Product Announcement
May 9, 2006

IBM System Storage SAN64B-2 fabric switch adds 4 Gbps 64-port Fibre Channel switch and longwave SFP transceivers

Overview

The System Storage SAN64B-2 fabric switch (2005-B64) joins the SAN16B-2, SAN32B-2, SAN256B, and SAN18B-R as the latest member of the System Storage SAN b-type 4 Gbps switch family. These products are intended to support improved performance for storage networking demands with improved affordability, higher throughput, and enhanced port density, when compared to previous IBM models.

The SAN64B-2 is designed to provide:

- 4 Gbps port-to-port connectivity with auto-sensing capability for connecting to existing 1 and 2, and future 4 Gbps host servers, storage systems, and switches
- Up to 64 nonblocking ports with 1, 2, or 4 Gbps connections
- High availability features: automatic path routing and many nondisruptive firmware upgrades
- Scalable ports on demand: 32, 48, or 64 ports to accommodate a broad range of connectivity solutions in a 2U form factor for enhanced port density and space utilization
- Scalability of mid-range to large SAN fabric environments
- Open Fibre Channel (FC) Protocol support
- Full compatibility with existing TotalStorage® SAN b-type switches (IBM 2005, 2109, and 3534)
- Base firmware features: Fabric Watch, Full Fabric, Advanced Zoning, and Web Tools
- Optional features: Additional Port Activation, Advanced Security, Enhanced ISL Trunking, Extended Fabrics, and Performance Monitoring
- Support for 4 Gbps longwave and 4 Gbps shortwave small form-factor pluggable (SFP) optic transceivers

Key prerequisites

For a complete list of supported hardware, refer to the Supported servers and storage systems section.

For specific support dates, configuration options, server models, operating systems levels, and attachment capabilities, visit

http://www.ibm.com/totalstorage/san/b-type

Planned availability date

June 9, 2006

Availability of programs with encryption algorithm in France is subject to French government approval.

At a glance

The IBM System Storage™ SAN64B-2 fabric switch (2005-B64) is designed to offer:

- Scalable ports on demand: 32, 48, or 64 ports to accommodate mid-range to large SAN fabric environments
- 2U form factor to enhance port density and space utilization
- High availability design with automatic path routing and many nondisruptive firmware upgrades
- Base switch firmware, including Fabric Watch, Full Fabric, Advanced Zoning, and Web Tools
- Optional features, including Additional Port Activation, Advanced Security, Enhanced Inter-Switch Link (ISL) Trunking, Extended Fabrics, and Performance Monitoring

Additional announcements:

- 4 Gbps longwave SFP Transceivers supporting either 4 or 10 km distances for the SAN16B-2 and SAN32B-2 switches
- Extended Fabric Activation Feature for the SAN16B-2 switch

Description

The SAN64B-2 fabric switch (2005-B64) supports 4 Gbps FC capabilities. It is designed to provide improved performance compared to previous IBM models, supporting storage networking demands for high throughput and enhanced security.

The SAN64B-2 fabric switch is designed to offer the following:

- Up to 64 FC ports that:
  - Provide multiple simultaneous connections, each connecting at 1, 2, or 4 Gbps
  - Auto sense and auto-negotiate to the highest speed (1, 2, or 4 gigabits) supported by the server, storage system, or switch
  - Self-configure as F_ports, FL_ports, or E_ports (Full Fabric feature required for E_ports)
- Operation with SFP optical transceivers that are designed to:
  - Support 4 Gbps speeds with 4 Gb shortwave SFPs for distances up to 150 meters (longer distances are supported at slower speeds)
  - Support 4 Gbps speeds with 4 Gb longwave SFPs for distances up to 4 or 10 km (longer distances are supported at slower speeds)
  - Be used in any combination of 1, 2, or 4 Gbps shortwave and longwave SFPs
  - Have increased ordering and deployment flexibility because SFPs are not included within the base SAN64B-2 product but are ordered separately with a minimum order of 32 SFPs required with the initial model B64 switch purchase, and additionally in increments of 16 SFPs, up to a total of 64 SFPs
- 2U form factor that enables enhanced port density and rack space utilization; specific power cords available for tabletop use
- Scalable ports on demand (32, 48, or 64 ports) to accommodate a broad range of connectivity solutions for a wide variety of host and storage types (optional Port Activation feature available for upgrade to 48 and 64 ports)
- Compatibility with the current IBM TotalStorage SAN b-type switch family (IBM 2005, 2109, and 3534)
- Auto Fabric discovery designed to allow external host and storage systems to discover other supported SAN-enabled systems that are connected to the fabric
- Standard fabric services such as Advanced Zoning and Web Tools

Optional features

35 km 2 Gbps Extended Distance LW SFP Transceiver (#2235): This feature provides an SFP fiber optic transceiver, designed for operation with single mode 9 micron fiber optic cables having distances up to 35 km. The 35 km Extended Distance Longwave (LW) SFP Transceiver is designed for full compatibility with SAN18B-R, SAN32B-2, SAN64B-2, and SAN256B models and can help disaster-tolerance solutions without the need for separate gateway integration.

FC 4 Gbps 10 km LW SFP Transceiver (#2420): This feature is designed to enable 4 Gbps transmission up to 10 km when connected to a compatible (#2420) transceiver at the other switch.

FC 4 Gbps 10 km LW SFP Transceiver — 4 Pack (#2424): This feature is designed to enable 4 Gbps transmission up to 10 km when connected to a compatible (#2420) transceiver at the other switch. Feature number 2424 provides a quantity of four of feature number 2420.

FC 4 Gbps 4 km LW SFP Transceiver (#2430): This feature is designed to enable 4 Gbps transmission up to 4 km when connected to a compatible (#2430) transceiver at the other switch.

FC 4 Gbps 4 km LW SFP Transceiver — 4 Pack (#2434): This feature is designed to enable 4 Gbps transmission up to 4 km when connected to a compatible (#2434) transceiver at the other switch. Feature number 2434 provides a quantity of four of feature number 2430.

B64 16-Port Activation (#7520): This feature is designed to enable upgrades from 32 to 48 or from 48 to 64 ports. The base B64 model activates the first 32 ports (0 to 31). You may optionally purchase port activation for ports 32 to 47 (first 16-port increment), and ports 48 to 63 (second 16-port increment). Port activation features do not include fiber optic transceivers, which must be ordered separately. All active ports must contain SFPs.

B64 Extended Fabric Activation (#7563): This feature provides a means to obtain the unique activation key necessary to enable the Extended Fabric capability within the SAN64B-2 switch firmware. The Extended Fabric function provides extensions within the internal switch buffers designed to help maintain performance with distances greater than 10 km and up to 500 km at 1 Gbps or 100 km at 4 Gbps by maximizing buffering between the selected switch interconnect links.

B64 Advanced Security Activation (#7564): Advanced Security Activation is designed to enable policy-based security mechanisms. To enable advanced security capabilities, all switches within the IBM SAN Switches Fabric must be configured with their respective Fabric operating system version (2.6 or later) before activating the Advanced Security feature license key. When activated across the IBM SAN Switch Fabric, the Advanced Security Activation feature is designed to support the following security capabilities:

- Centralized security management (trusted switches)
- Fabric-wide security policies to control access
- Port-level access control
- Switch-level access control
- Management access controls (Telnet, SNMP, HTTP, API)
- Encryption of management data such as passwords
- Strong and nonreputable authentication between switches

B64 Performance Bundle Activation-Plant (#7565): Performance Bundle Activation is plant order only, and supports both Enhanced ISL Trunking and Performance Monitoring capabilities.

Performance Monitoring helps identify end-to-end bandwidth usage by host/target pairs and is designed to provide information for capacity planning.

Trunking is designed to enable FC packets to be efficiently distributed across multiple ISL connections between two SAN b-type fabric switches, while preserving in-order

delivery. Both SAN b-type fabric switches must have ISL Trunking activated.

Enhanced ISL Trunking is supported between two SAN32B-2, SAN64B-2, SAN256B, and SAN18B-R 4 Gbps models and is designed to enable FC packets to be distributed across up to eight 4 Gbps-capable ISLs for a combined bandwidth up to 32 Gbps (up to four 4 Gbps capable ISLs for a combined bandwidth of up to 16 Gbps when connected to the SAN16B-2 model). When connecting the 4 Gbps-capable models to legacy 2 Gbps-capable b-type fabric switch models, ISL trunking is supported with link speeds operational at up to 2 Gbps and FC packets distributed across up to four ISLs for a combined bandwidth of up to 8 Gbps.

B64 Performance Monitoring Activation — Field (#7566): Performance Monitoring Activation is field order only. It provides Performance Monitoring capability to help identify end-to-end bandwidth usage by host/target pairs and is designed to provide information for capacity planning.

B64 Enhanced Trunking Activation — Field (#7567): Enhanced ISL Trunking Activation is field order only. Trunking is designed to enable FC packets to be efficiently distributed across multiple ISL between two SAN b-type fabric switches, while preserving in-order delivery. Both SAN b-type fabric switches must have ISL Trunking activated.

Enhanced ISL Trunking is supported between two SAN32B-2, SAN64B-2, SAN256B, and SAN18B-R 4 Gbps models and is designed to enable FC packets to be distributed across up to eight 4 Gbps-capable ISLs for a combined bandwidth up to 32 Gbps (up to four 4 Gbps capable ISLs for a combined bandwidth of up to 16 Gbps when connected to the SAN16B-2 model). When connecting the 4 Gbps-capable models to legacy 2 Gbps-capable b-type fabric switch models, ISL trunking is supported with link speeds operational at up to 2 Gbps and FC packets distributed across up to four ISLs for a combined bandwidth of up to 8 Gbps.

Accessibility by people with disabilities

The following features support use by people with disabilities: Ports and connectors support connection of industry-standard devices.

Trademarks