



LIVE 365

# HLS Interstitial



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Hosting &  
Delivery



Advertising &  
Monetization

# Full-circle audio. One platform.

Whether you're live streaming or podcasting or both, power everything – **seamless listening** around the world, **maximum ad revenue**, **holistic measurement** – from a single platform.



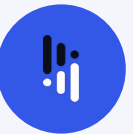
Insights &  
Reporting



**We make  
audio simple.**

## **Agenda**

- 1** Dynamic Ad Insertion challenge
- 2** What is this about?
- 3** Why so awesome?
- 4** Player support
- 5** Q&A



# Dynamic Ad Insertion challenge

server side

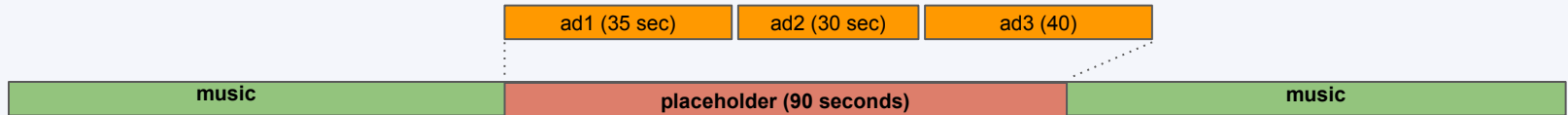


client side



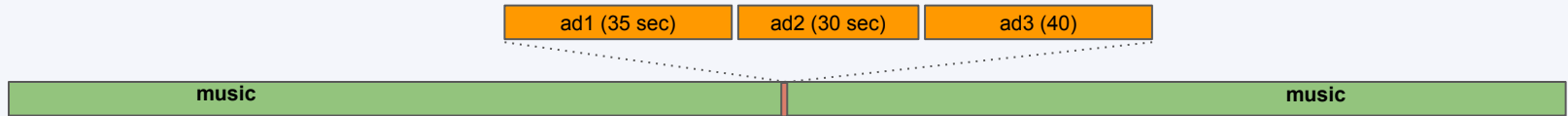
# Dynamic Ad Insertion challenge - server side

- Session management
- Ad impression and inventory reporting
- Nice fit management: dynamic delay from real time
- ... do this for XXXXX listeners in real time



# Dynamic Ad Insertion challenge - client side

- VAST Protocol support - with custom implementation
- Ad impression reporting
- Buffer management
- Ad break detection



**We believe that every publisher should have access to every ad tech solution possible to monetize their incredible content.**



# What is this about?

HLS  
Interstitial

Make it easier to insert content in the normal HLS stream.  
Content that can be delivered by another server.

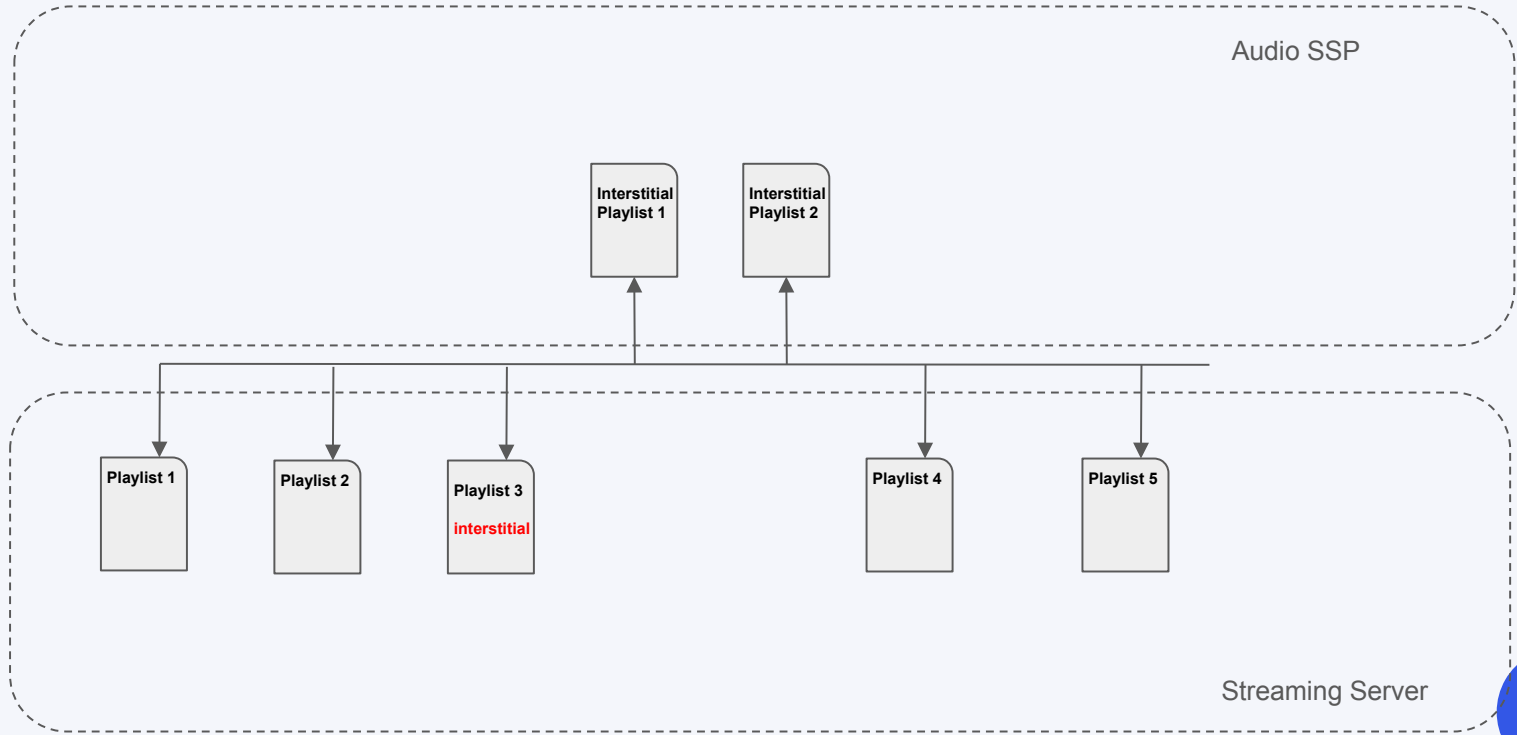
```
#EXTM3U
#EXT-X-TARGETDURATION:5
#EXT-X-VERSION:6
#EXT-X-MEDIA-SEQUENCE:24
#EXT-X-PROGRAM-DATE-TIME:2024-05-17T10:46:10.381+00:00
#EXTINF:3.47429,Endless Legend
segment-153.mp3?listeningSessionId=Uzl2N1dRUVVISUK2N01QNUIQTFZQTIIMRIFcG9jazhzLWRhcy1IZGdIMDEtZGFsMDMuY2Ruc3RyZWFlLmNvbTo4MTg2
#EXTINF:6.53061,Endless Legend
segment-154.mp3?listeningSessionId=Uzl2N1dRUVVISUK2N01QNUIQTFZQTIIMRIFcG9jazhzLWRhcy1IZGdIMDEtZGFsMDMuY2Ruc3RyZWFlLmNvbTo4MTg2
#EXTINF:4.98939,Endless Legend
segment-155.mp3?listeningSessionId=Uzl2N1dRUVVISUK2N01QNUIQTFZQTIIMRIFcG9jazhzLWRhcy1IZGdIMDEtZGFsMDMuY2Ruc3RyZWFlLmNvbTo4MTg2
#EXT-X-DATERANGE:ID="ad1",CLASS="com.apple.hls.interstitial",START-DATE="2024-05-17T10:46:37.183+00:00",DURATION=30,X-ASSET-URI="http://pock8s-das-edge01-
dal03.cdnstream.com/interstitial_insertion/interstitial_playlist.m3u8?sessionId=S267WQQUHII67MP5IPLVPNYLFQ&adBreakId=interstitial-mid-roll-3-1715942794362-30000",X-RESUME-
OFFSET=0
```

**NO VAST**  
**NO DAI Streaming Server**





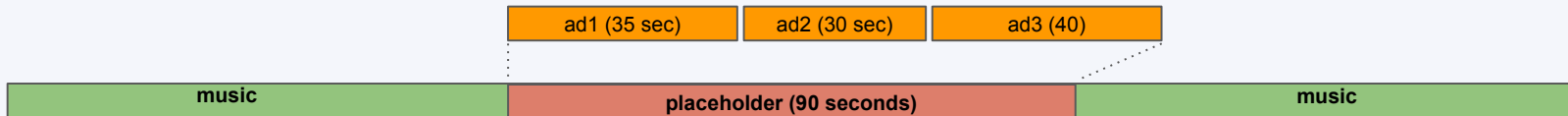
# What is this about?



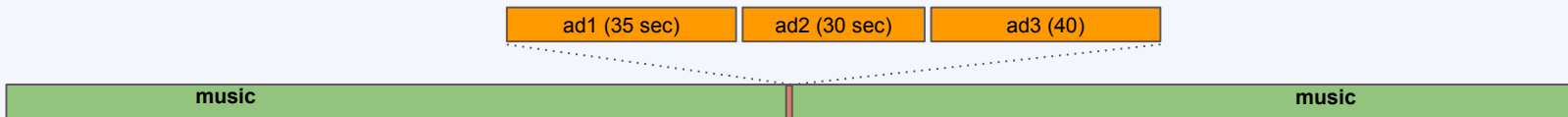
# What is this about?

Both, insertion and replacement are supported.

```
#EXT-X-DATERANGE:ID="ad1",CLASS="com.apple.hls.interstitial",START-DATE="2024-05-17T10:46:37.183+00:00",DURATION=30,X-ASSET-URI="http://pock8s-das-edge01-dal03.cdnstream.com/interstitial_insertion/interstitial_playlist.m3u8?sessionId=S267WQQUHlI67MP5lPLVPNYLFQ&adBreakId=interstitial-mid-roll-3-1715942794362-30000",X-RESUME-OFFSET=90
```



```
#EXT-X-DATERANGE:ID="ad1",CLASS="com.apple.hls.interstitial",START-DATE="2024-05-17T10:46:37.183+00:00",DURATION=30,X-ASSET-URI="http://pock8s-das-edge01-dal03.cdnstream.com/interstitial_insertion/interstitial_playlist.m3u8?sessionId=S267WQQUHlI67MP5lPLVPNYLFQ&adBreakId=interstitial-mid-roll-3-1715942794362-30000",X-RESUME-OFFSET=0
```



**Why so awesome?**

# Why so awesome?

- Streaming server does not have to care about ad insertion
- Client player does not have to support VAST
- No one should care about impression reporting
- All ad insertion functionality is isolated into one component (SSP)

<https://developer.apple.com/streaming/GettingStartedWithHLSInterstitials.pdf>



# Player support

The screenshot shows a GitHub project backlog for "HLS.js Release Planning and Backlog". The backlog is organized into three columns: "No Status", "Top priorities", and "Backlog".

- No Status (1):** Contains issue #4402: "bugfix: Don't sync to live when media is in paused". Labels: Enhancement, Suggested-Workaround, Wontdo.
- Top priorities (3):** Contains issue #5730: "HLS Interstitial Support". Label: Feature proposal.
- Backlog (3):** Contains issues #4920: "Support INSTREAM-ID filtering of 608\_cc channels" (Confirmed, Feature proposal, good-first-issue), #6331: "Seeking to the end of a fragment while paused stalls", and #6075: "audio frames are not being spinned while".

A detailed view of issue #674 is shown below, titled "ExoPlayer support for (Apple) HLS interstitials #674".

**ExoPlayer support for (Apple) HLS interstitials #674**  
Open will-work opened this issue on Sep 25, 2023 · 3 comments

**will-work** commented on Sep 25, 2023

**[REQUIRED] Use case description**

As a video broadcast company I want to support HLS streams containing interstitial ads, so that mobile users can watch streaming content in their apps that contain late-bound adverts.

Ref: <https://developer.apple.com/streaming/GettingStartedWithHLSInterstitials.pdf>

**Proposed solution**

Implement support for HLS interstitial specification.

**Alternatives considered**

None possible.

Apple AVPlayer is fully supporting this.

... and probably many others



**Q&A**