

Designed for high-performance, simple-to-use and scalable midrange and enterprise SAN solutions



IBM System Storage SAN32B-3



Highlights

- **High port density design with 32 ports in an efficient, compact 1U height helps save rack space**
- **Simple-to-use midrange and enterprise SAN fabric switch for IBM system i™, System p™, System x™ and other server environments**
- **Pay-as-you-grow scalability supports non-disruptive capacity activation**

The IBM System Storage™ SAN32B-3 SAN fabric switch provides 16, 24 or 32 active ports and is designed for high performance with 4, 2 and 1 Gbps link speeds. High availability features make it suitable for use as a core switch in midrange environments or as an edge-switch in enterprise environments where a wide range of SAN infrastructure simplification and business continuity configurations are possible. Many IBM and non-IBM disk and tape devices are supported in many common operating system environments. Optional features provide specialized distance extension, link trunking, performance monitoring and advanced security capabilities.

High-performance

The IBM System Storage SAN32B-3 switch provides 4 Gbps connectivity on all ports. Each switch port auto-negotiates to 4 Gbps, 2 Gbps or 1 Gbps link speeds depending on the speed of the device at the other end of the link. Up to 256 Gbps throughput is possible with a 32-port configuration. E_Port connectivity is standard to support links to other SAN switches, directors and routers via Inter-Switch Links (ISLs). Up to 4 Gbps throughput at extended distances of up to 100 km is possible with the **Extended Fabric Activation** feature and appropriate distance extension technology.

Pay-as-you-grow scalability

The **8-Port Activation** feature is designed to support scalable switch upgrades. This feature provides an activation key to enable eight additional

ports while helping avoid fabric disruption. One or two of these features can be used to upgrade a base switch to 24 or 32 active ports. Optical transceivers are required for all active ports.

High-availability features

Midrange and enterprise SAN users require high-availability switch fabric solutions. The SAN32B-3 switch provides redundant, hot-swappable, load-sharing power supply/fan modules that are designed to allow the switch to remain online if one module fails. Dual power cords allow attachment to separate sources to help improve availability. Hot-pluggable optical transceivers are designed to be replaced without taking the switch offline. Availability of many non-disruptive firmware upgrades helps minimize disruption.

Total Cost of Ownership (TCO) advancements

The SAN32B-3 requires up to 20% less power than the SAN32B-2 (its predecessor), thus reducing cooling requirements. This reduction in power and cooling enables integration of power supplies and cooling fans into a single unit, which reduces weight and eliminates the need for rail-mount kits (a rail-mount kit is available as an option). It also can help simplify support through reduction of the number of Field Replaceable Units (FRUs).

Switch investment protection

IBM System Storage SAN b-type switches use common switch firmware—from the sixteen-port SAN switch to the 384-port director—which helps simplify SAN fabric expansion. Common firmware and 4, 2 and 1 Gbps link speeds support backward interoperability with existing SAN infrastructures. ISL Trunking can interoperate with 2 Gbps switches.

Management features

Web Tools is an integrated, Web-based management interface designed to help simplify monitoring and configuration management for first-time SAN users. While easy-to-use, it provides a comprehensive set of management tools the support flexible integration into existing enterprise storage management structures. Web Tools is designed to support security and data integrity by limiting (zoning) host system attachment to specific storage systems and devices.

Fabric Watch threshold monitoring is designed to track the health of switches and the SAN fabric. Fabric Watch is designed to monitor fabric resources, port traffic, switch environment values and operational values for optical transceivers. This information is accessible from Web Tools.

Open fabric management

The IBM SAN b-type family management framework is designed to support a wide range of solutions—from small workgroup SANs to very large enterprise SAN fabrics. Small SANs require rapid deployment and plug-and-play simplicity. Very large SAN fabrics require centralized management and automated administration. IBM SAN b-type switch management options include browser-based Web Tools and open standards-based interfaces to enterprise SAN managers.

Optional features

Advanced Security Activation is designed to provide a comprehensive, robust, policy-based security system for IBM SAN b-type fabrics to help secure the storage networking infrastructure as required for multi-protocol operation and SAN island consolidation. All switches in an advanced security fabric must be upgraded before Advanced Security Activation can be deployed.

Extended Fabric Activation is used to extend SAN fabrics beyond the Fibre Channel standard distance of 10 km. Enhanced internal data buffering techniques are essential to enabling business continuity solutions that help maintain high performance operation over extended distances up to 100 km. Appropriate distance extension equipment is also required.

Trunking Activation enables as many as eight 4 Gbps ISLs to be combined into a single high-speed trunk between a SAN32B-3 and other IBM SAN b-type switches and directors with an aggregate speed of up to 32 Gbps. A SAN32B-3 may also fully interoperate with existing 2 Gbps IBM SAN b-type switches and directors, which can combine up to four 2 Gbps ISLs into a single high-speed trunk with an aggregate speed of up to 8 Gbps. These high-speed trunks help optimize bandwidth utilization and enhance availability. Dynamic Path Selection (DPS) is designed to enhance and complement ISL trunking by balancing workloads across all ISLs in a trunk group. These capabilities allow administrators to focus on overall network performance

rather than individual link congestion that can occur when multiple high-performance devices share a single ISL.

Performance Monitoring Activation enables support for enhanced ISL Trunking and frame filtering-based performance monitoring tools for enhanced end-to-end performance monitoring beyond that which is provided by Fabric Watch.

Performance Bundle Activation combines Performance Monitoring Activation and Trunking Activation into a single feature which is available only with initial shipment from the plant of manufacture.

Enterprise SAN fabric management

Fabric Manager is designed to help simplify management, reduce administration costs and accelerate deployment and provisioning in enterprise fabrics. Fabric Manager provides an application based on Java™ technology that can help simplify management of complex fabrics containing multiple switches, directors and routers. Web Tools and Fabric Manager work together on the same management server, which can be attached to any switch, director or router in the core-to-edge fabric. It is designed to manage up to 80 switches or up to 2,300 ports and is supported on Windows® 2000, Windows 2003, Windows XP or Sun Solaris 8 or 9 server platforms and is available through IBM as a separate software program.

IBM System Storage SAN32B-3 at a glance

Physical Characteristics

Height	4.35 cm (1.71 inches)
Weight	4.23 kg (9.3 pounds) (no SFPs)
Width	42.87 cm (16.88 inches)
Depth	26.4 cm (10.39 inches)

Operating Environment

Temperature	0° C to 40° C (32° F to 104° F)
Relative Humidity	20% to 85% non-condensing at 40° C (104° F)
Altitude	Up to 3000 meters (9842 feet)

IBM System Storage SAN32B-3 at a glance

Electrical Requirements

Power 90-264 VAC; 47-63 Hz; 60 Watts typical, 70 Watts maximum

Product Numbers 2005-B5K and 20055KB

Base Machine Fabric switch with 32 ports (16 ports active), no transceivers (minimum of 16 required), E-Port connectivity, Web Tools, Advanced Zoning, Fabric Watch, dual replaceable power supply/fan modules, dual power cords, rack mount kit

Optional Features A variety of 4 Gbps SFP optical transceivers, 8-Port Additional, Advanced Security, Extended Fabric, Performance Monitoring, Trunking, Performance Bundle, rail-mounting kit

Fibre Optic Cables Multi-mode and single-mode cables and couplers are available in various lengths.

Power Cords Two power cords are provided for rack mounting. Country-specific power cords are available for desktop installation.

For more information

Contact your IBM representative or IBM Business Partner or visit:

ibm.com/servers/storage/san/b_type

MB, GB and TB equal 1,000,000, 1,000,000,000 and 1,000,000,000,000 bytes, respectively, where referring to storage capacity. Actual storage capacity will vary based upon many factors and may be less than stated. Some numbers given for storage capacities give capacity in native mode followed by capacity using data compression technology. (this paragraph is required only when we mention MB, GB, TB capacity statements/specifications)

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