

Frame Accurate Signaling for Ad Insertion

Synopsis: Crystal enables broadcasters to replace ads in OTT feeds by signaling frame accurate metadata of content in their linear feed.

Broadcasters and other video providers are challenged with increasing competition, evolving consumer expectations, and the pressure to maximize the value of advertising. Growing competition makes it more demanding than ever to monetize video services, with consumers able to access free or extremely inexpensive content from multiple sources. Even with ad-supported content, many consumers expect to skip or otherwise circumvent advertising. Enabling targeted ads may be the saving grace for video providers seeking to monetize services while maintaining a high-quality user experience. If ads are relevant to the viewer, they are much more likely to be accepted. More than that, consumers are much more likely to respond to the ads, which yields advertisers far greater value.

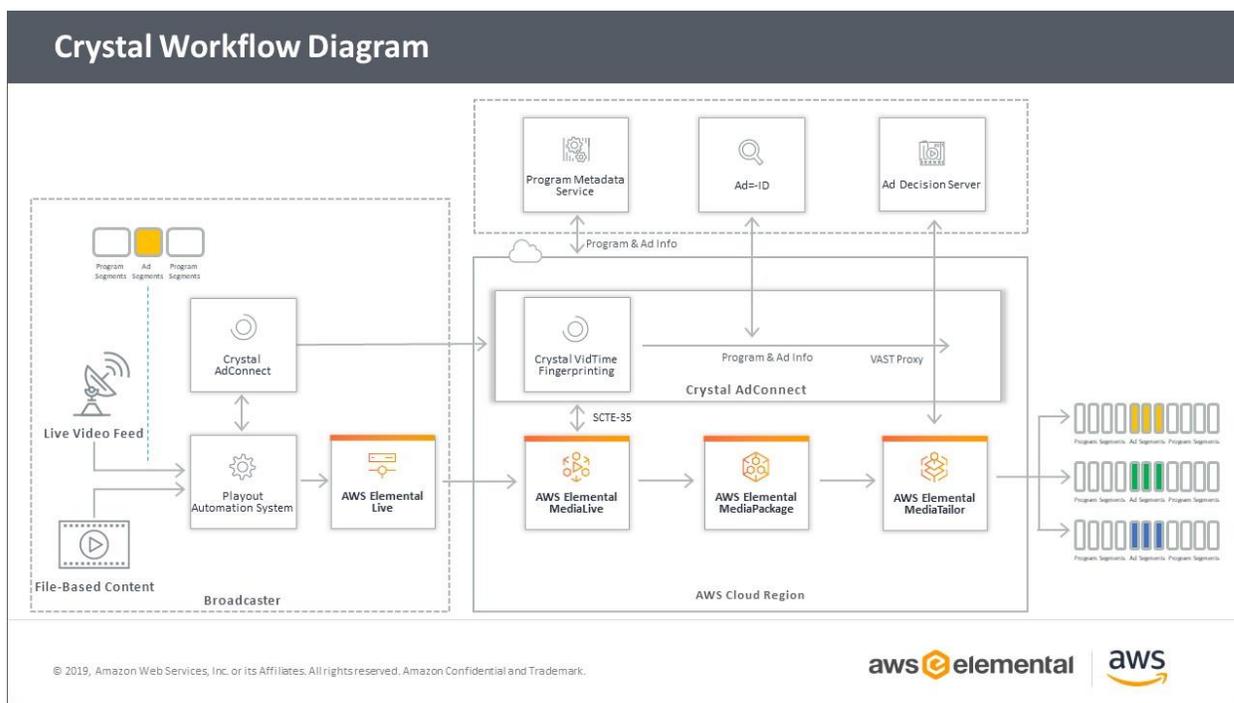
AWS Elemental Media Services are cloud-based services that provide customers the capability to ingest, process, package, and deliver video content at scale. AWS Elemental MediaTailor is a personalization and monetization service that serves video with targeted ads to end users while maintaining broadcast quality-of-service in multiscreen video applications. MediaTailor inserts targeted advertising into video streams such that viewers of live or on-demand video receive a stream that combines content with ads personalized to them. It enables the entire stream to be delivered with broadcast-grade video quality and provides automated reporting based on both client and server-side ad delivery metrics, making it easy to accurately measure ad impressions and viewer behavior.

However, delivering targeted advertising means video providers need to easily and automatically replace ads depending on a number of parameters. This is challenging because ads created for linear feeds can be scheduled at changeable times, made up of any combination of ads or promos, and can be variable in length. To enable ad replacement, accurate SCTE 35 metadata triggers need to be generated detailing start and stop times and the length of ads. In order to use all of their ad inventory for over-the-top (OTT) server-side ad insertion, video providers need to generate accurate SCTE 35 triggers for accurate downstream manifest manipulation and ad insertion.

At the same time, broadcasters need to ensure signaling is delivered intact to OTT partners in a form that they can consume readily, a process that OTT service

companies have found challenging. The source of these challenges is directly related to the legacy nature of broadcast infrastructure and the interpretability of the SCTE 35 specification: Often, the in-band SCTE 35 does not survive transmission intact and if it does, may not conform to a SCTE 35 profile that the OTT partner expects.

Crystal AdConnect software interfaces to systems at the broadcast origination playout (primarily automation, Traffic, MAM and manual operations) and generates accurate in-band and out-of-band metadata signaling of all ads and program segments in a linear video stream. It combines the information it extracts from these systems with the programmer’s business rules to create metadata that accurately describes the playing events, whether that is an ad or program segment, and all the events’ boundaries. AdConnect embeds that metadata in the video as playout is occurring as SCTE 104 or 35 plus out-of-band in advance for downstream server-side ad insertion.



Crystal AdConnect includes Crystal VidTime, which uses temporal fingerprints taken at the origin to ensure signaling is delivered intact to OTT partners. Another part of the AdConnect solution is Crystal’s VAST (Video Ad Serving Template) Proxy module, which enables Ad Decision Services (ADS) to make better decisions to ultimately drive greater viewer engagement and boost monetization. It does this by taking program contextual data that Connect extracts from multiple sources and provides that to the ADS in the form of an advanced VAST request. This information could include details on the programming immediately before an ad break such as Gracenote data, or the composition and timing of the ad breaks themselves, including the important Ad-ID. Knowing the guests on a TV program, its genre, who the teams are in a game, the

> Making Broadcast TV Ad Inventory Addressable



details of advertisements in the breaks, and the full ad load on the linear feed allows the ADS to make better decisions and serve more targeted ads.

Crystal AdConnect is interoperable with AWS Elemental MediaTailor, which means that AdConnect is able to accurately signal MediaTailor with the key markers for all ads in a linear feed. This allows broadcasters to accomplish full ad inventory monetization. The accurate signaling ensures that broadcast quality is maintained, preserving viewing attention and engagement. VidTime also ensures the delivery of metadata to MediaTailor even if the transmission route results in in-band metadata loss.

AdConnect is aware of each event playing out in the linear channel, including all program segments and commercial spots. This data, plus that from Traffic and MAM systems, applied with business rules, means downstream partners can execute seamless ad insertion in over-the-top video.

Coupled with ad impressions and viewing behavior data gathered by MediaTailor across multiple devices, broadcasters and other video providers are able to continually evolve the advertising experience for individual consumers.

To learn more, contact Crystal at sales@crystalcc.com or +1.770.932.0970

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