Saving Critical Space

Cable Management Solutions

PANDUIT®

infrastructure for a connected world

Cable Management Innovation
that Saves Space where You Need It Most

Enterprise telecom rooms have traditionally housed telecommunications equipment, cable terminations, and the cross-connect wiring needed to run the day-to-day networking and communications functions of business. How times have changed.

New technology is being introduced in to the enterprise environment at a furious pace. Faster server speeds, VoIP phones, building management systems, security systems, Power over Ethernet, and wireless access points all rely on the same network, increasing the need for bandwidth and creating more demand for hard-wired connections.

More connections to the network require more ports and larger and higher density network switches. When space is at a premium, facilities and telecommunications equipment are forced to share the same constrained real estate.

With space-saving cable management and connectivity systems from Panduit, you can decrease your equipment footprint, lower material costs, reduce installation and maintenance time, and prepare for the future in both new and existing networks.

Real Estate is a Limited Resource

Maximize Existing Telecom Room Real Estate

Business is strong. Your work force and office space are both expanding. The demand for higher speed data is increasing and it is time to upgrade the existing building management systems.

As IT Manager or Facilities Manager, you've been tasked with upgrading building networks – but space is tight and there is only so much room. In addition, cable management over the years has been haphazard, affecting organization and network reliability.

Build with a Plan for the Future

You have budget and plans for a new office building to support the growth of your business for years to come. The new intelligent building will support continuous monitoring, and provide control of key building systems such as lighting and security.

Real estate is expensive and the space designated for telecom and facilities management meets today's needs, but the future is always uncertain.

Your network solution has to meet many demands: future growth, reduce operational costs, improve energy efficiency, and optimize infrastructure utilization.

:: Panduit High-Density Space-Saving Solutions

In today's business environment, telecom room and data center real estate is frequently at a premium. Panduit can help maximize this valuable space. High-density rack configurations and other innovative products allow more equipment to fit into available space, meeting today's needs and allowing scalability for the future.

Evolution of a Telecommunications Equipment Rack

Innovative Physical Infrastructure

A 4-rack configuration has been the standard for network management in a telecom room, designed with network redundancy and room for future growth. For this configuration, Panduit delivers a wide range of wire management solutions that are highly engineered, rugged, and reliable.

:: Easy deployment

4-rack configuration
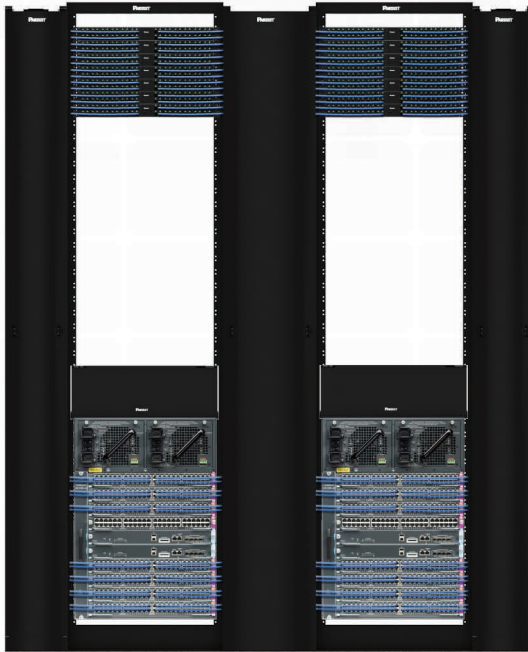(Example using Cisco Catalyst® 4510R-E)

	Traditional 4-Rack
Layout Width	133.2 in. (3383 mm)
Square Footage	38.9 Ft.^{2} (3.61 M^2)
Number of Parts (excluding jack modules)	50
Feet of Patch Cord	16,600 Ft.
Number of RUs Used Number of RUs Available	106 RU 74 RU
Number of Ports	672

Solutions

- Copper and Fiber Cabling Systems
    - Best-in-class performance
    - Exceeds cabling standards for superior network performance
- Cable Management Systems
    - Maintain bend radius and maximize product life and performance
    - Improve organization and presentation

Smaller Footprint

As demand for ports increases and rack space becomes tighter, Panduit delivers innovative solutions that help squeeze more into the available space. Angled patch panels eliminate the need for horizontal cable managers to optimize rack space.

:: Footprint is HALF the size of typical 4-rack unit

Room for future expansion

High-density 2-Rack Configuration
(Example using Cisco Catalyst® 4510R-E)

	Traditional 4-Rack	2-Rack	Benefits
Layout Width	133.2 in. (3383 mm)	68.6 in. (1742 mm)	—
Square Footage	38.9 Ft.² (3.61 M²)	20.1 Ft.² (1.87 M²)	Smaller footprint saves 48% floor space
Number of Parts (excluding jack modules)	50	26	Reduce installation time with 48% fewer components
Feet of Patch Cord	16,600 Ft.	7,224 Ft.	56% savings in patch cord length
Number of RUs Used Number of RUs Available	106 RU 74 RU	66 RU 24 RU	40 less RU for more available space!
Number of Ports	672	672	—

Solutions

- Angled Patch Panels
    - Route cabling to side to eliminate horizontal cable management
    - Maintain bend radius
- Labeling Solutions
    - Complete rack and cable management labeling
    - Innovative Turn-Tell® labels rotate for easy visibility without twisting cables

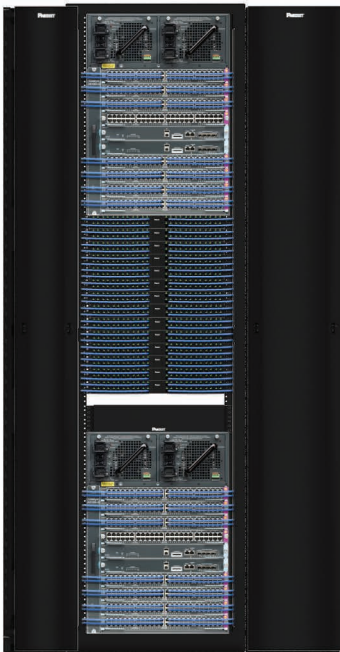# Evolution of a Telecommunications Equipment Rack

Highly Optimized

Today, Panduit leads the market with a family of innovative smaller diameter 28 AWG cabling solutions that increase cabling capacities, enable higher density, and improve ease of cable management.
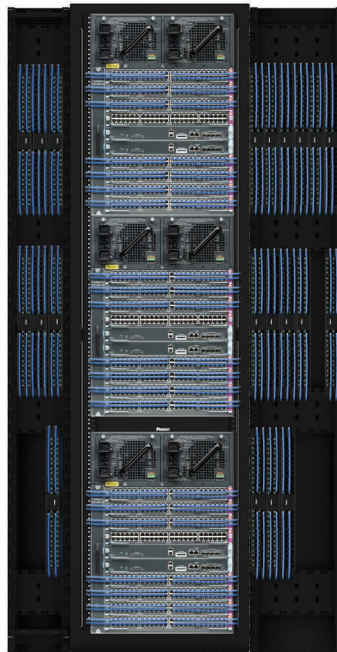
28 AWG High-Density Solution

28 AWG patch cords enable optimized configurations that minimize the need for horizontal managers and allow for easier installation and tighter bundling.

High-Density Solution with High-Density Vertical Patch Panels

Drive space savings to the limit with 0 RU patch panels that mount in the vertical manager, achieving the highest density possible.

High-density 1-Rack Configuration
with 28 AWG and all RUs occupied
(Example using 2 Cisco Catalyst® 4510R-E)

High-density 1-Rack Configuration
with 28 AWG and Vertical Patch Panels
in Vertical Cable Manager
(Example using 3 Cisco Catalyst® 4510R-E)

Vertical patching maximizes space

Same amount of connectivity in HALF the space

Solutions

- 28 AWG Small Diameter Cable
    - Optimizes space: Cabling is less than half the size of traditional 24 AWG patch cords
    - Delivers 58% smaller bundle than 24 AWG (24 Category 6 patch cords per bundle)
- Vertical "0" RU Patch Panel
    - Increases standard rack capacity/density
    - Optimizes rack space

Representative offering only, visit www.panduit.com/enterprise-solutions

Panduit Cable Management Solutions

	Traditional 4-Rack	2-Rack	1-Rack	1-Rack with Vertical Patch Panels (3 switches)	Benefits
Layout Width	133.2 in. (3383 mm)	68.6 in. (1742 mm)	42.75 in. (1085 mm)	42.75 in. (1085 mm)	—
Square Footage	38.9 Ft.^{2} (3.61 M^2)	20.1 Ft.^{2} (1.87 M^2)	12.5 Ft.^{2} (1.16 M^2)	12.5 Ft.^{2} (1.16 M^2)	Single rack footprint saves 68% floor space
Number of Parts (excluding jack modules)	50	26	21	28	Reduce installation time with fewer components
Feet of Patch Cord	16,600 Ft.	7,224 Ft.	4,660 Ft.	3,900 Ft.	Reduced cost
% Saving in Patch Cord	—	—	72%	77%	Reduced cost
Number of RUs Used Number of RUs Available	106 RU 74 RU	66 RU 24 RU	45 RU 0 RU	45 RU 0 RU	1-rack configuration for maximum space usage
Number of Ports	672	672	672	1008	Vertical patch panels allow for an additional 336 ports

Panduit high-capacity cable management systems enable the maximum number of cables to be managed in a minimum amount of space. Innovative cable management features provide efficient organization and support of high-performance copper and fiber optic cabling, enhancing network reliability and helping to reduce operational expenses.

Maximize Your Real Estate Investment

Space in a telecommunications room or data center is some of the most expensive real estate within an enterprise. A smaller rack footprint maximizes both the space and that investment. Cut your real estate costs by more than **HALF** with the right mix of small-diameter cabling, high-density infrastructure components, and cable management!

	Traditional 4-Rack	Smaller 2-Rack	1-Rack High Density	1-Rack Ultra High Density
Total Square Feet	38.9	20.1	12.5	12.5
Annual Real Estate Costs (Based on $61/square foot, in a 10-TR building)	$23,729	$12,261	$7,625	$7,625
Lifetime Real Estate Costs (Based on a 50-year building life)	$1,186,450	$613,050	$381,250	$381,250

Save $800,000+ in real estate costs over the life of your building!

PANDUIT®