



Field-Proven Intelligent Optical Control Plane Solutions

Empower Automated Networks and Dynamic Services

The Promise of Unified IP/Optical Control Planes

Fixed line and mobile network operators worldwide are exploring ASON/GMPLS-empowered control plane solutions to assist the transition from traditional SONET/SDH toward more dynamic and agile optical networks. Driven by growth in high-bandwidth applications and more dynamic traffic distribution requirements, a unified IP/optical control plane can address the need for flexible, cost-effective service provisioning and capacity management, while streamlining operations and enhancing network resiliency. However, despite the significant advantages of process automation, most operators prefer a gradual, non-disruptive approach to network transition – and seek a control plane solution that minimizes incremental costs and increases operational flexibility at every step.

Industry-Leading Control Plane Intelligence

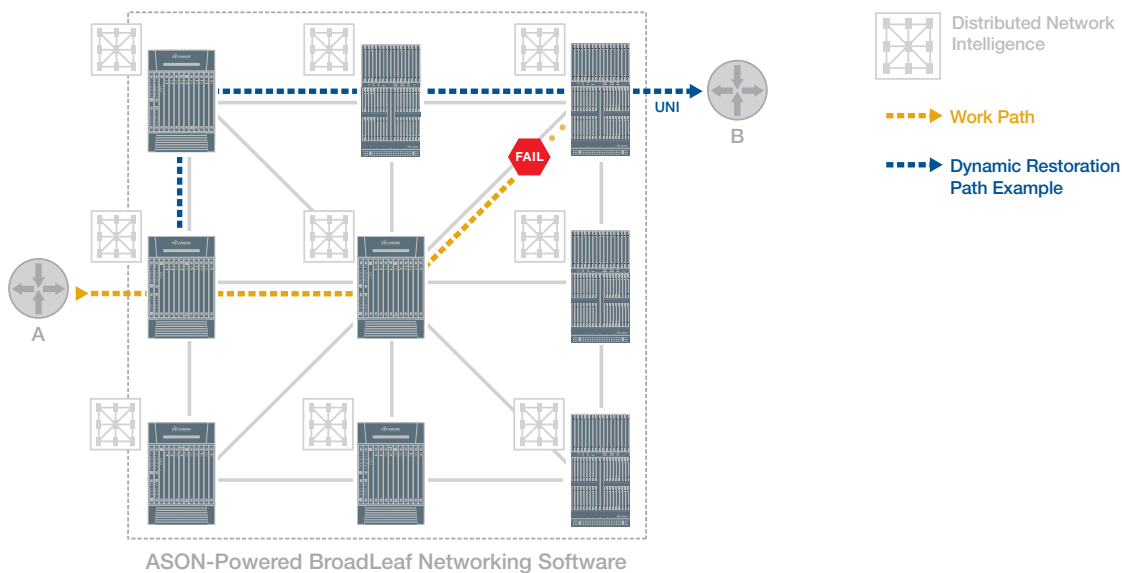
Embedded across Sycamore Networks switching platforms, BroadLeaf® networking software reduces provisioning times; enhances capacity utilization and traffic engineering; ensures multi-layer, multi-vendor interoperability; and supports multiple restoration methods across the network. Sycamore introduced BroadLeaf in 2000, and the first IP standards-based optical signaling (MPLS) and routing (OSPF) software is still the most robust and mature control plane software (I-NNI) available for optically switched networks. As an early proponent of a unified (IP/Optical) control plane, Sycamore offered one of the first implementations to fit within the ASON framework and the first commercially available implementation of GMPLS. Highly reliable BroadLeaf software has been successfully stress-tested over many years in real-world network deployments – including the ability to recover from multiple, simultaneous failure events.

Automated Networks: Intelligent Bandwidth Management

Sharing common networking software (BroadLeaf) and a single management platform (SILVX®) across Sycamore intelligent optical switching platforms ensures end-to-end circuit manageability and service protection. Advanced topology discovery and network awareness empower seamless interoperability among Sycamore switches – and with other network elements – and unmatched scalability at network and node levels. Sophisticated circuit management capabilities allow for both automated and manual provisioning in all topologies (ring, mesh, hybrid), with comprehensive, port-by-port support for traditional and emerging OAM, provisioning, protection and restoration to simplify configuration.

Features and Benefits

- Accelerates End-to-End Service Provisioning
- Simplifies Operations, Automates Processes
- Supports Ring Protection and Mesh Restoration
- Facilitates Ring-to-Mesh Migration
- Successfully Stress-Tested in Tier 1 Networks



ASON-Powered Intelligence from Edge to Core

Every Sycamore switch actively participates in the BroadLeaf circuit provisioning/restoration process, sharing real-time information about link status, capacity status, routing tables, and resources. This empowers rapid recovery – even from multiple, simultaneous failures – because each switch has multiple restoration path options, and dynamically chooses the optimal route.

SILVX offers an intuitive user interface for rapid provisioning of SONET/SDH and Ethernet transport services, based on real-time network inventory and conditions. Services are unified under a common provisioning and management system with full FCAPS functionality. For example, real-time bandwidth utilization views support both online and offline capacity planning. This enables network engineers to implement highly targeted upgrades, add bandwidth only to certain routes, or selectively turn up automated features – at a pace dictated by service demands and organizational requirements.

Dynamic Services: Flexible Protection and Restoration

Standards-based support for the interworking of SONET/SDH ring (APS/MSP, UPSR/SNCP, 2F/4F-BLSR/MS-SPRing), optical mesh, and hybrid architectures translates to best-value switching platforms for network transition. Interworking also enhances network resiliency by allowing full restoration of working traffic with no loss of ring capacity. Per-port configurable Quality of Service (QoS), and bandwidth-efficient mesh protection options (1+1 Path Protected, Dynamic Source Reroute, or Unprotected), work in any topology and in multiple combinations. Dynamic mesh and distributed intelligence eliminate single points of failure, with diversely routed circuits to ensure disaster recovery. Mesh restoration also allows highly customized protection schemes, to satisfy service requirements with least-cost solutions and maximum operational efficiency.

Edge-to-Core, Multiservice Intelligence

The powerful synergies between BroadLeaf and SILVX allow Sycamore switches to provision, route, protect, restore, and manage end-to-end connections for circuit and packet services – instantly and seamlessly – from edge to core. Together, advanced networking software and years of deployment experience have combined to create a tried-and-true blueprint for building automated networks and dynamic services while reducing total cost of ownership (TCO).

Extending intelligent bandwidth management, mesh survivability, and enhanced capacity utilization across multiple network layers and segments provides an ideal platform for the migration from circuit-switched services to evolving packet-based topologies, and from traditional to automated operations. By implementing a Sycamore solution, network operators can realize all the cost savings, operational efficiencies, and competitive benefits of an intelligent control plane without any disruption to existing networks or services.

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.

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