

Low-cost IP SAN storage solution for consolidation, single management, and increased efficiencies across an organization



IBM System Storage DS3300 Express



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Highlights

- **Two 1 Gbps iSCSI host connections per controller**
- **One 3 Gbps SAS drive interface for capacity expansion per controller**
- **Affordable, reliable IP networked-attached storage**
- **Combination of 12 SAS or SATA 3.5" drives per enclosure**
- **Scalable to 5.4 TB of storage capacity with 450 GB hot-swappable SAS disks or 12.0 TB with 1.0 TB hot-swappable SATA disks in the first enclosure**
- **Expandable by attaching up to three EXP3000s for a total of 21.6 TB of storage capacity with 450 GB SAS or up to 48.0 TB with 1.0 TB SATA**
- **Solution for IBM System x™, IBM BladeCenter®, and select third-party servers**
- **Telco model supports -48 V DC power supplies**
- **NEBS and ETSI compliance for AC and DC models**

With the proliferation of servers and the influx of data growth in today's IT environments, organizations from a small-to-medium business to the enterprise understand the value that networking plays in managing applications and business data. Today, the connectivity of storage devices must enable substantially higher scalability, availability and manageability than is possible with direct attached storage (DAS). To use data to its fullest extent, it must be accessible to those who need it. Consolidating data by means of a network is the best way to achieve this.

IBM expertise in external storage system development was the intellectual groundwork for the IBM System Storage™ DS3300 Express—providing cutting-edge technology and high reliability. The DS3300 is designed to meet the availability and consolidation needs for a wide range of users—from the entry-level SMB to an enterprise's

remote site or departments. The DS3300 provides organizations an affordable, reliable and scalable storage solution that takes advantage of their current IP infrastructure equipment and in-house expertise.

Easy to deploy and manage

The IBM System Storage DS3000 Storage Manager software is designed to provide a friendly user interface from setup to administration. This intuitive software builds on generations of IBM software development to provide trusted and reliable data management. Its task-based user interface significantly reduces the complexity of installation, configuration and management. The DS3000 Storage Manager approach is designed to enable even non-storage savvy administrators to quickly set up and deploy their storage solution.

The DS3300 Express uses iSCSI host interface technology. As a mature technology with a broad range of proven management tools, iSCSI can often be simply administered in-house, as networking expertise is common throughout many companies today. This can help organizations capitalize on their existing IT skill sets and avoid having to learn a new networking protocol, which

can include extensive—and sometimes expensive—training. With the DS3300 Express storage system, transitioning DAS configurations to an IP SAN is a simple task for even the most inexperienced full-time administrator.

Tiered storage solution

Tiered storage is the assignment of different categories of data to different types of drives in order to reduce total storage cost. A key attribute of the DS3300 Express is the integration of SAS and SATA technologies within a single enclosure. This simplifies purchasing and storage deployment with nearline applications using inexpensive SATA drives and highly-utilized applications deploying SAS drives.

Expand with multiple EXP3000s

The scalability of the DS3300 Express helps IT managers respond to their constantly changing storage environment. By starting small, the DS3300 Express enables users to make additional investments in their infrastructure only when their data growth necessitates it. The DS3300 Express capacity is increased either by adding hard disk drives or by expanding the configuration with additional EXP3000 Express expansion units. Both of these operations can be performed without having to shut down the DS3300 Express.

This means “zero impact” and gives users control of their data storage as they scale their capacity on an as-needed basis.

Extensive reach

The reach of a SAN throughout the organization is most often limited by the distance restriction of the fabric. As a routable transport with virtually no distance limitations, the DS3300 Express can be located almost anywhere. iSCSI breaks through any distance limitations and can extend its scope to remote locations well beyond the corporate data center.

Flexible approach to storage

The DS3300 Express is a comprehensive storage solution for IBM System x, IBM BladeCenter, and select third-party servers. This flexibility helps free organizations from server barriers by offering a single storage solution in a mixed-vendor environment. And because functionality is not sacrificed for affordability, the DS3300 Express disk storage system can deliver powerful capabilities that further help protect data. The DS3300 Express enables optional copy and disaster recovery features such as IBM FlashCopy® and Volume Copy that can be enabled when an application necessitates it.

Telco Options

The IBM System Storage DS3300 Express includes a DC-powered model that is especially suited for Telco industry environments. The IBM System Storage DS3300 Express Model 32T, a NEBS-3 and ETSI compliant disk system, and the IBM System Storage EXP3000 Express Model 02T storage

expansion unit are both designed to be powered from a -48 V DC Telco industry-standard power supply.

Reduce IT expenditures

In addition to leveraging low-cost IP network equipment, the DS3300 Express was designed to be an affordable and easy-to-manage storage system. By configuring an IP SAN, a user can avoid the investment of completely

retrofitting their existing network, allowing organizations to capitalize on their existing IP network equipment. And when existing equipment is not available, the cost of new IP components is relatively low, ensuring that future growth expenditures will not break the budget.

IBM System Storage DS3300 Express at a glance

Models	1726-31X—single controller 1726-32X—dual controller 1726-32T—dual controller Telco
RAID controller	Dual active
Cache per controller	512 MB battery-backed cache with 1 GB upgrade option
Host interface	Two host ports per controller, 1 Gbps iSCSI
Drive interface	Serial Attached SCSI (SAS)
Supported drives	Supports 3 Gbps SAS: 73 GB, 146 GB, 300 GB, and 450 GB SAS drives at 15,000 rpm speeds 3 Gbps SATA: 500 GB, 750 GB and 1.0 TB SATA drives at 7,200 rpm speed
RAID levels	RAID 0, 1, 3, 5, 6, 10
Storage partitions	4, 8, 16, 32
Maximum drives supported	48 SAS or SATA drives (using three EXP3000 expansion units)
Fans and power supplies	Dual-redundant, hot-swappable
Rack support	19" industry-standard rack
Management software	IBM System Storage DS3000 Storage Manager
Warranty¹	Three-year parts and labor

IBM System Storage DS3300 Express at a glance

Size

Height: 8.7 cm (3.4 in)
Depth: 55.0 cm (21.6 in)
Width: 44.7 cm (17.6 in)
Weight: approximately 17.2 kg (38.0 lb) for a standard unit;
when fully configured, 29.2 kg (64.5 lb)

Environment

Air temperature:
– DS3300 on: 10° to 35°C (50.0° to 95°F); altitude: 30.5 m (100 ft) below to 3000 m (9840 ft) above sea level;
temperature change: 10°C (18°F) per hour
– DS3300 off: 10° to 50°C (14.0° to 120.0°F); maximum altitude: 3000 m (9840 ft); temperature change: 15°C (27.0°F) per hour
Humidity:
– DS3300 on: 20 to 80%
– DS3300 off: 10 to 90%
– Maximum dew point: 26°C (79°F)
– Maximum humidity gradient: 10% per hour

Heat output

Approximate heat output in British thermal units (Btu) per hour:
– Minimum configuration: 205 Btu (60 watts)
– Maximum configuration: 1235 Btu (361 watts)

Supported systems

For a list of currently supported servers, operating systems, host bus adapters, clustering applications, SAN switches and directors, refer to the DS3000 Express series Interoperability matrix available at ibm.com/systems/storage/disk/ds3000/ds3300/

For more information

Contact your IBM representative or IBM Business Partner or visit:

- ibm.com/systems/storage/disk
- ibm.com/systems/x
- ibm.com/systems/bladecenter

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