So you're adding Dante™ to your network? Here is all you need to know!

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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.

In order to make integrating into an existing network easy, here are some of the things that Dante does:

- Dante implements IGMPv3/v2 to assist with multicast management.
  - Support for IGMP is not required in a network; it is in Dante to make integration into mixed-use networks simpler.
- Dante can make use of DiffServ QoS in the network. Dante will tag packets and its tags can be integrated into an existing IT network QoS scheme:

Priority	Usage	DSCP Label	Hex	Decimal	Binary
High	Time critical PTP events	CS7	0x38	56	111000
Medium	Audio, PTP	EF	0x2E	46	101110
Low	(reserved)	CS1	0x08	8	001000
None	Other traffic	BestEffort	0x00	0	000000

  - This is only required for 100Mbps or mixed 1000Mbps/100Mbps networks. It can be helpful on mixed-use networks. It is not required for dedicated, all gigabit, Dante-only networks. When used, it must be configured with strict priority.

So that you know what to expect, here is the kind of network traffic you will be seeing on your network with Dante devices (most of which you already see):

- Dante uses DHCP for addressing when available, and will auto-assign an IP address if it is not, exactly like a PC or Mac.
  - Dante devices will continue to "look" for DHCP even after auto-assigning an IP address.
  - Some, but not all, Dante device allow the setting of static IP addresses.
- Dante uses mDNS and DNS-SD for discovery and enumeration of other Dante devices (including Dante Controller and Dante Virtual Soundcard).
  - Originally known as Apple's Bonjour. This is a low traffic, multicast protocol.
- Dante uses Precision Time Protocol (PTP) for time synchronization.
  - Dante uses the IEEE1588-2002 version, which uses multicast UDP transport. This is generally a few small packets a few times a second.
- Dante uses UDP for audio distribution, both unicast and multicast.
  - Typical bandwidth is about 5Mbps for each audio flow, which can contain up to 8 audio channels (4 channels per flow is typical).

Can I use EEE (Energy Efficient Ethernet or 'Green Ethernet') in my Dante network?

Short answer: No.

EEE (Energy Efficient Ethernet) is a technology that reduces switch power consumption during periods of low network traffic. It is also sometimes known as Green Ethernet and IEEE802.3az. Although power management should be negotiated automatically in switches that support EEE, it is a relatively new technology, and some switches do not perform the negotiation properly. This may cause EEE to be enabled in Dante networks when it is not appropriate, resulting in poor synchronization performance and occasional dropouts. See the latest list of blacklisted switches.

Therefore we strongly recommend that:

1. If you use managed switches, ensure that they allow EEE to be disabled. Make sure that EEE is disabled on all ports used for real-time Dante traffic.
2. If you use unmanaged switches, do not use Ethernet switches that support the EEE function, because you cannot disable EEE operation in these switches.

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