
The Uses of Minimal Latency In Wireless Networked AV Systems

— By Kelven Polite —

What is latency? Why do I want to minimize it?

- Dictionary.com definition:
 - “The period of delay when once component of a hardware system is waiting for an action to be executed by another component”
- In this context:
 - The time delay for the audio to be ‘packetized’ from the source and to be transmitted across the network to the destination before it is played out.
- We need it to be as small as possible:
 - The less time it takes for the audio to be transferred over the network, the more “real” it feels.

The Future is Here! Audinate's Dante Via

- What is Dante Via?
 - Hardware and Software that allow users to create and connect their devices to a specialized audio network
- How does it work?
 - Much like other streamed content, Dante hardware and/or software packetizes digital audio by segmenting the audio and wrapping in IP packets in order to transmit it through the network. The packets also contain source/destination addresses to facilitate efficient network routing.
 - Fun fact: Dante audio is 24/32-bit lossless audio, with 44.1 kHz-192 kHz sample rates.

The Future is Here! Audinate's Dante Via

- How does it provide minimal latency?
 - Since everything is connected to a dedicated audio network (only audio packets) through ethernet cables, a continuous digital audio stream is able to be created. A device, upon receiving a packet, reconstructs the packet back into the audio stream and allows it to be recorded, played, or digitally processed based on the device's function.
 - 10 milliseconds of latency is typical
 - Dante PCIe-R cards support 256 uncompressed audio channels that provide extremely low latency of 0.15 milliseconds

Questions?

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Resources

All information was found on the Audinate website.

Specific links:

- <https://www.audinate.com/meet-dante/what-is-dante>
- <https://www.audinate.com/learning/faqs/dante-via-what-is-latency>
- <https://www.audinate.com/products/manufacture-products/dante-pcie-card>
- <https://www.audinate.com/learning/training-certification/video-tutorials/dante-via-make-any-computer-a-networked-audio-i-o-device>