[MS-MEDIA-SOURCE]:

Microsoft Edge / Internet Explorer Media Source Extensions Standards Support Document

Revision Summary

Date	Revision History	Revision Class	Comments
4/25/2017	1.0	New	Released new document.
10/3/2017	1.0	None	No changes to the meaning, language, or formatting of the technical content.
2/22/2018	1.0	None	No changes to the meaning, language, or formatting of the technical content.
3/23/2018	1.0	None	No changes to the meaning, language, or formatting of the technical content.
8/28/2018	1.0	None	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1   Introduction

This document describes the level of support provided by Microsoft web browsers for the W3C *Media Source Extensions* specification [W3C-MEDIA-SOURCE], published 17 November 2016. The [W3C-MEDIA-SOURCE] specification extends HTMLMediaElement ([W3C-HTML51]) to allow JavaScript to generate media streams for playback. Allowing JavaScript to generate streams facilitates a variety of use cases like adaptive streaming and time shifting live streams.

1.1   Glossary

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as defined in [RFC2119]. All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2   References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the Errata.

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.

[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-HTML51] World Wide Web Consortium, "HTML 5.1", W3C Recommendation 1 November 2016, https://www.w3.org/TR/2016/REC-html51-20161101/

[W3C-MEDIA-SOURCE] World Wide Web Consortium, "Media Source Extensions™", W3C Recommendation 17 November 2016, https://www.w3.org/TR/2016/REC-media-source-20161117/

1.2.2   Informative References

None.

1.3   Microsoft Implementations

The following Microsoft web browsers implement some portion of the [W3C-MEDIA-SOURCE] specification:

▪   Microsoft Edge

Each browser version may implement multiple document rendering modes. The modes vary from one to another in support of the standard. The following table lists the document modes supported by each browser version.

Browser Version	Document Modes Supported
Microsoft Edge	EdgeHTML Mode

For each variation presented in this document there is a list of the document modes and browser versions that exhibit the behavior described by the variation. All combinations of modes and versions

that are not listed conform to the specification. For example, the following list for a variation indicates that the variation exists in three document modes in all browser versions that support these modes:
Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

1.4   Standards Support Requirements

To conform to [W3C-MEDIA-SOURCE] 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].)

The following table lists the sections of [W3C-MEDIA-SOURCE] and whether they are considered normative or informative.

Sections	Normative/Informative
1	Informative
2 - 10	Normative
11 - 13	Informative
Appendices A, B	Informative

1.5   Notation

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

Notation	Explanation
C####	This 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####	This 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####	Because the use of extensibility points (such as optional implementation-specific data) can impair interoperability, this profile identifies such points in the target specification.

For document mode and browser version notation, see also section 1.3.

2   Standards Support Statements

This section contains all variations, clarifications, and extensions for the Microsoft implementation of [W3C-MEDIA-SOURCE].

- Section 2.1 describes normative variations from the MUST requirements of the specification.

- Section 2.2 describes clarifications of the MAY and SHOULD requirements.

- Section 2.3 describes extensions to the requirements.

- Section 2.4 considers error handling aspects of the implementation.

- Section 2.5 considers security aspects of the implementation.

2.1   Normative Variations

The following subsections describe normative variations from the MUST requirements of [W3C-MEDIA-SOURCE].

2.1.1   [W3C-MEDIA-SOURCE] Section 2. MediaSource Object

V0001: The duration attribute is not unrestricted

The specification states:

```
2. MediaSource Object

The MediaSource object represents a source of media data for an HTMLMediaElement. It
keeps track of the readyState for this source as well as a list of SourceBuffer objects
that can be used to add media data to the presentation. ...
...
    [Constructor]
    interface MediaSource : EventTarget {
        ...
        attribute unrestricted double duration;
        ...
    };

2.1 Attributes
    ...
    duration of type unrestricted double
        Allows the web application to set the presentation duration. The duration is
        initially set to NaN when the MediaSource object is created.
```

EdgeHTML Mode

The `duration` attribute is not unrestricted.

```
    attribute double duration;
```

2.1.2   [W3C-MEDIA-SOURCE] Section 2.1 Attributes

V0001: The duration attribute is not unrestricted

The specification states:

```
2. MediaSource Object

The MediaSource object represents a source of media data for an HTMLMediaElement. It
keeps track of the readyState for this source as well as a list of SourceBuffer objects
that can be used to add media data to the presentation. ...
...
    [Constructor]
    interface MediaSource : EventTarget {
        ...
        attribute unrestricted double duration;
        ...
    };

2.1 Attributes
    ...
    duration of type unrestricted double
        Allows the web application to set the presentation duration. The duration is
        initially set to NaN when the MediaSource object is created.
```

EdgeHTML Mode

The `duration` attribute is not unrestricted.

```
    attribute double duration;
```

2.1.3 [W3C-MEDIA-SOURCE] Section 3. SourceBuffer Object

V0007: The end argument of the remove function is not unrestricted

The specification states:

```
3. SourceBuffer Object
    ...
    interface SourceBuffer : EventTarget {
        ...
        void remove(double start, unrestricted double end);
    };
```

EdgeHTML Mode

The `end` argument of the `remove` function is not unrestricted.

```
    void remove(double start, double end);
```

V0004: The textTracks attribute is not supported

The specification states:

```
3. SourceBuffer Object
    ...
    interface SourceBuffer : EventTarget {
        ...
        readonly attribute TextTrackList textTracks;
        ...
    };
```

EdgeHTML Mode

The `textTracks` attribute is not supported.

V0005: The appendWindowEnd attribute is not unrestricted

The specification states:

```
3. SourceBuffer Object
   ...
   interface SourceBuffer : EventTarget {
       ...
       attribute unrestricted double appendWindowEnd;
       ...
   };
```

EdgeHTML Mode

The `appendWindowEnd` attribute is not unrestricted.

    attribute double appendWindowEnd;

2.1.4 [W3C-MEDIA-SOURCE] Section 5. URL Object Extensions

V0009: The createObejctURL method is defined incorrectly

The specification states:

```
5. URL Object Extensions

This section specifies extensions to the URL[FILE-API] object definition.

    [Exposed=Window]
    partial interface URL {
        static DOMString createObjectURL(MediaSource mediaSource);
    };

5.1 Methods

    createObjectURL, static
        Creates URLs for MediaSource objects.
```

EdgeHTML Mode

The `createObejctURL` method is defined incorrectly and is not defined as an override method to the similarly named methods defined in other specifications.

    interface URL {

      static DOMString createObjectURL(any object, optional ObjectURLOptions options = 0);

    };

2.1.5 [W3C-MEDIA-SOURCE] Section 5.1 Methods

V0009: The createObejctURL method is defined incorrectly

The specification states:

```
5. URL Object Extensions

This section specifies extensions to the URL[FILE-API] object definition.

    [Exposed=Window]
    partial interface URL {
        static DOMString createObjectURL(MediaSource mediaSource);
    };

5.1 Methods

    createObjectURL, static
        Creates URLs for MediaSource objects.
```

EdgeHTML Mode

The createObejctURL method is defined incorrectly and is not defined as an override method to the similarly named methods defined in other specifications.

interface URL {

  static DOMString createObjectURL(any object, optional ObjectURLOptions options = 0);

};

2.1.6 [W3C-MEDIA-SOURCE] Section 7. AudioTrack Extensions

V0010: The sourceBuffer attribute is not defined as nullable

The specification states:

```
7. AudioTrack Extensions

This section specifies extensions to the HTML AudioTrack definition.

    partial interface AudioTrack {
        readonly attribute SourceBuffer? sourceBuffer;
    };

8. VideoTrack Extensions

This section specifies extensions to the HTML VideoTrack definition.

    partial interface VideoTrack {
        readonly attribute SourceBuffer? sourceBuffer;
    };
```

EdgeHTML Mode

The sourceBuffer attribute is not defined as nullable.

partial interface AudioTrack {

```
    readonly attribute SourceBuffer sourceBuffer;
```

```
};
```

```
partial interface VideoTrack {
```

```
    readonly attribute SourceBuffer sourceBuffer;
```

```
};
```

2.1.7 [W3C-MEDIA-SOURCE] Section 8. VideoTrack Extensions

V0010: The sourceBuffer attribute is not defined as nullable

The specification states:

```
7. AudioTrack Extensions

This section specifies extensions to the HTML AudioTrack definition.

    partial interface AudioTrack {
        readonly attribute SourceBuffer? sourceBuffer;
    };

8. VideoTrack Extensions

This section specifies extensions to the HTML VideoTrack definition.

    partial interface VideoTrack {
        readonly attribute SourceBuffer? sourceBuffer;
    };
```

EdgeHTML Mode

The `sourceBuffer` attribute is not defined as nullable.

```
partial interface AudioTrack {
```

```
    readonly attribute SourceBuffer sourceBuffer;
```

```
};
```

```
partial interface VideoTrack {
```

```
    readonly attribute SourceBuffer sourceBuffer;
```

```
};
```

2.1.8 [W3C-MEDIA-SOURCE] Section 9. TextTrack Extensions

V0011: The sourceBuffer attribute is not supported

The specification states:

```
9. TextTrack Extensions

This section specifies extensions to the HTML TextTrack definition.
```

```
partial interface TextTrack {
    readonly attribute SourceBuffer? sourceBuffer;
};
```

EdgeHTML Mode

The `sourceBuffer` attribute is not supported.

2.2   Clarifications

There are no clarifications of the MAY and SHOULD requirements of [W3C-MEDIA-SOURCE].

2.3   Extensions

There are no extensions to the requirements of [W3C-MEDIA-SOURCE].

2.4   Error Handling

There are no additional error handling considerations.

2.5   Security

There are no additional security considerations.

3 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

4   Index

C