

## Cisco Optical Products Address Metro Area Needs Through Multiservice Platforms

**Cisco's Rajiv Ramaswami on the Complete Optical Multiservice Edge Transport (COMET) Portfolio —June 2, 2003**

More data and higher bandwidth services like storage networking and Gigabit Ethernet are moving over Synchronous Optical Network/Synchronous Digital Hierarchy (SONET/SDH) infrastructures. Higher bandwidth at lower costs, more functionality, more service diversity, and plug-and-play capabilities are behind the trend. Service providers are investing in metro area networks, with a particular focus on multiservice provisioning platforms and multiservice switching platforms in a variety of configurations and topologies. Enterprises are looking to help increase productivity for e-business and business continuance with optical networking technology. Incremental long-haul channels are being added to support additional demands driven by deployment of higher bandwidth services. Government is investing in optical technology for school networks and to eliminate the “digital divide” by building out optical infrastructure, bringing the Internet to both rural and urban communities.

News@Cisco recently spoke with Rajiv Ramaswami, vice president and chief technology officer for the optical networking group at Cisco, about these trends and the fiber optic internetworking technologies from Cisco that address them.

Q. Which Cisco optical products address the metro area network?

A. Rajiv Ramaswami: Cisco's Complete Optical Multiservice Edge and Transport (COMET) portfolio includes three distinct solutions that are designed to help service providers increase profitability while reducing network costs, operational expenses, and the complexity of their infrastructures. These innovative solutions include the Cisco ONS 15454 and Cisco ONS 15327 Multiservice Provisioning Platforms (MSPP), the Cisco ONS 15600 Multiservice Switching Platform (MSSP), and the Cisco ONS 15454 Multiservice Transport Platform (MSTP).

Q. What are the similarities and differences between MSPP, MSSP, and MSTP?

A. Rajiv Ramaswami: These solutions help deliver multiservice support for TDM, voice, and data on a single platform, facilitating and easing the transition from circuit-switched to packet-based networks. They support linear, mesh, and ring topologies and are scalable either in a metro network or central office. Cisco Transport Manager (CTM) can help provision, manage, and monitor all of the platforms at the edge, metro, and core.

The Cisco ONS 15454 MSPP and Cisco ONS 15327 MSPP are designed for service provisioning at the network edge and include integrated bandwidth management. They have collapsed bit rates of OC-3/STM-1 through OC-192/STM-64. The Cisco ONS 15600 MSSP



is designed for core and service provider point-of-presence (POP) aggregation. It integrates legacy Add-Drop Multiplexer (ADM) and Broadband Digital Cross-connect (BBDXC) functionality into a single platform, provides superior switching performance, scales within the central office, and supports many ring terminations. The Cisco ONS 15454 MSTP is designed for multiservice delivery via metro dense wavelength-division multiplexing (DWDM). The Cisco ONS 15454 MSTP integrates DWDM and 32-channel 10 Gbps capability. It can scale optical transport from tens of kilometers to hundreds of kilometers.

Q. As the newest component of Cisco COMET, what is the emphasis for MSTP?

A. Rajiv Ramaswami: We have provided integrated DWDM solutions for our market-leading Cisco ONS 15454. These include the 32-channel 2.5G ITU wavelength capability introduced in 2001 and the 32-channel 10G ITU wavelength capability we announced in March. At SUPERCOMM 2003, we announced intelligent, flexible photonics.

Q. By integrating intelligent, flexible photonics into DWDM, what costs are added?

A. Rajiv Ramaswami: None. By bringing more photonics capabilities into the service platform, MSTP actually reduces costs for service providers. Capital expenditures can be lower because fewer elements are needed in the network and operational expenditures can be lower because the network becomes simplified for efficient management and provisioning.

Q. What is the availability of these products?

A. Rajiv Ramaswami: The MSTP solution is a global solution that is available today in both SONET and SDH versions.

Q. Is MSTP targeted at the independent local exchange carriers (ILECs) and Telcos?

A. Rajiv Ramaswami: All service providers are interested in making money, maximizing their existing networks, and reducing the complexity of their infrastructure. ILECs, PTTs, and Telco Emerging Providers (TEPs) will consider the transition to packet-based versus circuit-switched networks. It is obviously easier for a new or emerging provider to consider this transition because they do not have as much invested in the legacy circuit technology. Packet-based networks are attractive based on their ability to deliver voice, data, storage, Ethernet, video, and other services from a single network.

The Cisco ONS 15454 MSTP, with integrated DWDM capabilities, helps deliver all of the services a metro network needs for lower first cost and lower long-term cost of ownership resulting from improved power, footprint, and sparing efficiencies.

Q. What is the migration plan for current metro DWDM and/or Cisco ONS 15454 MSPP customers?

A. Rajiv Ramaswami: Customers will assess their demand for voice, data, Ethernet, video, and cable services in their respective regions and select the Cisco solution that is best suited for their business and operational requirements. One of the strengths of the Cisco COMET portfolio is that the product diversity provides customers with real choices and alternatives for their network solutions.

Q. How does Cisco COMET give Cisco customers a competitive advantage?

A. Rajiv Ramaswami: With a complete optical portfolio addressing service provider and enterprise needs in the metro edge, metro core, service POP, and long-haul/extended long-haul, Cisco COMET delivers maximum service velocity, density, variety, and capacity, building the foundation for accelerating IP+Optical networking.



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