

## [MS-MEDIA-SOURCE]:

# Microsoft Edge / Internet Explorer Media Source Extensions Standards Support Document

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## Revision Summary

Date	Revision History	Revision Class	Comments
4/25/2017	1.0	New	Released new document.

# Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>4</b>
1.1	Glossary .....	4
1.2	References .....	4
1.2.1	Normative References .....	4
1.2.2	Informative References .....	4
1.3	Microsoft Implementations .....	4
1.4	Standards Support Requirements .....	5
1.5	Notation.....	5
<b>2</b>	<b>Standards Support Statements.....</b>	<b>6</b>
2.1	Normative Variations .....	6
2.1.1	[W3C-MEDIA-SOURCE] Section 2. MediaSource Object.....	6
2.1.2	[W3C-MEDIA-SOURCE] Section 2.1 Attributes .....	8
2.1.3	[W3C-MEDIA-SOURCE] Section 2.2 Methods .....	9
2.1.4	[W3C-MEDIA-SOURCE] Section 2.3 Event Summary .....	9
2.1.5	[W3C-MEDIA-SOURCE] Section 3. SourceBuffer Object .....	10
2.1.6	[W3C-MEDIA-SOURCE] Section 3.4 Event Summary .....	12
2.1.7	[W3C-MEDIA-SOURCE] Section 4. SourceBufferList Object .....	12
2.1.8	[W3C-MEDIA-SOURCE] Section 5. URL Object Extensions .....	13
2.1.9	[W3C-MEDIA-SOURCE] Section 5.1 Methods .....	13
2.1.10	[W3C-MEDIA-SOURCE] Section 7. AudioTrack Extensions .....	14
2.1.11	[W3C-MEDIA-SOURCE] Section 8. VideoTrack Extensions .....	14
2.1.12	[W3C-MEDIA-SOURCE] Section 9. TextTrack Extensions.....	15
2.2	Clarifications .....	15
2.3	Extensions .....	15
2.4	Error Handling .....	15
2.5	Security .....	16
<b>3</b>	<b>Change Tracking.....</b>	<b>17</b>
<b>4</b>	<b>Index.....</b>	<b>18</b>

# 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](mailto: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", <https://go.microsoft.com/fwlink/p/?linkid=835117>

[W3C-MEDIA-SOURCE] World Wide Web Consortium, "Media Source Extensions", <https://go.microsoft.com/fwlink/p/?linkid=835918>

### 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 <a href="#">[RFC2119]</a> .) 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;
```

V0002: The setLiveSeekableRange and clearLiveSeekableRange methods are not supported

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 {
    ...
    void setLiveSeekableRange(double start, double end);
    void clearLiveSeekableRange();
    ...
};

2.2 Methods
...
setLiveSeekableRange
    Updates the live seekable range variable used in HTMLMediaElement Extensions to
    modify HTMLMediaElement.seekable behavior.
...
clearLiveSeekableRange
    Updates the live seekable range variable used in HTMLMediaElement Extensions to
    modify HTMLMediaElement.seekable behavior.
```

### **EdgeHTML Mode**

The setLiveSeekableRange and clearLiveSeekableRange methods are not supported.

V0003: The sourceopen, sourceended, and sourceclose events are not supported

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 EventHandler sourceopen;
    attribute EventHandler sourceended;
    attribute EventHandler sourceclose;
    ...
};

2.1 Attributes
...
onsourceopen of type EventHandler
    The event handler for the sourceopen event.
onsourceended of type EventHandler
    The event handler for the sourceended event.
onsourceclose of type EventHandler
    The event handler for the sourceclose event.
```

#### 2.3 Event Summary

Event Name	...
-----	...
sourceopen	...
sourceended	...
sourceclose	...

### **EdgeHTML Mode**

The `onsourceopen`, `onsourceended`, and `onsourceclose` events are not supported.

### 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;
```

V0003: The `sourceopen`, `sourceended`, and `sourceclose` events are not supported

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 EventHandler sourceopen;  
    attribute EventHandler sourceended;  
    attribute EventHandler sourceclose;  
    ...  
};
```

#### 2.1 Attributes

```
...  
onsourceopen of type EventHandler  
    The event handler for the sourceopen event.  
onsourceended of type EventHandler  
    The event handler for the sourceended event.  
onsourceclose of type EventHandler
```



The event handler for the sourceclose event.

### 2.3 Event Summary

```
Event Name    ...
-----      ...
sourceopen    ...
sourceended   ...
sourceclose   ...
```

#### **EdgeHTML Mode**

The onsourceopen, onsourceended, and onsourceclose events are not supported.

### **2.1.3 [W3C-MEDIA-SOURCE] Section 2.2 Methods**

V0002: The setLiveSeekableRange and clearLiveSeekableRange methods are not supported

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 {
    ...
    void setLiveSeekableRange(double start, double end);
    void clearLiveSeekableRange();
    ...
};
```

#### 2.2 Methods

```
...
setLiveSeekableRange
    Updates the live seekable range variable used in HTMLMediaElement Extensions to
    modify HTMLMediaElement.seekable behavior.
...
clearLiveSeekableRange
    Updates the live seekable range variable used in HTMLMediaElement Extensions to
    modify HTMLMediaElement.seekable behavior.
```

#### **EdgeHTML Mode**

The setLiveSeekableRange and clearLiveSeekableRange methods are not supported.

### **2.1.4 [W3C-MEDIA-SOURCE] Section 2.3 Event Summary**

V0003: The sourceopen, sourceended, and sourceclose events are not supported

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 EventHandler sourceopen;
    attribute EventHandler sourceended;
    attribute EventHandler sourceclose;
    ...
};
```

#### 2.1 Attributes

```
...
onsourceopen of type EventHandler
    The event handler for the sourceopen event.
onsourceended of type EventHandler
    The event handler for the sourceended event.
onsourceclose of type EventHandler
    The event handler for the sourceclose event.
```

#### 2.3 Event Summary

Event Name	...
-----	...
sourceopen	...
sourceended	...
sourceclose	...

### **EdgeHTML Mode**

The onsourceopen, onsourceended, and onsourceclose events are not supported.

### **2.1.5 [W3C-MEDIA-SOURCE] Section 3. SourceBuffer Object**

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;
```

V0006: Events are not supported on the `SourceBuffer` interface

The specification states:

```
3. SourceBuffer Object
...
interface SourceBuffer : EventTarget {
...
attribute EventHandler onupdatestart;
attribute EventHandler onupdate;
attribute EventHandler onupdateend;
attribute EventHandler onerror;
attribute EventHandler onabort;
...
};
```

#### 3.4 Event Summary

```
Event name ...
----- ...
updatestart ...
update ...
updateend ...
error ...
abort ...
```

### **EdgeHTML Mode**

Events are not supported on the `SourceBuffer` interface.

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);
```

## 2.1.6 [W3C-MEDIA-SOURCE] Section 3.4 Event Summary

V0006: Events are not supported on the SourceBuffer interface

The specification states:

```
3. SourceBuffer Object
...
interface SourceBuffer : EventTarget {
    ...
    attribute EventHandler onupdatestart;
    attribute EventHandler onupdate;
    attribute EventHandler onupdateend;
    attribute EventHandler onerror;
    attribute EventHandler onabort;
    ...
};
```

### 3.4 Event Summary

```
Event name ...
----- ...
updatestart ...
update ...
updateend ...
error ...
abort ...
```

### **EdgeHTML Mode**

Events are not supported on the SourceBuffer interface.

## 2.1.7 [W3C-MEDIA-SOURCE] Section 4. SourceBufferList Object

V0008: The events on the SourceBufferList interface are not supported

The specification states:

### 4. SourceBufferList Object

SourceBufferList is a simple container object for SourceBuffer objects. It provides read-only array access and fires events when the list is modified.

```
interface SourceBufferList : EventTarget {
    ...
    attribute EventHandler onaddsourcebuffer;
    attribute EventHandler onremovesourcebuffer;
    ...
};
```

### **EdgeHTML Mode**

The events on the SourceBufferList interface are not supported.

## 2.1.8 [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);
};
```

## 2.1.9 [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);
```

```
};
```

### 2.1.10 [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;  
};
```

### 2.1.11 [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;
};
```

## **2.1.12 [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

[Change tracking](#) 17

### G

[Glossary](#) 4

### I

[Informative references](#) 4

[Introduction](#) 4

### N

[Normative references](#) 4

### R

References

[informative](#) 4

[normative](#) 4

### T

[Tracking changes](#) 17