

Heartland Video Systems Hosts 3rd Annual ATSC 3.0 Interoperability Event, Accelerating NextGen TV Innovations

HVS Partners with Pearl TV and A3SA (and 50 other orgs) to Pioneer Breakthroughs in Signal Signing, HDR, Dolby Atmos, and Accessibility Features

Plymouth, WI—November 4, 2024—Heartland Video Systems (HVS), a leading video systems integration and consulting firm, successfully hosted its third annual ATSC 3.0 Interoperability Event from October 29 to 31, 2024, at its headquarters in Plymouth, Wisconsin. In collaboration with Pearl TV and the Advanced Television Systems Committee (A3SA), the event brought together over 50 organizations from around the globe to advance NextGen TV standards, focusing on groundbreaking developments in signal signing, High Dynamic Range (HDR) video, Dolby Atmos audio, enhanced accessibility features, and more.

"As the broadcasting industry embraces the future with NextGen TV, interoperability and innovation are more critical than ever," said **Dennis Klas**, President of HVS. "Hosting this significant event at our state-of-the-art ATSC 3.0 lab underscores HVS's commitment to driving technological advancements that will redefine broadcast. The progress made in testing signal signing across platforms using both ROUTE and MMT protocols is another significant step forward to ensure secure and authentic broadcast signals."

Pioneering Advancements in NextGen TV

Building on its leadership in ATSC 3.0 deployment—having been instrumental in launching over 70 "Lighthouse" stations across the United States—HVS is now extending its expertise internationally. This year's "plugfest" served as a pivotal platform for broadcasters, consumer electronics manufacturers, and broadcast equipment providers to test, validate, and refine the latest features of the ATSC 3.0 standard. The collaborative efforts are essential in ensuring seamless interoperability as new technologies are integrated into the broadcasting ecosystem.

"It's an honor for HVS to host this event for the third consecutive year," added **Mike Schmidt**, HVS's Senior Broadcast Engineer and ATSC 3.0 authority. "Our continued involvement reflects our dedication to pushing the boundaries of what's possible with NextGen TV. By uniting industry leaders, we're accelerating the development of technologies that will shape the future of broadcasting and deliver new opportunities."

Key Achievements of the Event

- **Progress in Signal Signing and Verification:** Made significant progress in testing signal signing across platforms using both ROUTE and MMT protocols. While ROUTE signing was successfully verified across multiple platforms, testing of MMT signing identified areas for improvement, providing valuable insights for future development to ensure secure and authentic broadcast signals.

- **Advanced HDR and Dolby Atmos Integration:** Conducted extensive testing of various HDR formats—including HLG, HDR10, Dolby Vision, HDR10+, and their combinations—as well as 5.1.4 Dolby Atmos audio. These advancements pave the way for delivering immersive visual and audio experiences, bringing cinema-quality entertainment into homes.
- **Enhanced Accessibility Features:** Verified correct support for AC-4 Dialog Enhancement, Descriptive Audio, and multiple caption tracks on consumer devices. Industry experts **Jim Starzynski** from NBCUniversal and **Charles Bronson** from Dolby Laboratories played key roles in ensuring compatibility and optimal performance, enhancing accessibility for all users.
- **Seamless Broadcast IP and Virtual Channels:** Assessed the integration of broadcast equipment and consumer electronics in tuning into services and downloading video, audio, and captions via Content Delivery Networks (CDNs). This fusion of internet-based content delivery with traditional broadcasting facilitates seamless viewer experiences and opens new avenues for interactive services.
- **Resilience in Modulation and Coding (ModCod):** Tested consumer devices' ability to remain tuned to channels when modulation parameters and service placements within Physical Layer Pipes (PLPs) are altered. This is critical for maintaining uninterrupted service in dynamic broadcasting environments and supports the flexibility of ATSC 3.0.
- **Bridging Technologies with ATSC 1.0 Verance Watermarking:** Explored the use of Verance watermarking in ATSC 1.0 to enable the rendering of broadcast applications on existing channels, effectively bridging the gap between current and next-generation technologies and extending the reach of advanced services.
- **Precision in Timing and Synchronization:** **Mike Dolan** presented on ATSC 3.0 timing, utilizing an API application to verify proper synchronization on consumer devices. Accurate timing is crucial for optimal performance, ensuring that audio and video are perfectly aligned for a seamless viewing experience.
- **Expansion of Technical Capabilities:** Tested new datacasting service categories, compressed Service Layer Signaling (SLS), and basic DASH Event Streams, further expanding the capabilities and applications of the ATSC 3.0 standard.

Industry Collaboration Driving Future Innovations

"The interoperability event at HVS has been pivotal in pushing the boundaries of what's possible with NextGen TV," commented **Anne Schelle**, Managing Director of Pearl TV. "By focusing on critical advancements such as signal signing, HDR, and accessibility, we've made significant strides in ensuring that broadcasters can securely and efficiently deliver enhanced services to consumers. HVS's expertise and cutting-edge facilities were instrumental in the success of this event, fostering collaboration that will shape the future of broadcasting."

Interoperability testing remains essential as ATSC 3.0 continues to evolve, ensuring that new features and technologies are seamlessly integrated across diverse devices and platforms. The event facilitated thousands of tests across various equipment combinations, verifying compatibility and performance in real-world scenarios. This collaborative approach is crucial for delivering on the promise of NextGen TV—providing viewers with a richer, more interactive, and immersive experience.

About Heartland Video Systems (HVS)

Heartland Video Systems is a premier video systems integration and consulting firm dedicated to providing comprehensive solutions in video distribution, production, and systems integration. With a focus on innovation and customer service, HVS partners with broadcasters to deliver cutting-edge technologies that shape the future of television. For more information, visit www.hvs-inc.com.

About Pearl TV

Pearl TV is a consortium of U.S. broadcast companies with a shared interest in exploring forward-looking broadcasting opportunities, including innovative ways of promoting local broadcast TV content and developing digital media and wireless platforms for the broadcast industry. For more information, visit www.pearl.tv.