

## IBM TotalStorage DS400



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### Highlights

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- **Designed to provide a low cost storage solution for high-performing Fibre Channel (FC) storage fabrics**
- **Designed to offer exceptional storage support for workgroup storage applications**
- **Helps leverage investments in IBM® TotalStorage® EXP400 enclosures, for affordable migration from direct attach storage (DAS) to a storage area network (SAN)**
- **Includes easy-to-use IBM ServeRAID™ Manager, which provides common management software**
- **Helps deliver business continuity and disaster recovery through enterprise-class software features**
- **Utilizes standard IBM @server® xSeries® hot-swap Ultra320 SCSI drives designed to offer high performance and reliability for demanding workloads of enterprise customers**

### Flexible, low cost SAN storage

The IBM TotalStorage DS400 is an entry-level, low cost workgroup storage subsystem for IBM @server xSeries and BladeCenter™ servers. Designed to deliver advanced functionality at a breakthrough price, the DS400 offers an exceptional solution for workgroup storage applications, such as e-mail, file, print and Web servers, as well as collaborative databases.

The DS400 offers a simple, affordable storage area network (SAN) solution that can be used in direct-attached or network-attached environments for shared storage. For even greater flexibility, the DS400 is designed to allow simultaneous support of heterogeneous operating system (OS) environments for xSeries and BladeCenter servers—in either single- or dual-controller configurations.

### **Performance for today, scalability for tomorrow**

By utilizing standard xSeries hot-swap Ultra320 SCSI drives with performance-oriented 2Gb FC host fabric ports, the DS400 can help your business achieve enterprise-class, high I/O processor (IOP) performance today—and allow for future growth tomorrow. The modular design of the DS400 is designed to allow you to easily perform upgrades and additions to help meet the needs of your growing, changing application environment—scaling to support increasing volumes of data flexibly and affordably.

In addition, where increased capacity is required, the external SCSI channels of the DS400 can be enabled to incorporate up to two IBM TotalStorage EXP400 storage enclosures—for a total of 40 disk drives or 5.8TB of physical capacity, using 146GB Ultra320 SCSI drives.

Finally, advanced software features on the DS400—including access control lists (ACLs) and online array expansion—are designed to give administrators the power to configure storage according to changing usage needs. These features are also designed to enable IT managers to share storage across multiple application servers.

### **Enterprise-class reliability and availability**

The new DS400 is designed to deliver advanced functionality for business continuance and disaster recovery—at an entry-level price. Using a rack-mountable 3U enclosure with 14 SCSI drives and redundant design, hot-swap power and cooling modules, the DS400 features RAID reliability and high-availability software to help maintain operations.

The enclosure supports either one or two controllers for high-availability configurations. Each controller supports two 2Gb FC ports for high bandwidth and redundant data paths so that—even if a line or a controller fails—multiple paths between servers and storage can help maintain a connection.

Metro mirroring<sup>1</sup> on the DS400 is designed to enable disaster recovery implementations to help protect critical data. The DS400 also offers optional advanced features such as space-efficient IBM FlashCopy® solutions, which are designed to help reduce storage backup windows and improve storage utilization for Microsoft® Exchange, Microsoft SQL Server™ 2000 and Lotus Notes® applications.

### **Powerful management tools**

The DS400 is designed to offer excellent storage management and configuration capabilities through IBM ServeRAID Manager, helping enable clients to manage multiple IBM TotalStorage DS300 and DS400 subsystems—as well as direct-attached internal ServeRAID controllers—all through a single, easy-to-use management console with an extensive online help library. Configuration wizards simplify initial storage setup. IBM ServeRAID Manager is designed to support most common operating environments for workgroup applications, including Microsoft Windows®, Novell NetWare and Linux® platforms.

The management software of the DS400 is built directly into the client/server workgroup manager IBM Director<sup>1</sup>. IBM Director is designed to allow IT administrators to view and track the hardware configuration of remote systems in detail and monitor the usage and performance of critical components, such as processors, disks and memory.

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**IBM TotalStorage DS400 at a glance**

<b>Model</b>	<b>1700-1RS</b>	<b>1700-2RD</b>
<b>RAID Controllers</b>	Single	Dual
<b>Controller Upgrade</b>	Yes	Not Applicable
<b>RAID Cache Memory (min/max per controller)</b>	256MB/1GB	256MB/1GB
<b>Battery Backup for Cache</b>	Yes	Yes
<b>Host Interface</b>	2Gb FC	2Gb FC
<b>Host Ports per Controller</b>	2	2
<b>Drive Interface</b>	Ultra320 SCSI	Ultra320 SCSI
<b>Number of Drive Bays</b>	14	14
<b>Maximum Storage Capacity</b>	5.8TB	5.8TB
<b>RAID Levels</b>	0, 1, 10, 5, 50	0, 1, 10, 5, 50
<b>Power Supplies and Fans</b>	Dual redundant design	Dual redundant design
<b>Rack Support</b>	Industry-standard 19-inch rack	Industry-standard 19-inch rack
<b>Form Factor</b>	3U	3U

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### IBM Express Portfolio

Select configurations of the IBM TotalStorage DS400 are part of the IBM Express Portfolio, designed, developed and priced to meet the specific needs of mid-sized businesses. The IBM Express Portfolio of solutions is easy to acquire, install and manage. And it leverages IBM technology to provide tangible solutions to help you solve business problems in an on demand world.

### For more information

For more information about the IBM TotalStorage DS400, contact your IBM representative or an IBM Business Partner, or call 1 800 IBM-CALL within the U.S. Also, you can visit the IBM Web sites at

[ibm.com/totalstorage](http://ibm.com/totalstorage)

[ibm.com/eserver/xseries](http://ibm.com/eserver/xseries)

[ibm.com/eserver/bladecenter](http://ibm.com/eserver/bladecenter)

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<sup>1</sup> Planned availability for this feature is 1Q 2005.

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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.