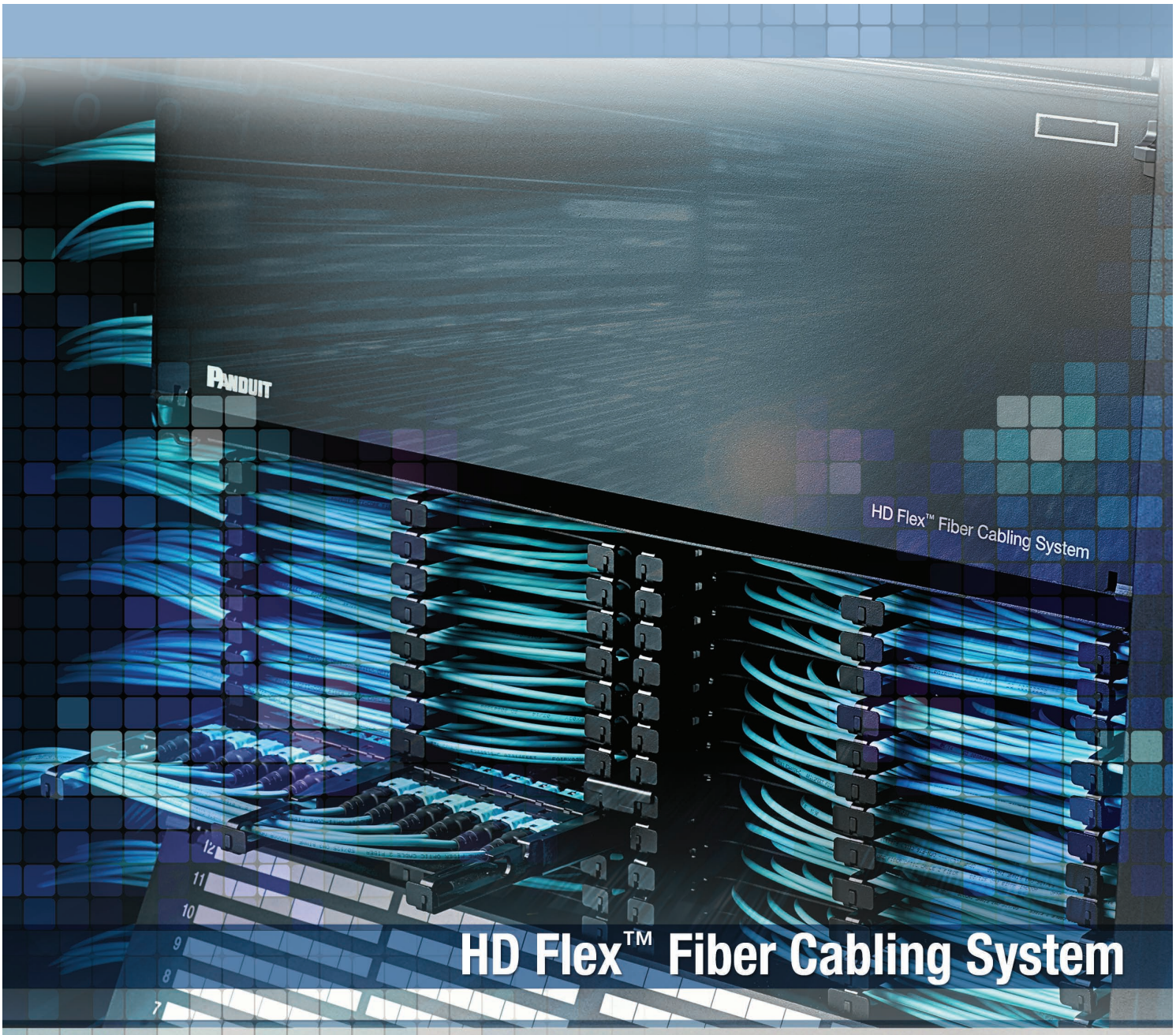

HD Flex™ Fiber Cabling System

No Limits: The Power of Innovation Serviceability and Manageability for the Next-Generation Data Center

PANDUIT®
infrastructure for a connected world

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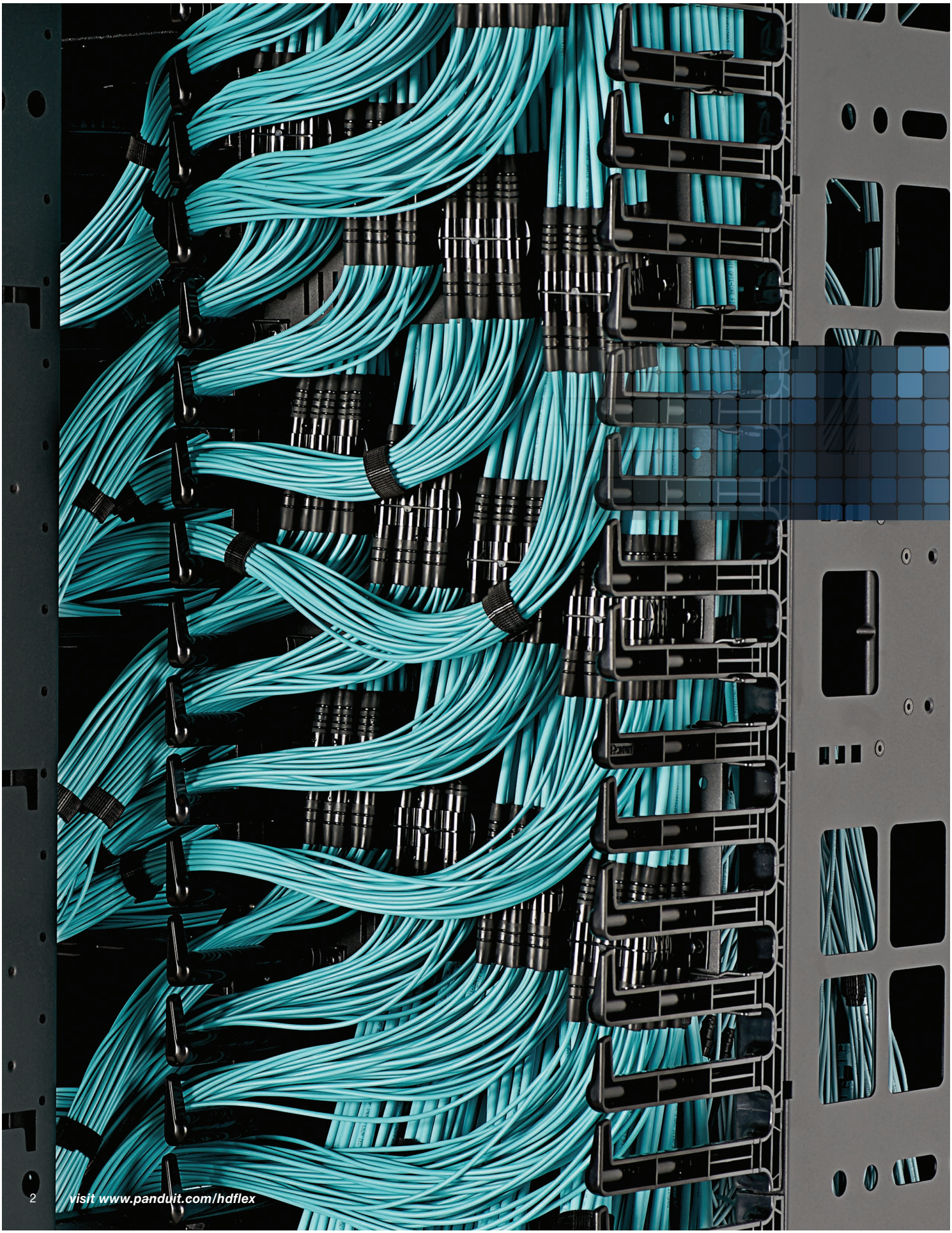

:: At Amazon, every 100 milliseconds of latency costs them 1% in sales.[1, 2]

:: At Google, an extra 0.5 seconds in search page generation time dropped traffic by 20%.[1, 2]

:: For stockbrokers, if the electronic trading platform is 5 milliseconds behind the competition, they can lose about $4 million in revenue per millisecond.[1, 2]

The Drivers Behind High-Density Systems

As today's data centers evolve from cost centers to profit centers, IT managers must increase transaction rates in order to maximize use of active, revenue-generating equipment. These demands of high performance and continual availability are leading to the proliferation of fiber optic cabling, whether the organization is transitioning from 10G Ethernet to 40G/50G/100G Ethernet, or from 8G Fibre Channel to 16G/32G/64G Fibre Channel.

:: Forrester estimates the cost of constructing the base building shell and physical security of a data center at $100 to $300 per square foot.[3]

But IT organizations face some unique challenges. Adding new real estate, if it is even available, is cost prohibitive—so most are faced with optimizing existing square footage. A high-density fiber optic cable system can meet the need to optimize existing data center space, enabling organizations to meet business demands for higher data rates while minimizing the costs of space and equipment.

[1]TABB Group
[2]"The True Cost of Latency," 2009, Christian Kams, of Push Technology, Mike Stoltz of GemStone Systems, Inc.
[3]"Build Or Buy? The Economics Of Data Center Facilities," Forrester, 2011.

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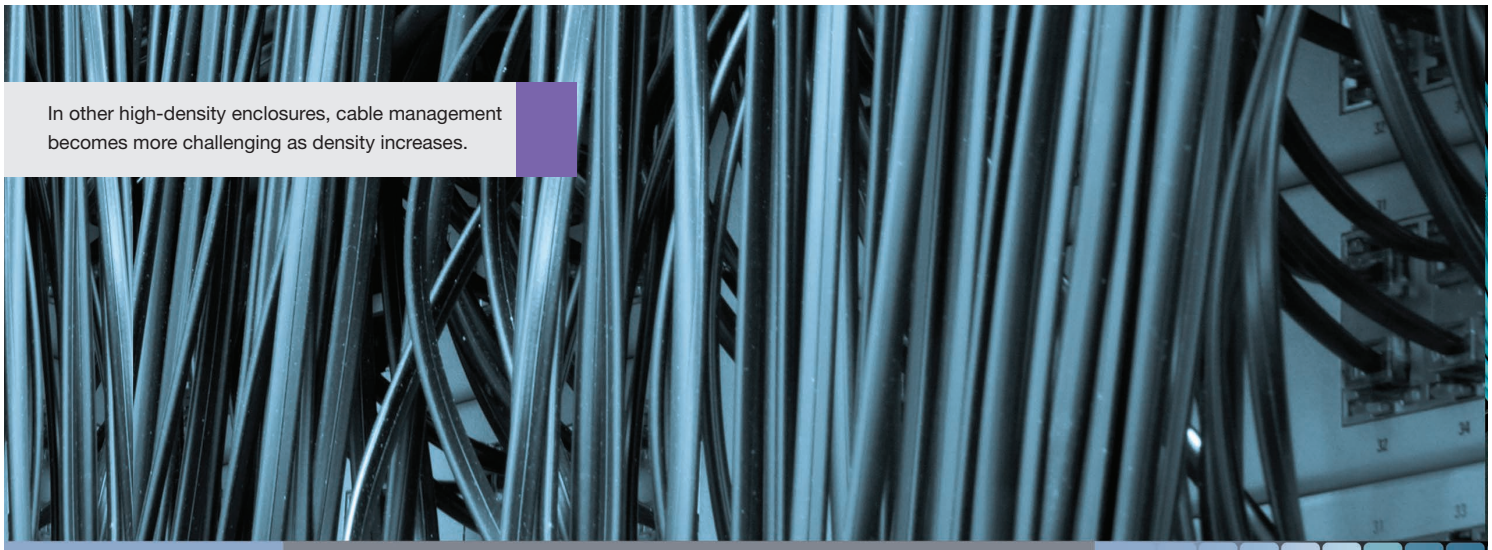


In other high-density enclosures, cable management becomes more challenging as density increases.

Other High-Density Fiber Enclosures

While traditional high density fiber enclosures support the port counts required, their design typically results in unmanageable clusters of cables bunched awkwardly in the back of the enclosure, and components that are difficult at best to access. For instance, fiber cables crowded in the front and rear of the enclosure often block access to connectors or cassettes.

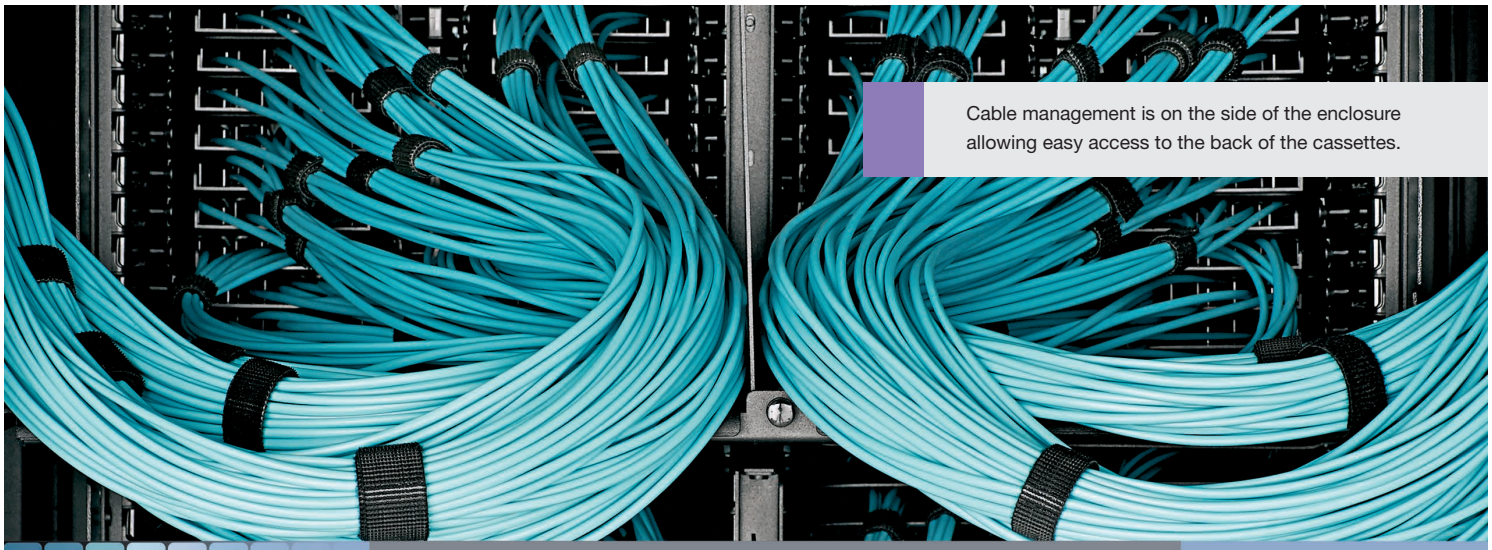
Time-consuming to deploy and even more challenging to service, the traditional fiber enclosure has become a barrier to fulfilling moves, adds and changes (MACs), making it nearly impossible to fulfill these tasks without disrupting adjacent circuits. The result is often costly outages, especially in revenue-producing applications such as e-commerce.

> "…What is the cost of network downtime? Based on industry surveys, the number we typically cite is $5,600 p/minute, which extrapolates to well over $300K p/hour."[4]
>
> **-Gartner**

Migrations to higher data speeds also tend to be filled with obstacles. Traditional enclosures encompass a collection of components built for a specific network design, which may result in a network that is not flexible enough to meet future needs. In short, the traditional enclosure hinders serviceability, network reliability and deployment.

High-performance data centers need a solution that delivers easier MACs and the flexibility to migrate to higher data speeds as business needs push for ever-greater transaction volumes. The HD Flex™ Fiber Cabling System addresses these needs head-on.

[4]"The cost of downtime," Gartner, 2014.



Cable management is on the side of the enclosure allowing easy access to the back of the cassettes.

Answering the Demand for Higher Density

As IT managers are increasingly tasked with providing higher data speeds and controlling costs by maximizing return on assets, the HD Flex™ Fiber Cabling System achieves both. Panduit's HD Flex™ Fiber Cabling System is designed for optimum serviceability and manageability. The system enables data center technicians to quickly and safely complete MACs while simultaneously providing the scalability to increase density as business demands evolve.

No Limits

The HD Flex™ Fiber Cabling System is designed to set you free: No limitations on architecture, deployment, and maintenance.

Side trunk cable management

The new design puts an end to the “cable congestion” that plagues today’s data centers, instead making cables easily accessible from the left and right sides of the fiber enclosure. This provides greater access to installed connectors and cassettes as well as the ability to add new cabling whenever necessary—even when cable density reaches peak capacity.

Front and back cassette accessibility

Cassettes can be installed from the front or the back of the enclosure. With a split-tray design, described on the following page, they simply slide in and are locked into place. This not only speeds serviceability and deployment, but also streamlines migrations from 10G Ethernet to 40G/ 50G/100G Ethernet, when cassettes are replaced with fiber adapter panels.

Convertability

Enclosures and panels can be converted to support either 6-port or 12-port cassettes and adapters, This gives you the maximum freedom to deploy any network architecture, fiber infrastructure, network type, either duplex or parallel.

The split-tray design helps eliminate circuit disruptions.

Network Reliability to Minimize Service Disruptions

Fulfilling moves, adds and changes can put your data center at risk for service interruptions, making it vital to perform these daily tasks without disrupting adjacent circuits.

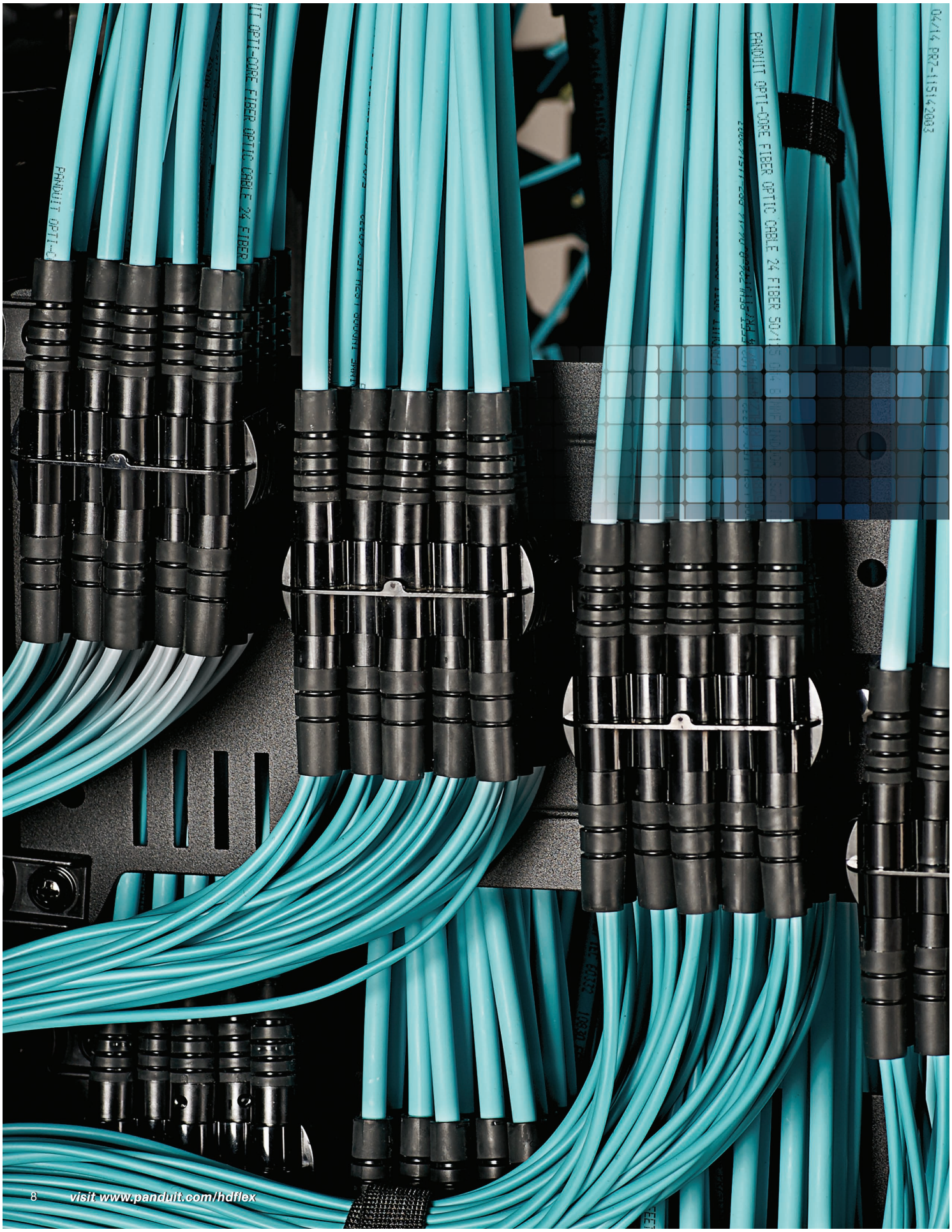
Split-tray design

The HD Flex™ Fiber Cabling System provides a safe, easy-to-manage environment that allows you to adapt your data center to ever-changing demands. The split-tray design enables you to move only half of your fiber connections, providing greater access to both connections and cassettes without impacting nearby circuits.

Cassettes can be installed and removed by dropping-in or pulling out vertically - this allows cassettes to be serviced without disturbing adjacent cassette patch cords.

:: Panduit HD Flex Fiber Cabling System is equipped with an MPO parking feature, reducing the time required to install fiber trunks.

The trays come with slide and lock capabilities and can be positioned in three locations: Home (closed), Service (fully extended) or midway in the MAC position, simplifying connection management and cassette access.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PANDUIT OPTI-CORE FIBER OPTIC CABLE 24 FIBER

Flexibly Designed to Speed Deployment

The easy-to-install HD Flex™ Fiber Cabling System requires only a single technician for installation. For example:

- An MPO parking feature enables a single installer to perform rapid cable plant migrations to 40G/100G Ethernet
- High-density shuttered cassettes with 72 LC ports and 72 MPO ports per rack unit (RU) enable one-for-one port migrations from 10G to 40G/100G Ethernet within the same RU

A Fiber Cabling System for the Next-generation Data Center

Traditional fiber management systems waste valuable time, cause outages and impede business growth.

The HD Flex™ Fiber Cabling System addresses today's requirements for increasingly higher density levels, delivering simplified management while helping you maximize return on assets and minimize downtime. This complete, integrated fiber system has been purposely engineered to accommodate the dynamic lifecycle of today's high-performance data centers, delivering serviceability, network reliability and ease of deployment.

The HD Flex™ Fiber Cabling System meets the needs of your data center today, and the data center you will need—and your business will demand—in the future.

Learn more about Panduit HD Flex Fiber Cabling System
www.panduit.com/hdflex

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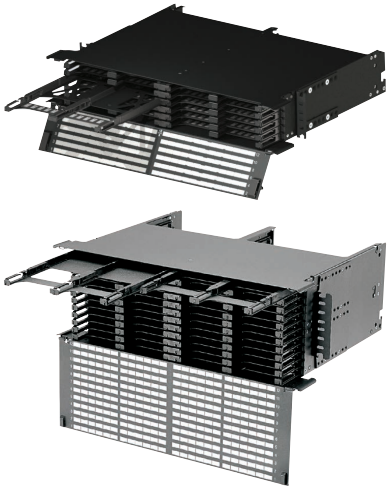
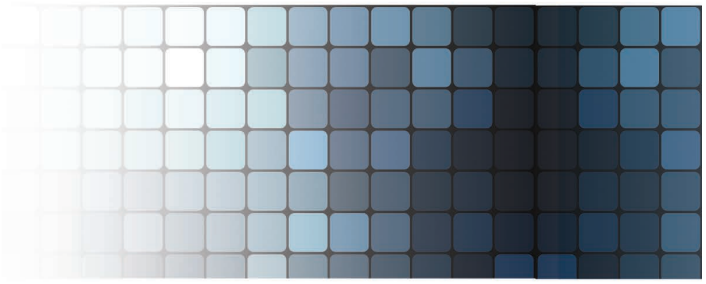
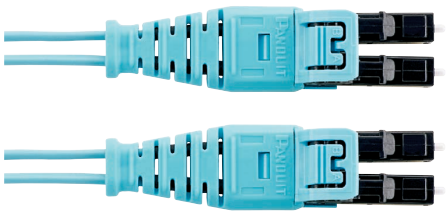


Enclosures – Drawers slide out into locked positions for easy MACs, and house cassettes and FAPs, trunks, connectors, and patch cords. Available in 1-RU, 2-RU, and 4-RU and 1-RU options, and can be reconfigured to accept 6-port or 12-port, cassettes or adapter panels.



Trunks – Pre-terminated PanMPO™ Trunk Cable Assemblies allow rapid gender and polarity changes in the field for standards-compliant cable plant migration from 10G Ethernet to 40G/100G Ethernet. Available in multimode or singlemode, 12-fiber, 24-fiber, and 48-fiber assemblies.

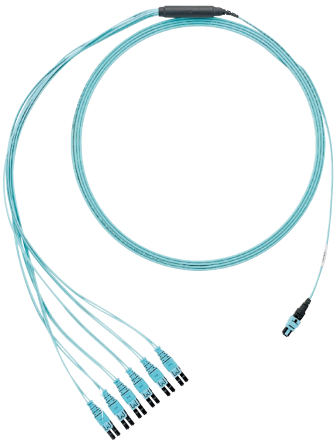


Patch Cords – Available with Push-Pull LC Duplex or MPO Interconnects, in a variety of jacket, cable, and fiber types to meet any application.

Cable Management – Innovative cable management sets the HD Flex™ System apart from the competition. The rear trunk cable manager and plate provides a template for mounting of cables and side cable managers direct cable away from the rear of the enclosure, allowing easy access to critical connections.

HD Flex™ Components

Cassettes and FAPs – Modular cassettes in either 6-port or extra wide 12-port configurations are part of the system, and FAPs for deploying a fiber infrastructure as you migrate to higher network speeds.



Harnesses – Round harness cable assemblies feature LC connectivity on one end, and PanMPO™ on the other, for easy changing of polarity and gender. Available in several configurations, multiple fiber types and cable jackets.

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