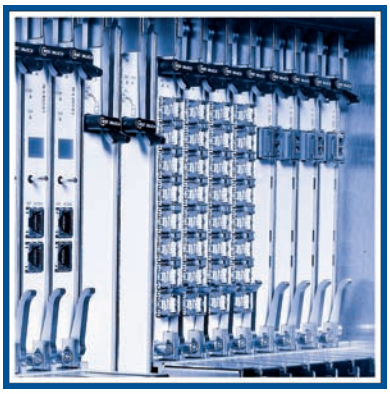
EMPOWERING CONNECTIONS

FOR GOVERNMENT NETWORKS

INTELLIGENT BANDWIDTH MANAGEMENT
ENSURES MISSION-CRITICAL COMMUNICATIONS ACROSS NETWORKS,
FROM MULTISERVICE ACCESS TO THE OPTICAL CORE

SYCAMORE NETWORKS

Why Sycamore Networks?



Empowering Connections

Government, military, and civilian organizations understand that the ongoing security and effectiveness of America's communications infrastructure depend upon seamless connectivity among a variety of network architectures, interfaces, and protocols. Diverse organizations with common goals need to share information on a national and global basis, in real time, and in all contingencies. The networks underpinning these critical operations must be fast, flexible, and secure. They should form a foundation for existing and emerging communications that can adapt to change without compromising integrity. Video, VoIP, and other data-intensive applications driving network growth also demand a more dynamic and scalable underlying infrastructure.

Intelligent Bandwidth Management

Sycamore Networks pioneered the concept of intelligent optical networking. We were among the first to envision intelligent bandwidth management as the best way to support increasingly data-centric global communications traffic. From the outset, Sycamore has focused on cost-effective ways to bring powerful new visions to life in real-world networks. Today, our portfolio spans from multiservice access platforms to a fully integrated, edge-to-core portfolio of intelligent optical switches – including the industry's highest capacity optical core switch. Our solutions have proven their interoperability and reliability in large-scale network deployments for some of the most respected and innovative telecommunications service providers, the Federal Aviation Administration (FAA), and the Defense Information Systems Agency (DISA) GIG-BE network optimization initiative for the US Department of Defense.

FIVE IMPORTANT REASONS

There are many reasons why intelligent bandwidth management solutions from Sycamore Networks bring added value to your communications infrastructure. Five of them are particularly important.

1

FLEXIBLE

Consolidate network functions, reduce costs, and accommodate existing and emerging services, while increasing operational efficiency and interoperability, to smooth network evolution and inter-agency communication.

2

RELIABLE

Count on field-proven reliability in all network topologies with best-in-class mesh and ring restoration schemes, comprehensive system redundancies, and distributed intelligence for high network resiliency.

3

MANAGEABLE

Improve network performance, simplify network transformation, and enable new communications with the powerful synergy of end-to-end intelligent bandwidth management and industry-leading control plane technology.

4

SECURE

Protect vital network infrastructure and mission-critical communications with central authentication, secure channels, and strong encryption options that instill confidence in the security of information access and exchange.

5

SCALABLE

Form a forward-thinking network foundation with multiservice solutions that deliver maximum capacity and smooth integration today, pay-as-you-grow modularity, and industry-leading scalability for tomorrow.

FLEXIBLE

Dynamic Connectivity

Optimize networks at minimal cost

Intelligent optical switches and multiservice access platforms integrate seamlessly with the networks and management systems you have now. They immediately and dramatically simplify network operations, reduce costs, and improve how you use and manage bandwidth. One compact, intelligent switch can handle multiple network functions with a lower initial investment than a typical broadband digital cross-connect. Unmatched capacity, port density, and breadth of service interfaces empower Sycamore switches to process numerous traffic types (e.g., circuit, packet, and cell) with optimal efficiency. In real-world deployments, our optically switched networks have achieved capital and operational savings as high as 70% over traditional choices.

Start small and pay as you grow

Right from the start, a portfolio of fully integrated small, medium, and large platforms allows right-sizing each switch to the traffic demands and service requirements of each network location, which significantly reduces costs. Modular systems architectures and non-disruptive, in-service scalability – up to an industry-leading 2.5 Tbps of core switching capacity – ensure future demands can be dealt with smoothly and incrementally, as needs arise. At Sycamore, we've taken the 'pay as you grow' concept beyond hardware to encompass innovative bandwidth licensing and service options. Why pay for 320 Gbps of bandwidth today, when you won't use it until next year? Or install packet and cell service interfaces in locations where, for now, you only need TDM? With Sycamore platforms, you plug in only what you need, and then easily add or make changes – mostly software-configurable – to switching capacity, service types and interfaces, line rates, and transport optics – as circumstances dictate.

Do more with less.

RELIABLE

Network Survivability

Benefit from best-in-class protection

With superior performance metrics for ring and mesh-based protection and restoration, Sycamore switches and multiservice access platforms meet diverse traffic prioritization and network performance parameters. Traditional SONET/SDH and 1+1 path protection schemes guarantee sub 50ms protection switching for high priority services. Our switches also support a range of bandwidth-efficient, dynamic mesh restoration options; per-port configurable Quality of Service (QoS); and combinations of ring and mesh protection schemes. This level of flexibility facilitates evolution toward a dynamic optical infrastructure and ensures network survivability under the most adverse conditions.

Guarantee reliability and disaster recovery

Highly resilient systems architectures, with redundant components and interconnections, contribute to the field-proven operational reliability of our products. Robust switch fabric redundancy prevents service disruption during planned maintenance periods or in-service upgrades. Distributed intelligence and dynamic mesh capabilities eliminate single points of failure, with diversely routed circuits to protect mission-critical applications across the network and support disaster recovery. Our network management software further ensures against data loss or disaster, with the option to elect hot standby capabilities for complete redundancy of location, hardware, software, and data. Automating much of the database synchronization and restoration process minimizes the potential for lost data and unacceptable server downtime, and contributes to high network availability.

MANAGEABLE

End-to-End Control

Improve manageability and planning

End-to-end intelligent bandwidth management automates the provisioning process. Powerful software synergies allow our switches to create, route, protect, restore, and manage end-to-end connections for circuit and packet services – instantly and seamlessly from edge to core. You also gain a fault-tolerant element management system (EMS) with a choice of CORBA, SNMP, XML, and TL1 management interfaces and full FCAPS functions. An easy-to-use graphical user interface (GUI) provides instant access to real-time network data for more informed traffic engineering and situational analyses; project scheduling capabilities support highly flexible bandwidth allocation. Optical virtual private networks (OVPN), customer network management (CNM), and bandwidth on demand can all become as simple and reliable as dial tone. Advanced network modeling and emulation software makes it easy to validate factors such as network sizing, survivability, costs, or capacity utilization – *before* deployment.

Maximize performance and interoperability

Leadership in implementing existing and emerging control plane standards and optical network architectures underscores Sycamore's dual commitment to technology innovation and interoperability. Our optical switches and network management system have successfully completed extensive performance and interoperability testing by the DISA Joint Interoperability Test Command (JITC). The network-aware intelligence embedded across our switching platforms supports robust operations and dynamic bandwidth, with IP standards-based routing and signaling protocols that increase network automation and accelerate end-to-end provisioning. An ASON/GMPLS-compliant control plane – combined with service interfaces from TDM to Gigabit Ethernet and multiple options for integrating transport optics – gives Sycamore switches an ability to interconnect disparate equipment, protocols, and networks that competitors cannot match.

Keep it simple.

SECURE

Assured Communications

Partition network assets – flexibly and securely

Sycamore security capabilities help you protect and manage access to sensitive computing resources and infrastructure assets. The same distributed intelligence that supplies the agility to deliver high-speed services also underpins the integrity of e-government applications, from secure intranets to global video conferencing. You can fully manage OVPN resources yourself, or partition them to allow self-management by an approved ally or civilian agency partner. Secure channel communications and RADIUS central authentication options augment a rich set of standard features, including account, password, and session management and excessive authentication retry notification, to help safeguard security. Properly identified users can get to what they need to know – wherever and whenever necessary – with extensive audit logging to ensure traceability and accountability.

Enhance your cryptographic protection

For many US government networks, FISMA mandates more stringent security measures, such as strong encryption of data between trusted sources to prevent disclosures, integrity protection to preserve and verify the content of all messages that pass through the network, and FIPS 140-2 validated cryptographic modules to assure overall system integrity. The optional Security Services software on Sycamore switching platforms helps fulfill these objectives, with an IPSec network communications module and strong AES encryption providing a secure communications channel to protect remote network users. Our implementation of a third-party validated FIPS 140-2 cryptographic module indicates that Sycamore encryption software has successfully passed rigorous validation testing in 11 different security categories. Additional countermeasures supported by our switching platforms, such as system hardening procedures and granular network policy definition, increase protection against potential internal and external system threats.

SCALABLE

Network-Centric Operations

Future-proof your investment

By collapsing stacks of cross-connect, multiplexing, and transmission equipment into a single high performance optical switch, you immediately reduce network complexity and improve scalability. Our core optical switch now delivers 2.5 Terabits of multiservice switching capacity, setting another optical networking industry benchmark. Nothing else comes close. This switch can be initially installed with a single line card (perhaps only 24 OC-3/STM-1 ports) and grow incrementally and non-disruptively up to an industry-leading 1,024 OC-48/STM-16 ports. Selectively adding pluggable transport optics to the same switch creates an integrated switching and transport solution for any network application from metro to ultra long haul. Our intelligent optical switches and multiservice access platforms also form a resilient, cost-effective foundation for scaling existing data networks, including Ethernet, ATM, Frame Relay, and IP. Quite simply, Sycamore solutions gracefully scale to accommodate more bandwidth capacity, new applications, additional end-users, or geographic expansion – on a global basis.

Transform your network at your pace

As you look to the future and envision a more efficient and dynamic IP-centric infrastructure, Sycamore can help you transform that vision into a pragmatic plan for network evolution. Initially, you can choose a combination of standards, protocols, and protection schemes to best fit your network operations; then gradually automate configuration and provisioning on a port-by-port basis. Our unique options for standards-based ring and mesh interworking let you introduce mesh capabilities selectively, when and where it makes sense. The advanced software features embedded across our intelligent bandwidth management platforms, and compliance with emerging network standards, ensure that Sycamore solutions will continue to adapt to new technologies and permit maximum interoperability – even in large, multi-vendor networks – for years to come.

Expand your horizons.

Empower Mission-Critical Communications

Optimize your operations

Sycamore Networks combines deep-rooted optical mesh and data networking expertise, standards-compliant systems architectures, and industry-leading software intelligence into next generation networking products. Our switches and multiservice access platforms integrate seamlessly in existing networks, delivering dramatic reductions in network cost and complexity. Our networking software empowers harmonious connections among multiple devices, protocols, and technologies – to accelerate service provisioning, enhance multi-vendor, multi-layer interoperability, and simplify network evolution. Sycamore solutions set you on a secure path toward a more efficient, IP-based infrastructure and dynamic, network-centric operations and services.

You can be confident that our products will bring both unmatched scalability and field-proven reliability to the network infrastructures that are vital to national security. And our commitment to seamless connectivity and technology innovation translates into your future-proof investment. Sycamore Networks is a US-based company that played an historic role in the birth of intelligent optical networking, and continues to lead the industry. An experienced management team and solid financials offer the ultimate assurance of Sycamore's continued innovation and support as your vendor partner.

Let our uniquely intelligent networking strengths and commitment to excellence ensure America's ongoing communications leadership.

Sycamore Product Portfolio

Proven Performance in Real-World Networks

Sycamore Networks carrier-grade solutions combine advanced technologies and ongoing feature development with product maturity and impressive deployment statistics, to meet or exceed the stringent deployment criteria for government networks.

Intelligent Optical Switches

Sycamore switches support high-density multiservice aggregation and diverse protection options, with right-sized platforms for applications from the metro edge to the optical core. From day one, our holistic approach to intelligent networking has gone beyond individual devices to focus on network-level, network-wide performance. Our fully interoperable optical switching portfolio ensures end-to-end dynamic bandwidth, high-speed Ethernet delivery, and mesh resiliency across all network segments and topologies. Sharing the same optical signaling, routing, control plane and management software across every switch platform dramatically simplifies operations and provides the fastest, least-cost route to dynamic, next-generation networking.

Multiservice Access Platforms

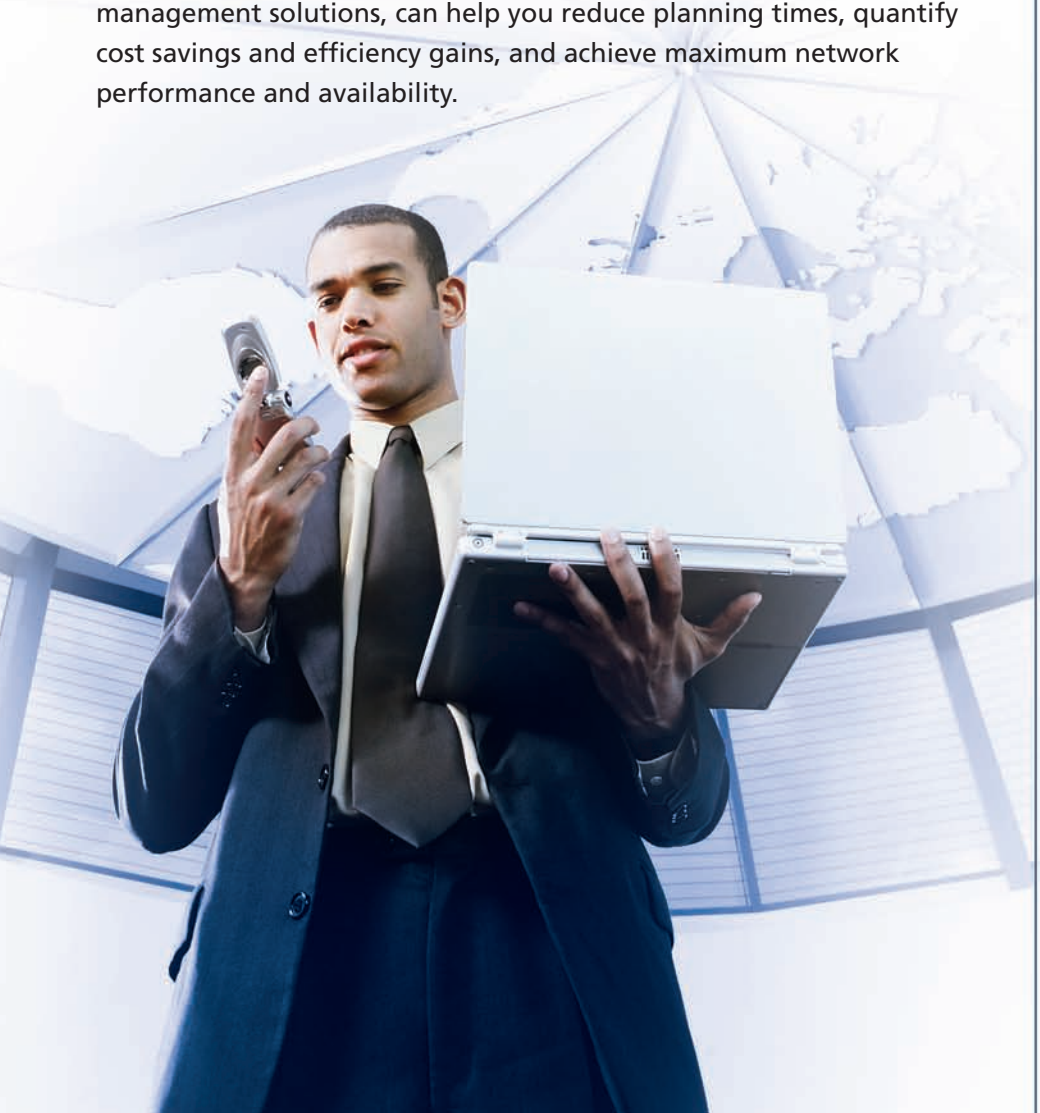
An extensive portfolio of intelligent bandwidth management platforms meets diverse access network requirements with multiservice traffic aggregation and grooming (including integrated circuit/packet processing), field-proven reliability, and modular growth options. Sycamore multiservice access platforms add cost-effective flexibility to a broad range of network applications: voice and data integration at end-user locations, integrated telemetry and remote IP management for mobile operator cell sites, next-generation optical Ethernet transport, and service concentration that conserves costly router ports on voice and data service delivery platforms.

Global Service and Support

A Reputation for Service Excellence

For intelligent networking deployments, and network migration toward dynamic mesh architectures, Sycamore Networks is uniquely qualified to exceed your requirements. We have installed – and continue to service and maintain – the world's largest and most advanced intelligent optically switched networks. Our comprehensive services portfolio, in-house experts, and international partners have earned a reputation for customer service excellence. This is your assurance of a successful deployment, and government networks our nation can depend on.

Sycamore supports you at every phase of the network operations lifecycle, from design and EFI&T to training and traffic engineering, and at any level you choose, from online technical assistance to onsite engineers. The expertise of our customer service professionals, gained through years of deployment experience with intelligent bandwidth management solutions, can help you reduce planning times, quantify cost savings and efficiency gains, and achieve maximum network performance and availability.



Applications for Government Networks

Sycamore intelligent networking solutions add value to many network applications for Federal and State governments, military and defense, and national and civilian agencies. In practice, no application is typical. We address the unique aspects of each network with laser-sharp focus.

- Converged Multiservice Networks and Services
- Legacy Network Transformation to IP-Centric Architecture
- Infrastructure Survivability and Enhanced Security
- Inter-Agency Communications and Collaboration
- Base and Backbone Networks (Unified Edge to Core)
- Fixed Line and Mobile Optical Backbones
- Next-Generation SONET/SDH
- International Gateways (SONET/SDH)
- End-to-End Intelligent Bandwidth Management
- Ethernet Services, Optical VPNs, Layered Service Provisioning

ISO 9001:2000

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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.

MCD102-0409