

Future-Proof Your Fiber Infrastructure

Cisco Transceiver Modules with Panduit Signature Core™ Fiber Optic Cabling System

The challenge

Increasing traffic within data centers requires fiber optic link bandwidth capacity to keep expanding over time.

But how do you avoid repeat rip-and-replace upgrades?

Data center traffic no longer flows primarily between servers and external end users. Application-to-application traffic is on the rise.

And with the use of virtualized LANs and servers, more and more traffic must flow between hardware servers with low latency. This drives up bandwidth demands of intra-data center links.

Bandwidth demand is not only growing, but it's growing faster and faster. This means you may need to upgrade your networks more frequently than before.

The accelerated release of new data rates has led transceiver manufacturers to resort to new techniques in addition to faster lasers and photoreceivers.

Network operators are accustomed to using fiber cable plants that support multiple generations of transceivers data rates across several years time. To continue that practice, they can't rely solely on standardized solutions.

Otherwise, they will face costly and disruptive rip-and-replace upgrades every few years.

Bandwidth acceleration

Yesterday

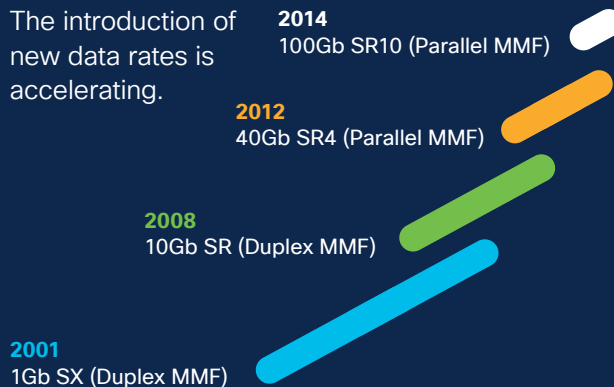
Most traffic flowed between servers and end users. 10Gb, and even 1Gb, were usually enough for connections between network gear.

Today

New architectures such as leaf-spine, with a multitude of high-speed links (> 10Gb) between Ethernet switches, are needed to support cloud-based applications.

Cisco short reach transceivers for data center applications

The introduction of new data rates is accelerating.



The solution

Choose a solution that supports future bandwidth realities—100Gbps and beyond.

Instead of repeat rip-and-replace upgrades, Cisco and Panduit can help you implement a more forward-thinking solution.

One that ensures your organization is ready for increasing speeds for years to come.

Combining Cisco bidirectional (BiDi) transceivers with the Panduit Signature Core Fiber Optic Cabling System, you can create a fiber cable plant foundation that can be reused as bandwidth requirements reach up to 100Gbps, and that can even prepare you for 400Gbps.

We've created a solution that leverages dual-rate BiDi transceivers and optimized cabling technologies to address your present and impending business challenges. Now you can implement a cost-effective serial cable plant that allows you to scale your fiber optic network capacity as needs change—without the need for rip and replace.

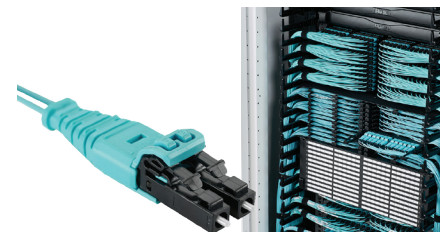
Cisco and Panduit solutions



Cisco Nexus 9000 and 3000 Switches



Cisco BiDi Dual-Rate Transceiver



Panduit Signature Core Fiber Optic Cabling System

Why serial fiber over parallel fiber?

By choosing Cisco BiDi transceivers, you enable a serial fiber plant that's considerably simpler, less costly, and easier to manage than a traditional parallel wiring approach.

Instead of MPO connectors, our solution uses LC connectors, which are easier to maintain and less prone to failure, reducing your operational costs. They can be easily reused as you climb toward 100G.

This serial approach also enables lower signal loss at insertion per connection, helping maximize the physical reach of your optics investment.

The right fit for your reach requirements

While costlier single-mode transceivers provide greater distance capability, only 10 percent of all enterprise data center channels need over 100-meter reach. Multi-mode fiber will support most distance requirements. Plus, using Cisco BiDi and Signature Core fiber will extend the reach capabilities of your serial duplex multi-mode fiber cable plant while leveraging cost-effective LC connector systems.



Five ways we simplify your fiber optic evolution

1

Enable a serial cable plant for greater cost effectiveness

Together, Cisco and Panduit enable you to move beyond 10G speeds without requiring a switch to parallel cabling. Cisco BiDi transceivers allow you to avoid capital expenditure by reusing existing LC-based fiber cable plant when upgrading from 10G. LC-based fiber cable plant is also substantially lower cost than a MPO-based cable plant in new deployments.

2

Prevent cable replacement as bandwidth increases

Panduit Signature Core cabling is optimized for performance with Cisco BiDi transceivers to help your connectivity go farther. Typically, increasing bandwidth lowers the traversable distance of your cabling. Cisco BiDi transceivers combined with Panduit Signature Core support greater distances, so you can keep using your existing cable plant as needs increase.

3

Get more connections across your cable plant

By using Cisco BiDi transceivers and Panduit Signature Core, you can support more fiber interfaces per link and protect your fiber cable plant reach as you upgrade data rates. LC-based fiber connections are easier to manage than MPO-based, reducing operational costs.

4

Minimize total cost of ownership and extend infrastructure life

The use of Cisco BiDi transceivers and Panduit Signature Core cabling minimizes the capital cost of new installations and extends the life of existing infrastructure. We can help you minimize routine maintenance costs while ensuring operational flexibility.

5

Leverage dual-rate functionality for an easier and more flexible upgrade path

Dual-rate Cisco BiDi transceivers provide operational flexibility by supporting both 40G and 100G rates in a single module. Using them, you can upgrade your Ethernet switches from 40G to 100G one end at a time.

Replacing both ends simultaneously may not be favorable when considering budgets, operational schedules, and the network downtime caused by such an approach. Only Cisco offers the dual-rate BiDi that enables this incremental upgrade path.

Summary

We can help you:

- Create a scalable, future-proof network backbone that can scale from 10 up to 400Gbps
- Avoid repeat rip-and-replace installations as bandwidth needs increase
- Ensure ROI and cost-effectiveness as intra-DC bandwidth needs continue to increase



See Cisco Transceiver Module white papers at:

<https://www.cisco.com/c/en/us/products/interfaces-modules/transceiver-modules/white-paper-listing.html>

View Panduit solutions for an efficient data center at:

<https://www.panduit.com/en/solutions/data-center.html>