions)

The **timeContainer** attribute is ignored.

2.1.4 [[W3C-TTML-1.0]] Section 7.2.2, **xml:lang**

V0004:

The specification states:

The `xml:lang` attribute must be specified on the `tt` element and may be specified by an instance of any other element type in the core vocabulary catalog.

IE10 Mode (All Versions)

The **xml:lang** attribute is ignored when selecting a track to display.

2.1.5 [[W3C-TTML-1.0]] Section 7.2.3, **xml:space**

V0005:

The specification states:

The `xml:space` attribute is used as defined by [XML 1.0], §2.10, White Space Handling.
The `xml:space` attribute may be used with any element in the core vocabulary catalog.

IE10 Mode (All Versions)

The **xml:space** attribute is ignored. Whitespace is ignored.

2.1.6 [[W3C-TTML-1.0]] Section 8, Styling

V0006:

The specification states:

Styling attributes are included in TTML to enable authorial intent of presentation to be included within a self-contained document. This section describes the semantics of style presentation in terms of a standard processing model. TTML Processors are not required to present TTML documents in any particular way; but an implementation of this model by a TTML Presentation Processor that provides externally observable results that are consistent with this model is likely to lead to a user experience that closely resembles the experience intended by the documents' authors.

IE10 Mode (All Versions)

Styling is not supported.

2.1.7 [[W3C-TTML-1.0]] Section 9, Layout

V0007:

The specification describes the layout matter of the core vocabulary catalog.

IE10 Mode (All Versions)

The **layout** element is not supported.

The **region** element is not supported.

2.1.8 [[W3C-TTML-1.0]] Section 10.2.3, dur

V0008:

The specification states:

The semantics of the dur attribute are those defined by [SMIL 2.1], § 10.4.1, while taking into account any overriding semantics defined by this specification.

Note:

In the context of the subset of [SMIL 2.1] semantics supported by this specification, the active duration of an element that specifies both end and dur attributes is equal to the lesser of the value of the dur attribute and the difference between the value of the end attribute and the element's begin time.

IE10 Mode (All Versions)

If both **dur** and **end** attributes are defined, then the **dur** attribute is ignored.

2.1.9 [[W3C-TTML-1.0]] Section 10.2.4, timeContainer

V0009:

The specification states:

The `timeContainer` attribute is used to specify a local temporal context by means of which timed child elements are temporally situated.

IE10 Mode (All Versions)

The **timeContainer** attribute is not supported.

2.1.10 [[W3C-TTML-1.0]] Section 11, Animation

V0010:

The specification describes the animation matter of the core vocabulary catalog.

IE10 Mode (All Versions)

Animation is not supported.

2.1.11 [[W3C-TTML-1.0]] Section 12, Metadata

V0011:

The specification describes the metadata matter of the core vocabulary catalog.

IE10 Mode (All Versions)

Metadata is not supported.

2.2 Clarifications

There are no additional clarifications to [\[W3C-TTML-1.0\]](#).

2.3 Error Handling

There are no additional considerations for error handling.

2.4 Security

There are no additional security considerations.

3 Change Tracking

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

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