

High-Performance A/V and Considerations for your Network



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Agenda

- Emerging technologies impacting networks
- How we can prepare
- Landscape of A/V choices today
- Building a networking plan with A/V in mind
- A/V Case Study

Collaborative environments



Untethered workforce



Internet of Things (IoT)



Streaming content

5G

Augmented and virtual reality

Audio/Visual



Power over Ethernet (PoE) applications



BYO device



LEED

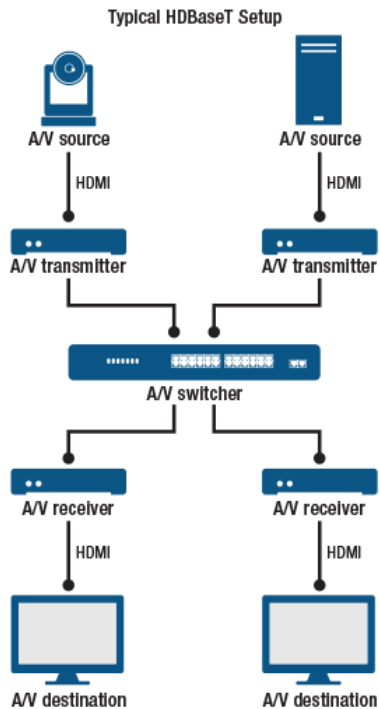
Smart buildings

Shared workspaces

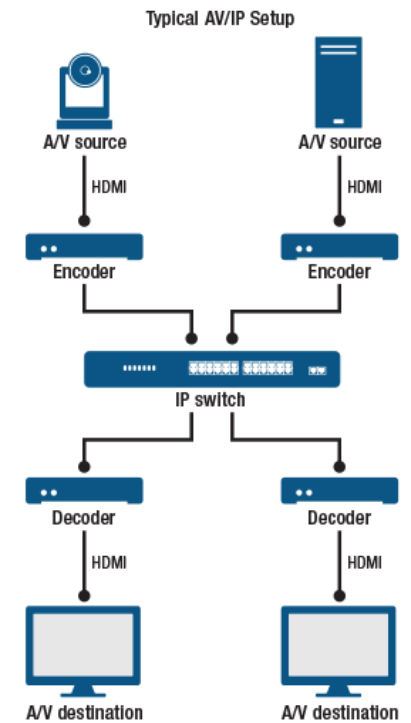
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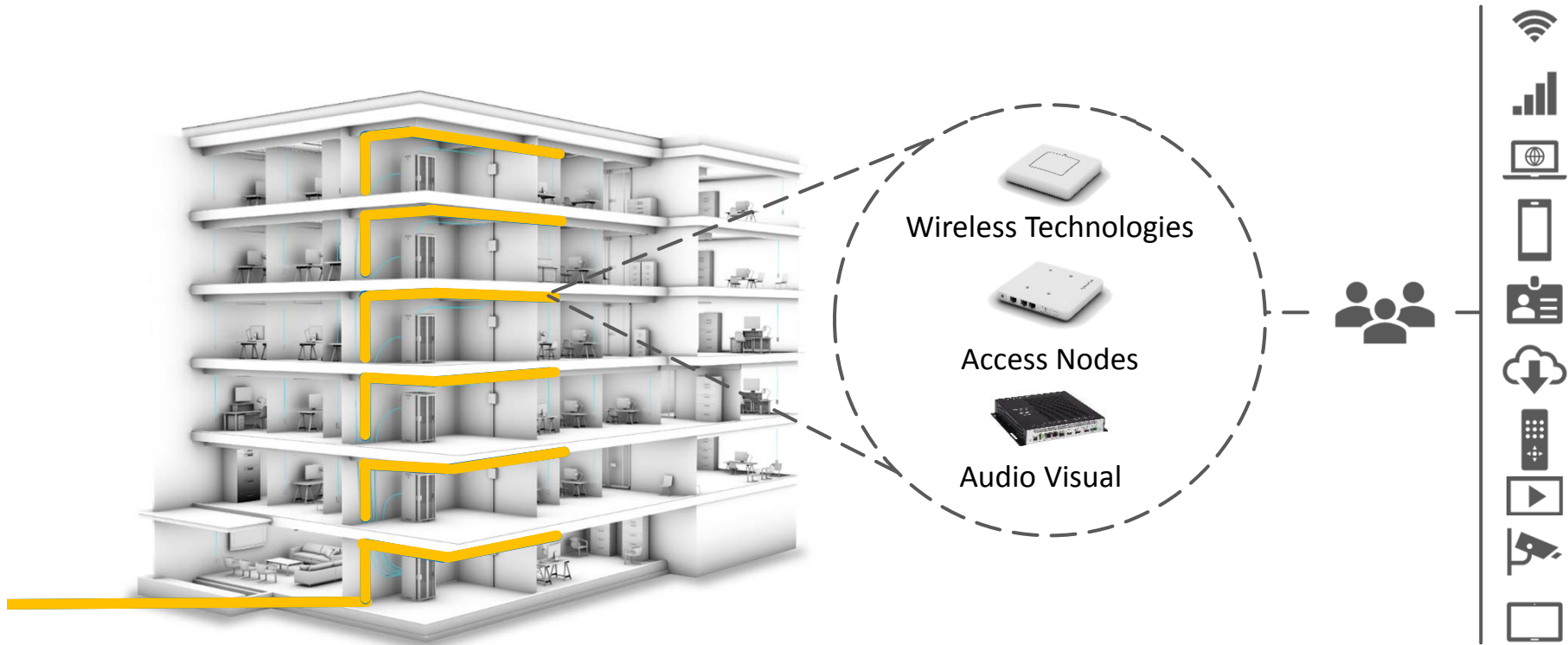
Level Set – A/V Evolution



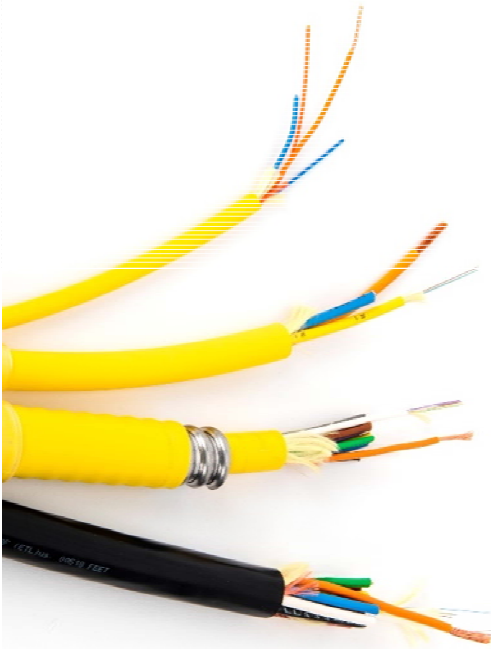
- A/V is business critical in today's workplace
- Mobility is Key
- Separate infrastructures for dedicated A/V networks are converging
- Special design and implementation requirements
- Installers are shifting from A/V specialists to network technicians.
- New standards and higher frame rates are putting a strain on networks



In-building Networks are Changing

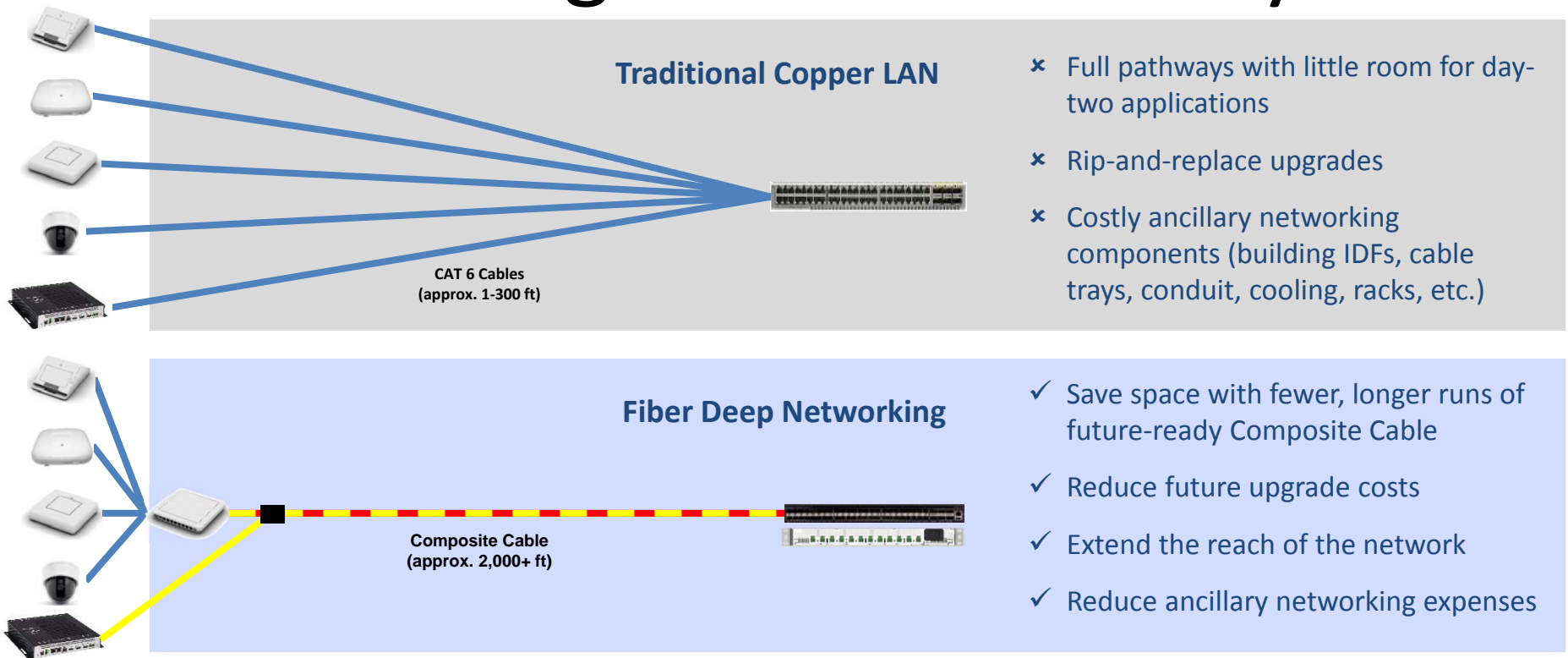


Wire it Once. Enable Everything.

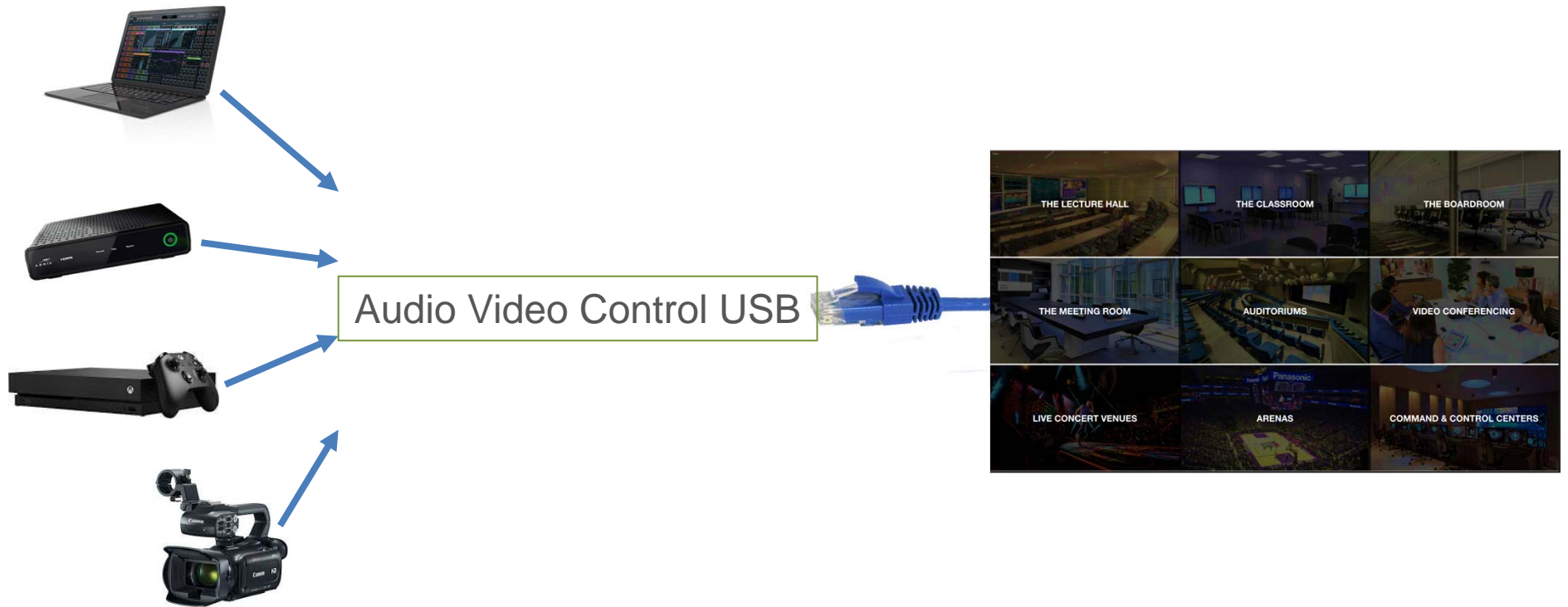


- **Deliver power and data** to enable hard-to-reach remote devices including IP devices connected via software-defined LAN (SD-LAN) and distributed antenna systems (DAS).
- **Fewer cable runs** take up **less space** in crowded or narrow pathways
- **Lighter** cable bundles are **easier to handle**
- Reduce IDF closets and associated maintenance costs by **reaching further distances**
- **Eliminate multiple runs** of single-purpose infrastructure
- Prepare for future demands with **scalable**, adaptable solution

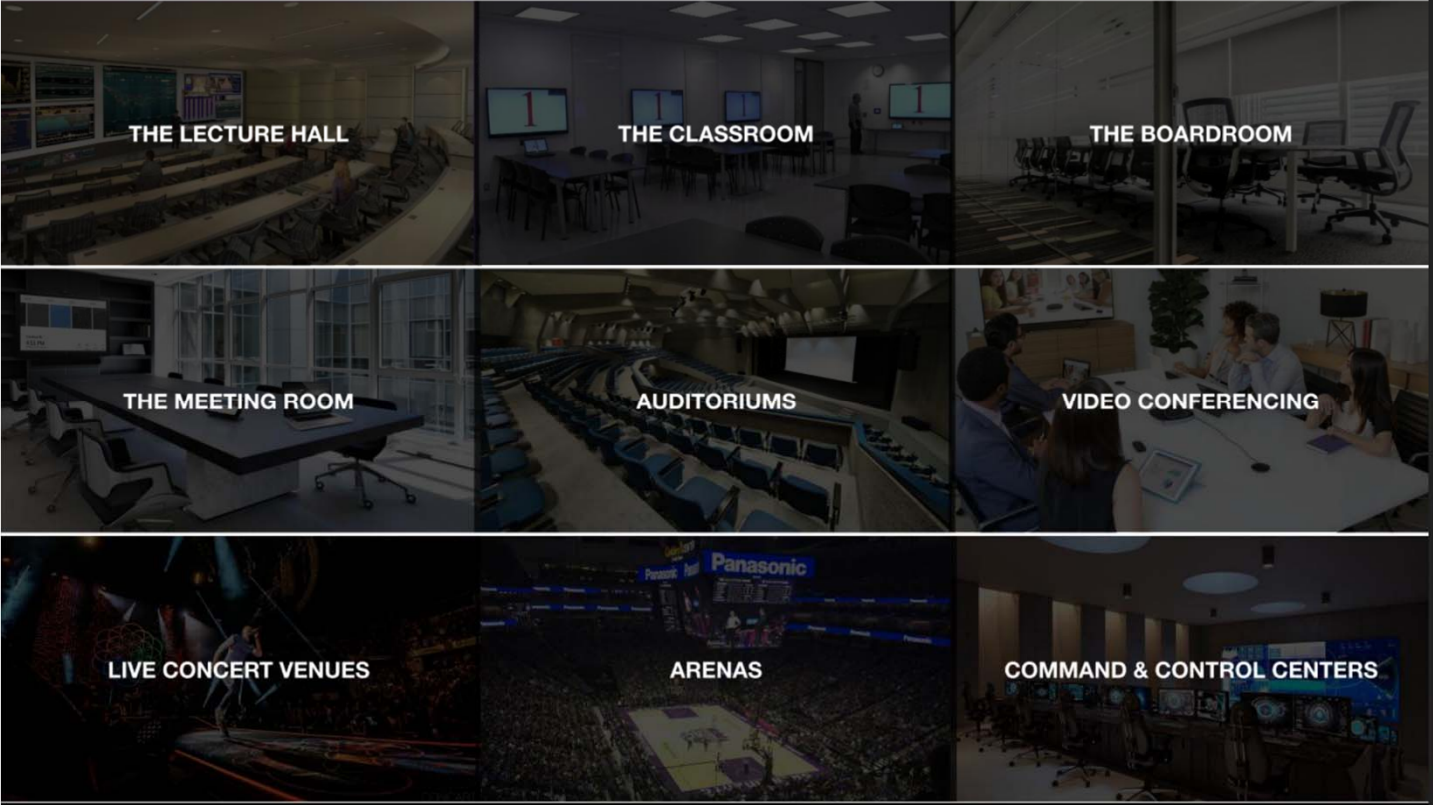
Enabling Future Flexibility



A/V - Any Source Anywhere

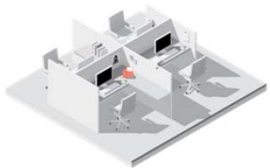


Solution of Every Space



A/V in the Enterprise

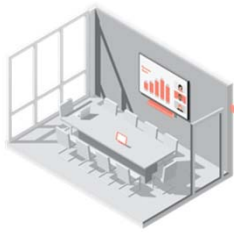
- Audio Video technology is the glue that ties the enterprise together
 - Enables content sharing, efficient work environments
 - Signage and messaging
 - Consistent collaboration and communication from personal workspaces to custom spaces.



Personal Workplaces



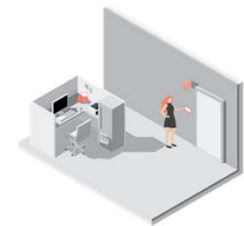
Small Rooms



Medium or Large
Rooms



Custom Spaces



Outside the Room

Types of A/V Solutions

Traditional AV Matrix Switchers

- Symmetrical - fixed number of inputs and outputs
- Limited by scale and size
- Cost efficient for small scale/ in-room switching designs

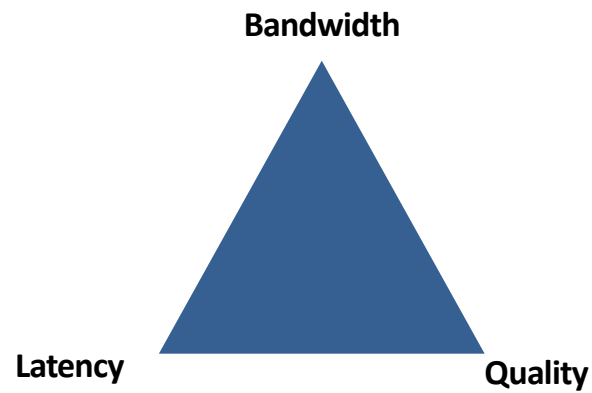


AV-Over-IP

- Network is Flexible
 - Any Source, Any Where
- Scalable up to thousands of endpoints
- Operates on Standard Infrastructure
 - Fiber or Copper



Types of AV-Over-IP



<100Mbps

Low Bandwidth
High Latency
High Quality
High Scale



1GB

Medium Bandwidth
Low Latency
Medium to High Quality
High Scale



10GB

High Bandwidth
Low Latency
High Quality
Limited Scale



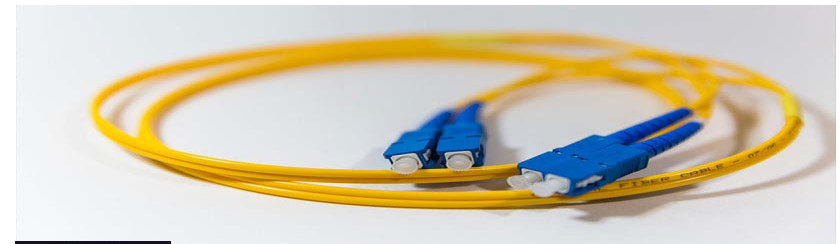
Finding the Right Solution

- Conversation with the Stakeholders
 - IT, AV, CEO, Employees, HR
 - Understand the vision of the business to ensure the technology meets the needs of the organization
- What are the Audio-Visual requirements?
 - Any room to any room
 - 1080p, 4K, 6K, 8K or beyond
 - What is the acceptable latency
 - How large is the system expected to scale
- What are my system requirements?
 - Converged or Separated Networks
 - Redundancy
 - Security requirements



Solutions Built on Industry Standards for Reliability and Interoperability

- Standards Based Networking
 - Ensures reliability on converged enterprise networks
 - 1 Gigabit bandwidth
 - Allowing Scalability
 - Security Protocols
- Support for A/V Standards
 - Standard Control APIs
 - HDMI, HDCP, Audio

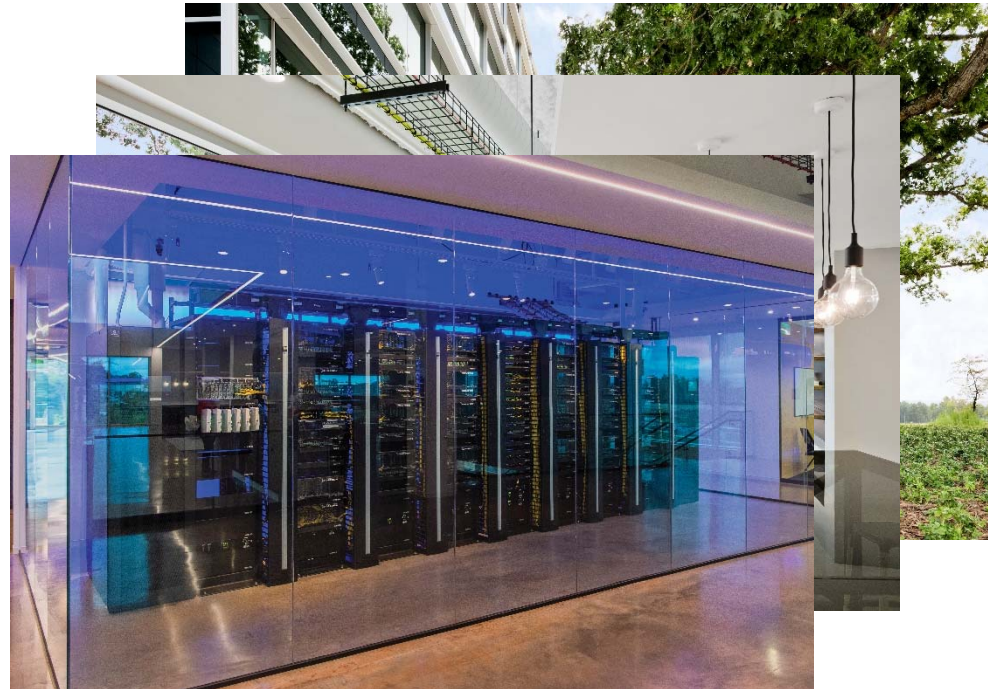


Corning Optical Communications HQ

- 170,000 square feet
- 800 employees
- 6 floors

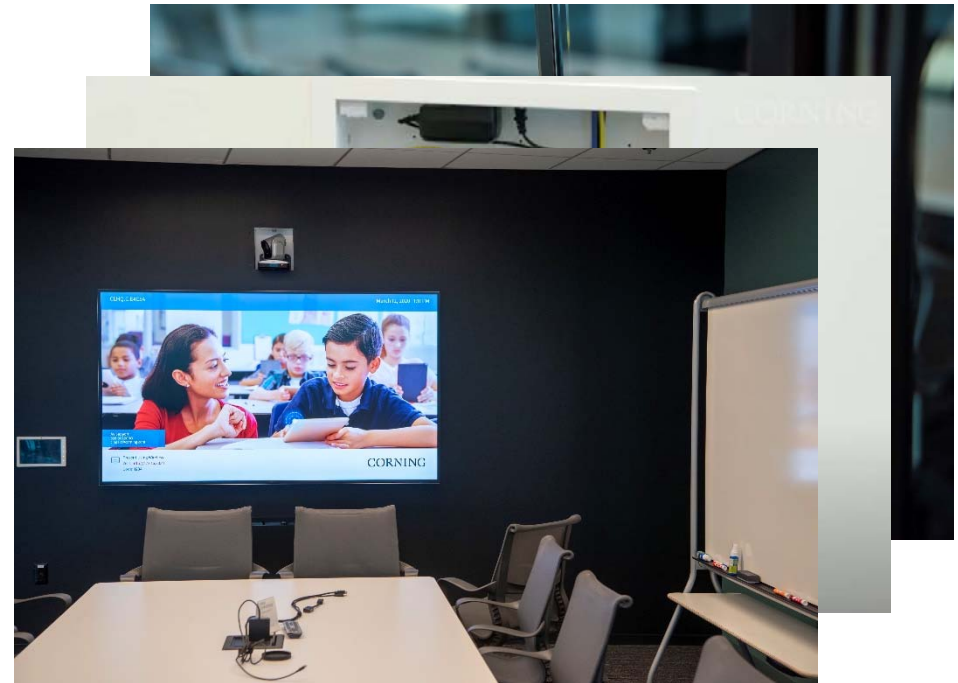
Applications:

- Wi-Fi access points
- 4K TVs
- Café menu boards
- Scheduling panels
- Conferencing phones
- Video conferencing
- In-building cellular
- Printers, workstations
- Sound masking
- Security cameras



The Solution

- Key to pull the right infrastructure day 1
 - Remain “Future Flexible”
 - Enable all high-performance applications
 - Fiber & power deep
- Select forward looking partners
- End to end solutions to seamlessly handle end user experience
 - Focus on wireless
 - Scheduling
 - Room Control
 - Wireless presentations & conferencing





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Wrap-up Discussion

- For new projects, at what stage of the design-build process should A/V needs be addressed ... and what are the advantages of starting earlier?
- What challenges may come up if it's addressed after opening?

Wrap-up Discussion

- What interesting projects are you working on now? Can you explain the network challenges you are running into? Any lessons learned you can share?

Wrap-up Discussion

- As Corning begins to re-open its workspace, how will the A/V system play a role in that?



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Watch our HQ Video:



Alex Peras

Product Line Manager
Crestron Electronics

Read our Case Study:

