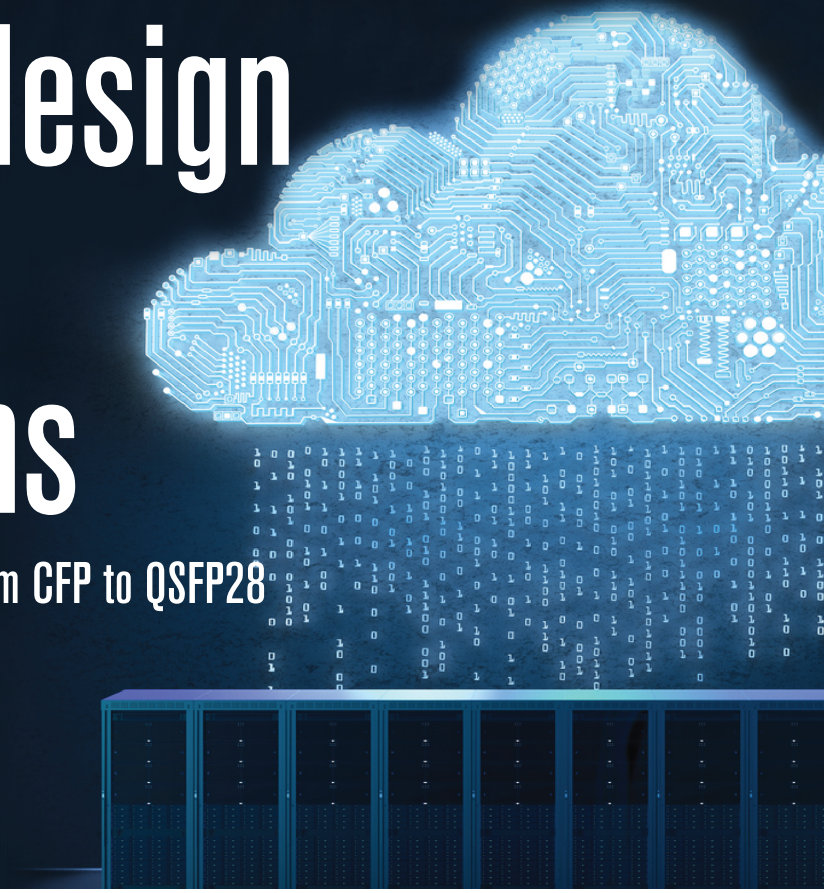
A Network Redesign with Built-In Migration Plans

Case Study: Cost-Effectively Transitioning from CFP to QSFP28



Summary

Customer	• Mid-size cable MSO and ILEC
Challenges	• Infrastructure resulting in mismatched native support • Expense • Future flexibility needs
Solution	• CFP to QSFP28 converter to support required SR4 optics
Results	• Reduction in hard dollar costs • Upgradability and form factor flexibility
Equipment Used	• QSFP28-SR4 • CFP • QSFP28 Converter

100G in a Hyper-Connected World

As a result of the explosive growth in mobile data traffic, cloud services, and data centers, the call for 100G Ethernet, and the costly investment in network redesign is greater than ever before. When one of our customers was upgrading their core and transport portion of the network, Integra worked alongside their engineers to help future-proof the investment.

This mid-size cable MSO and ILEC was seeking wide scale deployment of 100G in metro/regional environments, with a design optimized for the smallest footprint and lowest power consumption possible to thrive in a hyper-connected world.

Square Peg, Round Hole

The existing infrastructure included Ciena shelves in the transport tier, requiring standard short range QSFP optics, and Brocade shelves in the distribution tier. As part of the redesign and push toward 100G, our customer decided to move away from Brocade and switch to Juniper's MX480 chassis in the Distribution tier.

This meant facing a potentially costly optics challenge due to the new configuration. The QSFP28 optics in the existing Ciena routers only supported SR4, and at the other end, the selected MX480 required CFP cards, natively supporting SR10 and resulting in a mismatch. An expensive solution was to invest in CFP2s to right the mismatch, but due to the investment, this would also leave little flexibility to change form factors, or the ability to improve line card density in the future.

A Perfect Match

Integra recommended a cost-effective solution to save hard dollars in the short term without limiting upgradability options in the future.

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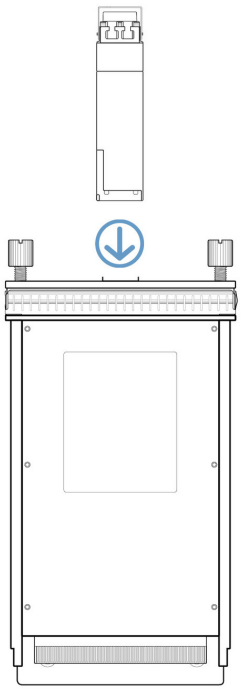
Integra suggested using its CFP to QSFP28 converter in the MX480, which would enable the MX480 to support the required SR4 optics needed for a match. The converter also resulted in substantial cable plant fiber count reduction and an increase in port density.



As a result of transparency and a strong engineering partnership, Integra's customer gained the ability to use less expensive 100GBASE-SR4 optics in equipment that supports 100GBASE-SR10 optics, ultimately reducing optics costs by 33 percent.

More importantly, the solution provided a built-in migration plan for the future. The industry predicts less and less use of large form factors like the CFP as the demand for line card density grows. Our customer now has the ability to practically handle step increases in capacity, with form factor flexibility, over existing infrastructure.