

Print Preview

Member Highlights

Member Spotlight: Lambda OpticalSystems

By [Jennifer Mead](#)



Irfan Ali

Lambda OpticalSystems (<http://www.lambdaopticalsystems.com>), an advanced optical network solutions provider, is committed to the development of next-generation all-optical networks that transform communications. The company's complete family of all-optical switches and integrated network management tools allows telecommunications service providers and government agencies to deliver new high-bandwidth services while

maximizing network management efficiency and affordability. Irfan Ali, president and CEO, spoke with PulseOnline staff about the history of his company, the products and services Lambda OpticalSystems offers and the benefits of TIA membership.



Your Web site states that Lambda OpticalSystems is the first company to deliver an all-optical switch. Explain how your switches differ from traditional optical-electrical-optical (OEO) switches and the benefits Lambda OpticalSystems all-optical switches provide the customer.



Lambda OpticalSystems provides all-optical switches that have integrated DWDM (dense wavelength division multiplexing) and intelligent GMPLS (generalized multi-protocol label switching) control-plane management. DWDM enables our customers to increase bandwidth without having to add fiber. In addition, each wavelength or band of wavelengths can be separate customers. The GMPLS control plane is based on powerful feature-rich technology that allows a variety of network elements such as routers, multi-service switches, digital cross-connects and SONET/SDH add/drop multiplexers to prescribe and provision the best network path. The purpose of GMPLS is to simplify an operator's provisioning cycle and improve accuracy. The current practice is to provision these devices separately and manually interconnect them, which has a margin for error and is time consuming. Traditional optical switches use an electrical fabric to regenerate and process the optical signals. Our system uses a pure optical fabric that saves a service provider capex costs by avoiding unnecessary OEO

transponders and dropping only the required signals at each site. The remaining signals are expressed through the switch and kept all-optical. Additionally, reducing the number of electrical conversions saves on power, produces less heat and saves cost. Finally, an all-optical switch fabric provides investment protection by being scalable to handle higher port speeds, such as 40Gbs, without changing the switch fabric. Traditional electrical fabrics are constrained by a fixed capacity. So a 128-port electrical switch with 2.5Gbs ports becomes a 32-port switch at 10Gbs. Our LambdaNode 2000 retains its capacity of 256 wavelengths regardless of port speed.



Tell us more about the Lambda Node™ 2000, Lambda Node 200 and LambdaCreate™.



Lambda OpticalSystems family of products includes the LambdaNode 2000, LambdaNode 200 and LambdaCreate Software Suite. The LambdaNode 2000 is our flagship product and provides a carrier a 40-50 percent capex reduction in switching and transport costs while providing faster path provisioning over large distances. The LambdaNode 2000 is designed for carrier-grade applications with redundant control and switch fabric.

The LambdaNode 200 is designed for smaller networks for telecom carriers and research and education institutions. It supports most of the GMPLS features of the LambdaNode 2000 but does not include the integrated DWDM transport. We introduced the LambdaNode 200 in partnership with the University of Illinois at Chicago and Northwestern University, which are focused on advanced applications for optical networking.

Finally, the LambdaCreate Software suite includes the optical control planes for the LambdaNode intelligent optical switches, network management and network engineering and planning. It is designed to give an operator a single point of control for the network and provides rapid response to managing the network. The LambdaCreate Software suite includes a TMF-814 CORBA northbound interface for integration to third party service management systems.



Lambda OpticalSystems recently signed a business development partnership with JB Cubed focused on expanding your company's presence in the government marketplace. How does JB Cubed complement your offering, and what do you hope to gain from this partnership?



JB Cubed provides strategic direction in the federal marketplace. They are a proven sales and marketing

organization with both the broad market knowledge and key customer contacts that will accelerate our presence in this market. They have a strong reputation with our target customers and are well positioned to help small companies such as Lambda OpticalSystems gain market traction. We have been satisfied with both the level of service and attention from them.



Your company partners with leading global telecommunications carriers to develop next-generation network solutions based on the Lambda Node 2000 all-optical switch and the integrated Lambda Create network management software suite. How does this benefit carriers and help them survive and prosper in the ever-changing global communications industry?



The LambdaNode 2000 and LambdaCreate Software suite help carriers be more responsive to customer bandwidth needs. The LambdaNode 2000 provides the physical infrastructure to accelerate provisioning of circuits to meet customer requests, while lowering carriers' capex and opex costs. The manual provisioning of separate network elements to create a circuit is lessened through the LambdaCreate's intelligent control plane, which helps reduce provisioning errors and costs through dynamic signaling and routing. The all-optical core of the LambdaNode 2000 enables a carrier to support more than traditional SONET and SDH services. The system is transparent to any optical signal, whether it is storage area network, video or proprietary signal. Customers are currently forced to translate their signals into a standard format shared on a common infrastructure. Often, this creates delays and constraints that cannot be tolerated by next-generation applications.



Tell the readers more about your involvement with leading research institutions and universities, and how this benefits Lambda OpticalSystems.



Lambda OpticalSystems has a strong legacy of working with the U.S. government in advanced research and attracts valuable talent from local, national and international universities. We have partnered with several universities on projects in networking research to further the development of optical networking and transmission. As we have previously mentioned, we are actively working with the University of Illinois and Northwestern University on various aspects of optical networking. We also have an active development process utilizing latest concepts and techniques in optics and software development from leading universities.



As a new member of TIA, you are planning to exhibit at GLOBALCOMM™ 2006. What do you hope to gain from TIA membership and exhibiting at the show?



As a small company, we are looking forward to working with TIA to expand our customer reach and market presence through events sponsored by TIA such as GLOBALCOMM 2006. TIA represents a valuable group of both customers and colleagues who can effectively address changes and challenges in our industry. We are also looking for TIA services such as the government regulation advocacy, standards development and education. We are very excited about joining TIA.

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