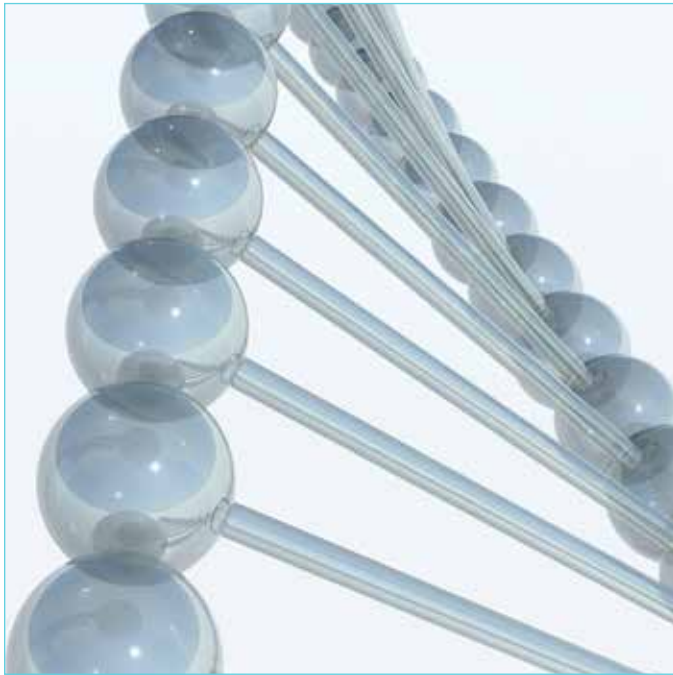


## Just the Technical Facts



Pretium EDGE® AO Solutions is a suite of advanced components that integrate seamlessly with your Pretium EDGE Solutions architecture to enable next-generation data center performance. From parallel optics to network performance monitoring, Pretium EDGE AO Solutions is the next evolution of Pretium EDGE Solutions' data center revolution.

## Pretium EDGE® AO Solutions

### What is Pretium EDGE AO Solutions?

Pretium EDGE AO Solutions consist of modules, trunk cables, harnesses, panels and assemblies designed specifically for advanced networking and to be fully compatible with the installed Pretium EDGE Solutions backbone.

Highlights of Pretium EDGE AO Solutions include:

- Conversion modules and harnesses for 100 percent fiber utilization of the backbone at 40G/100G
- Integrated port tap modules that combine the function of a patch panel and an optical tap device
- Reversible MTP® adapters that allow for on-site polarity change

### What is a conversion module? Why is it important for parallel optics?

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 networks' backbone trunks, breaking out to a proportional number of 8-fiber MTP adapters in the front for connectivity to electronics.

This is the “conversion” that makes Pretium EDGE AO Solutions so efficient for parallel optics. Transmission at 40G is based on using eight fibers in the link – four transmitting at 10G in each direction. Future transmission at 100G may also utilize eight fibers, at 4x25G in each direction. A straight connection scheme from your Base-12 trunks via panels and jumpers would result in only 8 of each 12 fibers being utilized. The conversion module breaks out Base-12 MTP adapters at the rear of the module into a proportional number of Base-8 MTP adapters at the front to ensure all 12 fibers are utilized for transmission. The modules then use MTP Connector-based jumpers at the front of the module to connect to electronics.

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### Do conversion harnesses also enable 100 percent fiber utilization?

Yes. The conversion harnesses paired with MTP adapter panels allow the same 100 percent fiber utilization of Base-12 fiber trunks.

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## Should I use a module design or a harness design?

Corning generally recommends a module design, as it offers more cross-connect flexibility at the main distribution area (MDA). In addition, it enables populate-as-you-go connectivity without the concern of unused harness legs dangling, which might result in the unused legs or connectors being damaged. Some customers may also find this a “messier” solution at the electronics. But both designs offer 100% trunk fiber utilization.

## Should I choose a Base-12 or Base-24 solution?

While a Base-24 fiber trunk solution may have some benefits at 100G if you are planning a 10x10 path to 100G, Corning recommends installing a Base-12 infrastructure for the networks of today and tomorrow. Base-12 infrastructures offer higher fiber utilization at 40G and have equal fiber utilization at 100G to Base-24. MTP® Connectors with 24 fibers also typically have higher attenuation, introducing greater insertion loss into the network link. There is also a significant installed footprint of Base-12, and more Base-12 product offerings, on the market, making both current and future projects more easily managed.

## What are reversible MTP adapters?

Reversible MTP adapters are installed on the front of each Pretium EDGE AO Conversion Module and allow for a complete reversal of polarity for an MTP connection. The unique design of our reversible MTP adapters allows this to be done with a single hand for ease of installation. You can tell if the adapter has been reversed because the adapter’s shutter hinges will be on the top of the adapter and the arrow on the translucent shutter will be pointing down (indicating that the connection is now “key down” instead of “key up”).

## How does it reverse the polarity?

In the standard/default MTP® adapter position, the adapter is key up (Type A). When the MTP adapter is flipped on the module, the connector can be inserted key down (Type B).

## What is port tapping?

Port tapping is a method of monitoring traffic being transmitted and received along a link in a network – this monitored traffic is then analyzed. This can be done actively via electronic devices that replicate, or mirror, the link’s data and send it to a monitoring device. Or it can be done passively, with a device that simply passes through all data and sends it simultaneously to both its intended recipient and to a monitoring device. In both instances, the monitoring device filters the data and sends it to various software tools for analysis and then on to application-layer software for use by network administrators.

## What is the Pretium EDGE® Tap Module?

The Pretium EDGE Tap Module is a module with fiber optic couplers inside that divide the optical signal into two outputs, one for live link traffic and one for monitoring. The live traffic continues through the system link while the monitor traffic is sent to an active monitoring device.

Unlike most passive tap devices, the Pretium EDGE Tap Module is fully integrated into the structured cabling physical plant rather than added as a separate component into the link. Rear-exiting, MTP Connector-based tap ports improve rack utilization and consolidation for higher revenue generation per rack unit. The Pretium EDGE Tap Module also uses the Pretium EDGE footprint for maximum density and cable management, and it can be installed inside the same Pretium EDGE Hardware as a standard Pretium EDGE Module.

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### What is the advantage of integrating the passive tap into the structured cabling components?

Non-integrated passive tap devices create an additional segment in the total channel link – you must connect from your patch panel/module to the tap device, and then connect from that device to your switching and monitoring electronics. When you want to make changes to your monitored ports, you must temporarily disable the link – including the live traffic – in order to make new physical connections between the ports to be monitored and the passive tap device.

With Corning's Pretium EDGE Tap Module, the module serves as both the "patch panel" and the passive tap device. You can change the ports that are monitored without ever disrupting the flow of live traffic.

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