

## Tunables Dig 10-Gig

*Craig Matsumoto, Light Reading, Dec 19, 2003*

As the 10-Gbit/s optical generation continues to unfold, it could provide the staging ground for the long-awaited arrival of tunable lasers.

No one's saying a tunable takeover is imminent (they've said that before, and it's never quite happened). But judging from announcements made this year, tunable lasers will could get their first big break as supporting players in the 2004 10-Gbit/s world tour:

- Opnext Launches Tunable Transceiver
- XLight Touts Tiny 10-Gig Transponder
- Agility Intros Tunable Transponder
- Siemens Intros Tunable Transponder
- RedClover Unveils Transponders

Note that XLight has been acquired by Civcom Inc., while RedClover has been glommed into Oplink Communications Inc. (Nasdaq: OPLK - message board) (see Civcom to Merge with Xlight , Civcom, XLight Complete Merger , and Oplink Plucks RedClover ).

Beyond the 300-pin MSA -- the form factor related to the announcements above -- the industry is also producing Xenpak, XPAK, and X2 specifications for 10-Gbit/s Ethernet; and the smaller XFP, which could potentially be a multiprotocol 10-Gbit/s option (see 10-GigE Transponders: Update ). Tunables would add an interesting wrinkle to the variety of 10-Gbit/s offerings, although their impact isn't being felt yet.

"The real value is next year. What we have now are pilots, design wins, and early implementations," says Jacob Vertman, senior vice president of marketing at Civcom. He's thinking the 10-Gbit/s tunable transponder market could be worth \$30 million to \$40 million in 2004.

Tunable lasers simplify a carrier's inventory. Rather than stock different lasers for each wavelength, the carrier can keep a supply of tunables, using them as one-wavelength-fits-all replacements. They could also be handy for reconfigurable optical networks, where ports within an optical add/drop multiplexer (OADM) would change their wavelength assignments on the fly.

Tunability "is now required in all large bids" involving DWDM, Vertman says. "Almost all vendors have decided to go to tunable technology."

Well, almost all. Agilent Technologies Inc. (NYSE: A - message board) and Finisar Corp. (Nasdaq: FNSR - message board), both heavy hitters in Gigabit Ethernet transponders, haven't announced plans for 10-Gbit/s tunables yet and haven't heard customers cry for them. In fact, Agilent hasn't even started funding such a program, says Adam Carter, the company's marketing manager for metro components.

"I won't say it won't happen in the future, but right now I would say no," Carter says.

What's kept tunable lasers out of mainstream markets is their higher price. Vendors agree that 10-Gbit/s tunable modules would have to approach the \$4,000-to-\$5,000 range of their fixed-wavelength brethren to be practical. Some, such as Civcom, say they've gotten there. "The price difference today is somewhere around 10 to 20 percent. Two years ago it was 50 to 100 percent," Vertman says.

Others think even 10 percent might be too much of a premium. "In '04, customers will not be willing to pay any premium for tunable DWDM," says Vivek Rajgarhia, Opnext Inc. vice president of product marketing.

In fact, the cost question will force Opnext to build tunable lasers instead of buying them. "For the cost points we need to be at for the module, we will need our own laser in a couple of years," Rajgarhia says.

— Craig Matsumoto, Senior Editor, Light Reading

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