



The industry's first 4 Gbit/sec Fibre Channel routing switch provides feature-rich routing services and performance-optimized FCIP, all managed by familiar tools.

SILKWORM 7500

Highlights

- Significantly reduces the cost and effort of SAN design, implementation, and management
- Integrates advanced SAN connectivity services into existing environments using standard utilities and procedures
- Enables non-disruptive deployment and device sharing across disparate SANs at 4 Gbit/sec speeds
- Provides powerful hardware-assisted FCIP capabilities for line-rate performance across high-speed data networks
- Enables reliable SAN extension across suboptimal WANs with Fast Write, hardware-based compression, and storage-optimized protocol enhancements
- Provides a seamless and secure way to share resources across multiple SANs without the complexity of physically merging those SANs
- Simplifies interconnection and support for multivendor SAN environments

A Cost-effective Platform for High-performance SAN Extension

Many of today's IT organizations have implemented multiple Storage Area Network (SAN) islands to support specific applications, projects, and sites throughout their enterprises. With the Brocade® SilkWorm® 7500 Switch, these organizations can now interconnect their SAN islands for greater resource utilization and long-distance extension.

INCREASED OPERATIONAL FLEXIBILITY

By providing this advanced level of connectivity without the associated risk and complexity of physically merging SAN islands into a single large fabric, the SilkWorm 7500 supports strategic business initiatives such as disaster recovery, data migration, and ongoing technology upgrades.

The SilkWorm 7500 combines the industry's first 4 Gbit/sec Fibre Channel routing capability with powerful hardware-assisted traffic forwarding for Fibre Channel over IP (FCIP). The switch features 16 Fibre Channel ports and two 1 Gigabit Ethernet ports—delivering high performance to run storage applications at line-rate speed with either protocol. By integrating these services in a single platform, the SilkWorm 7500 offers a wide range of benefits for inter-SAN connectivity, including long-distance SAN extension, greater resource sharing (either locally or across geographical areas), and simplified management.

HIGH PERFORMANCE

FIBRE CHANNEL ROUTING FOR ENHANCED OPERATIONAL EFFICIENCY

Featuring an hierarchical Fibre Channel routing architecture for improved scalability and fault isolation—along with multivendor interoperability—the SilkWorm 7500 helps maximize the value of existing SAN investments while streamlining new SAN implementation. During deployment, organizations can easily interconnect disparate SANs using their current addressing schemes. This approach helps minimize downtime and risk while lowering overall management costs.

Although the SANs are physically connected, organizations can control which devices are shared to ensure the appropriate level of SAN fabric isolation. As a result, the SilkWorm 7500 supports faster, easier topology changes—enabling organizations to take advantage of new solutions that reduce costs or increase productivity. Moreover, simplified device sharing helps overcome the logistical challenges and organizational boundaries that often exist among departmental SANs.

By providing such a highly scalable approach for extending SAN infrastructures, the SilkWorm 7500 supports key business objectives such as:

- Migrating from old to new SANs
- Consolidating data centers and rebalancing storage resources
- Migrating from test to production networks
- Moving equipment on and off lease

PERFORMANCE-OPTIMIZED SAN EXTENSION

One of the key advantages of the SilkWorm 7500 is its ability to extend the benefits of existing SAN infrastructures across the enterprise. Combined with Fibre Channel routing, SAN extension enhances resource sharing and data movement between departmental SANs or local data centers while isolating SANs from IP WANs to minimize risk and potential disruption.

For SAN extension over native Fibre Channel, the SilkWorm 7500 utilizes Brocade Extended Fabrics capabilities. SAN extension can reach up to 100 kilometers at 4 Gbit/sec Fibre Channel speeds, 250 kilometers at 2 Gbit/sec speeds, and more than 500 kilometers at 1 Gbit/sec speeds.

For SAN extension over IP WANs, the SilkWorm 7500 provides unique bandwidth-maximizing FCIP features, including:

- Hardware-based compression and encryption
- Extensive port buffering
- Line-rate Gigabit Ethernet performance
- Scalable fan-in of multiple distant SANs
- Write acceleration (Fast Write) capabilities for synchronous applications
- Eight virtual FCIP tunnels per port for maximum scalability and utilization of WAN resources

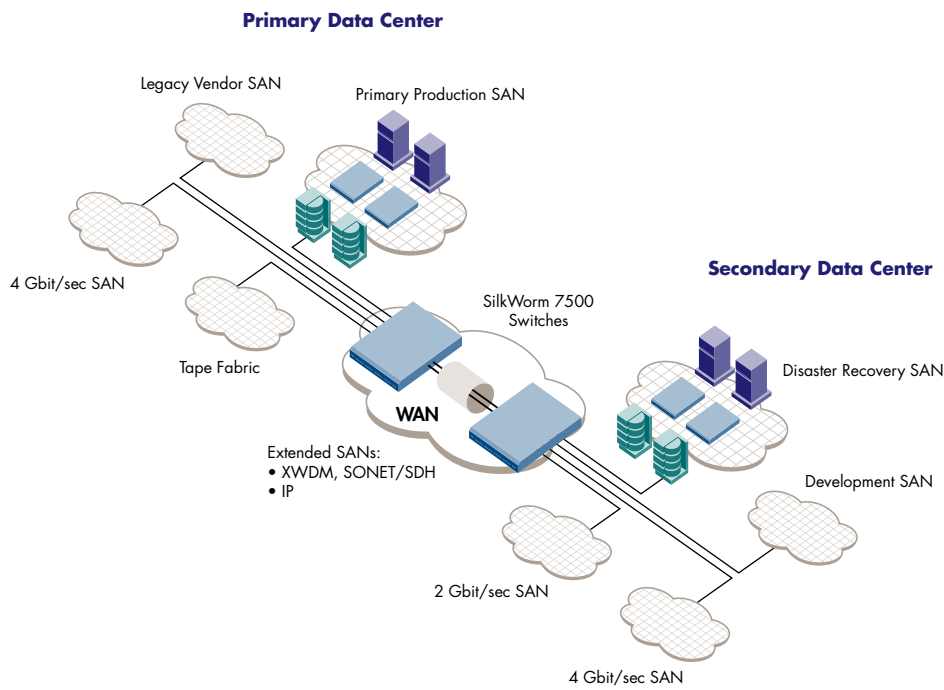


Figure 1. The Brocade SilkWorm 7500 utilizes high-performance Fibre Channel routing to enable powerful business continuity solutions.

This combined Fibre Channel routing and FCIP approach enables a more secure and reliable distance-connectivity solution for strategic initiatives such as business continuance, site mirroring, replication, and data migration.

INTEGRATED ARCHITECTURE AND MANAGEMENT

The SilkWorm 7500 supports inter-connectivity through Logical SANs (LSANs) by utilizing familiar zoning methods and administration tools. A simplified management scheme means that organizations can implement a common configuration for device sharing through Fibre Channel routing regardless of whether that connectivity is across native Fibre Channel or FCIP links. Moreover, FCIP trunking behavior operates in the same manner as E_Port functionality in existing SAN infrastructures.

Each service can be administered through Brocade management tools consistent with the rest of the overall SAN infrastructure. By leveraging these tools and Brocade Fabric OS[®], the SilkWorm 7500 provides a consistent, centralized management platform that minimizes training and deployment time to significantly reduce overall costs. Because the SilkWorm 7500 is backward compatible with previous Brocade SilkWorm offerings, it also helps eliminate the need for significant SAN overhauls during implementation.

MAXIMIZING SAN INVESTMENTS

Brocade and its partners offer complete solutions to meet a wide range of technology and business requirements. These solutions include education and training, support, service, and professional services to help optimize technology investments. For more information, contact an authorized Brocade sales partner or visit www.brocade.com.

SILKWORM 7500 SPECIFICATIONS

Systems Architecture

Ports	18 ports: 16 Fibre Channel (E, F, FL, EX) and 2 Gigabit Ethernet (VE, VEx)
SilkWorm switch interoperability	SilkWorm 200E, 2000, 3000, 4000, 7420, 12000, 24000, 48000
Performance	Fibre Channel: 1.063/2.125/4.250 Gbit/sec line speed, full duplex; auto-sensing of 1, 2, and 4 Gbit/sec port speeds; optionally programmable to fixed port speed; speed matching between 1, 2, and 4 Gbit/sec ports Ethernet: 1.25 Gbit/sec
Aggregate bandwidth	128 Gbit/sec full duplex end-to-end Fibre Channel
Fabric latency	< 8 microseconds (FC-to-FC routed traffic) 30 microseconds (FCIP)
Maximum frame size	2112-byte payload for Fibre Channel, 2250-byte payload for Gigabit Ethernet, 2048-byte payload for Fibre Channel routed networks
Classes of service	Class 2 and 3
Port types	FL_Port, F_Port, EX_Port, and E_Port; self-discovery based on switch type (U_Port); Gigabit Ethernet for VE and VEx
Media types	Hot-pluggable, industry-standard Small Form-factor Pluggable (SFP), LC connector; Short-Wavelength Laser (SWL) up to 500 meters (1640 feet); Long-Wavelength Laser (LWL) up to 10 km (6.2 mi); Extended Long-Wavelength Laser (ELWL) up to 80 km (49.6 mi); distance depends on fiber-optic cable and port speed, CWDM SFPs (8 lambdas); RJ45 Copper SFP for Gigabit Ethernet ports
Fabric services	Simple Name Server, Registered State Change Notification (RSCN); Brocade FC-FC Routing Service, Brocade Advanced Zoning, and Brocade Web Tools; optional fabric services include the Brocade FCIP Tunneling Service and Brocade Advanced ISL Trunking

Management

Supported management software	Telnet, Brocade Advanced Web Tools, Brocade Fabric Manager (optional), SMI-S based applications
Management access	10/100 Mbps Ethernet (RJ-45), serial port
Diagnostics	POST and embedded online/offline diagnostics
Mechanicals	
Enclosure	Non-cable-side to cable-side airflow; power from cable-side; 1U, 19-in. EIA rack-compliant
Size	Width: 16.88 in (42.87 cm) Height: 1.69 in (4.30 cm) Depth: 25.40 in (64.56 cm)
System weight	30.2 lb (13.7 kg) with two power supplies, no SFPs

Environmentals

	Operating	Non-Operating
Temperature	10° to 40°C	-25°C to 70°C
Humidity	20 to 85%, non-condensing	20 to 85%, non-condensing
Altitude	3 km	3 km
Shock	105 G, 2.5 ms, half-sine	40 G, 13 ms, trapezoidal
Vibration	0.5 G (5-500-5Hz)	2.0 G (5-500-5Hz)
Power		
AC input	Nominal: 6.0A@100-120 VAC; 3.0A@200-240 VAC	
Frequency	47 to 63 Hz	

For information about supported SAN standards, visit www.brocade.com/sanstandards



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