

The Net Economy

Looking for a Long-Haul Payday

By [Joe McGarvey](#)

Long-haul transport networks may be frozen in place – but some startup vendors see cracks forming.

The long-haul optical market has gone from gold rush to ghost town faster than you can say bandwidth glut.

Recent numbers from the Dell'Oro Group estimate that the long-haul DWDM market was down about 25 percent in 2001 from the previous year. Considering the fact that Ciena and other long-haul transport equipment providers are looking at severe reductions in demand for DWDM for at least the first half of the year, it looks as if 2002 could bring even leaner times to this once-white-hot segment of the market.

As is always the case in technology circles, however, where most everyone sees gloom and doom, others see only opportunity. That is an apt description of a few startup equipment makers, such as Ceyba, Innovance Networks, PhotonEx and Xtera, which are busily building gear for the next expansion of long-haul networks.

Recent activity among this group includes Innovance's revelation on Monday of an additional \$55 million in funding. The fresh influx of cash, says Innovance president and CEO Peter Allen, will go largely toward pushing the company's product family toward availability near the middle of this year.

Allen claims that current conditions in the long-haul market will enhance instead of hinder Innovance's long-term prospects.

"It was clear that the market was overheated," he says. "Out of that situation, however, comes significant opportunity."

From Innovance's perspective, the mass buildout of fiber routes over the past couple of years with mostly traditional DWDM gear has drawn carriers' attention to the fact that a new breed of dynamic transport and switching gear is needed for the optical layer of the network. Allen says that Innovance's yet-unannounced product line is designed to provide profound reductions in operating cost by adding dynamic routing and provisioning capabilities to a traditionally static networking environment.

By capitalizing on technology breakthroughs over the past couple of years, Allen says Innovance can deliver on the all-optical promises that were offered by companies such as Corvis and Qtera, since purchased by Nortel. While those systems made huge strides in extending the reach of all-optical links, they left carriers with a network that was still, for the most part, static. Advances, such as the ability to monitor data in the optical domain and automatic power-balancing technology, now make it possible to build optical networks that can be expanded and provisioned on the fly, says Allen.

The company is expected to reveal details of its DWDM and all-optical switching system sometime around Supercomm, according to Allen.

Subsystem maker Xtera Communications is so certain of an opportunity to grab a chunk of the next round of carrier spending that it decided that it makes more sense to compete with system makers than to partner with them. The company, which formerly made amplifier technology to enable system makers to expand the capacity and reach of their DWDM systems, earlier this month introduced a DWDM system of its own.

The Nu-Wave DWDM system is designed to radically lower the cost of transporting a bit of information by cramming more wavelengths into an optical fiber. A key to the company's technology is its ability to utilize multiple transmission bands. An alternate approach embraced by many competitors is to increase channel counts by shrinking the amount of space between wavelengths.

Xtera's method is more affordable, says Sharlene Lin, director of technical marketing, because it enables carriers to expand capacity using existing transponders, instead of newer devices especially designed for the tighter channel spacing.

"Because we have all this space, we can use 50-gigahertz spacing," says Lin. "If you go to 25-gigahertz spacing, you'll have to pay for new transponders."

Another cost-saving feature of the Nu-Wave system, says Lin, is that it enables carriers to introduce services at intermediate points along the network by turning inline amplifiers into add/drop modes without interrupting traffic on the fiber. The goal, says Lin, is to allow carriers to continue their network-buildout plans despite vast reductions in capital-expenditure budgets.

Like Innovance officials, Xtera's leadership saw an opportunity in the chaos of the current market. With the revenue and workforces of even major equipment suppliers cut in half, Xtera saw an opening.

"With so much turmoil going on among incumbent players," says Lin, "you've got to figure that this market is up for grabs."

As in any situation, however, timing is everything. Both Innovance and Xtera are positioning the availability of their product lines to coincide with an uptake in network buildouts beginning in the first part of 2003. Innovance's Allen says that current requests for proposals now circulating from network operators indicate that current capacity surplus should begin to run out near the end of the year.

Lin agrees. "We think it will be early 2003, simply because it seems like there's still plenty of capacity, and carriers are still under a lot of scrutiny to make profits."

Another long-haul aspirant, Ceyba, will announce its product plans on Monday.