

WHITE PAPER

TRANSFORMING PROFESSIONAL AUDIO WITH DANTE® NETWORKING

Why IP-Based Audio is Reshaping AV Infrastructure

Executive Summary

The professional audio industry is undergoing a significant transformation. Traditional analogue audio systems, while reliable for decades, are increasingly challenged by the demands of modern AV environments that require greater scalability, flexibility, reliability, and cost efficiency.

Dante® (Digital Audio Network Through Ethernet), developed by Audinate, has emerged as the global standard for Audio over IP (AoIP), enabling audio signals to be transported across standard Ethernet networks with exceptional quality, ultra-low latency, and simplified deployment.

This white paper explores how Dante technology addresses common challenges in professional audio environments and demonstrates how Lindy's Dante product portfolio enables organisations to modernise audio infrastructure while protecting existing investments.

The Evolution of Professional Audio Distribution

For many years, professional audio systems relied on analogue cabling infrastructures. As systems grew, so did the complexity of installation and management.

Traditional audio deployments often require:

- Large bundles of analogue cables
- Extensive installation labour
- Physical patching and routing
- Significant infrastructure costs
- Limited scalability

As organisations demand more flexible and connected environments, these legacy approaches become increasingly difficult to manage.

Dante introduces a fundamentally different approach by transporting digital audio across standard IP networks.

Rather than requiring dedicated audio cabling for every signal path, hundreds of audio channels can be transmitted over a single Ethernet connection, dramatically simplifying system architecture.

What is Dante?

Dante is a networked audio technology that allows professional audio devices to communicate using standard Ethernet infrastructure.

Often described as “the Internet for professional audio,” Dante enables:

- High-quality uncompressed digital audio
- Near-zero latency transmission
- Multi-channel audio distribution
- Centralised management and routing
- Interoperability between manufacturers

By leveraging existing IT infrastructure, Dante removes many of the traditional barriers associated with complex audio systems.

Why Dante Has Become the Industry Standard

Dante has become the preferred networking protocol for professional audio because it addresses several critical requirements simultaneously.

Superior Audio Performance

Dante delivers high-quality uncompressed audio while maintaining extremely low latency. This is particularly important in:

- Live performance venues
- Broadcast environments
- Conference facilities
- Educational institutions

Low latency ensures synchronisation between audio sources and outputs, preventing timing issues and maintaining natural sound reproduction.

Simplified Deployment

Unlike traditional systems that require extensive analogue cabling, Dante operates using standard Ethernet infrastructure.

Benefits include:

- Reduced installation time
- Lower labour costs
- Simplified troubleshooting
- Easier system expansion

Scalability

One of Dante's greatest strengths is its ability to scale seamlessly.

A system can begin with only a few devices and expand to support thousands of audio channels across multiple locations without requiring fundamental redesign.

Reliability

Mission-critical environments cannot tolerate audio interruptions.

Dante supports network redundancy, allowing backup networks to automatically assume operation if a primary connection fails, ensuring uninterrupted audio transport.

Bridging the Gap Between AV and IT

Historically, AV and IT infrastructures operated independently.

Dante bridges this gap by using technologies already familiar to IT teams:

- Ethernet cabling
- Network switches
- Standard IP protocols
- Existing network management practices

For organisations, this creates several advantages:

- Reduced infrastructure costs
- Simplified support requirements
- Easier integration with enterprise networks
- Greater operational efficiency

As AV increasingly becomes part of broader digital transformation initiatives, this convergence is becoming a key strategic advantage

Interoperability: Freedom from Vendor Lock-In

One of the most compelling aspects of Dante is its interoperability.

Hundreds of manufacturers now support Dante-enabled devices, including:

- Mixing consoles
- Microphones
- Amplifiers
- DSP processors
- Loudspeakers
- Recording systems

This enables organisations to build best-of-breed solutions rather than being restricted to a single vendor ecosystem.

Additionally, support for AES67 allows Dante systems to communicate with other professional audio networking technologies, increasing deployment flexibility and future-proofing investments.

Key Industry Applications

Corporate and Enterprise AV

Modern workplaces demand flexible audio solutions for:

- Conference rooms
- Training facilities
- Hybrid collaboration spaces
- Corporate campuses

Dante enables centralised management, simplified deployment, and future scalability.

Live Sound

Live event professionals benefit from:

- Faster setup and teardown
- Reduced cable infrastructure
- Lower transportation costs
- Simplified routing

This improves operational efficiency while maintaining high audio quality.

Broadcast

Broadcasters require:

- High channel counts
- Low latency
- Flexible routing
- Reliable operation

Dante provides all of these capabilities while supporting long-distance audio transport across network infrastructure.

Hospitality and Commercial Venues

Hotels, casinos, shopping centres, theatres, and convention facilities benefit from:

- Lower total cost of ownership
- Easier management
- Centralised control
- Flexible future expansion

Solving Real-World Audio Challenges

Organisations adopting Dante typically seek solutions to common challenges:

Challenge	Dante Solution
Expensive cabling	Standard Ethernet infrastructure
Complex routing	Software-based routing
Slow installation	Plug-and-play deployment
Limited scalability	Network-based expansion
Reliability concerns	Redundant networking
Long-distance transmission	Ethernet and fibre support

The result is a simpler, more agile audio infrastructure capable of adapting to evolving organisational requirements.

Enabling Dante Connectivity with Lindy

Lindy's Dante product range provides practical tools for integrating both modern and legacy audio equipment into Dante ecosystems.

These solutions enable organisations to transition to Audio over IP without replacing existing equipment.

- USB-C Dante In/Out Converter (No. 70617)

Designed for conference rooms, streaming environments, studios, and professional AV installations, this converter enables reliable two-channel recording and playback between USB-C devices and Dante networks.

- 2ch XLR Audio to Dante Encoder (No. 70618)

Ideal for connecting analogue audio sources such as mixers, DSPs, and wireless microphone systems to Dante networks.

- 2ch Dante to XLR Audio Decoder (No. 70619)

Converts Dante network audio into professional analogue XLR outputs for amplifiers, mixers, and monitoring systems.

- 2ch HDMI ARC to Dante Encoder (No. 70620)

Enables audio from displays and AV systems to be integrated directly into Dante infrastructures.

- 2ch Dante to HDMI ARC Decoder (No. 70621)

Routes Dante audio to HDMI ARC-enabled displays and AV systems.

- 2ch Analogue Audio to Dante Encoder (No. 70622)

Provides seamless integration of legacy analogue equipment into modern IP-based audio networks.

- 2ch Dante to Analogue Audio Decoder (No. 70623)

Delivers high-quality analogue audio output from Dante networks for installed AV, broadcast, and live sound environments.

Together, these products help organisations modernise audio infrastructure while maximising the value of existing equipment investments.

Conclusion

The shift toward IP-based audio networking is no longer a future trend—it is today's industry reality.

Dante has become the leading Audio over IP platform because it delivers what organisations increasingly require:

- Simplicity
- Scalability
- Reliability
- Interoperability
- Cost efficiency

By leveraging standard network infrastructure, Dante enables organisations to reduce complexity while improving performance and flexibility.

Combined with Lindy's growing range of Dante-enabled connectivity solutions, businesses can confidently adopt modern networked audio architectures while maintaining compatibility with existing systems and preparing for future expansion.

For organisations seeking a smarter, more flexible approach to professional audio distribution, Dante represents a proven pathway to next-generation AV infrastructure.