High Tech, Higher Ed, and High-Level Integration

Atlona OmniStream unites disparate technologies for
The Technion - Israel Institute of Technology

Established in 1912––36 years prior to Israel declaring independence––The Technion––Israel Institute of Technology is the oldest university in the country. World-renowned for the quality of its programs, its 18 academic departments, 60 research centers, and 12 affiliated teaching hospitals provide education in science and engineering, architecture, medicine, and industrial management.

In 2013, The Technion's Tel Aviv campus moved into the Sarona district of the city. The university recently opened a 200-seat auditorium in the Azrieli Sarona Tower. At 782 feet and 61 floors, the Azrieli Sarona Tower is Israel's tallest skyscraper and one of the most prestigious locations in the city. Designed to host conferences, lectures, and presentations, this facility can be transformed into two auditoriums, enabling two events to take place simultaneously.

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> – Erez Or, CEO at OR-Tech, an AV consultancy firm based in Israel

The multimedia, communications, and security systems for the new auditorium were designed by Erez Or, CEO at Or-Tech, an AV consultancy based in Tel Mond, Israel. Or fully based his design on audio, video, and USB over TCPIP technology, including the Atlona All-IP Meeting Space solution that incorporates a broad range of its OmniStream encoding, decoding and USB products.

With a focus on providing a flexible, scalable distribution platform, Atlona's OmniStream Pro encoders and decoders enable configuration via a web-based graphical user interface (GUI) for virtual AV routing over the IP network. They also provide automated monitoring and centralized firmware updating, and can be configured with many of the popular managed network switches.

Or selected OmniStream Pro encoders and decoders largely due to these reasons, as well its simple scalability for AV over IP systems.

"AV over IP enables the expansion of our project without replacing expensive equipment by adding end units," he says. "The system core is based on a communication switch so that the organization's IT team can provide an initial response to the problem if required."

The OmniStream USB over IP platform delivers the ability to utilize USB peripherals for applications such as videoconferencing and audio integration. This appealed to Or, who was tasked with delivering videoconferencing functionality in this space. The configuration comprises AT-OMNI 311 USB to IP Adapter for host devices, and the AT-OMNI-324 IP to USB Adapter for peripherals.

"The USB over IP capabilities are a distinct advantage of Atlona's AV over IP offering," said Or. "This enabled the implementation of a Zoom software-based videoconferencing system for each hall in the auditorium, and supports BYOD compatibility with our Atlona SW-510W wireless presentation switcher."

"THE USB OVER IP CAPABILITIES ARE A DISTINCT ADVANTAGE OF ATLONA'S AV OVER IP OFFERING"

– Or

Audio distribution for the auditorium is based on the AES67 standard. The OmniStream encoders and decoders – both single- and dual-channel units are used for each application – integrate with a Symetrix Radius NX 12x8 digital signal processor. When the auditorium is divided into two rooms, Radius will zone the audio accordingly,

with Stewart DSP100-2-LZ amplifiers powering JBL speakers. The 200W amplifiers are also Dante-supported, allowing them to take audio straight off the network.

Two Vivitek DU series projectors serve two 140-inch electric screens, as well as a set of iSMART PTZ cameras for video capture. A recording system allows for local recording as well as simultaneous streaming; if users wish, they may control the systems from a local PC.

Ardan Control-Tech Ltd., a systems integration company based in Or-Yehuda, Israel, oversaw the implementation of this AV over IP solution, based on Or's design. Mark Prepelitsky, multimedia division manager at the firm, explains that aside from mandating user-friendly AV control, the client required a clean interface that was simple for lecturers and presenters to use when delivering talks from one of the two fully-equipped podiums in the facility. The podiums are outfitted with Attero Tech unD4I Dante interfaces featuring four inputs, three of which are left open for extra microphones aside from the dedicated Audio-Technica ES915 podium mic.

There is also a lobby area that houses seating and a cafeteria for overflow audiences; this space features two Samsung video walls made up of 2X2 UH55F screens. "Each [video wall] enables presentation from a [BrightSign BrightAuthor] digital signage player, or of a lecture from one of the auditoriums," Prepelitsky explains. Eight JBL speakers, as well as a subwoofer, are installed on the

ceiling mount, with Atlona Gain Series of Amplifiers providing power. "All of these elements integrate with OmniStream single- and dual-channel encoders for routing and distribution over the network."

Or notes that at the outset of the project, finding a viable AV over IP solution was not easy. "It was not a simple challenge, since not all manufacturers had solutions that really worked at the time the project was in the specification stage," he said.

Or adds that Atlona's integration with Symetrix and other products helped them architect a fully functional AV over IP solution at a time when the product category was still maturing, adding that Atlona's professional training programs for Israeli integrators were well-timed.
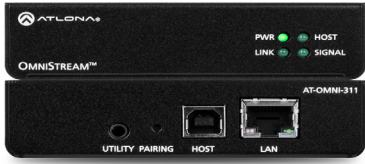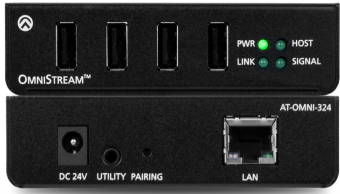
"When it came to full integration between different products and protocols, some manufacturers who introduced AV over IP solutions did not really stand behind their products at the time," he said. "Atlona proved they were well-prepared and ahead of the curve."

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SELECT FEATURED PRODUCTS

MODEL	DESCRIPTION	
AT-OMNI-512	The Atlona OmniStream™ 512 (AT-OMNI-512) is a networked AV encoder with two independent channels of encoding for two HDMI 2.0 sources up to 4K @ 60 Hz and HDR (High Dynamic Range), plus embedded audio and RS-232 or IR control pass-through.	
AT-OMNI-311	The Atlona OmniStream™ 311 (AT-OMNI-311) works in tandem with the OmniStream 324 (AT-OMNI-324) for extending USB from peripheral devices to a PC over Gigabit Ethernet. The OmniStream 311 interfaces with a PC or other host device, while the OmniStream 324 features a four-port USB hub for peripherals. The OmniStream USB over IP system is compatible with USB 2.0 data rates of up to 480 Mbps.	
ATLONA MANAGEMENT SYSTEM (AMS)	The Atlona Management System (AMS) is a powerful system integration resource for configuring and managing Atlona devices over a network. With AMS, simplify and streamline AV installation from a single user portal that lets you discover, set up, and commission multiple Atlona IP-controllable products at once.	
AT-OMNI-324	The Atlona OmniStream™ 324 (AT-OMNI-324) works in tandem with the OmniStream 311 (AT-OMNI-311) for extending USB from peripheral devices to a PC over Gigabit Ethernet. The OmniStream 324 features a four-port USB hub for peripherals, while the OmniStream 311 interfaces with a PC or other host device. The OmniStream USB over IP system is compatible with USB 2.0 data rates of up to 480 Mbps.	
AT-GAIN-120	The Atlona Gain™ 120 (AT-GAIN-120) is a compact power amplifier designed for low or high impedance applications. A mode selector switch allows the Gain 120 to deliver two channels of 60 watts each into 4 or 8 ohms, or a single channel of 120 watts at 70 or 100 volts.	
AT-GAIN-NET	The Atlona AT-GAIN-NET is a networked audio interface card for the Gain 120 (AT-GAIN-120) power amplifier. It features an AES67 and Dante dual-channel audio bridge, adding the capability to accept two channels over a network from a Dante or AES67-equipped DSP, as well as Atlona OmniStream AV encoders. The GAIN-NET can easily be installed into a Gain 120 amplifier in the field.	