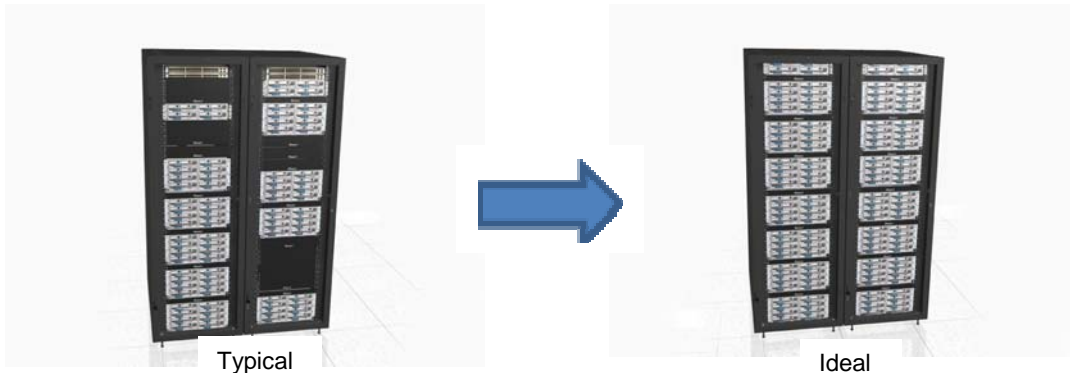# Overhead Distribution Racks Enable the Deployment of Zone Distribution Areas within the Data Center for Greater Scalability and Quicker Server Deployments
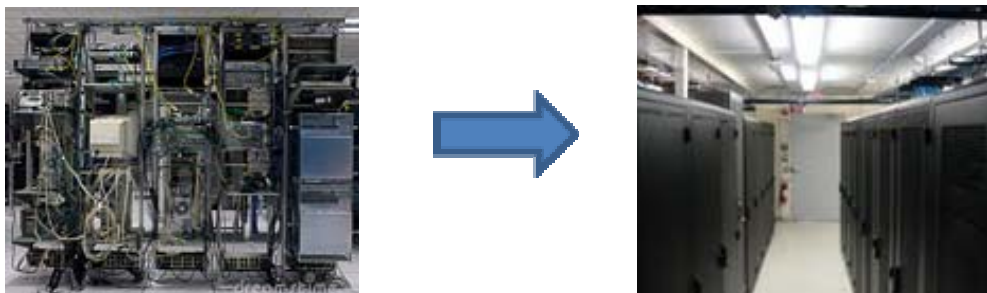
Increase Capacity Utilization and Reduce Capital Expense

Even though data center space is expensive, existing cabinet / rack space is typically not being optimized. Gartner research indicates that actual compute space within racks / cabinets is underutilized, with average rack densities approaching only 50%.[1] Considering that the average cost for a single cabinet space is $4,900[2], optimizing the capacity within the cabinet or rack can add up to significant CapEx savings. Assuming that an average 45 RU server cabinet uses 22 RU's for patching and other devices, the ability to free that space for additional servers and reach 100% cabinet utilization could result in savings of $2,450 per cabinet.[3]
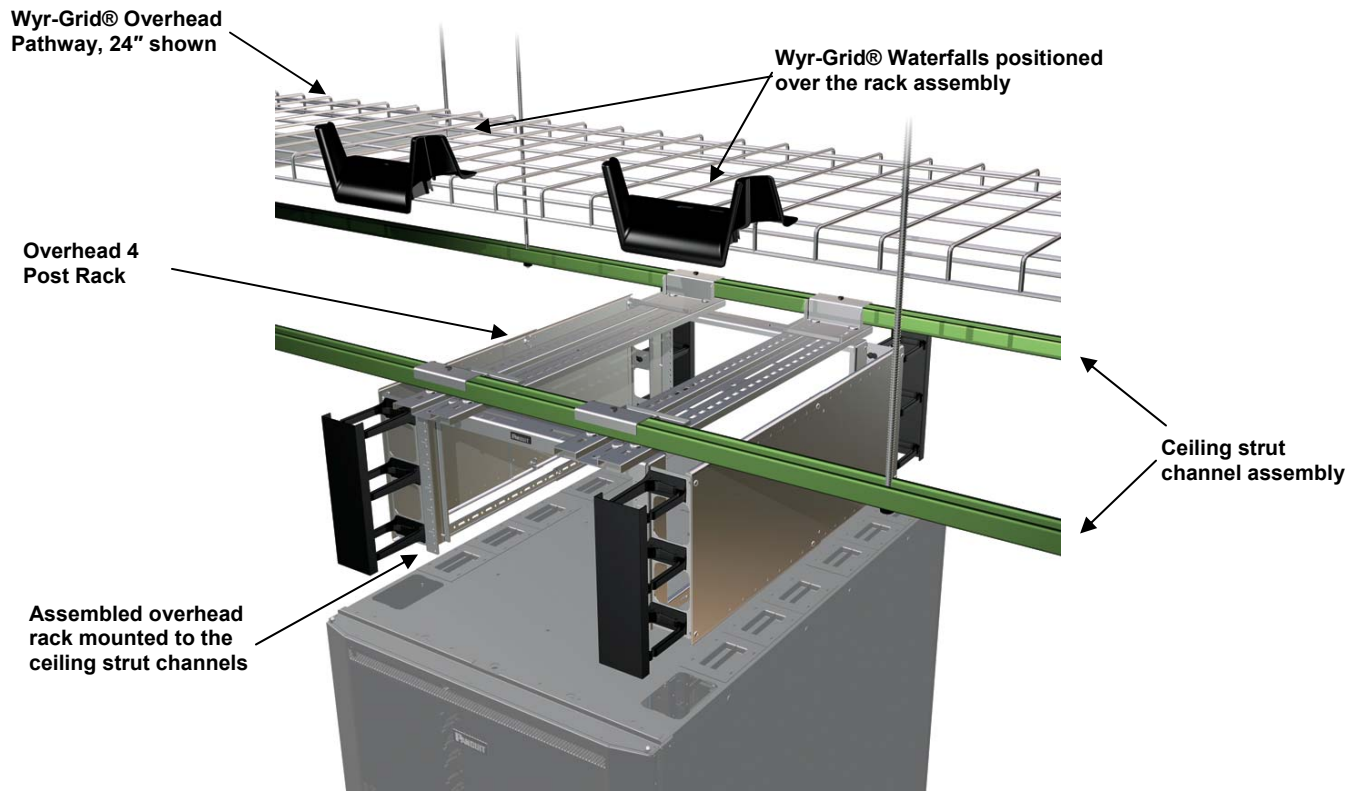

Typical   Ideal

Modular Data Center Infrastructure Can Speed Deployment and Reduce Downtime

Rising labor costs and downtime are becoming more and more expensive. For instance, Uptime Institute Symposium research indicates the average cost of downtime to be $5600/min.[4] In addition, it can take up to 8 hours to install and cable up a populated cabinet. As a result, customers are increasingly utilizing an architecture that enables fully populated cabinets / racks to be rolled into an existing line up.

1."To the Point: A Simplified Approach to Building a Data Center TCO" by David Cappuccio, Gartner Research
2."To the Point: A Simplified Approach to Building a Data Center TCO" by David Cappuccio, Gartner Research
3. Savings derived assuming 45 RU cabinets with 50% (22 RU) used for patching or switching
4."Mitigating Risks Associated with IT Server Downtime" Huff Post TECH, June 26, 2013

Wyr-Grid® Overhead Pathway, 24″ shown

Wyr-Grid® Waterfalls positioned over the rack assembly

Overhead 4 Post Rack

Ceiling strut channel assembly

Assembled overhead rack mounted to the ceiling strut channels

The Panduit overhead 4 post rack is designed to be an effective overhead switching and patching solution for the data center. Available in 6 RU or 4 RU versions, these racks allow maximum equipment utilization by placing server row switching and patching above the racks or cabinets.

Key Features and Benefits

- The racks display a narrow width (fitting over a 600 mm cabinet)
- Multiple overhead racks can be mounted next to each other over a lineup of racks or cabinets for higher density and greater space utilization
- The rack can be used to manage high performance copper and fiber cables for greater application versatility
- Vertical cable managers can be added for enhanced cable control and organization reducing time needed for moves, adds, or changes
- End panels can be added for increased aesthetics.
- This modular rack system is compatible with Panduit horizontal cable managers facilitating simple, fast integration reducing assembly and specification time
- The racks are designed for use with the Panduit® Wyr-Grid® and FiberRunner® Pathway Systems, as well as typical basket tray or ladder rack systems, facilitating simple, fast integration reducing assembly costs

The Benefit: Overhead Switching Increases Capacity Utilization and Reduces Capital Expense

For example, by using Panduit overhead racking and moving the ToR switching and patching into the overhead 4 post rack, an 11 cabinet or rack lineup can be reduced to 10. If 100% utilization of rack or cabinet RU space is realized, the cost of the one cabinet space no longer needed, averaging $4900[2] can be saved.

The Benefit: Overhead Switching Increases the Speed of Deployment

Recent reports by Gartner reflect the growing realization that "The first two generations of data center designs are no longer appropriate for current and future needs. New data centers should be perceived less as a static structure and more as an agile, living organism that evolves as the server and storage infrastructure changes." In response, Gartner suggests operators should "Include flexible, modular, virtualized design principles in new data center designs.[5]

A modular data center facility separates some or all of the core facility areas described earlier into discrete, prefabricated components that are assembled at the target location. Overhead switching infrastructure enables an approach which is more like the assembly of building blocks—where the right mixture and type of blocks, when assembled together, produce an operational facility that meets the requirements of the customer or operator.

Rolling a pre-populated rack into place takes only several minutes and can save up to 8 hours or $800, (assuming a $100 per hour rate in labor), in addition to system down time.

5. "The Data Center as a Living Organism: Why history is not a good guide to the future", by Rakesh Kumar and Philip Dawson, Gartner Research

4 Post Overhead Rack and Accessories Ordering Information

Completed Overhead Rack with Accessories (Shown Below)

PZLRB4P6   **PZLRB4P4**

PZLRB4P6LR   **PZLRB4P4S**
PZLRB4P6SR

PZLRB4P6EP   **PZLRB4P4EP**

Part Number	Description	Std. Pkg. Qty.
4 Post Overhead Racks		
PZLRB4P6	*6 RU rack bracket*	1
PZLRB4P4	*4 RU rack bracket*	1
Vertical Managers		
PZLRB4P6LR	6 RU Set of (2) 2.5" x 4.5" (64mm x 114mm)	1
PZLRB4P6SR	6 RU Set of (2) 1.0" x 3.5"(25.4mm x 89mm)	1
PZLRB4P4SR	4 RU Set of (2) 1.0" x 3.5" (25.4mm x 89mm)	1
Accessories		
PZLRB4P6EP	*6 RU end panels*	1
PZLRB4P4EP	*4 RU end panels*	1

About Panduit

Panduit is a world-class developer and provider of leading-edge solutions that help customers optimize the physical infrastructure through simplification, increased agility and operational efficiency. Panduit's Unified Physical Infrastructure (UPI) based solutions give Enterprises the capabilities to connect, manage and automate communications, computing, power, control and security systems for a smarter, unified business foundation. Panduit provides flexible, end-to-end solutions tailored by application and industry to drive performance, operational and financial advantages. Panduit's global manufacturing, logistics, and e-commerce capabilities along with a global network of distribution partners help customers reduce supply chain risk. Strong technology relationships with industry leading systems vendors and an engaged partner ecosystem of consultants, integrators and contractors together with its global staff and unmatched service and support make Panduit a valuable and trusted partner.

www.panduit.com · cs@panduit.com · 800-777-3300

RKTB02--WW-ENG