Sound Principles

The Benefits of Dante Explained

By now you must know that Dante has become a widely accepted, industry standard protocol that enables digital audio distribution via standard Ethernet networks allowing for audio, control and other data to share the same network.

So, as part of our "back to basics" series, we wanted to highlight the benefits of Dante and a few of the reasons we choose to include it in a number of our AV solutions such as our CDT-100, C303D, C303D-P

and TIM-1000. Here are some of the compelling benefits this protocol offers our AV solutions.

Ease of Use. Signal routing and system configuration with Dante is fast, simple, and incredibly flexible. Dante Controller software automatically discovers each device on the network, enabling you to instantly route audio, label devices, and configure the network, all with a few mouse clicks. Dante Controller is a free downloadable application.

The De Facto Standard. With Dante, the dream of interoperability is here today. Dante is adopted by more AV manufacturers than any other networking technology, giving you the choice to install any of hundreds of Dante-enabled products available from the world's leading manufacturers. All Dante-enabled products are compatible, enabling you to mix devices from multiple manufacturers in a single network.

Economical. With one cable, Dante does One cable does it all. Dante does away with bundles of heavy, expensive analog or multicore cabling, replacing it with low-cost, easily available CAT5e, CAT6, or fiber optic cable –- just one cable per device — for a simple, lightweight, and economical solution. Dante integrates media and control for your entire system over a single, standard IP network.

Versatility. Dante systems are highly scalable, from a simple pairing of a console to a computer, to complex networks running thousands of audio channels. Networks can be expanded and reconfigured any time, with just a few mouse clicks, using logical routes instead of physical point-to-point connections.

Outstanding Quality. Because audio is transmitted digitally, you don't have to worry about interference from other electrical equipment, crosstalk between cables, or signal degradation over long cable runs. Many Dante-enabled devices support "glitch–free" redundancy, enabling an identical secondary network to run concurrently and take over immediately if needed, with no interruption in the audio data flow.

Full Integration with Windows and Mac. Digital Audio Workstations, software-based media players, Skype, and other applications are easily integrated into the network via Dante Virtual Soundcard or Dante PCIe cards, with full support of ASIO and WDM on Windows and Core Audio on Mac OS X.

Dante in action
In a Dante-enabled device, the hardware takes digital audio and 'packetizes' it. Basically, it segments the audio and wraps it in IP (Internet Protocol) packets suitable for transmission across an Ethernet network. The packets contain timing information and source and destination network addresses, allowing them to be efficiently routed through the network to the correct destination.

When a device receives Dante audio packets, it reconstructs them back into a continuous digital audio stream, which is then played out, recorded, or digitally processed, depending on that device's role in the audio system.

Hardware Dante devices support exceptionally low latency (on the order of microseconds, rather than milliseconds), and common low-latency applications (for example, real-time monitoring during recording) are easily supported.

Dante Controller is a free audio routing and device management software application that automatically discovers devices on the network. Setting up a Dante network is typically just a matter of plugging devices into an Ethernet switch and connecting a computer to the same switch. All devices appear quickly in Dante Controller, for immediate audio routing. Dante Controller also handles network monitoring functions, including latency, clock health, packet errors, and bandwidth usage.

Basically, what you need to know is that Dante is all IP-based and makes use of common IT standards. Each Dante device behaves much like any other network device you would already find on your network.

For more about Dante, we encourage you to check out the Audinate website at www.audinate.com.

Note: The Audinate content within this document are taken from Audinate's document called *What is Dante? The Basics*. This information appears on the Audinate website and the content is the property of Audinate.

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