HTML5 Analytics User Guide

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Chapter 1: Introduction

1.1 Overview

The following is an example of analytics in JSON array format:

```
[{t:"paused",ts:1420543498654},{t:"playing",ts:1420543506767}]
```

- t: event type
- paused: player is paused
- ts: timestamp in epoch time (ms)
- playing: player is playing

Refer to Chapter 2: Event Types for detailed information about analytics events.

Chapter 2: Event Types

2.1 Playback Event Types

This section introduces the event types in terms of the playback:

Note: All timestamps are epoch time in the unit of milliseconds. The timestamp value is the number of milliseconds since UTC 00:00:00 1/1/1970. It is the same time definition as the time returned by JavaScript *Date.UTC()*.

2.1.1 Open

Description
The player opens a URI.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"open"	string	Event type
ts	Timestamp (in ms)	number	Event Start time
uri	URI_string	string	Video URI

Trigger Condition
This event is triggered when the SDK *doLoad(uri)* is called.

2.1.2 Playing

Description
The player tries to start playing the opened URI.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"playing"	string	Event type
ts	Timestamp (in ms)	number	Event Start time
ps	Position (in ms)	number	Video position

Trigger Condition
This event is triggered when the player resumes playback from the buffering state.

2.1.3 Seek

Description

The player is seeking to a video position.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"seek"	string	Event type
ts	Timestamp (in ms)	number	Event Start time
ps	Position (in ms)	number	Current video position

Trigger Condition

This event is triggered when SDK *seekClick()* is called.

2.1.4 Pause

Description

The player is paused.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"pause"	string	Event type
ts	Timestamp (in ms)	number	Event Start time
ps	Position (in ms)	number	Current video position

Trigger Condition

This event is triggered when SDK *pause()* is called.

2.1.5 Stop

Description

The player is stopped.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"stop"	string	Event type
ts	Timestamp (in ms)	number	Event Start time
ps	Position (in ms)	number	video position

Trigger Condition

This event is triggered when SDK *stopClick()* is called.

2.1.6 End

Description

The player is stopped because video ends.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"end"	string	Event type
ts	Timestamp (in ms)	number	Event Start time
ps	Position (in ms)	number	video position

Trigger Condition

This event is triggered when video is over.

2.1.7 Buffer

Description

The player is buffering.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"buffer"	string	Event type
ts	Timestamp (in ms)	number	Event Start time
ps	Position (in ms)	number	Video position

Trigger Condition

This event is triggered when video buffer underrun occurs.

2.1.8 Error

Description

Error occurs when the stream playing fails.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"err"	string	Event type
ts	Timestamp (in ms)	number	Event Start time
ps	Position (in ms)	number	Video position from the start
rsn	Error code	number	Refer to Chapter 3: Error Codes

Trigger Condition

This event is triggered when the player encounters an error during playback.

2.1.9 Info　　　　　Description

Player Information.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"info"	string	Event type
ts	Timestamp (in ms)	number	Event Start time
cuid	"cuid"	string	Event type
model	"Chrome 60.0.3112.90" or "Firefox 54.0"	string	browser name & version
os	"Windows 7"	string	operation system
ver	"3.24.1-B102814"	string	html5 version

Trigger Condition
Information is created when the player open the URL.

2.1.10　Playing Bitrate　　　Description

The bitrate that the player is playing as extracted from the playlist

or manifest (i.e. indicated bitrate).

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"pbr"	string	Event type
ts	Timestamp (in ms)	number	Epoch time
br	Bitrate (in pbs)	number	Playing bitrate

Trigger Condition
This event is triggered when player starts playing at a given bitrate.
The event will not be triggered if the playlist or manifest does not include a
bitrate description.

2.1.11 Download End

Description

A segment is downloaded successfully.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"segdle"	string	Event type
ts	Timestamp (in ms)	number	Epoch time
uri	URI	string	URI of the segment
sz	Size (in Byte)	number	Segment data size
td	Duration (in ms)	number	Segment download time

Trigger Condition

This event is triggered when a segment is downloaded successfully.

2.1.12 Source Frame Rate

Description

Video streaming frame rate

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"sfr"	string	Event type
ts	Timestamp (in ms)	number	Epoch time
fps	Frame per second	number	Frame rate

Trigger Condition

This event is triggered when video streaming frame rate changes or after start().

2.1.13 Frame Drop   Description

A video frame is dropped without being decoded or rendered.

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"frdrp"	string	Event type
ts	Timestamp (in ms)	number	Epoch time
ps	Position (in ms)	number	Video position when dropped frames

Trigger Condition

This event is triggered when a video frame is dropped in decoding stage or in rendering stage.

2.1.14 Insufficient Buffer   Description

Notification when video buffer is low.

function **BufferInsufficientNotify**(SelectBitrate, DownloadBitrate)

Parameter

Name	Value type	Description
SelectBitrate	number	Current select video bitrate
Download Bitrate	number	Download Bitrate

Trigger Condition

This event function is triggered when the video buffer is insufficient.

2.1.15 Client IP

Client IP address

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"ip"	string	Event type
ts	Timestamp (in ms)	number	Epoch time
addr	IPv4 Address	string	Client IP address.

Trigger Condition
This event is triggered when after sending the analy data to the server or call AnalyticsInitinze() function .

2.1.16 Speed Change

Description
Playback speed change

JSON Object

Name	Value	Value type	Description
did	Device id	string	HTML5 unique id
sid	Session id	string	epoch timestamp
t	"spy"	string	Event type
ts	Timestamp (in ms)	number	Epoch time
sp	playback speed	string	speed range 0.5X ~ 4X

Trigger Condition
This event is triggered when player speed change.

Chapter 3: Error Codes

VO_OSMP_SRC_ERR_FORMAT_UNSUPPORT	
Value	2164260865 (0x81000001)
Description	Indicate that player cannot support the type of source link.
Suggestion	Fatal error.

VO_OSMP_SRC_ERR_CODEC_UNSUPPORT	
Value	2164260866 (0x81000002)
Description	The codec is not supported.
Suggestion	Fatal error.

VO_OSMP_SRC_ERR_BROWSER_UNSUPPORT_MSE	
Value	2164260867 (0x81000003)
Description	Indicate that browser does not support the media source element
Suggestion	Fatal error. User can choose a new version of browser.

VO_OSMP_SRC_ERR_MANIFEST_DOWNLOAD_FAIL	
Value	2164260868 (0x81000004)
Description	Download manifest failed.
Suggestion	Fatal error. Check the server.

VO_OSMP_SRC_ERR_MANIFEST_PARSE_FAIL	
Value	2164260869 (0x81000005)
Description	Errors in manifest file.
Suggestion	Fatal error.

VO_OSMP_SRC_ERR_CONTENT_DOWNLOAD_FAIL	
Value	2164260870 (0x81000006)
Description	Stream content download failed.
Suggestion	Fatal error. Check the server.

VO_OSMP_SRC_ERR_CONTENT_PARSE_FAIL	
Value	2164260871 (0x81000007)
Description	Errors in stream content.
Suggestion	Fatal error.

VO_OSMP_SRC_ERR_TEXT_TRACK_PARSE_FAIL	
Value	2164260872 (0x81000008)
Description	Errors in text track.
Suggestion	Status. This code can be ignored.

VO_OSMP_SRC_ERR_SOURCE_BUFFER_ERROR	
Value	2164260873 (0x81000009)
Description	Errors in source buffer. It may be caused by append error, full buffer and etc.
Suggestion	Status. This code can be ignored.

VO_OSMP_SRC_ERR_OUTMEMORY	
Value	2164260874 (0x8100000A)
Description	Out of memory occurs. It's failed to allocate video/audio media data.
Suggestion	Status. This code can be ignored.

VO_OSMP_SRC_ERR_UNKNOWN	
Value	2164260875 (0x8100000B)
Description	Unknown error.
Suggestion	Status. This code can be ignored.

VO_OSMP_DRM_ERR_BROWSER_UNSUPPORT	
Value	2164260876 (0x8100000C)
Description	Indicate that browser does not support the DRM.
Suggestion	Fatal error. User can choose a new version of browser.

VO_OSMP_DRM_ERR_KEY_FAIL	
Value	2164260877 (0x8100000D)
Description	Set the DRM key failed.
Suggestion	Fatal error. Check the server.

VO_OSMP_DRM_ERR_KEY_SESSION_FAIL	
Value	2164260878 (0x8100000E)
Description	Errors in DRM key processing or multiple key sessions are not supported.
Suggestion	Fatal error. Check the server.

VO_OSMP_DRM_ERR_LICENSE_REQUEST_FAIL	
Value	2164260879 (0x8100000F)
Description	Request license from server failed.
Suggestion	Fatal error. Check the server.

VO_OSMP_DRM_ERR_SELECT_KEY_SYSTEM_FAIL	
Value	2164260880 (0x81000010)
Description	Errors in selecting DRM key system or access denied to the key system.
Suggestion	Fatal error.

VO_OSMP_DRM_ERR_DECRYPT_FAIL	
Value	2164260881 (0x81000011)
Description	Errors in DRM content decryption.
Suggestion	Status. This code can be ignored.