

## CHANGE REQUEST

**DASH-IF IOP** CR **0004** rev **2** Current version: **4.0**

**Status:**  Draft  Internal Review  Community Review  Editor's Proposal  Agr

<b>Title:</b>	Addition of MPD Chaining and Fallback MPD		
<b>Source:</b>	DASH-IF IOP WG		
<b>Supporting Companies:</b>	Akamai, Comcast, Microsoft		
<b>Category:</b>	<b>A</b>	<b>Date:</b>	2017-02-21
	Use <i>one</i> of the following categories: <b>C</b> (correction) <b>A</b> (addition of feature) <b>B</b> (editorial modification)		

<b>Reason for change:</b>	<a href="https://github.com/Dash-Industry-Forum/DASH-IF-IOP/issues/102">https://github.com/Dash-Industry-Forum/DASH-IF-IOP/issues/102</a> <a href="https://github.com/Dash-Industry-Forum/DASH-IF-IOP/issues/103">https://github.com/Dash-Industry-Forum/DASH-IF-IOP/issues/103</a> MPD chaining enables preroll ad for live streaming with a very simple approach. MPD fallback allows the client to play a fallback presentation if it fails to stream the main content.
<b>Summary of change:</b>	Signaling for MPD chaining and fallback MPD is added
<b>Consequences if not approved:</b>	Not applicable.

<b>Sections affected:</b>	4.8.7, 5.3.3.8, 5.3.4.2
<b>Other comments:</b>	

<b>Disclaimer:</b>	<p>This document is not yet final. It is provided for public review until the deadline mentioned below. If you have comments on the document, please submit comments by one of the following means:</p> <ul style="list-style-type: none"><li>- at the github repository <a href="https://github.com/Dash-IndustryForum/IOP/issues">https://github.com/Dash-IndustryForum/IOP/issues</a> (public at <a href="https://gitreports.com/issue/Dash-IndustryForum/IOP">https://gitreports.com/issue/Dash-IndustryForum/IOP</a>)</li><li>- <a href="mailto:dashif+iop@groupsSpaces.com">dashif+iop@groupsSpaces.com</a> with a subject tag [UHD], or</li></ul> <p>Please add a detailed description of the problem and the comment.</p> <p>Based on the received comments a final document will be published latest by the expected publication date below, integrated in a new version of DASH-IF IOP if the following additional criteria are fulfilled:</p> <ul style="list-style-type: none"><li>- All comments from community review are addressed</li><li>- The relevant aspects for the Conformance Software are provided</li><li>- Verified IOP test vectors are provided</li></ul>
<b>Commenting Deadline:</b>	July 31 <sup>st</sup> , 2017
<b>Expected Publication:</b>	September 2017

## Add section

### 4.8.7 Fallback MPD

An author may provide a fallback presentation for the main presentation. The fallback presentation shall be signaled by a Supplementary Descriptor on MPD level with @schemeIdUri set to "urn:mpeg:dash:fallback:2016". For a MPD with a fallback presentation, the DASH player may switch in case of an irrecoverable error, having exhausted other recovery possibilities.

Both the MPD reset and MPD failover were introduced in ISO/IEC 23009-1:2014 AMD4.

## Add section

### 5.3.3.8 Pre-roll ads

There is a common practice of inserting pre-roll ads – a “canned” advertisement at the beginning of a viewing session, independent of ad break timing in the actual content. MPD Chaining (introduced in ISO/IEC 23009-1:2014 AMD4) can be used to implement this functionality. A EssentialProperty or SupplementalProperty descriptor with @schemeIdUri attribute value of "urn:mpeg:dash:mpd-chaining:2016" at the MPD level contains a URL of the next (“chained-to”) MPD which should be downloaded after the end of the current presentation. This way, after playing a pre-roll as, a DASH client will start the presentation contained in the “chained-to” MPD.

For MPD chaining, EssentialProperty should be used to prevent unaware players from playing just the pre-roll and failing to continue to the next content.

## Add section

### 5.3.4.2 MPD with preroll ad

In this example, a pre-roll ad is shown which chains-to a live channel whose MPD is located at <http://liveprogram.TV/mpd1.mpd>.

```
<?xml version="1.0"?>
<MPD xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:mpeg:dash:schema:mpd:2011"
  xsi:schemaLocation="urn:mpeg:dash:schema:mpd:2011 DASH-MPD.xsd"
  type="static"
  minBufferTime="PT2S"
  profiles="urn:mpeg:dash:profile:isoff-live:2011"
  <BaseURL>http://cdn1.example.com/</BaseURL>
  <BaseURL>http://cdn2.example.com/</BaseURL>

  <EssentialProperty schemeIdUri="urn:mpeg:dash:mpd-chaining:2016",
    value="http://liveprogram.TV/mpd1.mpd,2000">
```

```

<!-- Preroll advertisement, using a XLink-->
<Period duration="PT60.6S" id="pre-roll"

    xlink:href="https://adserv.com/avail.mpd?scte35-time=PT600.6S&
        scte35-cue=DAIAAAAAAAAAAAQAAZ_I0VniQQAQgBDVUVJQAAAAH+cAAAAAA%3D%3D"

    xlink:actuate="onRequest" >

    <!-- Default content, replaced by elements from remote entity -->
    <AdaptationSet mimeType="video/mp4" codecs="avc1.640828"

        frameRate="30000/1001"
        segmentAlignment="true" startWithSAP="1">
        <BaseURL availabilityTimeOffset="INF">default_ad/</BaseURL>
        <SegmentTemplate timescale="90000"
initialization="$Bandwidth%/init.mp4v"
            media="$Bandwidth%/Time$.mp4v"/>
        <Representation id="v0" width="320" height="240" bandwidth="250000"/>
        <Representation id="v1" width="640" height="480" bandwidth="500000"/>
        <Representation id="v2" width="960" height="720" bandwidth="1000000"/>
        </AdaptationSet>
    </Period>

<!--Movie, cont'd -->
<Period duration="PT600.6S" id="movie period #2">
    <AssetIdentifier schemeIdUri="urn:org:dashif:asset-id:2013"
        value="md:cid:EIDR:10.5240%2f0EFB-02CD-126E-8092-1E49-W"/>
    <AdaptationSet mimeType="video/mp4" codecs="avc1.640828"

        frameRate="24000/1001"
        segmentAlignment="true" startWithSAP="1">
        <BaseURL>video_2/</BaseURL>
        <SegmentTemplate timescale="90000"
initialization="$Bandwidth%/init.mp4v"
            media="$Bandwidth%/Time$.mp4v"/>
        <Representation id="v0" width="320" height="240" bandwidth="250000"/>
        <Representation id="v1" width="640" height="480" bandwidth="500000"/>
        <Representation id="v2" width="960" height="720" bandwidth="1000000"/>
        </AdaptationSet>
    </Period>
</MPD>

```

**Figure 13: Example of preroll ad's MPD using MPD chaining**