EVERYTHING.IP

AV
SOLUTIONS

Connect. Control. Converge.

Berk-Tek®

A NEXANS COMPANY

CONNECTING IT ALL

AV SOLUTIONS

AV TECHNOLOGY IS ADVANCING RIGHT BEFORE OUR EYES

Almost everything in the enterprise is or can be connected and powered by the IP network. Once-disparate systems – VoIP, security, computers, WAPs, lighting, and even HVAC – are converging. AV is no exception. Migrating AV to the IP network makes your system more scalable for future growth, allows extended distances for transmission, enables PoE, and reduces installation and maintenance costs.

COST SAVINGS:
AV over IP eliminates the hassle and expense of installing a separate AV-only infrastructure. It also allows for simplified and remote maintenance and troubleshooting.

SCALABILITY & FLEXIBILITY:
Since network size is virtually unlimited, any number of encoders and decoders can be made to work together. And with an Ethernet switch, new sources and displays can be added with ease.

DISTANCE:
With AV over IP, the maximum cabling distance to each endpoint is 100 meters, whereas traditional AV systems are typically confined to distances within the same room.
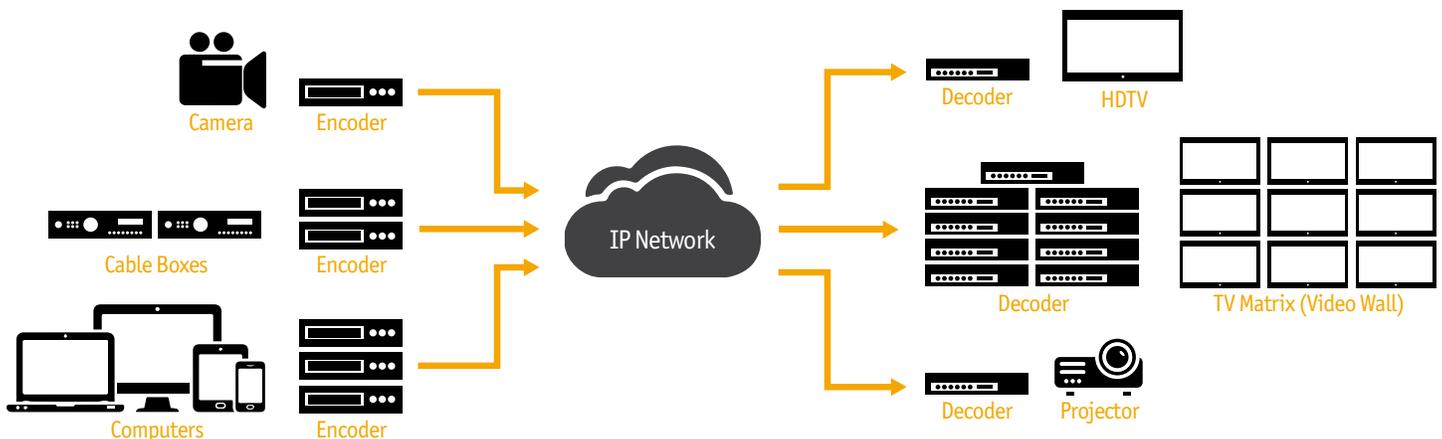
POWER OVER ETHERNET:
802.3bt PoE (100W) provides power, connectivity, and control via one cable, further reducing cost and streamlining installation and maintenance.

WHAT IS AV OVER IP?

Simply put, AV over IP refers to the routing of high-definition video, audio and control signals to various destinations using an Ethernet network. Encoders convert analog or digital audio/video content into data, and the data is sent across the standard Ethernet network to a decoder. There, the data is converted back into audio/video signals, such as HDMI, that support the end device.

Camera — Encoder

Cable Boxes — Encoder

Computers — Encoder

IP Network

Decoder — HDTV

Decoder — TV Matrix (Video Wall)

Decoder — Projector

TECHNOLOGY CHALLENGES ADDRESSED
In the past, IT managers didn't want to burden their IP networks with the bandwidth that AV consumes. They were also concerned with image quality, latency, and network security. However, these concerns have been overcome with recent technology advancements.

IMAGE QUALITY & BANDWIDTH

A true uncompressed 4k signal consumes more bandwidth than today's IP networks (even 10G) can effectively manage. To transmit a 4K signal, the data needs to be compressed. To manage the additional bandwidth from AV, Some network managers are also separating their AV systems - along with other IP-enabled building systems like smart lighting and security - onto a uLAN, or utility LAN.

LATENCY

Compression causes latency, which can degrade the viewer's experience. While zero latency is nearly impossible to achieve, advanced compression technologies (such as H.264 and H.265) now have latencies of 100 milliseconds or less.

SECURITY

Encryption technologies exist throughout all phases of an AV over IP system. And more and more IP devices are being equipped with high-bandwidth Digital Content Protection (HDCP), a form of digital security that protects content as it travels across connections.

RECOMMENDED SOLUTIONS

It's more important than ever to install an AV system that not only delivers flawless image quality with low latency, but also delivers the scalability and flexibility needed to expand your system.

LANmark™-XTP

LANmark-XTP's discontinuous shield minimizes any electrical noise running along the shield without grounding, allowing you to use UTP connectivity. The discontinuous shield is also exceptionally good at dissipating heat generated by PoE.

- The best Category 6A performance for both AV over IP and high-power PoE.
- Supports up to 10Gbps of bandwidth and 4k applications.
- Provides superior signal isolation as well as outstanding PoE performance thanks to its unique discontinuous shield.

LANmark™-HD

LANmark-HD was specifically designed to provide the best HD AV experience possible over IP with a shielded system. Its unique design and foil shield deliver error-free transmission and excellent PoE performance to maximize network operation.

- Category 6 cable that supports 1Gbps of bandwidth.
- Designed specifically for AV applications.
- Shielded for superior signal isolation.
- Available in 500-ft reels to maximize the contractor's time.

ABOUT BERK-TEK

Berk-Tek is the premier source for network infrastructure solutions. For more than 50 years, we have led the industry in the development of high-performance fiber optic and copper cables designed to transport high-speed data, voice and power transmissions. Our world-class research and development teams are dedicated to developing innovative structured cabling solutions that are critically important to managing the demands of today's emerging technologies. Our mission is to provide our customers with the solutions that meet both the current and future network needs, while continuously striving to maximize their return on investment.

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