IBM System Storage DS3400 Express

Cost-effective storage consolidation with a Fibre Channel direct-attach or SAN solution

Highlights

- 4 Gbps Fibre Channel (FC) interface technology
- Start with a DAS configuration and seamlessly transition to a FC SAN when ready
- Easy to deploy and manage with the DS3000 Storage Manager
- Combination of 12 SAS—up to 7.2 TB—or SATA—up to 24.0 TB—drives per enclosure
- Expandable to 28.8 TB with SAS or up to 96.0 TB SATA with up to three EXP3000 enclosures
- Flexible power options for Telco applications and NEBS and ETSI compliance

As a business matures, so does the amount of data and the value of the data that it holds within the organization. If the data is distributed across servers and individual storage systems, the business will face increased cost and complexity along with the accompanying business risks.

The IBM System Storage™ DS3400 Express leads the way for these organizations to take advantage of consolidating and sharing this data within a direct-attach or FC SAN solution. The DS3400 Express adds the most advanced front-end 4 Gbps FC technology to IBM time-proven designs for enterprise-class RAID storage. With FC host connectivity and SAS back-end technology, the DS3400 Express is designed to improve productivity through data consolidation, availability, performance and scalability.

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.

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 DS3000 Express series of disk systems 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 DS3400 Express enables IT managers to respond to a constantly changing storage environment. By starting small, the DS3400 enables users to make additional investments in their infrastructure when data growth necessitates; thus organizations can easily increase capacity and storage capabilities with minimal cost and effort. The DS3400 Express capacity is increased by adding hard disk drives and by expanding the configuration and adding EXP3000 Express expansion units. Both of these operations can be performed without having to take the DS3400 Express off-line. This means "zero-impact" to your environment and gives users control of their data storage as they expand capacity on an as-needed basis.

Flexible approach to storage

The DS3400 Express is a comprehensive storage solution for IBM System x, IBM System p, IBM BladeCenter and select third-party servers. This flexibility enables you to break free of server barriers and use a single storage solution in a mixed vendor environment. And because you do not have to sacrifice functionality for affordability, the DS3400 Express disk storage system can deliver powerful dynamic capabilities that help you protect data. The disk storage system enables copy and disaster recovery features such as FlashCopy® and VolumeCopy that can be enabled when required by your application.

Telco options

The IBM System Storage DS3400 Express includes a DC powered model that is especially suited for telco industry environments. The IBM System Storage DS3400 Express Model 42T, 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.

Priced right for small business

With the functionality and availability features that come standard and a price point that does not strain the budget, the DS3400 Express is the simple choice for small and medium businesses as well as larger organizations looking to support their departments and/or remote sites.

IBM System Storage DS3400 Express at a glance	
Models	1726-41X—single controller 1726-42X—dual controller 1726-42T—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, Fibre Channel (FC) 4 Gbps auto-sensing 1 Gbps/2 Gbps
Drive interface	Serial Attached SCSI (SAS)
Supported drives	3 Gbps SAS: 146 GB, 300 GB, and 450 GB SAS drives at 15,000 rpm speeds 6 Gbps SAS: 300 GB, 450 GB, 600 GB SAS drives at 15,000 rpm speeds 3 Gbps SATA: 500 GB, 750 GB, 1.0 TB, 2.0 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
SAN support	IBM supported FC switches
Warranty[1]	Three-year parts and labor warranty
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: – DS3400 on: 10° to 35°C (50.0° to 95°F); altitude: 30.5 (100 ft) below to 3000 m (9840 ft) above sea level; temperature change: 10°C (18°F) per hour – DS3400 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: – DS3400 on: 20 to 80% – DS3400 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 series Interoperability Matrix available at **ibm.com**/systems/storage/disk/ds3000/ds3400/

For more information

To learn more about the IBM System Storage DS3400 Express, please contact your IBM representative or IBM Business Partner or visit:

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

Additionally, IBM Global Financing can tailor financing solutions to your specific IT needs. For more information on great rates, flexible payment plans and loans, and asset buyback and disposal, visit: **ibm.com**/financing

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Route 100
Somers, NY 10589

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MB, GB and TB = 1,000,000, 1,000,000,000 and 1,000,000,000,000 bytes, respectively, when referring to storage capacity. Accessible capacity is less; up to 3 GB is used in service partition. 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. Maximum internal hard disk and memory capacities may require the replacement of any standard hard drives and/or memory and the population of all hard disk bays and memory slots with the largest currently supported drives available.

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