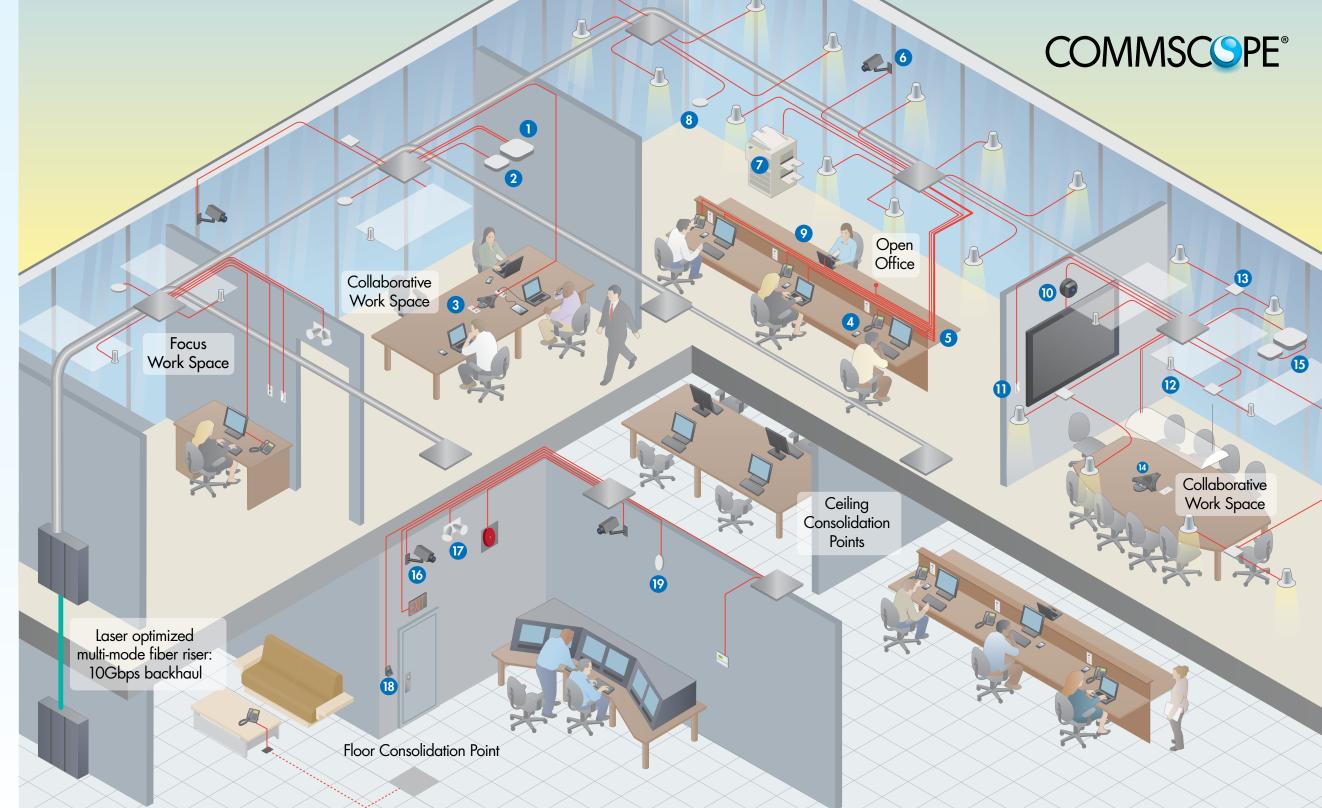
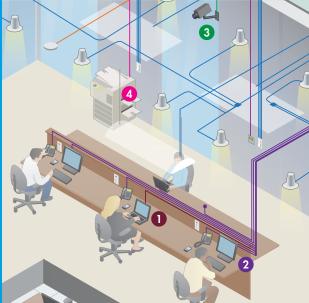
Intelligent Building Network

- 1. Universal Access Point (UAP)
- 2. Independent WLAN Access Point
- 3. Wired or wireless speaker phone
- 4. VOIP phone
- 5. LAN for laptops, etc, (2 per workstation)
- **6.** IP camera
- 7. Network printer
- 8. Dedicated category cable to each fixture
- 9. Light levels controlled from tablet
- 10. Video teleconferencing
- 11. Light scene controller
- 12. Occupancy monitoring
- 13. Cable shared between two 34 watt fixtures
- 14. Wired or wireless speaker phone
- 15. WLAN access point direct attached to UAP
- **16.** Security
- 17. Fire detection and evacuation
- 18. Access Control
- 19. Temperature Control



Conventional Infrastructure

Wired LAN



WLAN and **In-Building Wireless**



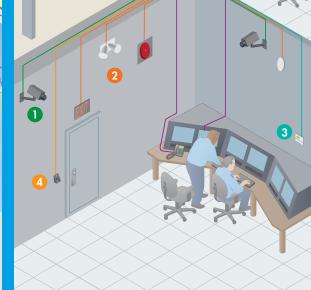
Lighting



Audio Visual Services



Building Automation Systems and Access Contol



Problem

Disparate systems limit network capacities.

Solution

Install Category 6A cabling or a Cat 6 UTP shielded solution (depending on building requirements)

Sample Requirements

- 1. VolP Phone
- 2. LAN for laptop
- 3. IP Camera
- 4. Network Printer

To enhance network mobility, a system must accommodate the need to work freely throughout a workspace.

Problem

Disparate systems are not optimized for workplace productivity.

Solution

Install Category 6A copper cabling for all wireless connections.

Sample Requirements

- 1. Two Category 6A cables for In-Building Wireless
- 2. Four Category 6A cables for WLAN, supporting link aggregation
- 3. Open-office environment with speakerphone to maximize collaboration

Today's workplace must provide both smartphones and computers with continual network coverage at all locations throughout the building.

Limited controls and separate overlay systems impact efficiencies, maintenance costs and heat generation.

Solution

Install dedicated category cabling to each fixture, along with embedded sensors.

Sample Requirements

- 1. Dedicated category cabling to each fixture
- 2. Share Category 6A cabling between two 34-watt fixtures
- 3. Share Category 6A cabling among up to four lower-wattage downlights
- 4. Light level controls available via tablet or smartphone

Intelligent lighting systems allow the customization of lights, as needed, saving up to 50% on energy costs over advanced LED lighting systems.

Disparate systems with separate power supplies inhibit the ability to control lighting and optimize usage based on occupancy levels.

Solution

Install Category 6A cabling for all audio-visual services.

Sample Requirements

- 1. Speakerphone
- 2. Video teleconferencina
- 3. Redwood Scene Controllers
- 4. Occupancy monitoring

Sensors and wall-mounted Scene Controllers coordinate with digital devices, offering complete power customization.

Disparate systems require separate maintenance contractors to install building automation services (BAS), while the installation of high-voltage equipment is expensive.

Solution

Install Category 6A cabling using a single contractor, with the same contractor to offer maintenance services.

Sample Requirements

- 1. Security
- 2. Fire and evacuation
- 3. Temperature control
- 4. Access control

With the myriad of protocols impacting building automation services, it's imperative that systems can communicate with one another.