In early February, The BICSI Winter Conference and Expo was held in Orlando, Florida. One of the biggest events of the year for the ICT community, the conference features presentations on important industry trends, while the exhibit hall shows off the latest network infrastructure technologies.

This year, buzz from the show centered around a handful of key topics, including Power over Ethernet (PoE), new business opportunities in AV over HDBaseT, and new network options for data centers.

### The Push For PoE

Attendees showed more interest than ever in PoE at the show, and many tradeshow vendors featured PoE technologies. While much of the PoE discussions at the show centered around general installation, wireless access points, cameras, and lighting stood out as common areas of interest for this growing technology.

"Based on recent Leviton surveys, lighting, WAPs, and building controls will be the big drivers for PoE over the next several years," explained Paul Suttell, Senior Marketing Manager for Leviton Network Solutions. "This was reinforced by many conversations surrounding PoE at BICSI Winter."

Leviton showed its PoE-optimized Atlas-X1 connectivity at the conference. Among its numerous advantages for PoE, Atlas-X1 UTP connectors are the only connector to feature a solid metal body — which dissipates 53% more heat than plastic alternatives in PoE applications — improving performance and longevity. Leviton offers systems that support high-power PoE at 60 to 100 watts, allowing you to extend your network to a wider selection of devices.

Over the last decade, we have seen a big migration to more centralized hyperscale data centers and colocation providers. Faced with surging bandwidth demands, along with the promise of cost savings and greater efficiencies, companies continue to migrate their data centers off premises.

However, the internet of things (IoT) has become a major disruptor in this trend. With billions of data-generating devices on the market,
AV Systems

There were seven seminars on AV and HDBaseT at the conference this year, as interest in the emerging IT/AV market continues to grow. Leviton conducted a three-hour pre-conference seminar on the advantages of HDBaseT and deployment of 4K video at the session “Simplifying Your K-12 and Conference Room AV Applications and Installations.” The session, led by Leviton Senior Product Manager Bill Lauby and Principal Technology Specialist John Seger, was well attended, as more industry professionals are seeing the benefit of using category cabling to support HDMI extension in areas like classrooms and conference rooms.

“The use of category-rated cable for AV extensions is generally agreed to by all. At the show, multiple education and enterprise specifiers who had previously only installed passive cords talked about the reality that their customers also need powered AV extension,” said Jeff Lechtanski, Senior Marketing Manager at Leviton Network Solutions.

New Options for Data Center Networks

Recently introduced data center Ethernet standards gave the attendees a lot to chew on over the course of the BICSI conference. Category 8 and 25/40GBASE-T standards were released, OM5 fiber was introduced, and the IEEE 802.3bs fiber standard for 200 and 400 Gb/s was published. These all provide new methods for network plans, but the new options can seem overwhelming. BICSI sessions provide a great opportunity to understand new standards and where or when they make the most sense in data centers.

Leviton and Fluke Networks addressed the introduction of Category 8 at the well-attended technical session “Exploring Cat 8: Understanding Applications, Installation, and Testing.” Leviton Senior Product Manager Mark Dearing explained how Cat 8 provides a cost-effective alternative to direct attach copper (DAC) and fiber the data center access layer.

While the standard for OM5 was published in 2017, there was little evidence of its presence on the BICSI show floor. With few exceptions, opinions at the show followed Leviton’s stance that there is currently no good reason to recommend OM5 in enterprise or large data centers. For enterprise IT managers, OM4 is sufficient for migrating to 40GBASE-SR4 or 100GBASE-SR4. And larger cloud data centers are either already using single-mode or planning to move to single-mode in the near future for migration to 800 Gb/s and 1 Tb/s.

Cabling Infrastructure at the Edge

Fundamentally, cabling in an edge or micro data center is no different than in a regular data center. However, since some micro data centers can be as small as half-rack heights, they require patching to be as efficient as possible. Ultra-high-density fiber patching, and in some cases high-density copper solutions, are essential in these installations. For example, there are cabling systems available today that can patch up to 144 fibers in a one-rack-unit enclosure or patch panel.

With more connected devices permeating every aspect of our lives, and greater reliance on high-bandwidth networks in the workplace, it’s important for data center managers to plan ahead to anticipate network growth. And it’s critical to make structured cabling an integral part of that plan. A smart strategy includes an infrastructure that is flexible and scalable to handle future upgrades, ultimately delivering a greater return on your infrastructure investment.
Popular

**e2XHD Snap-In Cassette System**

Now Supports Shielded Networks for *Mission-Critical Applications*

Many IT managers want better protection for their mission-critical applications with shielded connectivity that still allows fast deployment and simple maintenance. Leviton delivers that solution with the release of two universal high-density panels for its popular e2XHD Snap-In Cassette Patching System. These flat and angled 1RU panels support fiber, UTP, and now shielded connectivity for networks that require greater security and EMI/RFI immunity.

![Cable and panel image]

e2XHD copper cassettes are available empty for field termination, or can be pre-terminated to trunk cables. These pre-terminated solutions ship directly from Leviton’s Chicago factory for fast service. The new shielded option uses Atlas-X1™ connectors, which feature Industry-leading, component-rated performance that exceeds established standards.

Learn more at [Leviton.com/e2XHD](http://Leviton.com/e2XHD).

**INDUSTRY**

The cloud will account for 95% of all data center traffic by 2021, according to the Cisco Global Cloud Index. Cisco adds that traditional data center traffic will also grow, from 849 exabytes in 2016 to 1.7 zettabytes by 2021.

In February, BICSI published a new edition of the *Outside Plant Design Reference Manual (OSPDRM)*. The new 6th Edition includes update throughout, including changes to grounding and bonding requirements, additional information on air-assisted cable installation, and OM5 fiber cable information.

**COMPANY**

In January, Leviton UK subsidiary Brand-Rex changed its name to LEVITON. A manufacturer of network cable infrastructure for Europe, the Middle East and Asia, Brand-Rex has been a part of the Leviton Network Solutions division since it was acquired in 2015. Leviton also manufactures high performance specialty wire for Europe, including military, rail, automotive, and aerospace applications at its Leigh, England factory, and these solutions retain the Brand-Rex name as a product brand.

**YESTERDAY’S NEWS**

1948: Seventy years ago, American mathematician Claude Shannon published *The Mathematical Theory of Communication*, which describes the elements of communication between people and machines. It introduced the term “bit” as a unit of information.
Understanding AXT Testing

Alien Crosstalk (AXT) testing measures the unwanted noise coupled to the cable being tested (the “Victim” or “Disturbed”) by surrounding cables (called “Disturbers”). Two tests need to be performed: the Power Sum Alien Near-end Crosstalk (PSANEXT) test and the Power Sum Alien Attenuation-to-Crosstalk Ratio, Far-end (PSAACRF) test. Results for the remaining AXT tests are taken as part of these two, so although they are not directly provided, a “pass” result for PSANEXT and PSAACRF ensures passing results for AACRF, AFEXT, ANEXT, and PSAFEXT. A 2% sample of the installed cables is typically recommended.

A few pointers:
- AXT tests are time-consuming; budget AXT test time into your bid
- Handheld test instruments (field testers) will require an additional AXT module
- A laptop computer is also typically used with the field tester, and the field tester’s AXT application software must be loaded onto the laptop
- Installation personnel will require training prior to performing AXT testing

Is AXT testing required for Cat 6A?

Even though Leviton does not require field AXT testing for its Cat 6A solutions, you may still be required to perform this testing. Read project specifications carefully to determine if they call for field AXT testing. If they do, ask for a waiver based on the proven performance of Leviton’s Cat 6A solutions. If the customer won’t grant a waiver, you’ll need to perform the testing.

ASK THE EXPERTS

Q: Does Leviton have an option for passing multiple cables through a wallplate? For example, if I want to pass HDMI and component video cables to the rear of a TV?

A: Leviton offers a Decora® brush insert in white or black. These inserts fit behind any Decora plate, allowing cable pass-through.

Learn more about installing and testing Cat 6A with the Leviton Cat 6A Interactive Reference Guide

Have a question? Would you like to subscribe or unsubscribe to CrossTalk?
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