Intra-System Optical Interconnects

Description: This report examines the product segment that embeds optical interconnect technologies inside computer and communication systems. As data rates continue to ramp, signal losses increase to the point that the effective reach of copper cabling and PCB traces on circuit boards shrinks considerably. Intra-system optical interconnects started at 2.5Gbps more than a decade ago and grew slowly to 10Gbps interconnect fabrics, enabling massively-scalable multi-chassis systems from supercomputers to core routers. Proprietary interconnects are now supported by embedded optical modules and MSA-based active optical cables and transceivers, such as CXP and CDFP.

At 25Gbps and beyond, the amount of signal compensating electronics needed is growing along with cost and power consumption. When speed, reach, interconnect density and power limitations align to exceed the limits of copper, intra-system optical interconnects are ready to support the next generations of system equipment.

This is an update of the Embedded Optical Modules Report published in May of 2012, and incorporates new information from numerous interviews across the supply chain and consumption side of the industry.

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Abstract

What are Intra-System Optical Interconnects?

Report Objective

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