BROCADE 200E SWITCH

STORAGE AREA NETWORK

Small SAN Affordability with Growth Capabilities

HIGHLIGHTS

- Provides an affordable, flexible foundation for entry-level SANs, and an edge switch for core-to-edge SAN environments
- Enables "pay-as-you-grow" scalability from single-switch fabrics to full-fabric enterprise capabilities with Ports On Demand scalability from 8 to 12 or 16 ports in 4-port increments
- Utilizes the Brocade EZSwitchSetup wizard, which makes SAN configuration a 3-step point-and-click task
- Provides 4 Gbit/sec performance and availability characteristics typically associated with larger enterprises
- Protects investments with auto-configuring 1, 2, and 4 Gbit/sec interfaces for backward compatibility with existing Brocade SAN fabrics
- Improves business operations by increasing efficiency through higher resource utilization

As the value and volume of business data continue to rise, organizations need technology solutions that are easy to implement and manage, and that can grow and change with minimal disruption. Today, Brocade® Storage Area Network (SAN) solutions can help organizations simplify their IT management infrastructures, shrink data backup windows, improve system performance, and reduce overall storage costs.

The 4 Gbit/sec Brocade 200E 8-port Fibre Channel switch provides an affordable single-switch solution for new small SANs or existing SANs that are being upgraded with newer technology. To help new SAN users deploy their SANs, the Brocade 200E features the EZSwitchSetup wizard and other key usability and configuration enhancements. It also provides growth options with Ports On Demand scalability, the ability to add multiple switches to the SAN, and enterprise-class functionality that enables its use as an edge switch in larger SAN fabrics.

INCREASED EFFICIENCY TO MANAGE BUSINESS GROWTH

The Brocade 200E significantly increases performance and functionality for SANs at an entry-level price. Based on fifth-generation Brocade technology, the Brocade 200E combines auto-sensing 1, 2, and 4 Gbit/sec Fibre Channel throughput with new features that greatly enhance switch operation. As a result, organizations can enjoy the advantages of low-cost device connectivity and powerful capabilities that make SAN technology highly accessible and affordable.

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PAY-AS-YOU GROW SCALABILITY

Designed for small and medium-sized organizations, the Brocade 200E integrates innovative hardware and software features that make it easy to deploy, manage, and integrate into a wide range of IT environments. With powerful yet flexible capabilities, such as Ports On Demand scalability from 8 to 12 or 16 ports in 4-port increments, the Brocade 200E enables organizations to start small and grow their storage networks in a non-disruptive manner.

BACKWARD AND FORWARD COMPATIBILITY

The Brocade 200E is fully interoperable with existing Brocade switches—supporting entry and small fabrics that serve a variety of purposes, such as easing e-mail storage growth and streamlining data backup. In addition, the Brocade 200E is compatible with the latest Brocade SAN switches and directors, enabling seamless expansion to larger core-to-edge network architectures as business needs dictate. As a result, these capabilities make it ideal for key SAN solutions such as LAN-free backup and server and storage consolidation.

A BETTER WAY TO IMPROVE BUSINESS OPERATIONS

One of the primary benefits of a SAN environment is the consolidation of hardware resources in an easy-to-manage infrastructure. This centralized approach helps increase operational efficiency and staff productivity, two critical requirements for small and medium-sized businesses. With fewer physical resources to manage, staff members can handle additional business growth or focus on other strategic initiatives.

High-performance 4 Gbit/sec Fibre Channel capabilities speed data transfer to help keep data flowing and applications running. As a result, organizations can significantly improve storage utilization in distributed e-mail environments, for example. In addition, a SAN-based architecture enables LAN-free backup and more efficient storage resource management—increasing overall system performance and productivity (see Figure 1).

SUPERIOR NETWORK PERFORMANCE

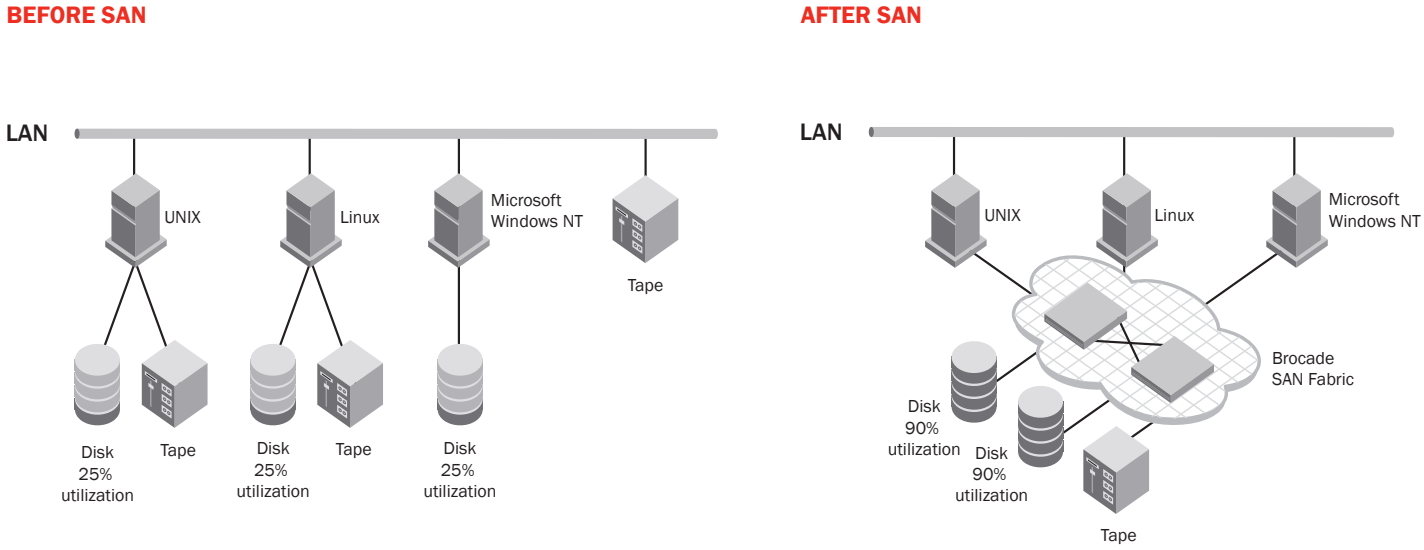
The Brocade 200E provides high performance with all ports capable of operating at 1, 2, and 4 Gbit/sec (full duplex) to enable up to 128 Gbit/sec of uncongested throughput. Auto-sensing and speed-matching of data traffic ensures interoperability with previous 1 and 2 Gbit/sec devices. To provide more targeted performance, enhanced Brocade Inter-Switch Link (ISL) Trunking combines up to four ISLs between a pair of switches into a single, logical high-speed trunk capable of up to 16 Gbit/sec of throughput.

SIMPLIFIED MANAGEMENT

All Brocade switches are based on the intelligent Brocade Fabric OS®, which provides the integrated building blocks for highly reliable and scalable SAN environments. To manage their switch configurations, organizations can use a command line interface, the Brocade Web Tools utility, or the Brocade Fabric Manager management application. In addition, Brocade offers the following advanced software solutions to further enhance business operations:

- Brocade EZSwitchSetup wizard streamlines new SAN deployment with easy 3-step configuration.
- Brocade Advanced Zoning permits only authorized devices and applications to access data, thereby increasing security and control.
- Brocade Advanced Performance Monitoring enables end-to-end performance monitoring of the entire SAN fabric.
- Brocade Fabric Watch enables organizations to proactively monitor the health of the network with comprehensive thresholds and alerts that help prevent outages.
- Brocade ISL Trunking combines multiple ports, aggregating their throughput into a single logical high-speed link between switches.
- Brocade Secure Fabric OS® helps ensure that all management capabilities are available in a secure environment.
- The Brocade SMI agent enables the integration of a broad range of powerful Brocade switch functions into popular third-party management tools, enabling organizations to continue using their storage management tools of choice.

Figure 1.
A Brocade SAN-based data backup solution can significantly improve data availability and resource utilization compared to traditional direct-attached storage environments.



SEAMLESS UPGRADES TO PROTECT INVESTMENTS

To help protect existing investments, the Brocade 200E provides a seamless upgrade path from Brocade entry-level to large enterprise SAN offerings. The switch is designed to integrate with heterogeneous environments that include multiple operating systems such as Windows, UNIX, Linux, HPUX, Solaris, AIX, and others. As a result, organizations have the flexibility to build cost-efficient, easy-to-manage SAN fabrics.

MAXIMIZING SAN INVESTMENTS

Brocade and its partners offer complete, cost-effective SAN 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 SAN investments. For more information, contact an authorized Brocade sales partner or visit www.brocade.com.

BROCADE 200E SPECIFICATIONS

Systems Architecture	
Fibre Channel ports	16 ports in 4-port increments through Ports on Demand licenses at 8, 12, and 16 universal (E, F, and FL) ports
Scalability	Full fabric architecture with 239 switches maximum
Performance	1 Gbit/sec, 2 Gbit/sec, and 4 Gbit/sec port speeds
Aggregate bandwidth	128 Gbit/sec end to end
Maximum fabric latency	1.2 µsec with no contention, cut-through routing at 4 Gbit/sec
Maximum frame size	2112-byte payload
Data traffic types	Fabric switches supporting unicast and broadcast
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)
Laser	Short-wave up to 500 m (1,640 ft); long-wave up to 10 km (6.2 mi)
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
Options	SFP media, fixed rail kit

Management	
Management software supported	Telnet; RADIUS; SNMP (FE MIB, FC Management MIB); Web Tools; Fabric Manager; third-party applications utilizing the Brocade SMI Agent
Management access	10/100 Ethernet port (RJ-45); serial port (RS-232); in-band through Management Server
Diagnostics	POST and embedded online/offline diagnostics

Mechanicals	
Enclosure	Non-port to port side airflow; 1U, 19-inch EIA compliant
Size	Width: 16.87 inches (42.85 centimeters) Height: 1.69 inches (4.29 centimeters) Depth: 12.10 inches (30.73 centimeters)
System weight	8.8 lbs (without media)

Environmentals	
Temperature	Operating: 0°C to 40°C (32°F to 104°F) Non-operating: –50°C to 100°C (–58°F to 212°F)
Humidity	Operating: 20% to 85% non-condensing at 40°C (104°F) Non-operating: 10% to 85%, non-condensing at 70° C (158° F)
Altitude	Operating: up to 3000 meters (9800 feet) Storage: up to 12 km (32,200 feet)
Shock	Operating: 20G, 6 ms half-sine Non-operating: 15G, 12 to 18 ms trapezoid
Vibration	Operating: 0.5 g sine, 0.4 grms random, 5 to 500 Hz Non-operating: 2.0 g sine, 1.1 grms random, 5 to 500 Hz
Airflow	High speed: 37 CFM Low speed (65% speed): 18 CFM cu. ft./min.
Noise goal	< 53 dB

Power	
AC input	Nominal: 100 to 240 VAC, 1.0 A
Frequency	47 to 63 Hz
Power consumption	45W nominal, 60W maximum

Safety
Underwriters Laboratories, UL60950; Canadian Standards Association, CSA60950; TUV Rheinland of North America, EN60950; Nemko, EN60950; Low Voltage Directive (73/23/EEC) for CE Marking in European Union

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

For information about switch and device interoperability, visit www.brocade.com/interoperability

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