

Major U.S. Broadcaster Streamlines Distribution of Affiliate Feeds for OTT MVPDs Via the Cloud



CASE STUDY



Harmonic's Spectrum™ XE Media Server and VOS™ SW Cluster Solution Offer a Unique Approach to Aggregating and Distributing Local Channels Connected by the Internet

The Challenge

According to Digital TV Research, global OTT TV and video revenues will reach \$64.78 billion in 2021, up from \$4.47 billion in 2010 and \$29.41 billion in 2015. As broadcasters look to take advantage of these revenue opportunities, a key challenge they face is how to prepare and distribute OTT-ready local broadcast channels to MVPDs. For skinny bundles to be relevant and compete with traditional pay-TV offerings, local channels need to be a part of the equation.

Recently, a major U.S. broadcaster was in search of a solution that would allow all 190 of its affiliates to deliver local programming to MVPDs for streaming. Yet, the process of inserting unique station data (SCTE signaling) for rights management, blackouts and local ad insertion is difficult. In particular, the technical environment at each station is different.

The broadcaster also needed to enforce content rights, ensuring that only content licensed for OTT streaming is made available to end users on OTT-connected devices. The complete solution would be utilized to collect 190 HD channels, import all local schedules, centrally store/edit content rights, and distribute the channels to MVPDs.

Video quality was an important requirement, as was a solution that demanded minimal investment in hardware. Given the ever-evolving nature of the OTT environment, the broadcaster also wanted a solution that was flexible, enabling quick adaption to technology and market changes.

As a long-term customer of Harmonic, a major U.S. broadcaster chose Harmonic based on its comprehensive understanding of the local TV station environment and expertise in cloud-based media processing.

SOLUTION AT A GLANCE

CHALLENGE:

A major broadcaster in the U.S. required a cost-effective and efficient solution for delivering local channels from all 190 of its affiliates to MVPDs for OTT purposes. The solution would be used for insertion of unique station data (SCTE signaling) for rights management, blackouts and local ad insertion, and must deliver exceptional video quality.

SOLUTION:

The broadcaster deployed a complete broadcast affiliate aggregation and distribution solution from Harmonic. Using Harmonic's Spectrum XE playback system and VOS SW Cluster software application, the broadcaster can seamlessly create schedules and manage content rights, distributing OTT-ready local feeds to MVPDs by leveraging the public internet and the cloud.

APPLICATIONS:

- Centralized channels aggregation and distribution
- Centralized schedules aggregation and distribution
- Real-time transcoding and encoding
- OTT rights management, blackouts and local ad insertion
- Cloud uplinks (to the cloud) and downlinks (from the cloud) for distribution via public cloud and public internet

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VOS™ SW CLUSTER

The Solution

As a long-term customer of Harmonic, the broadcaster chose Harmonic based on its comprehensive understanding of the local TV station environment and expertise in cloud-based media processing. At the heart of the solution is Harmonic's Spectrum™ XE playout system and cloud-native VOS™ SW Cluster solution.

Leveraging the public internet and Harmonic's cloud solutions, the broadcaster can aggregate feeds from affiliates on a centralized platform and take advantage of the IT economics and workflow efficiencies offered by cloud infrastructure. This "Distribution 2.0" solution processes and prepares feeds according to SCTE specifications, and distributes local OTT-ready content from the cloud to MVPD partners (i.e., Hulu, DirecTV Now, Sling TV, etc.).

The broadcaster is using Harmonic's Spectrum XE system to transcode ATSC HD MPEG-2 feeds into MPEG-4 AVC to reduce bandwidth requirements, making it easier to deliver the feeds to MVPDs over the public internet.

Using VOS SW Cluster software, the broadcaster's affiliates have the power to seamlessly create schedules, manage content rights and distribute feeds in real time over the internet. VOS SW Cluster allows the broadcaster to efficiently aggregate feeds from close to 200 stations, keep services running smoothly and deliver affiliate channels (including local and network programming, sporting events and advertising), for OTT applications with exceptional video quality.

Spectrum XE and VOS SW Cluster are powered by Harmonic's software-based encoding and transcoding technologies that deliver industry-leading video quality at low bitrates and support a wide range of formats, codecs and encoding schemes, allowing the broadcaster to deliver crystal-clear HD quality video to MVPDs for OTT services.

Based on a flexible pricing model, the VOS SW Cluster solution ensures that the customer only pays for what they are forecasted to use.

The Workflow

At each affiliate, Harmonic's Spectrum XE software is running on commercial off-the-shelf (COTS) hardware to transcode linear channels and uplink them over the public internet to VOS SW Cluster running on Amazon Web Services (AWS) cloud infrastructure. Each Spectrum XE system is integrated with the station's automation to trigger accurate SCTE signaling placement.

Stations and station groups enter rights for their programming via a VOS SW Cluster web portal. The rights information is inserted as SCTE-35 in the video feeds by VOS SW Cluster running in AWS. The schedules (complete with rights information) are pushed to each of the MVPDs as SCTE-224 and then aligned with the VOS SW Cluster feeds (cloud downlinks) and integrated into the MVPDs' ecosystems before distribution to respective end users.

Harmonic's VOS SW Cluster solution replicates each of the 190 affiliate transport streams, as needed, to meet MVPD demand. Additionally, VOS SW Cluster possesses the ability to transcode and package these feeds into the HLS format, providing MVPDs with the option of either taking the transport stream and transcoding it themselves or simply passing the HLS through their HLS ecosystem.

The Result

Harmonic's innovative approach to primary distribution changes the way that broadcasters distribute local OTT-ready feeds to MVPDs. While the concept of affiliate aggregation and distribution has been done before, it's never been achieved by broadcasters without investing heavily in content aggregation platforms.

Harmonic's solution to fully manage affiliate schedules including OTT restrictions, encode a secondary OTT feed at each station, backhaul it over the public internet, add SCTE-35 markers in the cloud for programming and ads, and distribute it to MVPDs via the cloud requires no dedicated recovery equipment and little upfront cost, as it's based on an OPEX business model.

By simplifying the delivery of linear channels from all 190 affiliates to MVPDs for OTT streaming, Harmonic enables the broadcaster to be more competitive and meet the growing demand for localized video content on any connected device. Video quality is never an issue thanks to Harmonic's award-winning compression technology.