

Designed to enable affordable, simple-to-use, entry SAN solutions



IBM TotalStorage Storage Switch L10



Space-saving design with ten ports in a one-half rack width

Highlights

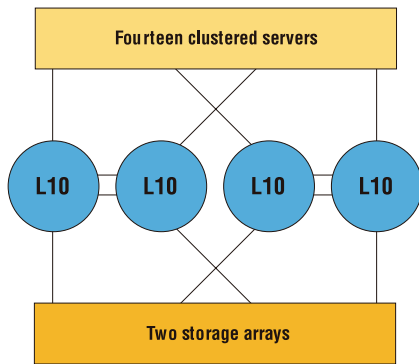
- **Simple-to-use infrastructure simplification and business continuity solutions for IBM® @server® xSeries® and IBM @server BladeCenter™**
- **Designed to support high availability with a minimal number of components and intelligent management of network changes**
- **An intuitive integrated management Web server with smart settings helps simplify administration**
- **Designed for high performance with 1 or 2 gigabit per second (Gbps) throughput on all ports**
- **Offers a new level of price performance for first-time storage area network (SAN) users**
- **Offers high-density packaging and small form-factor pluggable (SFP) transceivers that provide ten ports in a one-half rack width with a 1U rack height**

IBM TotalStorage SAN solutions

A wide range of IBM TotalStorage® storage area network (SAN) infrastructure simplification and business continuity solutions may be created with the IBM TotalStorage Storage Switch L10. Infrastructure simplification solutions for IBM @server xSeries and IBM @server BladeCenter servers include high-availability server clustering and storage consolidation with IBM TotalStorage disk storage arrays. Business continuity solutions include data protection with IBM TotalStorage Ultrium® 2 Linear Tape-Open™ (LTO®) or Super Digital Linear Tape (SDLT) tape drives and IBM Tivoli® Storage Manager data protection software.

Infrastructure simplification solutions

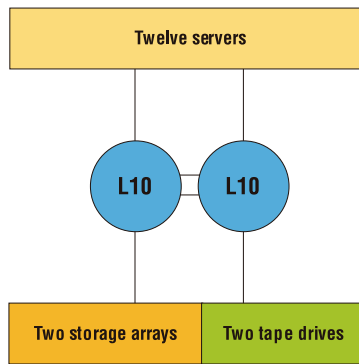
An entry storage consolidation solution consists of up to eight servers and two disk storage arrays attached to one ten-port storage switch. This storage consolidation solution may be scaled up to fourteen servers by cascading a second switch with two inter-switch links (ISLs) for resiliency.



High-availability server clustering solution with redundant, cascaded storage switches

A high-availability server clustering solution may be created with redundant switches. The server clustering solution may scale up to fourteen servers and two storage arrays, each with dual Fibre Channel (FC) adapters, cross-connected to the separate cascaded switches.

An entry data protection solution consists of up to eight servers, one disk storage array and a library with one tape drive. An expanded data protection solution can be created by cascading a second switch with two ISLs, a second disk storage array and a second tape drive to support up to twelve servers.



Expanded data protection solution for twelve servers using cascaded storage switches

High-availability features

The storage switch is designed to provide a high-availability and reliable SAN infrastructure. The switch uses a single switch-on-a-chip (SOC) with integrated serialize/de-serialize (SERDES) logic to help minimize the number of components and improve reliability.

Hot-pluggable optical transceivers are designed to be replaced without taking the switch offline. Intelligent change management is designed to automatically control potentially disruptive SAN events caused by health or configuration changes on initiator and target devices. Resident backup firmware copy is provided for concurrent code load. Redundant switches may be deployed for high-availability clustering applications.

Integrated management

The management system is designed for first-time SAN users with minimum SAN expertise. An intuitive integrated management Web server with smart settings is provided. One-step, port-based zoning is included for storage pool partitioning. Smart settings are designed to provide switch configurations optimized for high performance and stability. A Quick Install Storage Switch Card is design to help customers make SAN solutions quickly operational.

High performance

Unlike traditional Fibre Channel-Arbitrated Loop (FC-AL) hubs, traffic is routed directly to the destination ports with multiple concurrent connections. The IBM storage switch, which has a wire-speed, nonblocking crossbar switch core, is designed to deliver full 1 or 2 gigabit per second (Gbps) throughput across all ports. Automatic trunking load-balances bandwidth between switches and is designed to provide ISL failover protection. Prioritization intelligence is designed to help all SAN-attached devices have equal access to all other devices in the SAN, or explicitly have priority over other devices.

New price/performance level

The IBM storage switch is designed to provide improved price/performance for first-time SAN users, compared to entry IBM SAN switches. It offers ten Fibre Channel ports for less than the price of many other eight-port SAN switch options. The IBM storage switch establishes a new switch price point for the IBM TotalStorage DS400 array storage and IBM Ultrium 2 and SDLT tape libraries solutions.

All required firmware is included, so no additional license keys are required. The IBM storage switch is designed to offer an affordable, proven alternative to emerging Internet Protocol (IP), Internet SCSI (iSCSI) array storage that offers lower performance and limited SAN solutions.

Configuration flexibility

The IBM TotalStorage Storage Switch L10 requires a one-half rack width for ten ports. The switch includes four shortwave small form-factor pluggable (SFP) transceivers, single fixed power supply, single fixed fan and an xSeries rack-mount power cord. A rack-mount option is offered for rack installation. Shortwave SFP transceiver options include a single transceiver or the more affordable four-pack option. Fiber optical multimode cable and coupler options are provided for attachment of servers and storage. Two storage switches may be cascaded together for attachment of up to eighteen devices.

Flexible Fibre Channel connectivity

The TotalStorage Storage Switch L10 is designed to provide Fibre Channel connectivity to:

- *IBM @server xSeries and BladeCenter servers with Microsoft® Windows® NT and Windows 2000 Server, Microsoft Cluster Service (MSCS), Red Hat Enterprise Linux® 3, SUSE LINUX 8 and 9 and Novell NetWare*
- *IBM TotalStorage DS400*
- *IBM TotalStorage DS4100 (FAStT100), DS4300 (FAStT600) and DS4500 (FAStT900) Storage Servers*
- *IBM TotalStorage Ultrium Tape Library 3582*
- *IBM TotalStorage Scalable Tape Library 3583*
- *IBM Modular Tape Library Model 4560SLX with Ultrium 2 LTO or SDLT tape drives*

IBM TotalStorage Storage Switch L10 at a glance

Physical characteristics

Height	40 mm/1.57 in (1U)
Width	216 mm/8.50 in (half rack)
Depth	406 mm/16.0 in
Weight	3.1 kg/6.75 lb

Operating environment

Temperature	0° to 40° C/32° F to 104° F
Relative humidity	9% to 95%

Power requirements

Power range	110 to 220 V AC
Frequency	47 to 63Hz

For the most complete specifications, refer to ibm.com/storage/2006

Product numbers

PN 2006L10—IBM TotalStorage Storage Switch L10 is an ten port Fibre Channel switch with four shortwave transceivers, single fixed power supply, single fixed fan, power distribution unit (PDU) jumper cable, one serial cable and documentation. Includes integrated management Web server with smart settings and one step port-based zoning.

PN 26K7909—L10 rack-mount kit

PN 13N1796—Shortwave SFP transceiver

PN 22R0483—Shortwave SFP transceiver, four pack

PN 19K1247—Fibre Channel cable, LC/LC, multimode optical, 50.0u, 1 meter

PN 19K1248—Fibre Channel cable, LC/LC, multimode optical, 50.0u, 5 meters

PN 19K1249—Fibre Channel cable, LC/LC, multimode optical, 50.0u, 25 meters

PN 19K1250—Fibre Channel SC male/LC female coupling cable, multimode optical, 50.0u, 1 meter

For the most current and complete information on the IBM TotalStorage Storage Switch L10, refer to ibm.com/storage/2006



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5600 Cottle Road
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August 2004
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