



## What is the AVnu Alliance and its mission?

A: The AVnu Alliance is an industry forum dedicated to the advancement of professional-quality audio/video by promoting the adoption of the IEEE 802.1 Audio/Video Bridging (AVB), and the related IEEE 1722 and IEEE 1733 (which extends RTP for use on AVB) standards over various networking link-layers. The organization will create compliance test procedures and processes that ensure AVB interoperability of networked A/V devices, helping to provide the highest quality streaming A/V experience. The Alliance will promote awareness of the benefits of AVB technologies and intends to collaborate with other organizations and entities to make use of this work in its respective efforts to provide a better end-user A/V experience.

The Alliance is focused on applications of these technologies in the Automotive, Professional and Consumer Electronics markets.

To enable an ecosystem of compatible silicon and systems, the AVnu Alliance will:

- Develop compliance and interoperability certifications for the AVB standards
- Host plug-fests for member companies
- Provide certification for reference by other organizations, as necessary, to provide end-to-end system interoperability.
- Promote awareness of the AVB technologies

## What is the quality that AVB offers networked Audio/ Video?

A: Utilizing AVB, the transmission of audio and video streams can be synchronized within a microsecond of each other, with low delay, and with minimal lost data due to network congestion. The range of delay and amount of lost data depends on the particular network technologies (e.g. Ethernet, wireless, etc.) on the stream path.



For example, in the case of a full-duplex switched 100 Mb/s Ethernet network that implements AVB, any two endpoints that establish a stream reservation has less than 2 milliseconds (ms) packet delivery delay, less than 1 microsecond ( $\mu$ s) synchronization error, zero long-term wander, low jitter and zero data loss due to congestion.

## **What are the core standards that AVnu Alliance uses?**

A: AVnu Alliance promotes the following IEEE 802.1 Audio/Video Bridging (AVB) draft standards:

- IEEE 802.1AS – Timing and Synchronization for Time-Sensitive Applications in Bridged Local Area Networks (LANs); a precision time synchronization protocol.
- IEEE 802.1Qat – Stream Reservation Protocol (SRP); an end-to-end bandwidth reservation protocol within a bridged LAN.
- IEEE 802.1Qav – Forwarding and Queuing for Time-Sensitive Streams; A/V traffic scheduling enhancements for a mainstream Ethernet and other network switches.)
- IEEE 802.1BA – Audio/Video Bridging (AVB) Systems

## **What other standards will use AVB?**

A. There are also two draft standards that rely on IEEE 802.1 AVB to provide professional quality Audio/Video.

- IEEE 1722 – Layer 2 Transport Protocol for Time-Sensitive Streams, which allows easier porting of applications currently using IEEE 1394 (FireWire®) to AVB.
- IEEE 1733 – extends RTCP for RTP streaming over AVB-supported networks.

## **When will AVnu begin work on a C&I program?**

A. AVnu is starting test plan development immediately following launch. Test plan revisions will continue as the drafts mature to ratification. The AVnu Alliance certification program will be launched upon availability of ratified IEEE standards.



## **What are the markets of interest to AVnu Alliance?**

A: The AVnu Alliance is currently focused on three markets:

1. Professional A/V (e.g. music and video studios, large scale A/V distribution systems, live performances, and houses of worship, schools and enterprise A/V departments)
2. Automotive (e.g. infotainment A/V, backup cameras, etc.)
3. Consumer electronics (audio/video devices and associated network infrastructure for the home)

## **How will the Professional A/V market benefit?**

A. Please review the Professional A/V white paper available in the organization Resource Library.

## **How will the Automotive market benefit?**

A. Please review the Automotive white paper available in the organization Resource Library.

## **How will the Consumer Electronics market benefit?**

A. Please review the Consumer Electronics white paper available in the organization Resource Library.

## **How do the technologies promoted by the AVnu Alliance complement technologies promoted by other alliances?**

A: The work of the IEEE 802.1 AVB group provides enhancements for network bridges and A/V end-points to help establish professional quality A/V. The AVnu Alliance encourages the adoption of these new standards-based enhancements and will provide compliance and interoperability certifications. These new standards provide a set of features to enable higher layer protocols and applications to realize professional quality services even if there are various lower-layer network links in the path between end-point devices. AVnu Alliance will reference other Alliances' interoperability and certification for relevant MAC/PHYs. The AVnu Alliance plans to initiate and maintain working relationships with related alliances.



## How can AVB simplify the configuration of Pro A/V networks?

A: AVB products can help maintain a professional quality A/V experience without resorting to the complex static configuration that is typically required today for infrastructure devices (e.g., gateways, switches, etc.) in a pro A/V network.

A streaming application within an end-point can use the AVB protocols to request a reservation for traffic to be forwarded through a network from a source (talker) to a destination (listener) device. If the reservation request is granted, then the associated traffic is protected from competing unreserved (i.e., non-admitted) traffic. Furthermore, an AVB enabled network device is not allowed to grant a reservation that would cause the total to exceed a maximum percentage of the available bandwidth on any given link.

Because the reservation request is evaluated dynamically at each network hop via the reservation protocol, there is no longer any need for manual configuration of priority, VLAN, and layer 2 multicasts addresses in the infrastructure devices as is currently required by proprietary solutions in some professional and automotive markets.

## What are the benefits of membership in AVnu Alliance?

A: AVnu Alliance is a non-profit organization formed from member companies. AVnu Alliance's Promoter members write compliance and interoperability test plans (which are designed for the 802.1 AVB specifications) for products which will be AVnu Alliance certified. The AVnu Alliance certification program will be launched upon availability of ratified IEEE standards. AVnu Alliance adopter members have access to those completed test plans. All members are eligible to have products certified by an AVnu Alliance approved test lab and participate in AVnu Alliance hosted plug-fests.

## How can I become a member of AVnu Alliance?

A: Anyone is eligible to join the AVnu Alliance. See [http://www.avnu.org/about\\_us/membership\\_information/join](http://www.avnu.org/about_us/membership_information/join) for membership information.

## Where can I get more information about AVnu Alliance?

A: The AVnu Alliance Web site <http://www.avnu.org> includes a broad range of technology and market-specific white papers as well as links to standards organizations.