

A Tale of Two Cables

Case Study: Smart strategies to reduce both CAPEX and OPEX in the data center

Summary

Customer	<ul style="list-style-type: none">Leading, privately held financial company
Challenge	<ul style="list-style-type: none">High capital expenditures on OEM transceiversMulti-platform data center environment
Solution	<ul style="list-style-type: none">Custom length AOCs from .5M to 101M for short and long range connections
Result	<ul style="list-style-type: none">\$2M+ in annual savings by transitioning from OEM optical transceivers to Integra AOCs/DACs
Equipment Used	<ul style="list-style-type: none">QSFP28 AOCSFP+ AOCSFP28 DACQSFP+DAC

Thinking Outside the Box

Navigating the challenges of a complex multi-platform data center environment is common. In most cases, the end result is high capital expenditures, especially when buying all OEM components. Power and cooling expenses are also a consideration in crowded environments.

A leading, privately owned financial company, with both domestic and international data centers, was looking to reduce both non-recurring and recurring costs. Their crowded, multi-platform environment also posed some challenges. We saw an opportunity to significantly reduce costs by rethinking their optics strategy and spend.

Moving from traditional optical transceiver and connectorized fiber-based links to an active optical cables (AOCs) solution would save \$2 million in the first year.

Solutions-Based Efficiencies

The customer realized that making the switch from OEM transceivers to Integra AOCs and DACs was necessary, based on savings alone, but the benefits don't stop there.

Another advantage to the proposed solution was reduced maintenance. In a traditional transceiver link, there are two transceiver ends to clean. AOCs do not have optical connectors that require manual cleaning every time they're removed. Dust inside the connector can block the 50-um or 9-um diameter fiber light transmission area.

"The customer was reevaluating design for their data center architecture, and we were able to significantly reduce CAPEX and ongoing OPEX by moving to a DAC/AOC solution."

- Technology Specialist, IT Consulting Firm

"Plug and play", AOCs also eliminate the plug, assembly, and cleaning steps required with traditional optical transceivers.

And about that crowded environment that was demanding more space? Due to their short bend radius, AOCs are much thinner than most cables, freeing up space for increased airflow and cooling and making them easier to deploy.

We initially supplied the customer with custom length OM3 and OM4, 10G and 100G AOCs, ranging from .5M to 101M for short and long-distance connections.

All cables 30M and greater were supplied on reels at the request of the customer. This allowed the installation team to easily make long distance runs with the cables during deployment.

In addition to the AOCs, we supplied custom 100G to 2 x 25G Direct Attach Cable (DAC) breakouts to meet the requirements of the customer's network architecture.

Throughout the process, our Engineering team worked closely with both the customer and manufacturers on the EEPROM coding modifications needed to ensure 100 percent interoperability across both white label and OEM-branded platforms.

Reducing Total Cost of Ownership

AOCs are less complex than optical transceivers and offer lower power consumption.

Once the initial solution was implemented, the customer noticed significant operational savings in power consumption costs. One watt saved at the component level translates to 3-5 watts at the data center facility level (savings estimates include chassis, room and facility fans, AC equipment, and electrical power to drive them).

Furthermore, by transitioning from OEM optical transceivers to an Integra AOC/DAC solution, the customer saved \$2M+ in the first year.