Demystifying Audio-Visual Design

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Overview

Human Experience and Audio-Visual

+

Audio-Visual Design and Construction

+

Design Coordination and Technology

Human Experience & Audio-Visual

Human Experience Design

+ Human experience aims to create positive outcomes in the design process by focusing on the user

+ Understanding a user's intention is **critical** to creating a positive experience

Experience Design & Audio-Visual

Understanding Client Needs

+ Who is the end-user?

+ How can audio-visual technology improve the user's experience in the space?

+ How does the user utilize audio-visual technology today? In the future?

Audio-Visual Design & Construction Process

Project Initiation   Programming   Design   Tender   Implementation   Project Completion
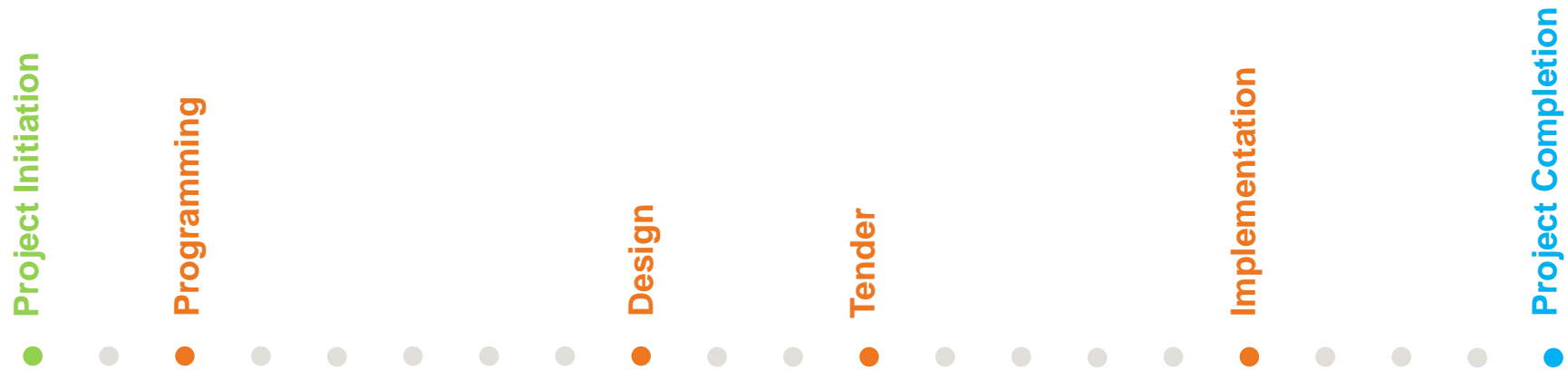
Choosing the Audio-Visual Project Delivery Method

+ Design-Bid-Build (Consultant led)

+ Design-Build (Integrator led)

Audio-Visual Design & Construction Process

Project Initiation

Programming

Design

Tender

Implementation

Project Completion

Exploration & Analysis

+ Audio-visual needs assessment meetings

+ User groups

+ Costing exercises

AV Design & Construction Process

Project Initiation   Programming   **Design**   Tender   Implementation   Project Completion
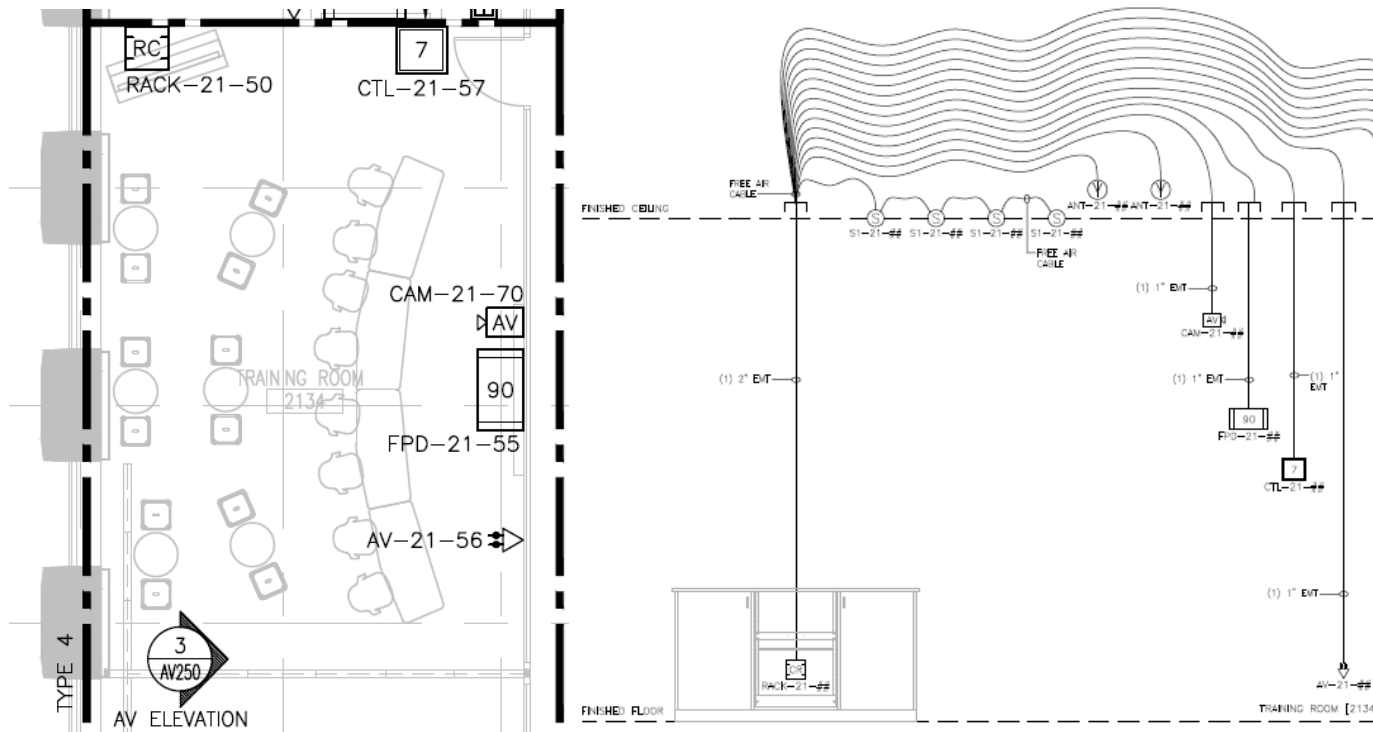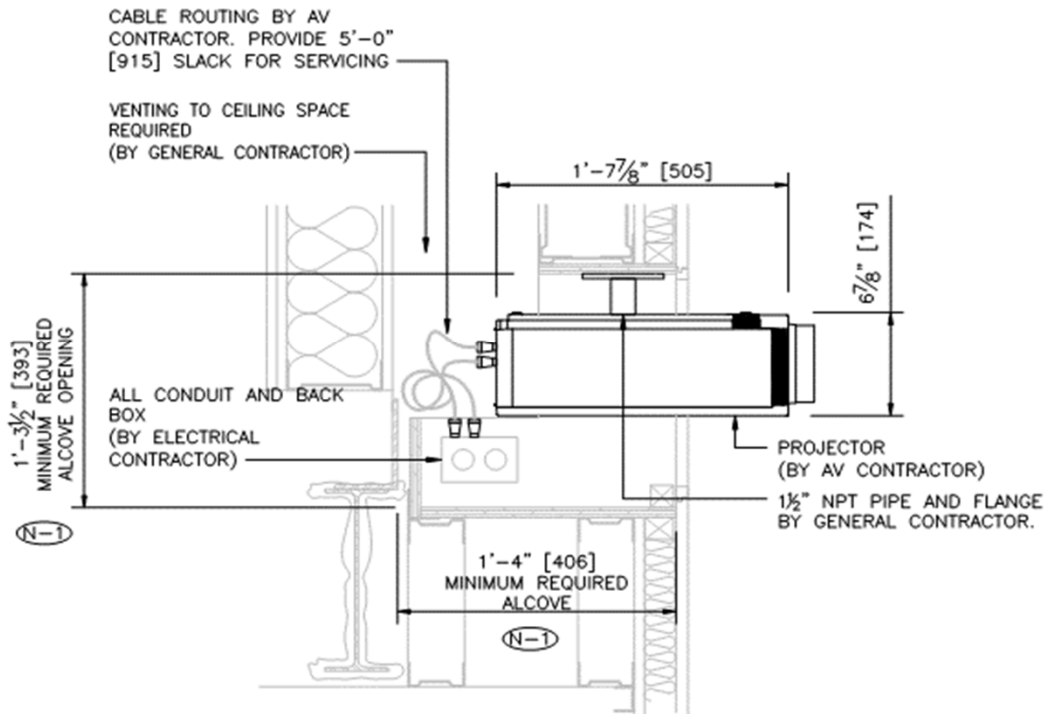
Design

+ Space Planning

+ Coordination with other Consultants (Interior Designer, M+E)

+ Preparation of Contract Documents

Audio-Visual Design Drawings

Audio-Visual Design & Construction Process

Audio-Visual Design & Construction Process

Project Initiation

Programming

Design

Tender

Implementation

Project Completion

+ Audio-visual Drawings and Specifications issued to integrators for a supply and installation contract
+ Bids are reviewed for technical compliance and price

AV Design & Construction Process

Project Initiation

Programming

Design

Tender

Implementation

Project Completion

+ AVIXA recommendations:
  + Stick with the same provider after a design only contract
  + Include construction administration services with the design contract
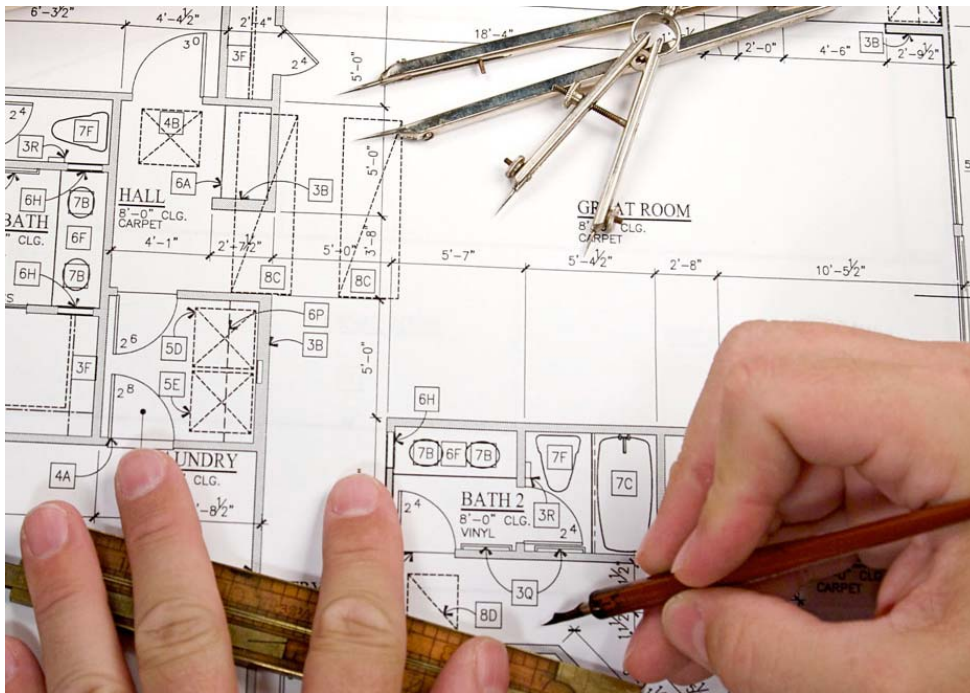+ Switching providers can lead to miscommunication, delays, and extra costs

Audio-Visual Design & Construction Process

Project Initiation

Programming

Design

Tender

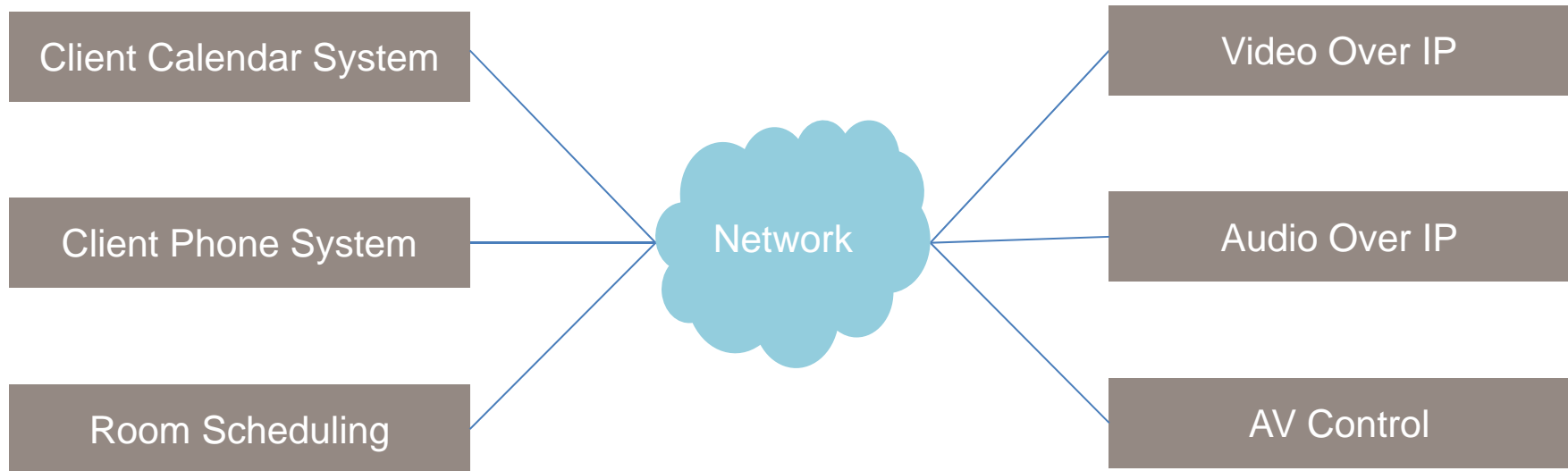**Implementation**

Project Completion

Implementation

+ Shop Drawings, Site Inspections

+ Final Deficiency Review

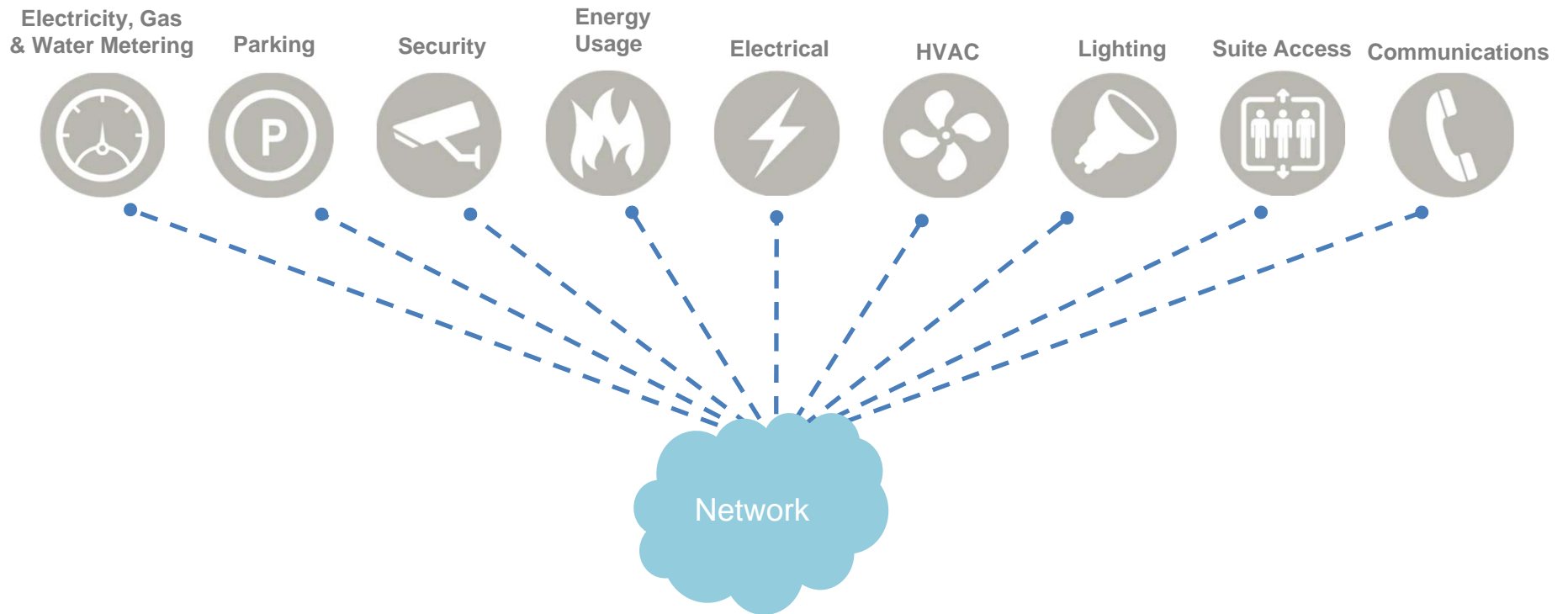+ Closeouts

Audio-Visual on the Converged Network

Technology needs to be coordinated early with relevant parties to support working and functioning audio-visual systems from day one.

Audio-Visual on the Converged Network

Building Systems Integration

Electricity, Gas & Water Metering · Parking · Security · Energy Usage · Electrical · HVAC · Lighting · Suite Access · Communications
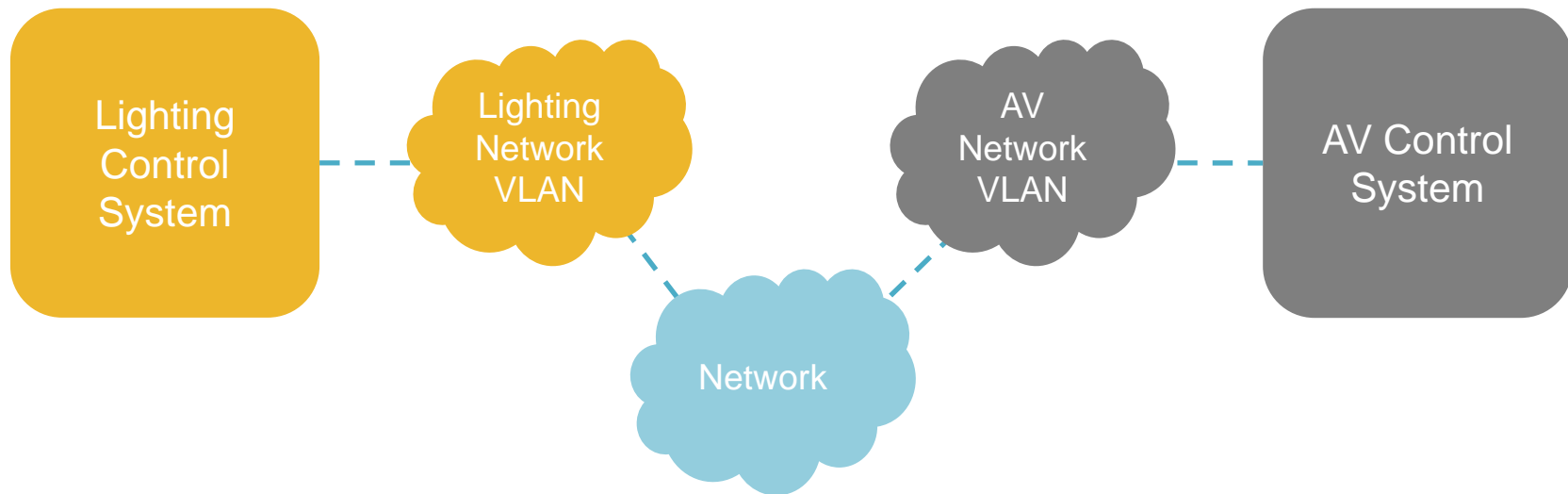
Network

Lighting Systems Integration

Traditional Design

+ Direct connection between audio-visual system and lighting control system via serial control

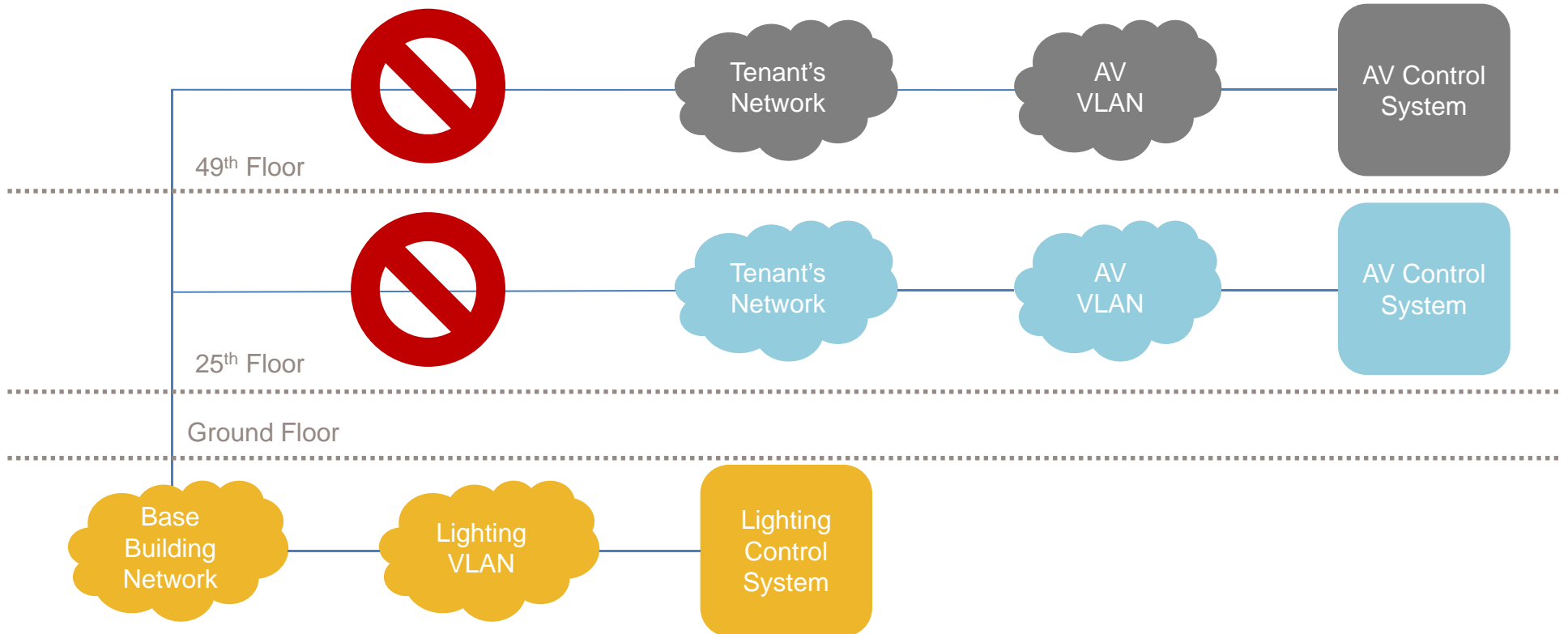+ Typically not connected to Base Building

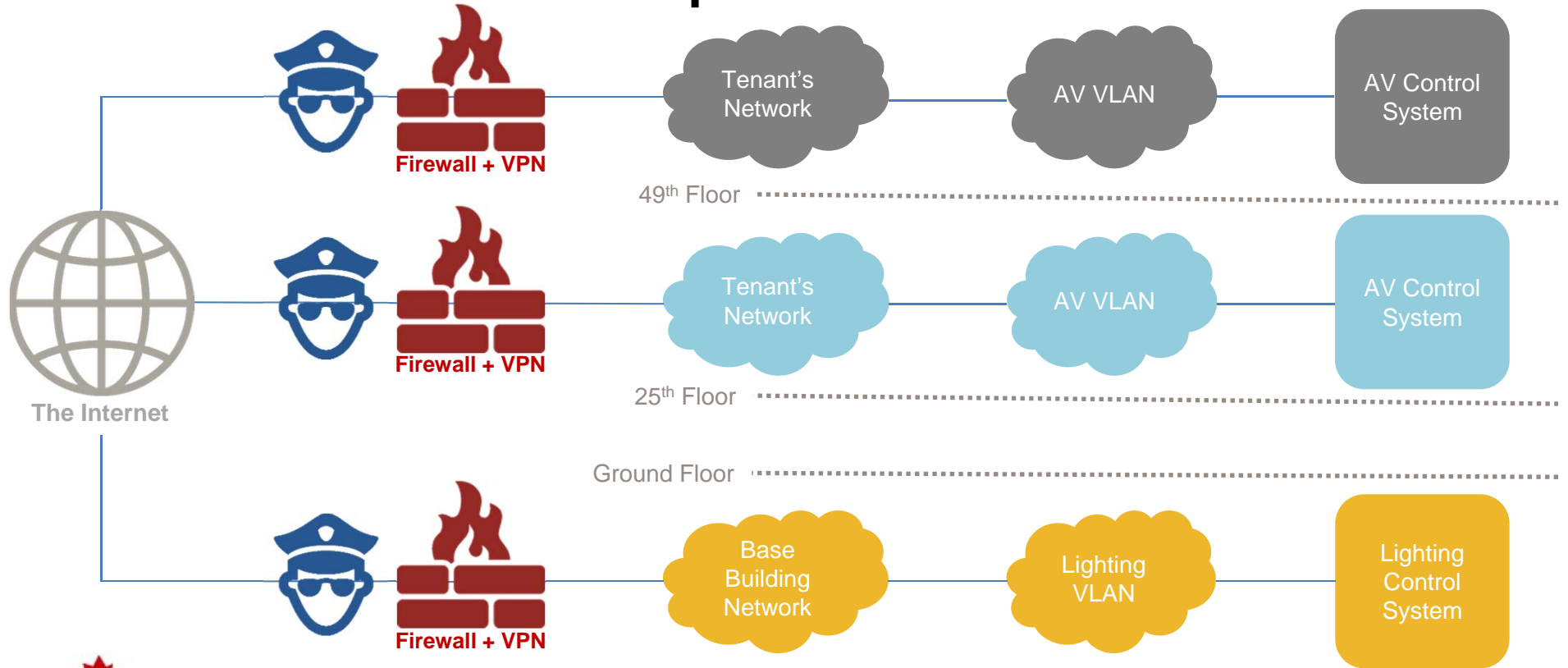+ Stand alone room solution

Lighting Systems Integration

New Design

+ Direct connection between audio-visual system and lighting control system via serial control

AV Control System

49th Floor

25th Floor

Ground Floor

Tenant's Network — AV VLAN — AV Control System

Tenant's Network — AV VLAN — AV Control System

Base Building Network — Lighting VLAN — Lighting Control System

Multiple Tenants

Firewall + VPN — Tenant's Network — AV VLAN — AV Control System

49th Floor

Firewall + VPN — Tenant's Network — AV VLAN — AV Control System

25th Floor

Ground Floor

Firewall + VPN — Base Building Network — Lighting VLAN — Lighting Control System

The Internet

Room Booking Systems

# Room Booking Systems: Requirements

+ Network drop
+ Usually powered by PoE (Power Over Ethernet)
  + Check datasheet of each device as PoE+ may be required.
+ If client requests a "non-standard" device
  + Some non-standard devices are NOT PoE and require additional infrastructure requirements, third party equipment, etc.
+ Conduit (if cable pathway required in finished walls or ceilings)

Wireless Presentation Systems
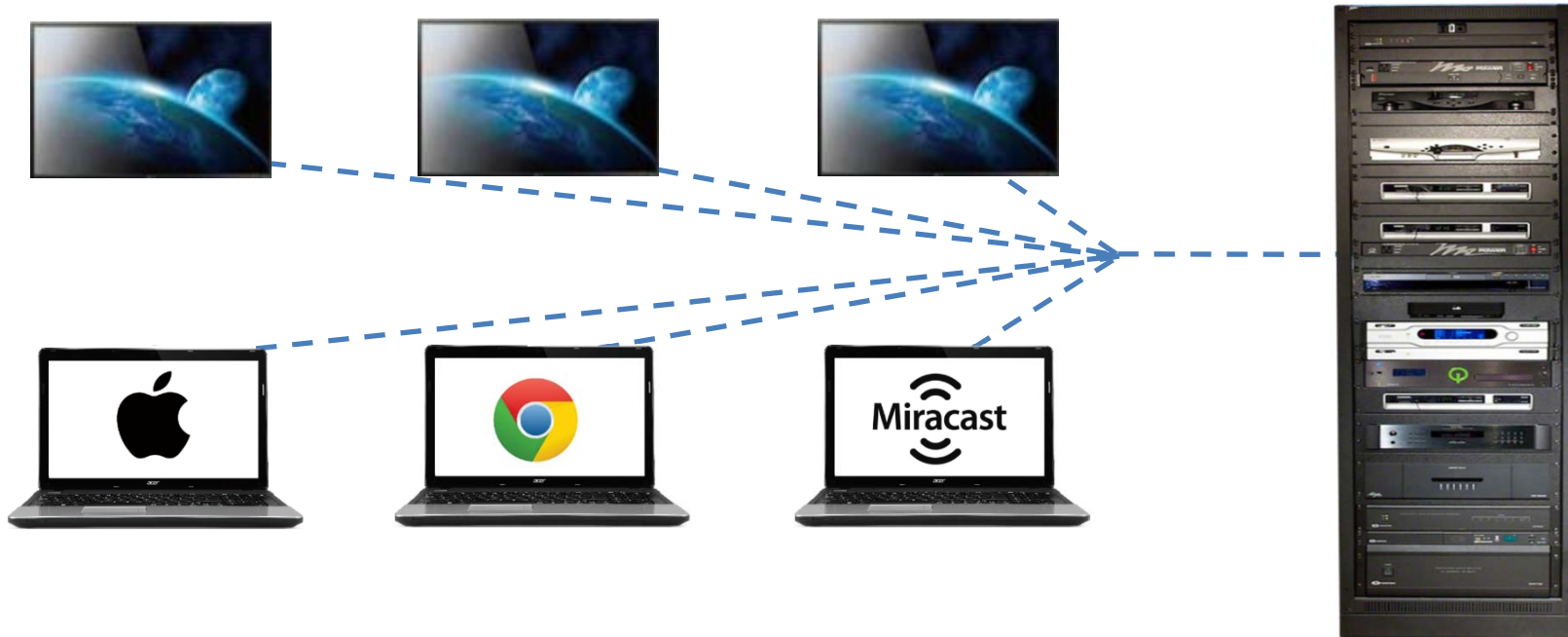
Web Conferencing

Video Bandwidth Requirements

Type of Video	Bandwidth Required
Full uncompressed HDTV (1080p)	1.5 Gbps
Typical streaming video bitrates	300 Kbps to 20 Mbps
4K Video using JPEG2000 codec	2 Gbps
4K Video using proprietary codecs	Under 1 Gbps

So, You Want to Adopt Video Streaming?

+ What task(s) will the system be used to perform?

+ Who is the intended audience and where is the intended audience?

+ What kind of endpoints (devices) do you need to stream to? Desktop/mobile devices/large displays?

+ What kind of content do you need to stream?

Questions?