



International SONET/SDH Gateway Services

Delivering International SONET/SDH, IP/Ethernet, and Wavelength Services

Addressing Global Challenges

Global Points of Presence (GPOPs) facilitate international connections between network operators. Typically located at boundaries between countries, GPOP gateways exchange many types of traffic, just like a national POP. However, in addition, GPOP network elements must support a mixed SONET/SDH environment for optical, electrical, and packet services – and seamlessly interconnect them.

Delivering communications services anywhere in the world, whether IP or circuit-switched, poses numerous challenges for fixed line and mobile operators. Transport may be over public infrastructure, private networks, or regular leased lines; satellite links may be used to manage international traffic. In an increasingly global economy, the sheer volume of international voice and data traffic grows exponentially every year. Given such complexity and scope, international network operators require extremely flexible, scalable GPOP solutions, and supplier partners with proven worldwide support systems and a reputation for outstanding customer service.

Removing Multiservice Complexity

The SN 9000 Intelligent Multiservice Switch from Sycamore Networks functions as a true global gateway. Integrated support for high and low-order TDM and Layer 2 services, with distributed, tiered grooming, allows customized convergence solutions and enhances network efficiency. Support for SONET and SDH topologies within a single platform and on the same hardware modules ensures flexible and economical interoperation. Industry-standard interface options – from T1/E1 and DS3, to OC-192/STM-64, to multirate Ethernet (10 Mbps to 10 Gbps) – ensure scalability for international services. In GPOP locations, an SN 9000 efficiently aggregates circuit and packet traffic from multiple edge devices for high-order grooming and hand-off to transport systems. Moreover, the same platform can support metro SONET or SDH services in a carrier's domestic network.

Reducing Operational Costs

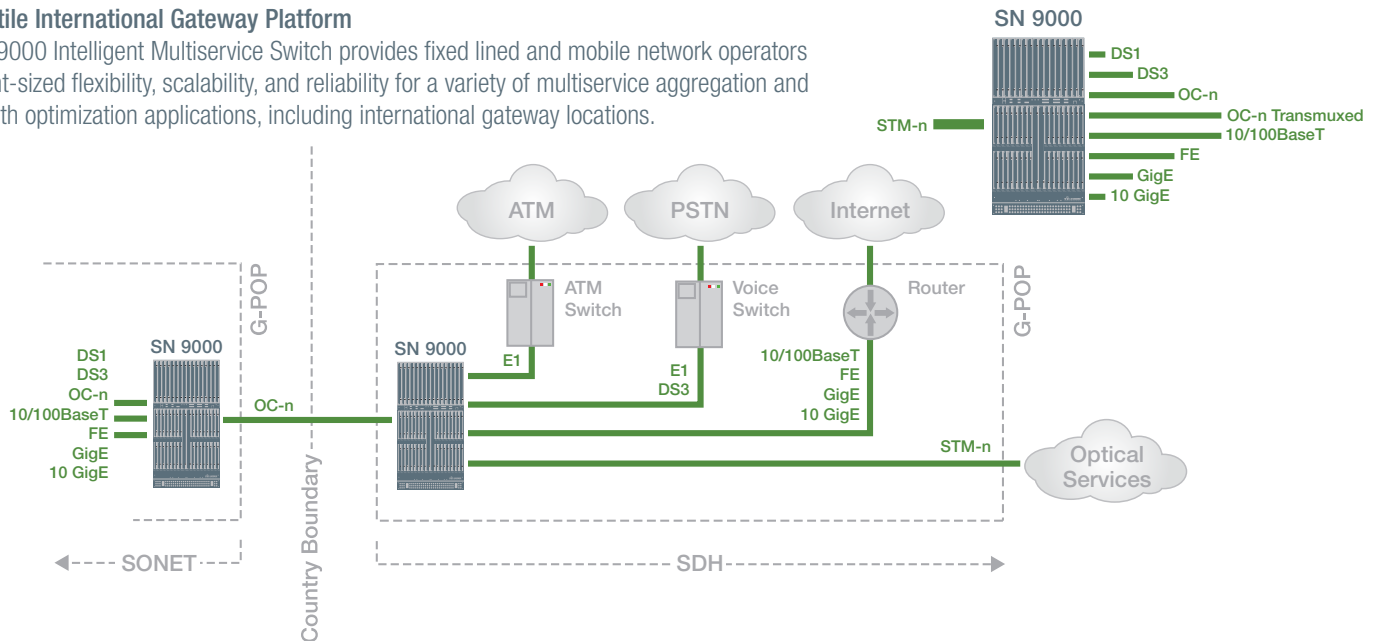
Sycamore's "port-agnostic," any-service-to-any-service-interface approach takes costs and complexity out of multiservice, multinational networks. Operators can choose SONET or SDH services on a per-port basis, and continually optimize node configurations – via software – to satisfy evolving market requirements. Pluggable optics facilitate OC-n/STM-n rate selection on the same hardware. The ability to modify services without physically changing end port connections simplifies customer upgrades. Eliminating stranded ports, and alleviating maintenance and sparring issues, streamlines operations and reduces costs.

Features and Benefits

- Seamless SONET/SDH Interconnections
- Scalable Multiservice Aggregation and Switching
- Benefits Fixed Line and Mobile Operators
- Extremely Cost-Effective Price-Per-Port
- Proven Global Customer Services and Support

A Versatile International Gateway Platform

The SN 9000 Intelligent Multiservice Switch provides fixed lined and mobile network operators with right-sized flexibility, scalability, and reliability for a variety of multiservice aggregation and bandwidth optimization applications, including international gateway locations.



Simplifying Global Management

Intelligent bandwidth management enhances network performance and enables rapid, cost-effective deployment of next-generation voice and data services in international networks. Fully integrated across Sycamore switching platforms, field-proven BroadLeaf® networking software establishes and maintains connectivity between Sycamore switches in compliance with ITU-T ASON, IETF GMPLS, and OIF UNI/NNI control plane standards. Allowing all nodes to automatically communicate with each other forms a network-wide routing database that underpins automated networks and dynamic services.

SILVX® NMS provides a single access point for managing a Sycamore network, streamlining OAM&P across continents and making it possible to create dynamic, differentiated services with point-and-click simplicity. SILVX tools for provisioning and monitoring end-to-end circuits help isolate and resolve faults quickly, which is especially important when a network spans multiple time zones and languages.

Enabling Advanced Services

Standards-compliant SONET/SDH protection and bandwidth-efficient mesh restoration mechanisms can be enabled at multiple levels (e.g., node, client hand-off, link, and path) to meet diverse traffic engineering needs anywhere in the world. Mesh restoration eliminates single points of failure and permits a high degree of customization, including tiered protection, to satisfy stringent international SLAs.

Sycamore multiservice switches combine flexible, multirate Ethernet connectivity and SONET/SDH reliability with the end-to-end provisioning simplicity empowered by our industry-leading BroadLeaf optical control plane. The result is diverse, cost-efficient Ethernet service delivery leveraging intelligent, multirate interfaces from 10/100/1000 Mbps to 10 Gigabit Ethernet (GigE). These interfaces are independent of the SONET or SDH layer on which they ride, configurable in either environment, and extend from the multiservice edge to the high-capacity optical core. Standards-based packet-to-circuit mapping and highly efficient policing schemes allow prioritization of Ethernet traffic into appropriate VCAT groups (VCG).

Delivering Services Worldwide

Full hardware and software redundancy, along with advanced performance monitoring and diagnostic capabilities, ensure continuous availability of international services carried by the SN 9000. Support for live updates prevents any impact on network traffic when adding services or enhancing features. Like all Sycamore products, the SN 9000 is also backed by a customer service organization that has earned a reputation for excellence in supporting Tier 1 customer networks anywhere in the world. Sycamore global support partners understand the needs of specific geographic regions and are locally situated to guarantee a timely response. The SN 9000 Intelligent Multiservice Switch answers present and future international gateway challenges with exceptional flexibility, unmatched scalability, and carrier-class reliability.

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

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.

Sycamore assumes no responsibility for the accuracy of the information presented, which is subject to change without notice. BroadLeaf, SILVX, Sycamore, and Sycamore Networks are trademarks or registered trademarks of Sycamore Networks, Inc. in the United States and/or other countries. Copyright © 2009 Sycamore Networks, Inc. All Rights Reserved.

