



Efficient MSO Inter-Regional Core Networks

Empower Service Expansion and Reduce Costs

Unified, Intelligent Infrastructure

As cable Multiple System Operators (MSOs) continue to grow and expand into new markets, they increasingly require a unified, inter-regional core backbone network to interconnect various service regions. They must also extend and augment distribution of video, Internet, and other forms of multimedia content. In this context, it is easy to see why the ability to treat the network as a single, seamless infrastructure for delivering commercial services can lead to important enhancements to the MSO service profile.

In years of real-world deployment experience, Sycamore Networks intelligent infrastructure solutions have proven to help network operators meet rapidly changing service delivery needs, extend network and market reach, and simplify operations to reduce the overall cost of ownership. Sycamore optical switching platforms provide high-density, multiservice aggregation for Ethernet and TDM services, and reduce operational cost and complexity, which makes them ideally suited for streamlining MSO inter-regional core networks.

Efficient Integration and Modularity

For example, the SN 16000 Intelligent Optical Switch consolidates multiple systems (e.g., BB-DCS, ADM) in the core transport network, with a flexible cross-connect matrix providing broadband traffic management. Using third-party wavelength services or its own integrated ITU-T DWDM channels, the SN 16000 can easily turn up 2.5 Gbps or 10 Gbps trunks between sites to interconnect multiple core systems. And Sycamore's flagship switching platform scales in-service, and non-disruptively, from just a few ports to an industry-leading 2.5 Terabits per second of switching capacity.

The modularity and intelligence of the Universal Service Card (USC) efficiently aggregates client-side traffic. Occupying one slot in the SN 16000 platform, the USC's interchangeable SONET/SDH and high-speed Ethernet interfaces and pluggable optics (from Short Reach to Long Reach and DWDM) provide a cost-effective way to add interface types and tailor optical reach – precisely when and where traffic demands dictate. With the USC, any port can be populated with a Gigabit Ethernet, 10 GigE, or OC-3/12/48/192 interface, as needed. This flexibility accommodates any mix of Internet backbone, voice, analog and digital video, as well as commercial data and telephony services. By reducing sparing requirements across the network and simplifying new service turn up and delivery, the USC substantially reduces operational costs and complexity.

Features and Benefits

- Integrated Platforms Simplify Operations
- Intelligent Control Plane Accelerates Provisioning
- Interface Flexibility for Packet and TDM Services
- Unmatched Scalability – Up to 250 10 GigE Ports
- Future-Proof Enhancements to Commercial Services

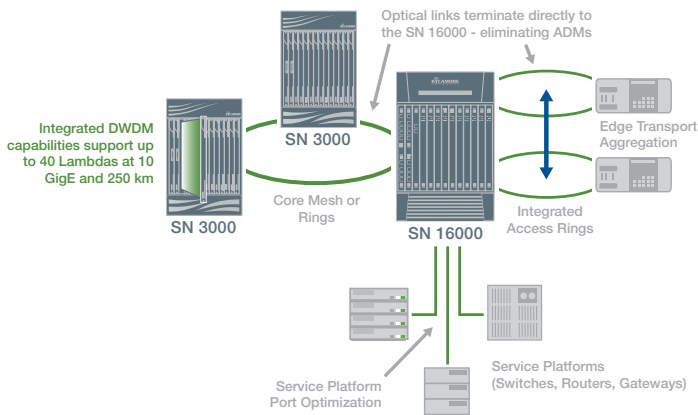


Figure 1: Building Scalable Core Networks with Intelligent Optical Switching

Sycamore intelligent multiservice switching platforms efficiently streamline MSO inter-regional core networks by delivering high-density aggregation for Ethernet and TDM services. The SN 16000 reduces operational cost and complexity while scaling seamlessly to an industry-leading 2.5 Tbps of switching capacity.

Simplified Network Design and Operations

When terminating rings, Sycamore switching platforms reduce the amount of equipment required at head-end sites by up to 90%. Figure 1 illustrates how this consolidation simplifies the inter-regional network. Optically terminating edge traffic directly into the SN 16000 eliminates the need for additional ring termination add/drop multiplexers (ADMs). And by aggregating and grooming all traffic destined for expensive switch/router service platforms, the SN 16000 consolidates that traffic into fewer, higher speed interfaces, which maximizes utilization of service platform physical ports and internal switching/routing resources.

BroadLeaf Control Plane Intelligence

With Sycamore optical switching platforms deployed, MSO/cable operators can leverage BroadLeaf® networking software to support multi-vendor control plane interoperability, intelligent provisioning, and multiple protection and restoration options across the network. BroadLeaf complies with IETF GMPLS, ITU-T ASON, and OIF control plane standards and architectures to ensure the highest degree of interoperability between network and client devices in dynamic networking applications.

BroadLeaf’s advanced resource and topology discovery features support rapid provisioning across the network by supplying real-time network data, including source and destination ports, routing constraints, and service parameters such as speed, concatenation schemes, and restoration requirements.

Future-Proof Inter-Regional Networks

MSOs can now solve inter-regional network challenges with rapid provisioning and high-density aggregation of packet and TDM services, BroadLeaf-enabled multi-vendor interoperability and operational flexibility, and scalability from just a few interfaces up to 250 10 GigE ports.

Sycamore intelligent optical switches form a reliable and future-proof foundation for seamless multiservice aggregation and transport of high-speed Internet, VoIP, commercial telephony and video services across inter-regional core networks – to effectively accommodate the multiservice needs of consumer and commercial customers today, and well into the future.

For more information about our intelligent networking products and solutions, please contact your Sycamore Sales Representative.

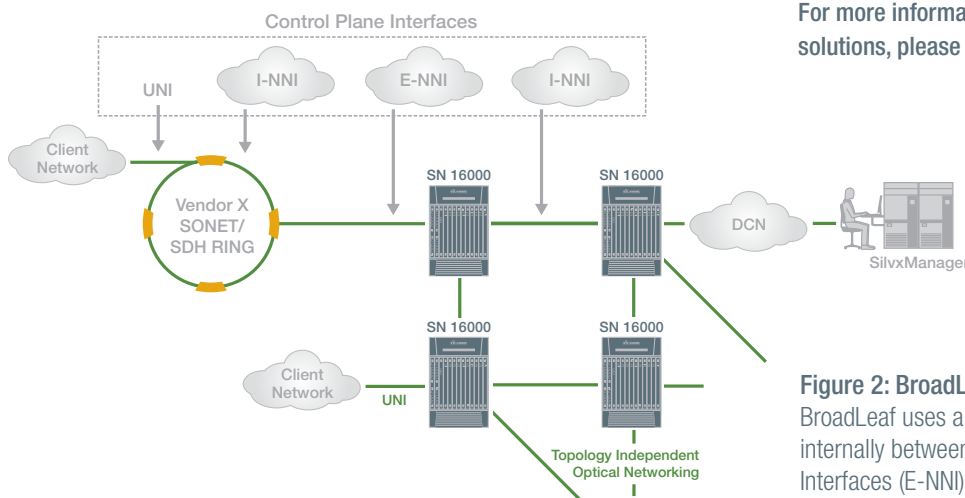


Figure 2: BroadLeaf Extends Intelligence across Networks
BroadLeaf uses a Network-Network Interface (I-NNI) to communicate internally between network elements, External Network-Network Interfaces (E-NNI) to communicate between the Sycamore network and other vendor networks, and User-Network Interfaces (UNI) to communicate with client devices, e.g., IP routers.

Sycamore Networks, Inc. • 220 Mill Road • Chelmsford, MA 01824-4122, USA • Phone: 978-250-2900 • Fax: 978-256-3434 • www.sycamorenet.com

Sycamore Networks, Inc. (NASDAQ: SCMR) is a leading provider of intelligent bandwidth management solutions for fixed line and mobile network operators worldwide. From multiservice access networks to the optical core, Sycamore products enable network operators to lower overall network costs, increase operational efficiencies, and rapidly deploy new revenue-generating services.

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