What is the Soundtrack of Your Network?

Brian Davis
Corning

Keep Track of the Soundtrack!

- Song AND artist
- Scan QR code
- You are entered to win BOSE Noise-cancelling Headphones

WHY

is it time to change the tune on network design

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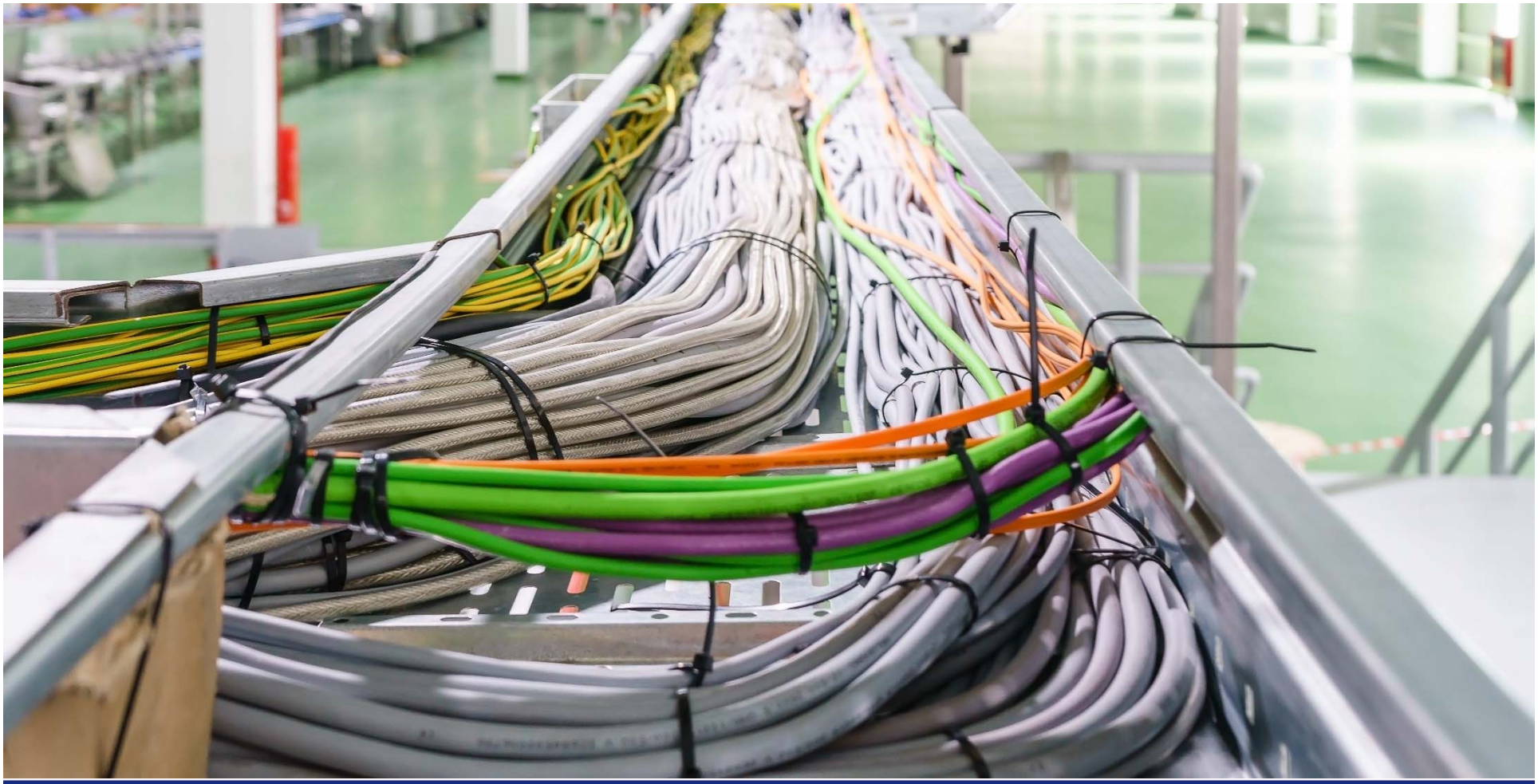
ANALYTICS DASHBOARD
Last Updated:
3 min ago
92%
Data Availability
More info
95%
Actual vs Target
More info
Evolution
Metric
Actual vs Target
Actual
Target
Revenue
$3.4M
82.0%
Profit
$1.2M
108.7%
Avg. Order Size
$850.3
71.0%
On Time Delivery
96.0%
96.0%
New Customers
15432
145.0%
Cust. Satisfaction
98.3%
Market Share
46.9%
Products positioning
6.0
4.5
3.0
1.5
0.0
65
70
75
80
85
Sales per countries
Top 10 products
430


Comfort
Security
LOCK
Health

What is the Soundtrack of Your Network?



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WHAT

A future-ready network now

Commercial Office Building

- 180,000 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

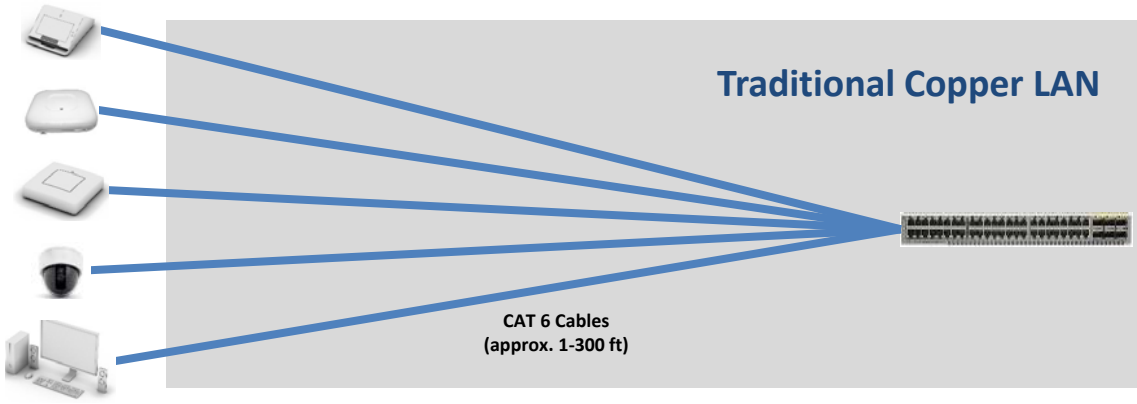
180,000 SQFT	FIBER DEEP	TRADITIONAL COPPER	SAVINGS
MATERIAL	$730,170	$972,831	25%
LABOR	$137,669	$242,209	43%
TOTAL	$867,839	$1,215,040	29%

Ancillary Expenses	TRADITIONAL COPPER	FIBER DEEP	SAVINGS
Telecom Rooms	6 ($300k)	1 ($50K)	83%
Cable Tray	24W x 6 ($150/ft)	12W x 2D/J-Hook ($62)	60%

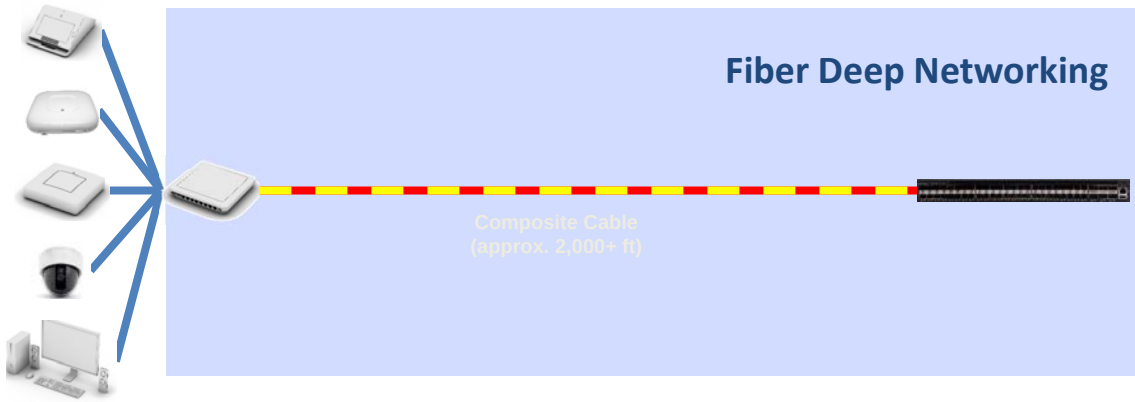
* Comparison is based on network electronics and associated labor. Numbers do not include endpoints (APs, RN's, printers, etc. which are the same in both cases).

HOW

Time to think differently about building networks

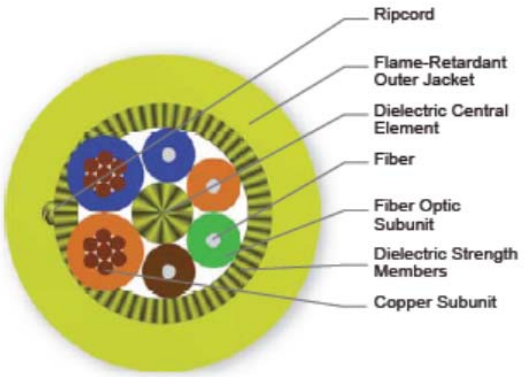


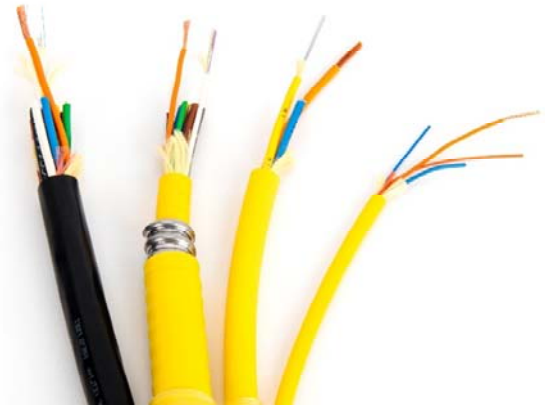
- ✗ Full pathways with little room for day-two applications
- ✗ Rip-and-replace upgrades
- ✗ Costly ancillary networking components (building IDFs, cable trays, conduit, cooling, racks, etc.)



- ✓ Save space with fewer, longer runs of future-ready Composite Cable
- ✓ Reduce future upgrade costs
- ✓ Extend the reach of the network
- ✓ Reduce ancillary networking expenses

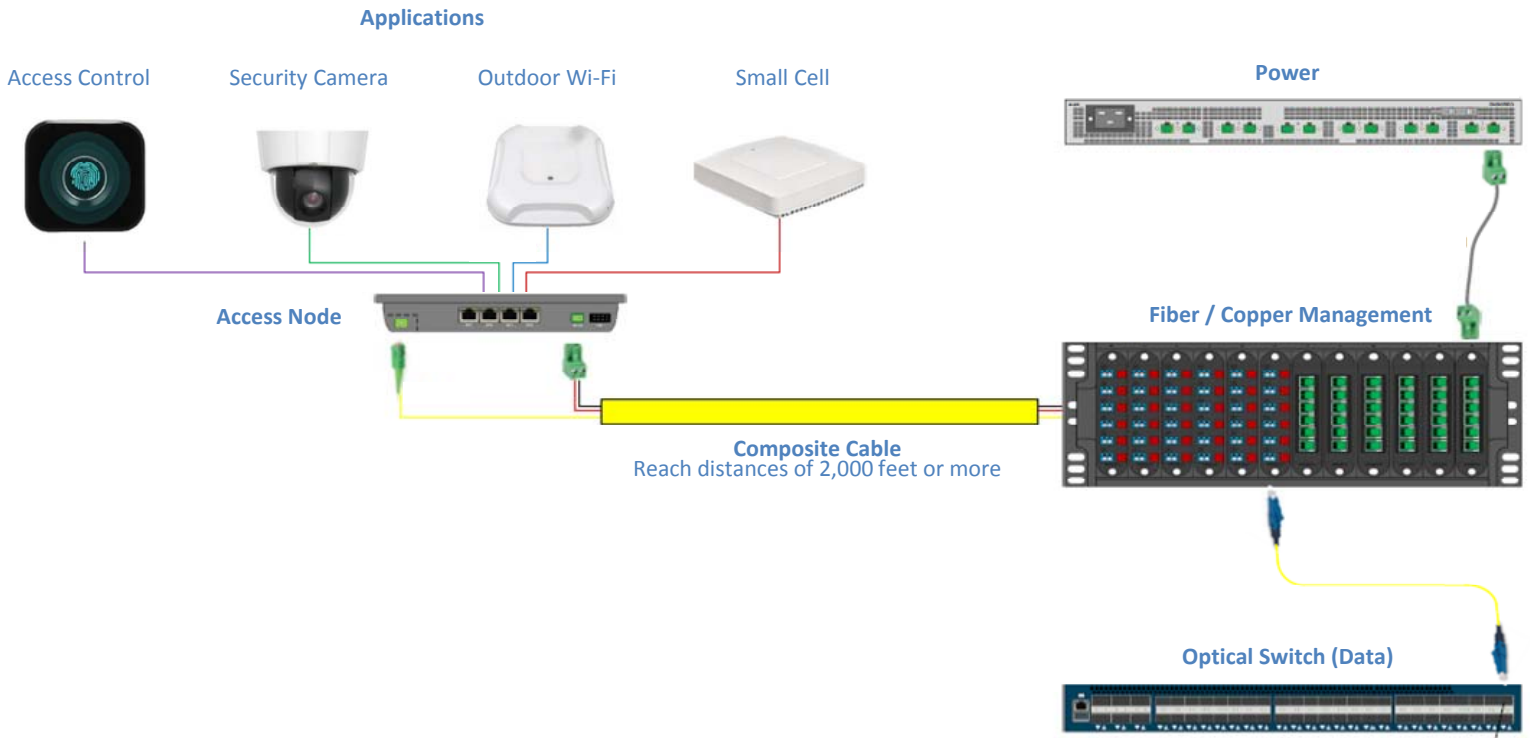
Wire it Once, Enable Everything





- **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

Deliver Data and Power to the Edge



Overcome Distance Limitations of Traditional Copper LAN

Corning's ActiFi™ composite cable supports:

- Class 2 (low voltage) and Class 3 (medium voltage) power solutions including bulk power solutions
- Fiber devices directly or via a connection to PoE switches
- Unlimited bandwidth and bulk power from the MDF to the edge/zone to enable full network and power convergence

ActiFi™ Composite Cable Distances 1 pair | Low voltage (57VDC)			
	30 Watts	**60 Watts**	**75 Watts**
20 AWG	590 ft	295 ft	235 ft
16 AWG	1,500 ft	750 ft	600 ft
14 AWG	>2,000 ft	1,190 ft	950 ft
12 AWG	>2,000 ft	1,895 ft	1,500 ft

Example use cases: security cameras, outdoor Wi-Fi, blue emergency call boxes, devices that are typically "hard to reach"

WHEN

Deciding to Leverage Fiber - and Power Deep

WHEN to Think “Fiber-and Power-Deep”

Long-reach scenarios

Growth areas

Future technology needs

Flexibility

Where We See Fiber Deep

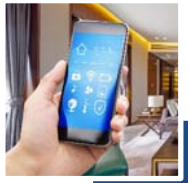
When to Leverage a Fiber Deep Network

Environments

- Hospitality / entertainment
- Commercial office buildings
- K-12 schools
- Fortune 500 companies
- Universities
- Big box retail stores
- Parking garages/ lots
- Perimeter fences
- Healthcare
- Senior living communities
- Campuses
- Apartment/condo complex
- Warehouses
- Etc.

Challenges

- Multiple applications
- Long-reach scenarios
- Unique network requirements
- Future technology upgrades
- Day 2 technology needs
- Limited space and pathways
- Expensive rip-and-replace upgrades
- Complex network management
- Few IDF closets available
- Limited local power options
- Limited conduit available
- Costly infrastructure and ancillary networking components



Applications

- Wi-Fi
- Audio/visual equipment
- Building management systems
- Point of sale
- Access controls
- Security cameras
- LAN
- Digital signage
- Conferencing panels
- VOIP
- Touchless controls
- Small Cell
- Thermal scanners
- IoT sensors
- Any IP device

WHO

The Adopters Are & How It's Working For Them

Medium Office

Overview

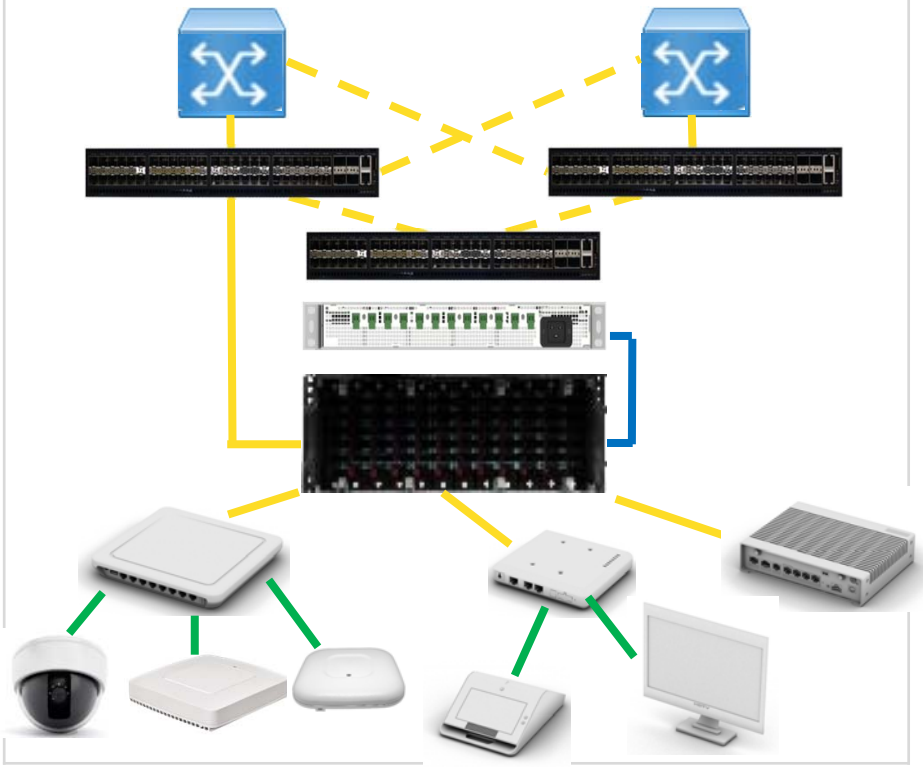
General

- Brownfield renovation site (formerly Walmart®)
- 50,851 sq ft
- 65–70 employees

Supported Applications

- Qty. (24) Cisco 3802i Access Points
- Qty. (12) Cambridge Sound-Masking Controllers
- Qty. (9) Axis Security Cameras
- Qty. (8) Crestron NVX Networked Conference Room Displays
- Qty. (7) Crestron Mercury Conference Room Phones
- Qty. (7) Crestron Scheduling Panels
- Qty. (5) Corning® SpiderCloud® Radio Nodes (VZW service)
- Qty. (3) Crestron Conference Room Touch Panels
- Qty. (1) AV Camera
- Qty. (1) Printer Station

Network



Results

	FIBER-DEEP SD-LAN	TRADITIONAL COPPER	SAVINGS
MATERIAL	$38,801	$50,430	23%
LABOR	$10,115	$24,034	58%
TOTAL	$48,916	$74,464	34%

NOTES
• 22 cable runs on J-Hooks vs. 90 cable runs in cable tray • 62 fiber terminations vs. 18 fiber terminations + 162 CAT 6 terminations

* Comparison is based on network electronics and associated labor. Numbers do not include endpoints (VAPs, RN's, printers, etc. which are the same in both cases).

Campus Environment

Overview

General

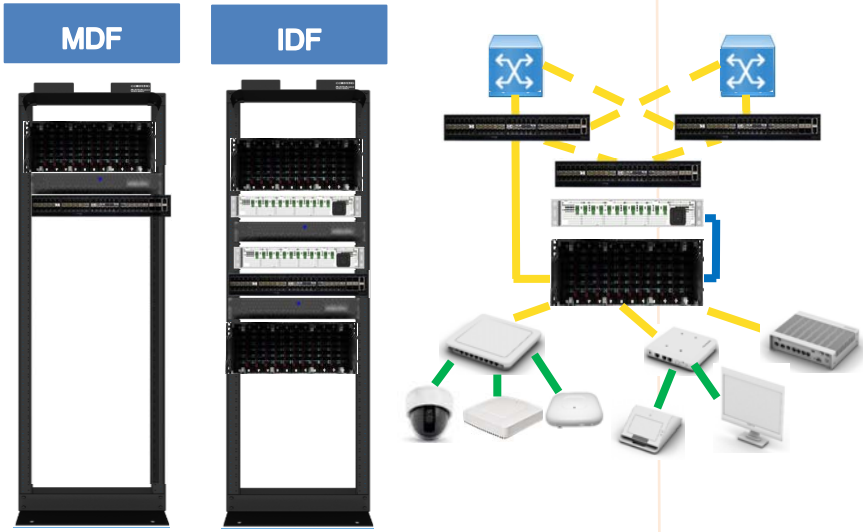
- Greenfield
- 14 building campus with redundant MDFs
- > 2000 drops

Supported Applications

- Wi-Fi, Video, Voice, LAN, Security

Floor Plan

Network Topology



Results

	FIBER-DEEP SD-LAN	TRADITIONAL COPPER	SAVINGS
MATERIAL	$428,436	$714,608	40%
LABOR	$104,010	$183,816	43%
TOTAL	$532,446	$898,424	41%

NOTES
• Campus environment • Redundant core equipment and pathways

* Comparison is based on network electronics and associated labor. Numbers do not include endpoints (VAPs, RN's, printers, etc. which are the same in both cases).

Site Summary

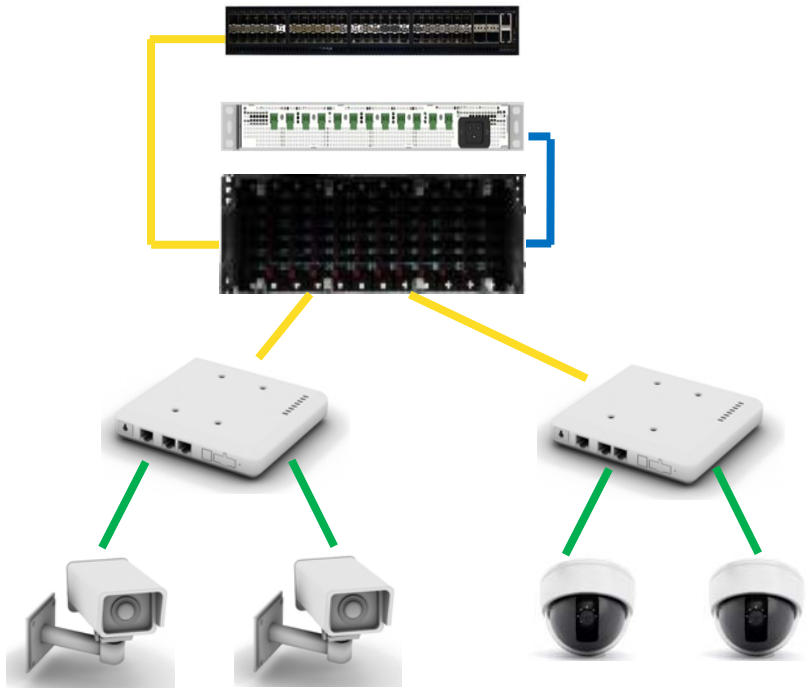
Outdoor Cameras

Overview

General

- 48 outdoor cameras
- 1LAN-SDAN-8293 in 3M outdoor enclosure

Network Topology



Results

	FIBER-DEEP SD-LAN	FIBER DEEP (vs. Media Converter)	SAVINGS
MATERIAL	$43,850	$87,535	50%
LABOR	Wash	Wash	Wash
TOTAL	$43,850	$87,535	50%

NOTES

- Media converters are expensive and an inferior product
- SD-LAN = fully managed; Media Converter = unmanaged (analogy would be like pulling a long extension cord from the press box to every light pole)

Significant Savings by Moving to a Fiber Deep Architecture

	Small Office Building	Medium Office Building	Large Office Building	Campus	Outdoor Cameras
Footprint (ft^2/m^2)	3000/ 279	51000/ 4724	180000/ 16723	14 buildings 2000 drops	48 drops
Employees	15	65-70	800	N/A	N/A
Applications	• Wi-Fi, • Security cameras • Voice • Data	• Wi-Fi • Sound Controllers • Security cameras • Voice • Cellular • Printer • Displays	• Wi-Fi • Sound masking • Security cameras • A/V • Cellular	• Wi-Fi • Voice • Data • A/V • Security cameras	• Outdoor Cameras
Overall Savings	**17%**	**34%**	**29%**	**48%**	**50%**

Fiber Deep In-building Solutions

Converge multiple technologies over a single, simplified infrastructure.

- Lower first-installed cost
- Save up to **50%** on future upgrades
- Virtually **unlimited** bandwidth
- Optimized space utilization
- Low latency
- **Scalable, flexible** and **intelligent**
- **Centralized** Network Control

How's Your Soundtrack?

Scan the Code

Fill out the form with 1) song title2) artist

Win a set of BOSE noise-cancelling headphones