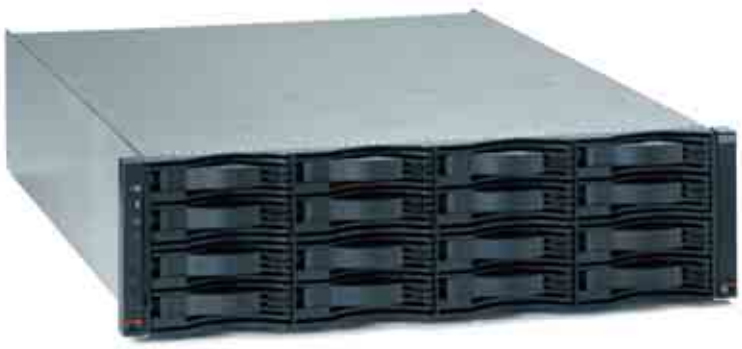
Enterprise storage in an incredibly small, scalable package

IBM TotalStorage DS6000 series



Highlights

- ***Designed and priced to lower the total cost of ownership for a highly available, robust storage solution for medium and large enterprises***
- ***Delivers enterprise-class functionality, with open systems and mainframe host attachment in a modular, scalable form factor***
- ***Provides advanced copy services, which are equivalent to and interoperable with IBM TotalStorage DS8000 series and IBM® TotalStorage® Enterprise Storage Server® (ESS) 800 and 750 systems***
- ***Included with the DS6000 series is the IBM TotalStorage DS Storage Manager, offering a GUI interface and Express Configuration wizards which provide simplified system configuration and management***
- ***Using modular, 3U, 16 disk drive, rack-mountable enclosures, the DS6000 series can grow along with your storage needs up to 67.2TB physical storage***

Flexible, high-performance storage for medium and large enterprises

The IBM TotalStorage DS6000 series is designed to deliver high availability and high performance in an incredibly small, modular package. The DS6000 series, along with the IBM TotalStorage DS8000 series, delivers an enterprise storage continuum of systems with shared replication services and common management interfaces. The very affordable DS6000 series provides medium and large businesses a low-cost storage solution to simplify data management, offer comprehensive data protection and recovery capabilities and enable easy scalability for both mainframe and open systems storage needs.

Along with all of the models in the IBM TotalStorage DS Family, the DS6000 series helps your company simplify its storage infrastructure, support business continuity and optimize information lifecycle management.

Easy installation and management

The DS6000 series provides easy configuration and management using the IBM TotalStorage DS Storage Manager—an intuitive Web-based GUI designed to provide a straightforward means of performing system configuration, copy service management and other maintenance functions. Users can take advantage of the DS Storage Manager's Web-like interface to help enhance management efficiency.

The DS Storage Manager incorporates the technology innovations of the IBM Interactive Configuration Agent Tool (ICAT), which supplies intuitive graphical user Web-based interfaces. Express Configuration Wizards of the DS Storage Manager help you configure and manage storage functions quickly and easily.

By simplifying IT administration and operations, the DS6000 series helps reduce IT labor burden and increases IT staff productivity, ultimately helping to yield a low total cost of ownership. In addition, the DS6000 series enables businesses to leverage existing Enterprise Storage Server (ESS) IT administration skills through the DS Storage Manager. Why train storage administrators on multiple types of storage products? One set of skills and common management across the enterprise storage continuum of products is now a reality.

The DS6000 series also incorporates Light Path Diagnostics and controls on the enclosure. This LED visual alert and control system helps identify and repair server component problems quickly. Additional autonomic features, such as Predictive Failure Analysis® capabilities, take preemptive actions to keep data secure without administrative interaction.

These extensive management and autonomic functions help minimize the demands of routine data management so organizations can focus IT resources on more strategic tasks.

Ongoing management of the entire storage environment can be further simplified through the IBM TotalStorage Multiple Device Manager (MDM). MDM offers a single interface through which administrators can monitor and manage multiple and different members of the IBM TotalStorage DS Family, as well as non-IBM disk arrays.

The DS6000 series can further help you simplify your IT infrastructure by supporting a wide range of servers, both mainframe and open systems, at a variety of price and performance levels.

Flexible storage built on open standards

By using an open-standards architecture, the DS6000 series helps businesses unify data and facilitate the flow of information across the enterprise, even in complex heterogeneous server environments. The use of open standards means businesses can use a variety of server types, operating environments and business applications from a variety of vendors to best suit their particular requirements.

The DS6000 series supports Linux®, UNIX®, Microsoft® Windows®, IBM z/OS®, IBM OS/400®, IBM AIX®, IBM i5/OS™, HP-UX, and Sun Solaris operating systems. The DS6000 series and DS8000 series provide an enterprise storage continuum to allow businesses to match the appropriate storage solution to both IBM and non-IBM servers.

When you are ready to expand your storage capacities, the DS6000 series can grow with you. With its modular design, the DS6000 series can be scaled from 292GB to 67.2TB of raw physical storage capacity by adding storage expansion enclosures, each of which contains up to 16 hard disk drives (HDD). Customers can select 73GB, 146GB, or 300GB physical capacity disk sizes to construct a system that fits their capacity needs and their budget. These upgrade options help enable companies to protect their IT investments while also accommodating rapid data growth.

Migration Services

IBM provides migration services to consolidate data from existing storage products to the DS6000 series. If and when businesses need to move up from the DS6000 series to a larger system, IBM makes that migration easy by offering services to migrate customer data to the IBM TotalStorage DS8000 series, providing businesses the flexibility to change with their evolving needs.

Disaster tolerance with advanced copy services

The DS6000 series can greatly reduce the risk of system failure to support business continuity. Equipped with four paths to each HDD and using storage expansion enclosures with redundant Fibre Channel switches providing switch fabric access to disks, the DS6000 series keeps functioning even if certain components fail. The DS6000 series is designed to reduce or eliminate single points of failure by using redundant RAID controllers, power supplies and fans to help keep data available in the event of a hardware failure. These components are hot-swappable and allow technicians to make many repairs and upgrades without disrupting system availability.

The DS6000 series also features enterprise-class data backup and disaster recovery capabilities. IBM TotalStorage FlashCopy® point-in-time copy functions back up data in the background while allowing users nearly instant access to information on both source and target volumes. At the same time, Metro and Global Mirror capabilities generate and maintain duplicate copies of data on separate storage system located both locally and on geographically disperse locations to protect data from disasters and support business continuity even in the event of power outages or disasters.

Companies can also use this multitiered approach for mirroring and backup functions. For example, the DS6000 series can be used to mirror data from a DS8000 series enclosure to save on both the initial and ongoing costs associated with a secondary disaster recovery site without sacrificing any enterprise-level storage system benefits.

Optimal information lifecycle management

As an integral part of the IBM TotalStorage DS Family, the DS6000 series can help your company optimize the value of information from the moment of its creation to the moment of its disposal. The TotalStorage DS Family enables companies to construct a multi-tiered storage environment to help minimize storage costs by retaining frequently accessed or high-value data on higher performance storage volumes and archiving less frequently accessed information on less-costly storage volumes.

Powerful capacity in a compact enclosure

The DS6000 series capitalizes on the 64-bit IBM PowerPC® microprocessor, a fourth generation processing technology which helps reduce cycle times, accelerate data response times and allow faster access to user's vital information.

The DS6000 series offers impressive performance and an extremely space efficient design. The system takes footprint density to a new level by housing up to 16 disk drives in all of the 3U enclosures, including the controller and expansion units. The DS6000 series also has pricing to match its compact size, offering businesses a low-cost entrance to the powerful IBM TotalStorage DS Family.

IBM TotalStorage DS6000 series at a glance

Model	DS6800 (1750-511)
Host ports	8
Storage ports	8
Total HDDs	224 (with expansion enclosures)
Cache	2GB cache per controller 4GB cache per system
RAID controllers	2 per system
Processor	PowerPC 750GX 1GHz
Battery backup for cache	72 hours
Host interface	2Gb/sec Fibre Channel/FICON
Drive interface	2Gb/sec Fibre Channel
Maximum physical storage capacity	67.2TB
Disk sizes	73GB (15K rpm) 146GB (10K rpm) 300GB (10K rpm)
RAID levels	5, 10
Power supplies and fans	2 per enclosure
Rack support	19” rack-mountable
Form factor	3U

For more information

For more information about the IBM TotalStorage DS6000 series, 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 site at:

ibm.com/totalstorage/ds6000

IBM Systems and Technology Group
3039 Cornwallis Road
Research Triangle Park, NC 27709-2195

Produced in the United States of America
September 2004

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 on 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.

THE INFORMATION IN THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT ANY WARRANTY, EITHER EXPRESSED OR IMPLIED. IBM EXPRESSLY DISCLAIMS ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements (e.g., IBM Customer Agreement, Statement of Limited Warranty, International Program License Agreement, etc.) under which they are provided.

References in this document to IBM products, programs or services does not imply that IBM intends to make such products, programs or services available in all countries in which IBM operates or does business. Any reference to an IBM program or product in this document is not intended to state or imply that only that program may be used. Any functionally equivalent program or product that does not infringe IBM’s intellectual property rights may be used instead. It is the user’s responsibility to evaluate and verify the operation of any non-IBM product, program or service.

This document could include technical inaccuracies or typographical errors. IBM may make changes, improvements or alterations to the products, programs and services described in this document, including termination of such products, programs and services, at any time and without notice. Any statements regarding IBM’s future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only. The information contained in this document is current as of the initial date of publication only and is subject to change without notice. IBM shall have no responsibility to update such information.

IBM is not responsible for the performance or interoperability of any non-IBM products discussed herein. Performance data for IBM and non-IBM products and services contained in this document was derived under specific operating and environmental conditions. The actual results obtained by any party implementing such products or services will depend on a large number of factors specific to such party’s operating environment and may vary significantly. IBM makes no representation that these results can be expected or obtained in any implementation of any such products or services.

TSD00605-USEN-00