

Application note

Milan™ & Dante®

When do they perform best?

The challenge of choice

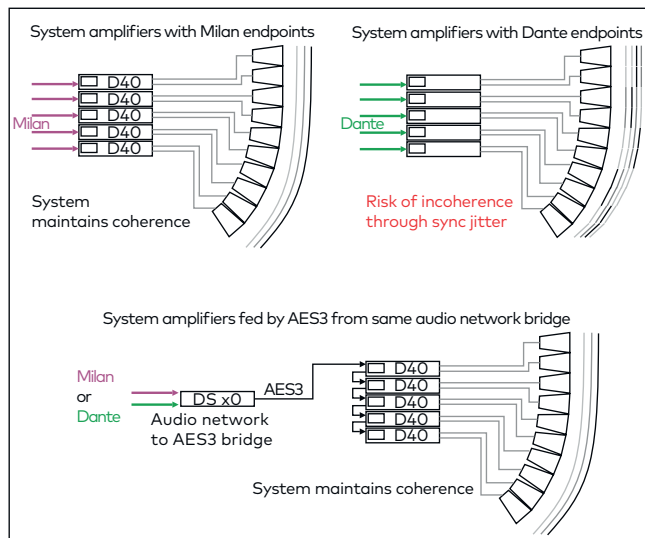
When it comes to protocols for network-based media transport, there are currently two major options in the live sound reinforcement world: Dante and Milan. While not having been present in the market for the same amount of time, both enjoy substantial manufacturer support.

Still, there are significant differences between both solutions, which means that one will usually be more suitable than the other for a given application. With this document, we'd like to help you make an informed choice.

Milan

Milan is optimized for use in large and converged networks, where network links transport very heterogeneous traffic and are regularly operated close to capacity. The underlying network standards prevent synchronization jitter, non-deterministic latency, and random dropouts which can otherwise be expected under such conditions.

This is vital for systems where the audio network endpoint is not a central device such as a DS10/DS20 audio network bridge, but integrated into the individual processing/amplification channels. For example, a line array employing ArrayProcessing requires a sizable number of individual system amplifiers. If they are also audio network endpoints, Milan is the technically superior choice to ensure coherence.



By being part of the required switching fabric (Milan requires specific switches), the standards mentioned above eliminate the need for switch configuration. As there are no options to set, everything just works. At the same time, the same switches can usually also be used for Dante.

Since Milan and the underlying technology works on Layer 2 of the OSI model, there also is no need for device configuration regarding IP addresses and subnets, as they have no relevance on this network layer (IP is part of Layer 3 of the OSI model).

Therefore, Milan is the technically superior solution for system backbones, primarily in applications that combine all media and control data for logistical simplicity – even more so if there is a large data throughput – and have the highest requirements in terms of reliability and jitter-free synchronization.

Dante

The biggest benefit of Dante is that it can usually be implemented using existing legacy switching hardware, if a sufficient overhead in bandwidth is constantly available, even though some specific switch configuration is often required.

This and the fact that it operates on Layer 3 of the OSI model allows its use in corporate or campus networks where a routable protocol might be required.

Due to its long time in the market, a lot of manufacturers offer Dante-enabled devices of all sizes and for all application fields.

In addition, Audinate offers compatibility with AES67 and ST2110 for some Dante devices, which enables basic interoperability with even more equipment, albeit at a reduced feature set.

In total, Dante has a wide application field, even though it puts more responsibility in the hands of the user when it is not the exclusive or at least dominant kind of traffic on a network. The fact that it is routable and has low basic requirements regarding network hardware gives it a clear edge in applications where multiple locations must be connected and/or available legacy network hardware must be used.