

Finisar seeks to take the optical module out of optical connectivity

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Sector: Networks & Media

Finisar, one of the longtime players in fiber optics technology, has developed an optical cable package that incorporates technology that once required board space. Laserwire could significantly lower the cost of 10GigE server connectivity. The vendor has integrated the optical module into the cable connectors and so eliminated the need for the bulky and power-consuming cables that would be needed in a copper environment. In doing so, it's added ease of use to the optical market. Finisar sees its technology as providing savings in power, board space and cooling – flash points that have contributed to slow adoption of the technology in the server space.

The 451 Take

Integrating the optical module into the cable connector is an approach that appears to have significant advantages over the current method of implementing optical connectivity (using optical modules not on the connectors). It also has price advantages over copper. If this strategy pans out as Finisar hopes, the company could have a major hit on its hands.

Context

Finisar, a 19-year-old company, has evolved as its key markets have changed, looking elsewhere for business as its original space began drying up. Primarily focused on the growing telecom fiber optics market for most of its existence, the company shifted direction when the bottom fell out of that space around 2001. New emphasis was put on storage, including fiber channel switches, host bus adapters and disk subsystems. High-speed LANs, with LAN switches and NIC cards, were another new area for Finisar. Its offerings include optical components for storage area networks/LANs and metro Ethernet as well as transponders for telecom markets. And it has test instruments for the fiber channel, iSCSI and GigE markets.

Strategy

The company has a clear goal with Laserwire: to drive 10GigE adoption in the datacenter and high-performance computing space. It sees applications for the technology in the server connectivity space both as a solution in the NIC-to-switch space and for LAN-on-motherboard implementations. The company has designed the device to support the existing ecosystem in that market, including MACs, PHYs and switch fabrics.

Laserwire also supports existing optical modules and electrical interfaces, thus lowering the cost of adoption. And Laserwire can work in a mixed environment – where it's used side by side with older optical technology – so that a company can adopt it for its entire datacenter or just add it to selected portions. The vendor also sees Laserwire as the answer to optical transceiver proliferation, with a handful of designs currently in use, including XENPAK, XPAK, X2, XFP and SFP+.

Finisar primarily targets the copper-interconnect segment of the 10GigE market, an area where many believe the long-term growth will come from. CX-4, the current mainstream technology, has had limited uptake because of such issues as limited distance capabilities unless additional components are added and concerns about port density.

Many have viewed the 10GBase-T market as the one that will drive 10GigE into widespread adoption because of 10GigE's relative ease of use and because it does not need optical modules, which soak up power, space and energy. The first-generation PHYs for this space have been relatively power hungry, often in excess of 10 watts, but a new generation is expected in 2008 that will address this issue by cutting power demand in half.

Copper has an advantage in that it is perceived as more reliable than optics. In most cases, if a copper connection fails on a switch, it can be replaced, while an optical burnout kills the entire switch.

Competition

Solarflare Communications has just released its 10Gbase-T offerings, and it has teamed up with **Accton Technology** to move the technology into the mainstream enterprise datacenter. **KeyEye Communications** has recently started developing for short-reach 10GBase-T applications.

Optical developers such as **JDS Uniphase** and **MRV Communications** could also be affected if they find that in their existing markets they start getting supplanted by Laserwire, which doesn't need an optical module.

Strengths	Weaknesses
This is a very innovative approach that eliminates clutter, opens up board space and reduces power and heat issues – all major concerns that have slowed adoption of large-scale 10GigE installations.	Basing a key component of a datacenter's connectivity on a relatively new approach from a single-source developer is always an issue for IT managers.
Opportunities	Threats
The lack of a cost-effective and efficient method to connect 10GigE has slowed adoption of that technology. If Finisar can deliver on its promise, it should tap into a huge market.	The ability of competitors to counter with a similar elegant solution will be quickly tested. There are reports of rival solutions that also seek to eliminate the optical module from the board.

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