Hospitable Integration for Corporate and Private Events

Systems integration firm SASS turns to AV over IP to feed large, diverse and intricate AV environments at Hilton Greenville in North Carolina

Hotel properties often represent a diverse sampling of what's happening in commercial AV integration. While technically the hospitality vertical, AV use cases are diverse when it comes to the hotel. From boutique independent hotels to the largest global chains, a hotel project today will often bring AV for meeting spaces, convention spaces, leisure, dining, retail and entertainment together into one project. The possibilities truly seem endless for the systems integrator.

The team at Security Automation Sound Services (SASS) found themselves focused more on the corporate and business side upon winning an audio-visual integration project at the Hilton Greenville in Greenville, North Carolina. With five meeting rooms and 43,200 square feet of total event space, the hotel is a popular destination for corporate gatherings, business meetings and small conventions, as well as privately hosted events.

The SASS team was tasked with upgrading the divisible ballrooms and conference rooms used mainly for these purposes. The existing AV environment was, at best, sparse. Video was limited to basic projectors, while some audio components could support announcements and simple presentations. A legacy control system was installed at some point, though was rarely used and never effectively.

"They had a soundboard temporarily placed in each space, with some wireless microphones and a single wall-mounted loudspeaker," said Stephen Gardner, Owner and President, Security Automation Sound Services. "There were some corporate executives interested in the rooms, which are quite large – and we needed to jump in quickly to put a plan into action."

A longtime installer of Bose commercial sound systems, Gardner loaned the hotel a small system to improve the audio quality and capabilities while the SASS team began considering the AV infrastructure. Even with the temporary Bose system in place, audio was stretched to its limits considering the large spaces it worked to fill. That accelerated the decision-making process inside the hotel.

Gardner quickly set his sights on an AV over IP architecture, given the variety of spaces and the distance between some locations. "We wanted to build one system that could feed all of these different spaces," said Gardner. "We wanted to establish a flexible input and output strategy that we could easily scale. That's not really possible with a legacy matrixed system, where you are limited by fixed I/O counts and dedicated end points."

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Gardner guided the decision makers inside the hotel toward Atlona's OmniStream™ Pro family as it offered the flexibility for signal distribution the hotel required.

He had one more influencing factor to go with OmniStream. Gardner had his eye on bringing the hotel's AV control onto the network, which he could most easily achieve with Atlona's Velocity™ IP-enabled control platform.

"I come from the analog world, but the AV universe is all rapidly moving to IP," said Gardner. "We don't want our end users to be stuck. OmniStream and Velocity together offered Hilton Greenville the best of both worlds for a genuine AV over IP environment."

Simplified Programming

Gardner was quick to point out that Atlona's professional programming environments ultimately helped him bring together a very complex AV distribution architecture.

"There was very intense programming when it came to building this system, and I don't think I'm overstating it when I say we pushed the envelope," said Gardner. "In the West Wing alone, we accommodated microphone and video feeds in three spaces that can be divisible into four, five, or six rooms depending on what is happening in the hotel. We're also feeding end points in the Greenville Room, which is a more upscale room for small conferences, and then there are four rooms on the other side of the hotel."

Interoperating with Velocity, Gardner says Atlona has established a "click-and-play" system that is easy to use. While he pushed the envelope on the programming side, he said Atlona's environment made the process overall easy to manage. Most importantly, the system is doing what the previous could not, even for audio alone.

"There are partitions in each of the West Wing ballrooms, and they could never take advantage of pushing unique content to divisible spaces," said Gardner. "The existing control system was supposed to accommodate that, but it was difficult for the end user to comprehend. Ultimately, it sat there mostly unused."

"Velocity changes everything on the control side when it comes to ease of use," Gardner continued. "If it's a single room, we're just worried about master volume on the touch panel. And when they link the rooms, they can easily pull in HDMI video feeds and direct them to two or more spaces. Velocity keeps the complex very simple."

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Network Convergence

The OmniStream Pro architecture includes a mix of AT-OMNI-111-WP wallplate networked AV encoders, (single-channel) and AT-OMNI-112 (dual-channel) networked AV decoders.

The SASS team installed two wallplates in each of the six West Wing divisible spaces – one in the front of the room and one in the back – and one in the Greenville Room, with a second in storage if needed. Front and back wallplates were added to the four remaining rooms on the other side of the hotel.

OmniStream decoders were added in a variety of places to better suit delivery to end points, which include Epson Cinema 660 projectors and Screen Innovations 160-inch screens. Some were installed in ceilings by Epson projectors, and others within an existing 42U equipment rack that was rewired and reused for this project. The IT-friendly rack also integrates two 48-port Cisco network switches and all pertinent audio equipment, including a Bose ControlSpace EX-1280C DSP, and a Sennheiser EW 500 G4 Series wireless antenna system.

As a Bose enthusiast, the ControlSpace EX-1280C DSP was especially critical to execute Gardner's vision.

The DSP moves the audio to Bose FreeSpace DS 100F loudspeaker systems, which were deployed in a 70-volt configuration to accommodate the longer runs.

"The FreeSpace system replaced these enormous wedge-shaped speakers that were just cancelling each other out based on how they were spaced and positioned," said Gardner. " The audio integrity is now perfect for these spaces."

The Sennheiser system improves presentation audio with a wireless system in a redundant A/B system configuration that includes high-quality handheld microphones, and a mix of single- and dual-channel receivers. A distribution amplifier in the rack brings in the various antennas from the system's power amplifier.

Gardner notes that Atlona, Bose and Sennheiser all worked closely with him and his team to customize the him and his team to customize the system and provide the flexible programming environments he needed. He also had strong praise for Screen Innovations, noting that the company made life easier by eliminating any need for flush-mounting screens.

"We really had to think through the programming, because we couldn't simply cut-and-paste the same setting for every space since each was unique," said Gardner. "This was especially true when it came to the HDMI video feeds, the microphone system and the DSP flows. These companies made a very challenging programming and integration project a lot more seamless than it could have been."

SELECT FEATURED PRODUCTS

MODEL	DESCRIPTION	
ATLONA OMNISTREAM	Atlona OmniStream is a flexible, scalable, and cost-effective AV distribution platform for meeting rooms, small to medium office buildings, restaurants, retail establishments, corporations, and even a campus or enterprise. OmniStream delivers the performance and dependability of traditional AV distribution, plus the unrestricted scalability and cost efficiency of integrating over data networks.	
AT-OMNI-111-WP	The Atlona OmniStream 111 WP (AT-OMNI-111-WP) is a single-channel networked AV encoder for HDMI sources up to UHD @ 60 Hz and HDR (High Dynamic Range), plus embedded audio. It features a US two-gang, wallplate form factor, and includes interchangeable black and white wallplates and faceplates.	
AT-OMNI-112	The Atlona OmniStream 112 (AT-OMNI-112) is a networked AV encoder with two independent channels of encoding for two HDMI sources up to 4K @ 60 Hz and HDR (High Dynamic Range), plus embedded audio and RS-232 or IR control pass-through.	
VELOCITY SYSTEM	The Atlona Velocity System is an innovative IP-based platform for AV control, room scheduling, and asset management. It includes the Atlona Management System (AMS) for configuring and managing OmniStream and other Atlona devices over a network. Once installation is completed and handed over to your client, the system provides continual system monitoring, event notifications, and the ability to manage and schedule firmware updates.	