

UPCOMING EVENTS

TOP STORIES

- [AVnu Alliance hosted ISE 2016 Training on Next Generation of AV Networking](#)
- [Additional AVnu Alliance certified products announced](#)
- [Announced: The Second Annual Conference on TSNA in April 2016 in San Jose, CA](#)

2nd Annual Conference on TSNA

April 12-13, 2016
(San Jose, CA)

AVnu Member April FTF

April 14, 2016
(Santa Clara, CA)

NAB

April 16-21, 2016
(Las Vegas)

IoT World

May 10-12, 2016
(San Francisco, CA)
AVnu Alliance is an alliance partner sponsor

InfoComm 2016

June 4-10, 2016
(Las Vegas, NV)

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INTRODUCTION

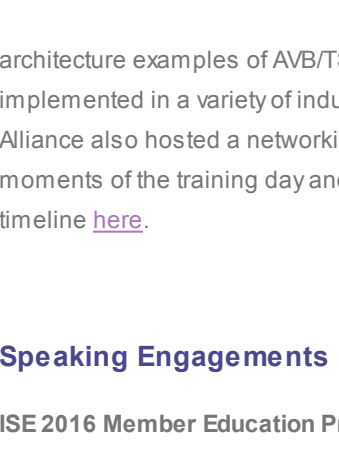
AVnu Alliance is dedicated to expanded education of Time Sensitive Networking and its applications across industries in 2016. We kicked off this mission at ISE 2016 by hosting the only manufacturer-independent education session approved for InfoComm Renewal Units. Every seat was filled with attendees seeking information on next generation AV networking and how TSN is applicable to real world Pro AV applications and installations. AVnu Alliance members including Biamp and Meyer Sound presented six additional educational tracks throughout the week at ISE, focused on AV networking, AVB/TSN and active case study examples.

We're continuing the education path throughout 2016 via a number of events. AVnu Alliance is once again serving as a key sponsor of the 2nd Annual Conference on Time Sensitive Networks and Applications (TSNA) taking place April 12-13 in San Jose, CA. Alliance experts will also host another education half-day training on June 8th during InfoComm 2016 in Las Vegas. This will be specific to AV networking as well as another session at CEDIA 2016.

Stay tuned for details on additional conferences, trainings and webinars held throughout the year. We will also make a push towards education in Asia in the near future to further expand knowledge of the benefits, functionality and purpose of the AVB standard with the goal of debunking common misconceptions held across the industry.

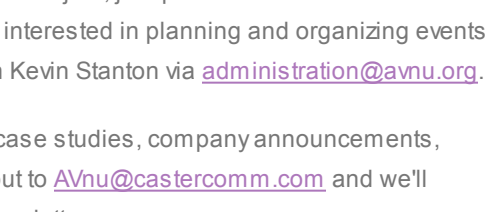
HERE'S WHAT WE'VE BEEN UP TO

ISE 2016



Next Generation AV Network Fundamentals and Design event

As a step forward in the Alliance's ongoing education program, the Next Generation AV Network Fundamentals and Design Training Day covered a variety of topics to explore the evolution of Ethernet. AVnu Alliance representatives Steve Carlson, High Speed Design, Christian Diehl, Riedel, Jan Eveleens, Axon Digital and Greg Schlechter, AVnu Alliance Marketing Workgroup Chair addressed attendees including integrators, consultants, installers, tech managers and more. Steve Carlson began with an introduction to principles of digital networking and IP/Ethernet followed by a discussion on Network Topology lead by Christian Diehl. The main session concluded with real world system architecture examples of AVB/TSN so attendees could see how the standard is already being implemented in a variety of industries. The course offered 3 RU credits from InfoComm. AVnu Alliance also hosted a networking cocktail hour following the event. A full, visual recap with key moments of the training day and ISE 2016 on the whole is available on AVnu Alliance's Storify timeline [here](#).



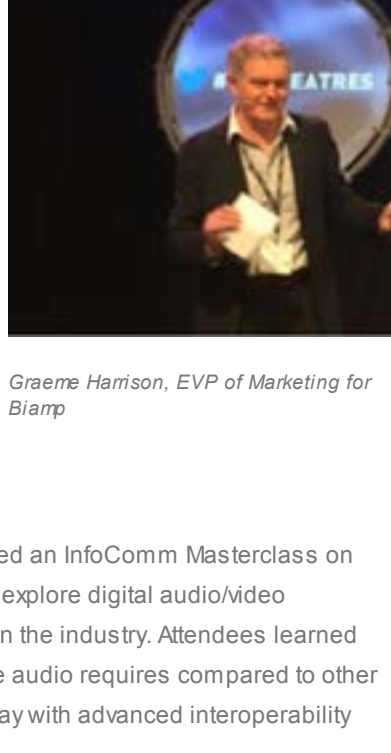
ISE 2016 manufacturer-independent education session

Speaking Engagements

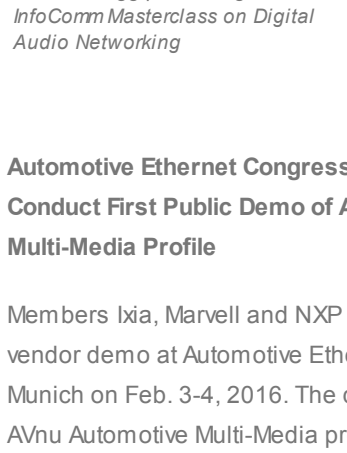
ISE 2016 Member Education Presentations

AVnu Alliance members presented a variety of education sessions throughout the official ISE program in addition to the half-day training that we hosted.

Graeme Harrison, EVP of Marketing for Biamp presented on three separate occasions throughout the show including a FlashTrack session titled Why should AV care about IoT? where he revealed how the Internet of Things will ultimately lead to the adoption of AVB/TSN standards and why it is the ideal standard. The following day, he dove deeper into AVB/TSN with the session Understanding AVB/TSN and its Advantages within the ISE Audio Solutions Theater. Harrison explained how integrators can implement networked AV with high performance quality and low cost through AVB/TSN protocols.



Graeme Harrison, EVP of Marketing for Biamp

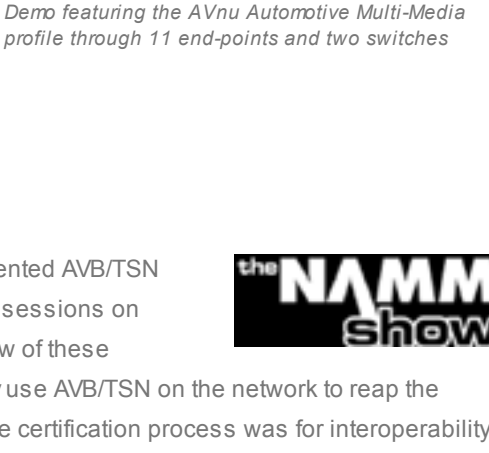


Richard Bugg presenting an InfoComm Masterclass on Digital Audio Networking

Richard Bugg also presented an InfoComm Masterclass on Digital Audio Networking to explore digital audio/video networking and its effects on the industry. Attendees learned different demands real-time audio requires compared to other IT networks and walked away with advanced interoperability knowledge.

Automotive Ethernet Congress: AVnu Members Conduct First Public Demo of AVnu Automotive Multi-Media Profile

Members Ixia, Marvell and NXP performed a multi-vendor demo at Automotive Ethernet Congress in Munich on Feb. 3-4, 2016. The demo featured the AVnu Automotive Multi-Media profile through 11 end-points and two switches. The Endpoints consisted of gPTP Master (Ixia), gPTP Slave (Ixia, Marvell, NXP), audio and video talkers and listeners (Ixia and NXP). Marvell (6 port) and NXP (5 port) provided switches interconnected with use of IEEE 802.3bw 100 Mbps PHY. All the systems were designed to meet AVnu Automotive profile certification and interoperability tests.



Demo featuring the AVnu Automotive Multi-Media profile through 11 end-points and two switches

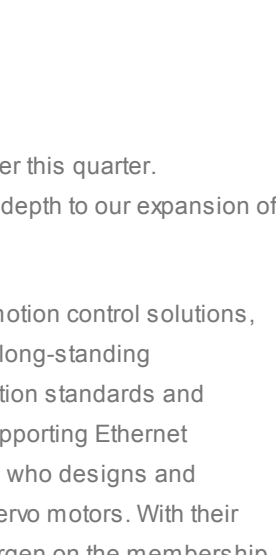
NAMM 2016

AVnu Alliance Member Rex Reed of HARMAN presented AVB/TSN standards as a part of the TEC Tracks educational sessions on January 23, 2016. Attendees were given an overview of these standards, but also instructions on how to properly use AVB/TSN on the network to reap the benefits it provides. He explained how important the certification process was for interoperability and laid out the foundation designers need for a successful AVB/TSN system operation.



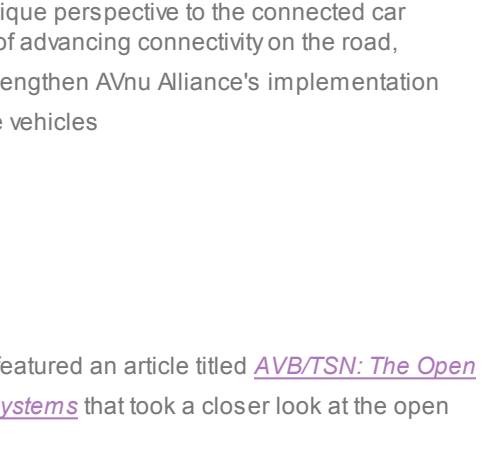
BVE 2016

Tim Root, CTO of Revolabs, participated in the panel discussion: Audio Networking - Protocols, standards and next steps at the 2016 BVE Expo in London. With his background in creating media and telepresence solutions for both video communications and security industries, Root helped elaborate on audio networking and its capabilities during the panel on Tuesday, February 23. Topics such as interoperability of audio over IP, pro-audio challenges and AVB implementation were discussed at length as well as insights into the latest advancements of audio networking.



'TSN Demystified' Webinar

In early March, Biamp teamed up with Sound and Video Contractor Magazine to host a Time Sensitive Networking Demystified webinar that explored AVB/TSN and its relevance for the AVnu Alliance as well as other organizations. Kevin B. Stanton and Greg Schlechter explained that many concepts referred to as "protocols" (including AVB) are really a collection of actual protocols solving different aspects of the solution. They explained the original goals of the AVB task group and how these updates in standard Ethernet enable multiple application protocols/ transports to be used with common timing and ecosystem - something not possible with solutions that require a full vertical stack. Stanton also addressed several misconceptions on how AVB-enabled networks operate and how more work in IETF and IEEE is adding to these capabilities.



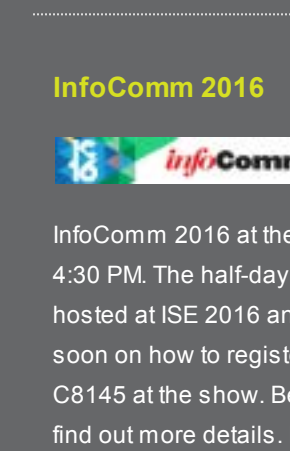
New Members

We were thrilled to add two new industry leaders to our membership roster this quarter. Kollmorgen and Qualcomm each bring different, yet valuable insight and depth to our expansion of the AVnu-certified product ecosystem.



As a renowned manufacturer of motion control solutions, Kollmorgen has demonstrated a long-standing commitment to open communication standards and network flexibility in addition to supporting Ethernet

networks for several years. Kollmorgen is also one of the few companies who designs and manufactures their own products such as drivers, amplifiers or classic servo motors. With their unique background and expertise, AVnu Alliance is proud to have Kollmorgen on the membership roster.



The Alliance is also excited to welcome Qualcomm to contribute to Alliance efforts in the automotive sector. A diverse company comprised of engineers, scientists and business strategists, Qualcomm brings a unique perspective to the connected car concept. With the goal of advancing connectivity on the road, Qualcomm will help strengthen AVnu Alliance's implementation process of AVB in more vehicles

Open AVB

Components Magazine published by Biamp recently featured an article titled [AVB/TSN: The Open Source Platform for Developing Real-Time Network Systems](#) that took a closer look at the open source project for AVB/TSN. [Open AVB](#).

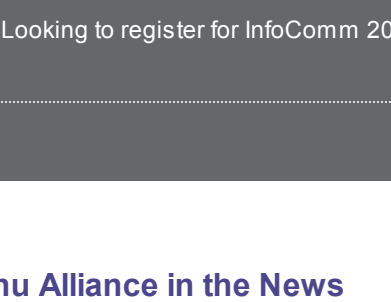
"Created as a collaborative source code development project through Intel for AVB/TSN technology, the Open AVB Project provides the necessary components for building AVB/TSN systems. Today, the AVnu Alliance maintains and contributes to the project with source code from multiple alliance members. The repository primarily contains the network building-block components — drivers, libraries, example applications, and daemon source code — required to build an AVB/TSN system. All of this information is available to anyone."

The article also shares what AVnu Certification is and why it's important: "AVnu Certification means that end users have more choice with best-of-breed products from different manufacturers without worrying whether products will work together. Efforts by AVnu Alliance members who contribute to Open AVB ultimately accelerate a broader ecosystem of devices. Interoperability of these devices is the long-term advantage of AVnu Alliance's certification program."

In summary, "The end goal for the Open AVB project is to facilitate multiple manufacturers building AVB/TSN products. Having the proper documentation and best practices will instill confidence that they are set up for a smooth certification process."

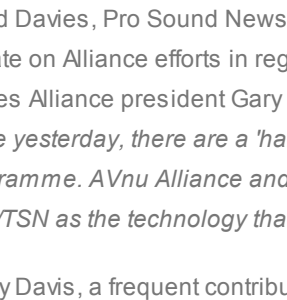
Upcoming Events for AVnu Alliance

2016 Conference on TSNA



AVnu Alliance is proud to once again sponsor the Annual Technical Conference on Time Sensitive Networks and Applications that will take place April 12-13, 2016 at the Doubletree Hilton in San Jose, CA. The conference aims to bring awareness to current and emerging trends associated with TSN that help deliver Ethernet determinism, reduced latency, accurate time synchronization and robustness. Attendees will be exposed to an array of topics including software and algorithms for communications design and network scheduling, implementation tips and tricks for testing best practices, reference guides, and open-source software efforts. Keynote speakers include AVnu Alliance members Jim Grubb, VP of Marketing for Cisco and Georg Kopetz, member of the executive board at TTTech. Speaking and Sponsorship opportunities are available. For more information or to register, please click [here](#). Follow along on Twitter for updates and announcements around the conference through the hashtag #TSNA16.

InfoComm 2016



AVnu Alliance will host a half-day education program on Next Generation AV Networking at InfoComm 2016 at the Las Vegas Convention Center on June 8, 2016 from 12:30 PM to 4:30 PM. The half-day session will follow a similar format to the training day AVnu Alliance hosted at ISE 2016 and will be available for 4 RU credits. More details will be released soon on how to register for the education session. AVnu Alliance will also be in booth C8145 at the show. Be sure to follow AVnu Alliance updates on LinkedIn and Twitter to find out more details. Members interested in participating should reach out via [administration@avnu.org](#).

Looking to register for InfoComm 2016? Click [here](#).

AVnu Alliance in the News

AVnu Alliance's ongoing commitment to education got some recognition from the Pro AV press before and during ISE 2016.

Charlotte Ashley of InAVate shared details for the training ahead of the show in her article, [AVnu Alliance training reflects on the future of AV networks](#). She previews the three segments AVnu would move through during the half-day session along with the list of member education sessions scheduled throughout ISE.

David Davies, Pro Sound News Europe, met with AVnu Alliance representatives at ISE 2016 for an update on Alliance efforts in regards to AVB/TSN. In [Analysis: It's All About the Standards ...](#), Davies quotes Alliance president Gary Stuebgen, "In addition to a half-day training programme that took place yesterday, there are a half-dozen other AVB/TSN sessions throughout the official show programme. AVnu Alliance and its member companies have shown a clear commitment to AVB/TSN as the technology that will bring a better future for the pro-AV market."

Cindy Davis, a frequent contributor to AV Technology Magazine, spoke with Pro AV Segment leader, Patrick Prothe of Biamp for her feature, [For the Love of Standards & Protocols](#), "Time Sensitive Networking (TSN) is the evolution of AVB, building upon the AVB specifications to expand the range, functionality and applications of the standard- it is future-proof and scalable." Davis also shared input and products from several AVnu Alliance members including Revolabs and AudioScience.

AV Technology Magazine featured an article by Pro Sound News editor, Steve Harvey about distributed audio & IT. Harvey spoke with AVnu member, Biamp for the piece and included this quote from Justin O'Connor, Biamp product manager: "Ethernet used to compete with other things, then it became the IEEE standard, and gone were proprietary solutions for devices talking to each other. We believe that low-latency, deterministic networking is where all networking is going, and someday we won't talk about AVB/TSN because it's all going to be AVB/TSN. It's just going to be networked."

As awareness surrounding IoT standardization continues to grow, more publications are reporting on interoperability and network infrastructure solutions, including Time Sensitive Networking.

Design World Magazine analyzed the effects IoT will have on the need for new standards in [its about time: the evolving time-sensitive networking standard for the Industrial IoT](#), a contributed piece penned by Todd Walter, AVnu Alliance Industrial Segment Chair. Throughout the article, Walter notes how TSN can speed up the IoT adoption process compared to pre-existing standards that have failed to address the problems at hand. He writes, "This next-generation standard, called Time-Sensitive Networking or TSN, addresses the shortcomings of existing networks. The AVnu Alliance, working with member companies Broadcom, Cisco, Intel and NI, will drive the creation of an interoperable ecosystem through certification; similar to the way the WiFi Alliance certifies products and devices to be compatible with the IEEE 802.11 standard."

IoT Central also shared Todd Walter's ideas in a feature called, [TSN: The time is now](#). Walter shares what is happening throughout the industry as awareness surrounding IoT standardization continues to grow, and where TSN and the AVnu Alliance fit in. "The IEEE 802.1 Time-Sensitive Networking Task Group and the AVnu™ Alliance are hard at work to finalize the standards. Portions of the standard and working references from vendors will begin to appear in 2016."

Member News and Recognition

Coveloz BACH Platform can now bear the AVnu-certified logo: Congrats to Coveloz on certifying their BACH Pro Audio Networking and Processing FPGA platform. A "significant milestone for Coveloz," the newly certified BACH platform provides a highly scalable and customizable embedded solution for high-profile Pro Audio bands to utilize in their upcoming Audio over IP products. For full details on the announcement, please click [here](#).



BACH Platform

Biamp Systems Tesira Platform earned AVnu Certification: Congratulations to Biamp on reaching AVnu Certification for their flagship Tesira line of digital signal processors. The Tesira AVnu-certified products include Tesira SERVER, SERVER-IO, and TesiraForte products. Justin O'Connor, product manager for Biamp, shares his excitement about the certification title [here](#).

Tesira Platform

AVnu Members Collaborate on Time Sensitive Networking Testbed With the Industrial Internet Consortium: Members National Instruments, KUKA, Cisco, Intel and TTTech announced a collaboration with the Industrial Internet Consortium and other industry leading companies to develop the world's first TSN testbed. The goal of this testbed is to display the value of new Ethernet IEEE 802 standards, referred to as TSN, in an ecosystem of manufacturing applications. Read the full announcement [here](#).

Get Social!

Join our communities: Connect with AVnu Alliance to stay up to date on all Alliance announcements, including industry, member, and vendor updates through our Twitter account ([@AVnu_Alliance](#)). You're also encouraged to join the conversation on our [LinkedIn page](#).