



## NEWS ANALYSIS

### 100-Gig Chases 40-Gig

MARCH 29, 2007

ANAHEIM, Calif. -- OFC/NFOEC -- If 100-Gbit/s Ethernet gathers pace quickly enough, it might put a crimp in the lifespan of the 40-Gbit/s generation.

That's one possibility being discussed here at OFC/NFOEC, as industry executives wonder whether 40-Gbit/s might see a shortened lifespan due to pressure from both 10- and 100-Gbit/s alternatives.

"We see the 40-Gbit/s deployment as more of a stepping stone," says Saeid Aramideh, vice president of marketing for CoreOptics Inc. "Not that we have stopped our activity there, but certainly we see our future being 100-Gbit/s-based. My personal belief is that with the coming of 100-Gbit/s transmission in the WAN, the 40-Gbit/s life cycle could be short-lived."

Metro and long-haul 100-Gbit/s deployments are years off -- most sources are saying 2012; AT&T Inc. (NYSE: T - message board) has suggested 2010 -- while 40-Gbit/s deployments are underway now. AT&T has lit its OC768 backbone, and here at OFC/NFOEC, Verizon Communications Inc. (NYSE: VZ - message board) officials said they also plan to build a 40-Gbit/s core. (See AT&T VP: 100-Gig by 2010 and Verizon Pumps 40G.)

But here's the catch. It's generally accepted that for 40-Gbit/s sales to take off, enabling 40-Gbit/s to usurp 10-Gbit/s, the cost should be no more than 2 to 2.5 times as much as 10-Gbit/s. So far, 40-Gbit/s prices aren't there.

"The cost economics of 10-Gbit/s are so strong right now, it's limiting 40-Gbit/s to only those cases where they have to use it," says Roy Rubenstein, research director with the transceiver market research firm, LightCounting . A typical, short-reach, 40-Gbit/s transceiver can carry a \$20,000 to \$25,000 price tag, he notes.

So, if 100-Gbit/s optics manage to catch up by costing, say, about five times as much as 10-Gbit/s, could that cut short the 40-Gbit/s generation? "Depending on where 40-Gbit/s moves, you might see an intercept point with 100-Gbit/s, but it's too early to tell," says Mike Ricci, a senior vice president at JDS Uniphase Corp. (Nasdaq: JDSU - message board; Toronto: JDU).

What might make that intercept point possible is the amount of attention being lavished on 100-Gbit/s transmission. The 100-Gbit/s name-dropping at OFC/NFOEC includes prominent vendors such as Alcatel-Lucent (NYSE: ALU - message board), Infinera Corp. (Nasdaq: INFN - message board), and CoreOptics customer Siemens Communications Group . (See AlcaLu Pushes the Optical Envelope, Infinera Shows at OFC, and CoreOptics Demos 100G.)

"There's a window for 40-Gbit/s. If people get the prices right, they can have a chance," LightCounting's Rubenstein says.

The optics vendors pushing 40-Gbit/s don't appear too worried, considering 100-Gbit/s transmission is still pretty far from reality. "If there's a need for 100-Gbit/s, it'll happen, but at this point I don't see a significant threat to the investments made in 40-Gbit/s," says Ed Cornejo, director of product marketing at Opnext Inc. (Nasdaq: OPXT - message board).

That doesn't mean Opnext is ignoring the next wave, as it's already engaging in 100-Gbit/s laser research in its lab. On a panel at Monday's Optical Society of America (OSA) Executive Forum, Opnext CEO Harry Bosco said the tough part, when it comes to transceivers, will be finding the chips to work at that speed.

And recent M&A activity shows confidence in the upcoming 40-Gbit/s market. Two of this week's acquisitions -- Kailight Photonics Ltd. by Optium Corp. (Nasdaq: OPTM - message board), and Kodeos Communications Inc. by Finisar Corp. (Nasdaq: FNSR - message board) -- "show people are getting serious about their 40-Gbit/s portfolios," Rubenstein says. Kailight is shipping 40-Gbit/s modules, while Kodeos, more of a 10-Gbit/s vendor, uses long-haul encoding techniques that could be useful at 40 Gbit/s, he says. (See Optium, Finisar Bulk Up.)

— Craig Matsumoto, West Coast Editor, *Light Reading*

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