> "We looked around the industry and liked the out-of-the-box design of the M4300. Also NETGEAR looked like a good partner, unlike other switch vendors focused on larger enterprise use cases."
>
> Jeff Bethke - VP of Engineering at Level 3 Audio Visual

**Company:**
Level 3 AudioVisual

**Technology:**
AV Manufacturer

**Website:**
level3av.com

**Location:**
Mesa, AZ, USA

# One seamless, versatile network provides the ultimate in flexibility for the Health Sciences Innovation Building.

## SUMMARY

To support its new Health Sciences Innovation Building, with its state-of-the-art, ground-breaking design, the University of Arizona has chosen an IP-based network designed and installed by AV specialist Level 3 Audio Visual.

The network provides optimal versatility because it does not matter where access points or devices are located: they can be instantly connected. The use of 10Gb M4300 and S3300 IP switches play a key role in providing the flexibility, scalability, and ease-of-use important to both the University and Level 3.

## BACKGROUND

The University of Arizona Health Sciences faculty is the statewide leader in biomedical research and health professions training. The popularity of the faculty, led to the University deciding to invest in creating the nine-floor Health Sciences Innovation Building (HSIB) in Tucson. Supporting a range of disciplines - including medicine, nursing and pharmacy - the design of the building aims to raise the bar with innovative design and making the best of the latest in technology.

Facilities include a multi-purpose presentation and performing arts center, dozens of meetings rooms and huddle locations, administrative offices, a medical simulation unit, recording and debriefing center, a filming studio, an LED wall, plus a centralized broadcast booth.
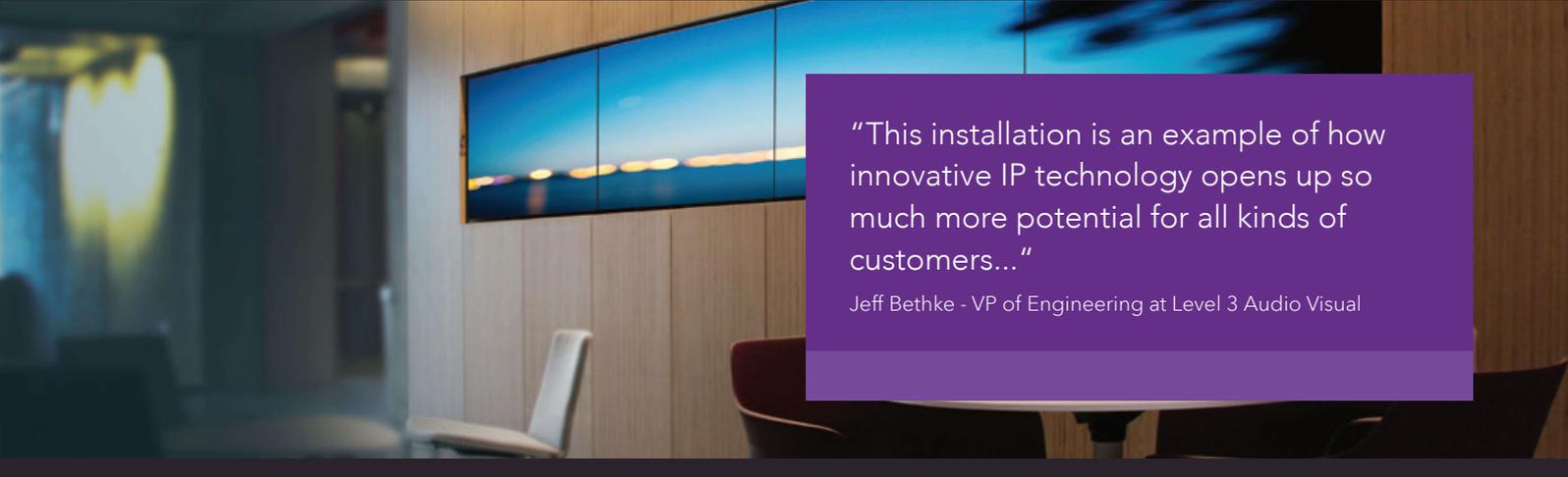
"This installation is an example of how innovative IP technology opens up so much more potential for all kinds of customers..."

Jeff Bethke - VP of Engineering at Level 3 Audio Visual

## THE CHALLENGE

The design of this impressive layout initially presented a major challenge for broadcast and comms networking, which needed to include not centralized control, but also lecture capture and recording, and a variety of content streaming. The University wanted to have one single system, content and services can be instantly routed anywhere in the building, across hundreds of access points, devices and users.

The design and scale of the building meant that a traditional approach using a traditional coax structure was going to be tough: cable runs would need to be 700 or 800 feet, and the headend for the AV network was distributed over long distances.

## SOLUTION

Following a thorough RFP process, the university chose an IP-centric, innovative proposal from Level 3 Audio Visual. Based in Mesa, Arizona, Level 3 has built a reputation for high-quality AV design, management and integration and has worked with the University on multiple occasions over the years.

Jeff Bethke, VP of Engineering at Level 3 Audio Visual, says "We talked the University through the benefits of using IP technology, which overcomes the distance limitations, as well as giving them the long-term flexibility they need to route any signal or service to anywhere in the building, while also providing excellent quality.

## VERSATILE IP BACKBONE

The result is an IP-based infrastructure, with full redundancy using dual single-mode fiber backbones trunk ports and a stacked architecture, enabling any signal to be routed to any device or location throughout the building.

An integral part of the system's superior performance and flexibility is the use of eight stackable M4300 IP switches from NETGEAR at the core, plus approximately 20 10Gpbs S3300 switches at the edge.

Jeff Bethke explains, "We had already started to look at standardizing on a single switching platform, especially as customers are looking for more than just control: audio is a big growth area for us. We looked around the industry and liked the out-of-the-box design of the M4300. Also NETGEAR looked like a good partner, unlike other switch vendors focused on larger enterprise use cases. The NETGEAR price points also make sense for us."

## INSTALLATION

Following laboratory-simulation of the network, installation took place in managed phases and was completed by the end of August 2019, ready for the new semester. Jeff Bethke calls out the positive benefits of the NETGEAR switches. "The very simple to use interface made commissioning the switches so much nicer, we can log in to one place and manage everything across QoS and VLAN settings. It's a huge time saver."

Jeff Bethke also comments on the support provided by NETGEAR. "Every time I call tech support I get great help, and I can also choose support via the website. Either way, the response is fast."

## RESULTS

Today, the University of Arizona's HSIB has one single infrastructure that can support thousands of devices, with full redundancy, flexibility and scalability. Level 3 has already started some additional projects within the building, which thanks to the design, can be achieved comparatively easily and fast.

Jeff Bethke concludes, "This installation is an example of how innovative IP technology opens up so much more potential for all kinds of customers, including the University of Arizona. The M4300 switches are an important component of the network's design, helping us and the University to deliver a superior user experience."

www.netgear.com

level3av.com

NETGEAR Inc. 350 East Plumeria Drive, San Jose, CA 95134 | Tel: 1-800-638-4327
NETGEAR SMB Sales Office Tel: 866-480-2112 Option 2 | E: sales@netgear.com

CASE STUDY:
Level 3 AudioVisual