

Innovance now flush with cash for manufacturing push

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Mon, 25 Feb 2002

Innovance, offering an indirect refutation of rumors of its imminent demise, has closed a \$55m second round of financing to help fund initial manufacturing of its optical core transport platform, which will be commercially available in the second quarter. For a company that is focused on the moribund long-haul market, the financing is quite a coup, but Innovance believes investors' faith in the ability of its semi-secret platform to lower the cost of wavelength provisioning is justified.

These days, a systems vendor can only raise cash (or anything at all) if it stands a decent chance of displacing players like Nortel, Alcatel, Lucent or Cisco at incumbent carriers, since selling to competitive local exchange carriers is no longer viable. Innovance has managed to persuade downstream vendors Corning, JDS Uniphase and venture capitalists Advanced Technology Ventures, Morgenthaler, Thomas Weisel Capital Partners, Azure Capital, Banc of America Securities, KPL Ventures and Archery Capital that it can do so.

Context Founded in May of 2000, Innovance has grown to 310 employees. With the latest infusion, Innovance's total funding to date tops \$150m, including a \$75m first round led by Morgenthaler, Thomas Weisel Capital Partners and Azure in December 2000. Innovance's valuation has not improved from the \$400m assigned for the first round - rumors put the 'after money' valuation, taking into account the cash it has raised, at less than \$200m - but valuations for publicly traded comparable companies like Nortel have plunged in the interim.

The comparison with Nortel is appropriate, since a good percentage of Innovance management hails from Nortel's optical networking divisions, including some that were involved with Nortel's OC-192 (10Gbps) products, which dominated the long-haul market at its peak. CEO Peter Allen is a Nortel veteran and was formerly general manager of the Nortel's Optoelectronics division; COO James Frodsham was Nortel's optical networking business VP; and CTO Alan Solheim architected Nortel's 10Gbps line system and dense wave division multiplexing (DWDM) platform. Meanwhile, senior VP of product development Dave Nicholson holds six patents and led the OC-192 design team at Nortel.

Technology Innovance has been tight-lipped about its technology apart from saying it is going after the core, and is developing a photonic (all-optical) platform that will reduce the amount of ongoing costs from conversion of optical signals at nodes. Details are slowly trickling out.

According to Allen, there are four components of the Innovance platform, and they are interdependent. The first is an all-optical switch that is "fully wavelength granular," or can scale down to the level of a single wavelength. While Innovance won't say what switch fabric it using, Allen told the451 that it isn't based on 3D micro-electromechanical systems (MEMS), because it is expensive technology, doesn't scale very well and insertion loss is too high. The second element of the platform is an "agile line system," effectively an intelligent transport infrastructure, which can create point-to-point connections and set up mesh networks. Third, there is a "tunable edge," using tunable lasers from iolon, which can dynamically switch channels. Innovance decided on iolon because it is one of the few tunable laser vendors with an L-band product. Last, the platform relies on a control plane that adds software management features.

Because DWDM technology has dramatically lowered the cost per bit for transport equipment in the long-haul network by splitting channels into wavelengths, the nodes where traffic passes through now account for a greater proportion of operating and capital costs, Allen notes. The conversion of signals at nodes - which in most cases is unnecessary, since about 70% of the traffic simply passes through - accounts for the majority of this cost.

Although it isn't yet clear how, the combination of the four elements in its platform allows Innovance to recognize which traffic is passing through and simply send it on without the costly conversion. Some have proposed what is called a 'hybrid switch' to address the problem. The all-optical switch passes on wavelengths, but routes traffic getting off at the node to a grooming switch like the Ciena CoreDirector. Allen contends that the operating cost of a hybrid switch is not that much cheaper than current alternatives.

The second selling point of the Innovance platform is that it can nail up a wavelength connection between two cities in seconds, rather than the manual, intensive process used today. Allen believes that carriers will decide on new long-haul platforms by the end of this year. "Traffic is continuing to grow, and the network fills up route by route," Allen said, in response to the unavoidable question of the long-haul capacity glut.

Conclusion With the demise of rivals Cinta Networks and OptiMight in recent weeks, Innovance has seen a winnowing of its competition from the startup realm. But there's a sound reason for its reticence. Nortel, Lucent, Alcatel and even Cisco are hardly willing to cede the long-haul market, so Innovance has to ensure its technology is superior enough that carriers will look past its size.