Pretium EDGE® AO Solutions
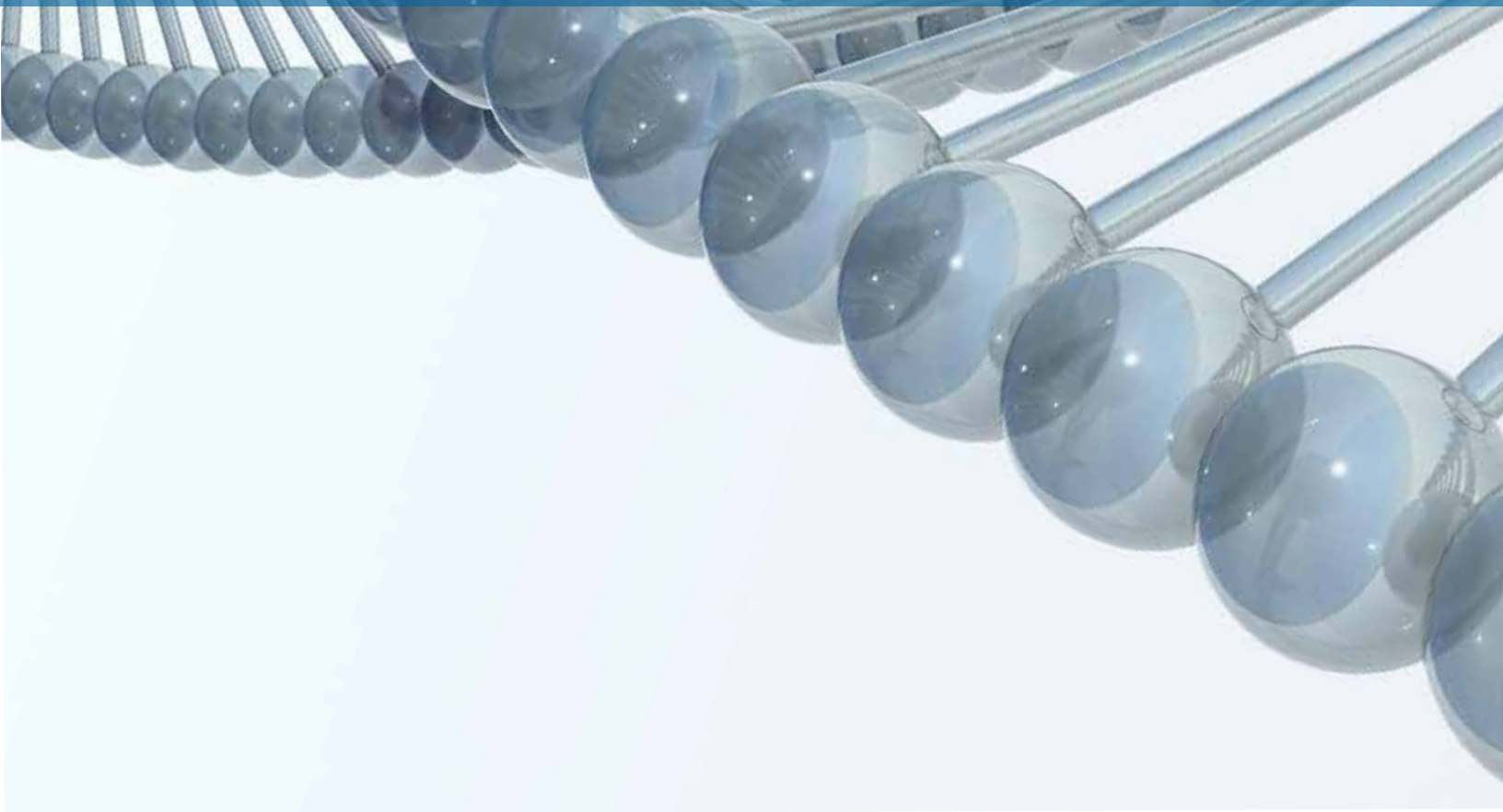The next evolution of your data center revolution

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Pretium EDGE® AO Solutions

Advanced Optics

Pretium EDGE® AO Solutions is a comprehensive suite of advanced optical components that enable the next level of performance in your data center or storage area network. From network monitoring to migration to parallel optics, this advanced optical technology integrates directly into your Pretium EDGE Solutions cabling system for maximum efficiency and return on investment.

Elevated Engineering

When it comes to high-density solutions, it isn't simply about ports per rack unit. Density requires easy finger access. Cables should be carefully managed to improve airflow. Modular systems should be *modular*, with universal fit and clear, minimally disruptive upgrade paths. That's Corning's unique approach to data center solutions. And it's what makes Pretium EDGE Solutions different.
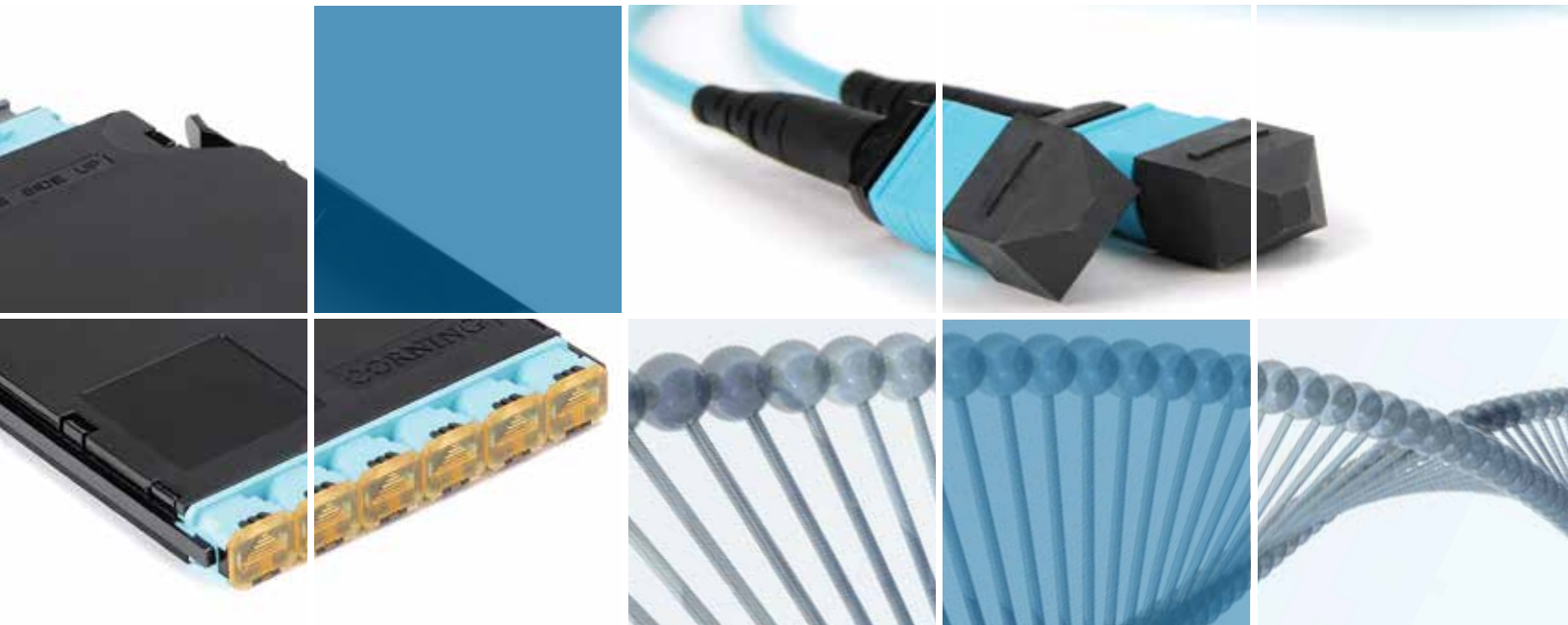
Parallel Optics

Pretium EDGE® AO Solutions offers the simplest, most efficient and cost-effective upgrade path to parallel optics. Use your existing Pretium EDGE infrastructure and, when it's time, swap out today's modules and harnesses for the advanced optical components of Pretium EDGE AO Solutions. Leave your existing hardware and trunk cables in place.

You get:
- A cost-effective upgrade path
- Industry-leading optical performance
- Unequalled rack density and ease-of-access
- Waste-free links – the highest possible fiber utilization at 40 and 100G
- Fully managed link polarity *and* the ability for on-site changes
- Reduced cabling footprint for improved airflow
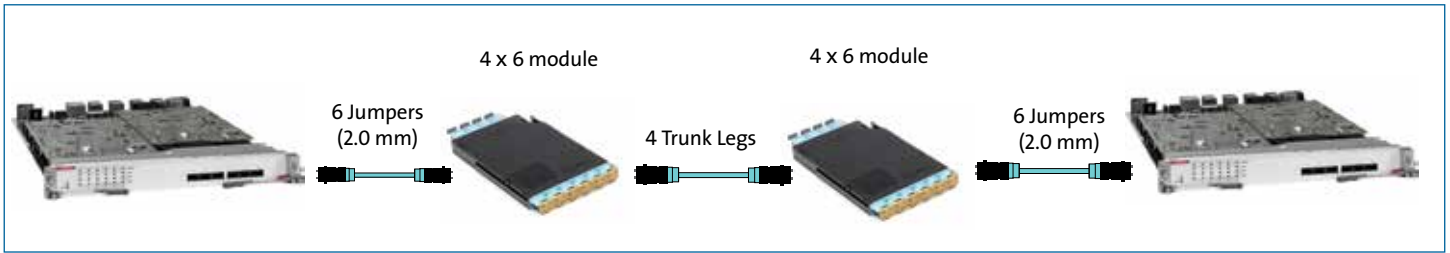- Flexible design options

Design Flexibility

Pretium EDGE AO Solutions allow for design flexibility based on the unique requirements of your data center. This flexibility is founded on two basic components – a module and harness.

Module-Based Design

The core of Pretium EDGE AO Solutions' module-based design is the Pretium EDGE AO Conversion Module, which has 12-fiber MTP® adapters in the rear for mating to backbone trunks and breaks out to 8-fiber MTPs in the front for connectivity to electronics.
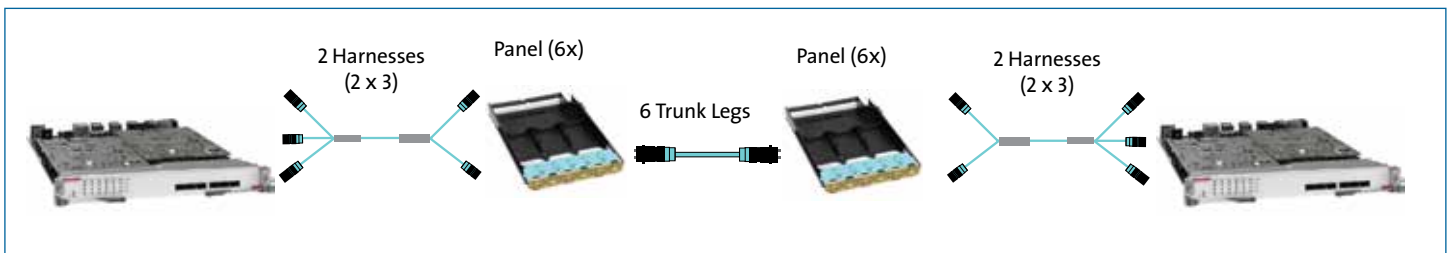
This is the "conversion" that makes Pretium EDGE AO Solutions so efficient. Transmission at 40G is based on using eight fibers in the link – four transmitting at 10G in each direction. The anticipated 100GBase-SR4 standard will also utilize eight fibers, at 4x25G in each direction. In a simple pass-through connection scheme, this means only eight of the fibers in a standard base-12 network trunk are used. The conversion module fully utilizes all fibers in each base-12 set by breaking out base-12 MTPs at the rear of the module into base-8 MTPs at the front, which then use high-bandwidth 8-fiber MTP assemblies to connect to electronics.

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System Link Using Modules

4 x 6 module 4 x 6 module
6 Jumpers (2.0 mm) 4 Trunk Legs 6 Jumpers (2.0 mm)

The harness-based design for Pretium EDGE® AO Solutions uses standard MTP® Panels that connect to preterminated conversion harnesses. Like the conversion modules, Pretium EDGE AO Conversion Harnesses enable the greatest fiber utilization from the base-12 backbone trunks by converting from 12-fiber MTP connectivity to 8-fiber MTP connectivity. The 8-fiber MTPs of the harness then connect to the electronics via MTP jumpers.

System Link Using Harnesses

2 Harnesses (2 x 3) Panel (6x) Panel (6x) 2 Harnesses (2 x 3)
6 Trunk Legs

Which Parallel Optics Solution Is Right for You?

	Module-Based Design	Harness-Based Design
Uses existing Pretium EDGE Solutions housings and backbone trunks	■	■
100 percent trunk fiber utilization	■	■
Internal polarity management	■	■
Highest density per rack unit		■
Cross-connect flexibility at the main distribution area (MDA)	■	
Populate-as-you-go connectivity – no dangling connectors	■	

Pretium EDGE® Solutions Components

Pretium EDGE® AO Conversion Modules

Take the density of today's Pretium EDGE Solutions with you to 40 and 100G! Pretium EDGE AO Conversion Modules are available in two configurations - 2x3 (two 12-fiber MTP® Adapters in the rear and three 8-fiber MTP Adapters in the front) and 4x6 (four adapters in the rear and six in the front). Just as today's 10G Pretium EDGE Modules enable 72-port density in 1U of rack space, the 4x6 module enables 72 MTP ports in a single unit of rack space. That's 576 fully utilized fibers with no increase in rack space.

Innovative wiring within the module maintains polarity at both ends of the link, negating the need for managing two different module configurations. However, Pretium EDGE AO Conversion Modules also offer the unique ability to change polarity in the field with MTP Reversible Adapters at the front of the module for on-site changes to manage field polarity.

Every Pretium EDGE AO Conversion Module features translucent shuttered adapters that eliminate the need for separate dust caps.

Pretium EDGE AO MTP Assemblies

Pretium EDGE AO MTP Assemblies are used to connect the conversion modules to the electronics. These plenum-rated cable assemblies feature a smaller (2.0 mm) outside diameter than traditional 12-fiber jumpers to improve finger access as well as reduce congestion and increase airflow in the horizontal and vertical rack space. The Pretium EDGE AO MTP Assembly has the same connector and cable footprint as duplex LC jumpers used today. The density, air flow and cable management you have now is preserved as you migrate to higher data rates.

Pretium EDGE® AO Panels

Pretium EDGE® AO Panels are a pass-through patch panel with a single row of MTP® adapters. The link's backbone trunks connect at the rear of the adapters, and then a conversion harness is used at the front of the adapters to connect to electronics and maintain 100 percent trunk fiber utilization within the link.

Pretium EDGE AO Panels are available with six 12-fiber MTP adapters. Each panel features translucent shuttered adapters with translucent, shuttered MTP reversible adapters at the front of the panel.

Pretium EDGE AO Harnesses

Pretium EDGE AO Harnesses are plenum-rated preterminated harnesses that, like Pretium EDGE AO Modules, provide the conversion from 12- to 8-fiber connectivity for full-fiber utilization at 40G. It is offered as a 2x3 MTP Harness (two 12-fiber MTPs on one end, three 8-fiber MTPs on the other) for connection to electronics with MPO-style ports.

Pretium EDGE AO SFP Harness – a 1x4 MTP-to-LC-Duplex Harness (one 8-fiber MTP on one end, four LC duplex connectors on the other) for connection to electronics with LC-style ports

Pretium EDGE AO Harnesses are uniquely wired to manage polarity within and maintain transmit-to-receive connectivity.

Pretium EDGE AO Y-Harness

If you have a 24-fiber interface to your electronics, the Pretium EDGE AO Y-Harness enables connectivity with Pretium EDGE AO Conversion Modules or Panels. These Y-designed harnesses convert two 12-fiber MTPs to one 24-fiber MTP. The 12-fiber MTPs connect to the Pretium EDGE AO Conversion Module or Panel and the 24-fiber MTP Connector plugs into the 24-fiber electronics port.

Additional connectivity options for 24-fiber MTPs are available.

The Next Evolution in Your Data Center Revolution

Network Monitoring

More and more network administrators are using port monitoring to track the performance of their network, from security threats to bottlenecks. Many choose passive port tapping using an optical splitter.

Until Corning introduced Pretium EDGE® AO Solutions, network managers were required to add this optical splitter as a separate device in their network link, creating an additional link segment and increasing the likelihood of network downtime and overall optical loss.

Corning's solution enables passive optical tapping that is fully integrated into the structured cabling footprint by integrating the optical splitter into the Pretium EDGE module. The result is a "zero-U," fully pass-through passive tap device with reduced downtime and link loss, and with increased rack space utilization and density compared to other optical tap options.

Pretium EDGE Tap Modules

The Pretium EDGE Tap Module offers a variety of design options based on your network's unique needs. The module is available in multiple configurations including MTP-to-LC (the most popular solution with customers due to its high-density and rack-space utilization), LC-to-LC for today's 10G networks, and MTP-to-MTP for port monitoring of 40G networks. Pretium EDGE Tap Modules use an advanced multimode splitter to reduce insertion loss compared to traditional splitter technology.

Why Pretium EDGE® Solutions?

Because every data center and SAN is different, Corning offers Pretium EDGE® Solutions, a family of modular, tip-to-tip connectivity solutions that meet today's and tomorrow's network needs. Each solution includes cabling, housings, modules, panels and jumpers. Structured cabling is a critical performance factor for data centers, not just in terms of how quickly and easily you can deploy them, but over their lifetime – from airflow and cooling concerns to future scalability.

Regardless of the solution you choose, every Pretium EDGE Solution offers faster, more error-proof installation, higher density, better cable management, and easier moves, adds and changes (MACs) and more flexible migration paths than other data center solutions.

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