



Highlights

- Provides fast, highly available, dense storage capabilities at an affordable price point
 - Delivers automated recovery with consistent performance during disk drive failures with Dynamic Disk Pooling
 - Enhanced IBM® FlashCopy® features deliver greater, faster copy services support
 - Combines solid uptime, massive scalability and green efficiencies
 - Helps optimize the flow and management of large, file-based data while retaining ease-of-data access
 - Offers multi-level data protection using a mix of replication features
 - Available DCS3700 Performance Module option for improved performance and scalability
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IBM System Storage DCS3700

*Maximize performance, scalability and storage density
at an affordable price*

The era of big data is here, and it's being driven by the need for more data and faster data access. Low-latency performance in applications such as life sciences, real-time analytics, rich media, seismic processing, weather forecasting, communications and financial markets require high-performance storage architectures. In addition, these organizations are often looking for a better way to improve operational efficiency while maintaining the same data center footprint, quality of service and high availability.

The IBM System Storage® DCS3700 storage system is ready to meet the challenge. Designed for applications with high-performance streaming data requirements, the DCS3700 offers optimal space utilization, low power consumption and high performance using 6 Gbps SAS hard drives. By combining proven IBM storage controllers with up to 60 drives in just 4U of rack space, the DCS3700 can reduce operational costs for capacity-intensive applications.

The DCS3700 provides a simple, efficient and flexible approach to storage that is based on seven generations of design knowledge and firmware development. The DCS3700 can provide a cost-effective, fully integrated complement to IBM System x® servers, IBM BladeCenter® and IBM Power Systems™ for a wide variety of intensive computing environments.



Offers performance option: IBM DCS3700 with Performance Modules

The IBM DCS3700 with Performance Modules delivers two times the performance and scalability of the standard DCS3700 storage system. Key design features include increased processor speeds, larger cache memory capacities for use in both general-purpose computing and high-performance computing environments. The DCS3700 with Performance Modules delivers outstanding price/performance/value with Dynamic Disk Pooling technology for significantly reduced maintenance schedules through dynamic rebalancing during drive failures.

This option is built from a more powerful hardware platform utilizing a 2.13 GHz quad core processor supporting up to a 48 GB cache/controller pair with 8X base 8 Gb Fibre Channel ports/controller pair. An additional eight 8 Gb Fibre Channel host ports are supported with optional host interface cards. Drive density increases with up to 360 drives per system allowing more than 1 PB of raw capacity.

With its simple, efficient and flexible approach to storage, the DCS3700 is a cost-effective, fully integrated complement to System x servers, BladeCenter and Power Systems.

Delivers unrelenting performance

With up to 6,000 MBps and 65,000 input/output operations per second (IOPS)¹ in sustained drive reads, the base DCS3700 storage system is fast. The DCS3700 with Performance Modules is even faster with over 8,000 MBps and 150,000 IOPS in sustained drive reads. It's capable of delivering throughput to bandwidth-intensive applications providing IOPS to transactional applications such as databases and Microsoft Exchange. Using the recently introduced multi-threaded Redundant Disk Array Controller failover feature, the DCS3700 can also improve performance by removing the bottlenecks common on single-threaded systems.



The base DCS3700 system features 6 Gbps direct attachment support and can be shared by multiple host servers. This system also supports 8 Gbps Fibre Channel using optional host interface cards. The DCS3700 Performance Module storage system has an 8 Gbps Fibre Channel host connection standard with the option to add additional 8 Gbps ports through optional host interface cards. With the various supported infrastructures, you can cost-effectively implement the DCS3700 connectivity options that best meet the demands of your data center environment.

In addition, the DCS3700 can be cost-effectively configured to match drives to data requirements using target devices such as 15k rpm SAS drives or solid-state drives (SSDs).

Enables uptime all the time

The DCS3700 storage system ensures not only high-speed data access, but continuous access to the data as well. It carries on the IBM legacy of high-availability system design with redundant components, automated path failover and extensive online administration capabilities that maximize computational efficiency and productivity, ensuring there is virtually no single

The DCS3700 helps to reduce operational costs as your storage requirements grow. With up to 60 SAS drives in just 4U of rack space, improving storage density for capacity-intensive applications has never been easier.

point of failure. This design helps keep these environments universally productive. New Dynamic Disk Pooling technology is standard on the DCS3700 and virtually eliminates maintenance worries by self-tuning, rebalancing data and maintaining consistent performance even during drive failures.

Scales to meet high-capacity demand

Today's storage demands not only call for performance and uptime, but they also require solutions to keep up with continuous growth and meet the most demanding capacity requirements. The DCS3700 can support an additional two DCS3700 expansion units for a total of 180 drives in just a 12U rack space. With support for up to 2 TB capacity-optimized nearline SAS drives, the DCS3700 with Performance Modules doubles the scalability of the base system and can accommodate up to 360 drives when storage requirements call for this additional scalability.

As energy costs continue to rise, so does the demand to reduce power consumption. The DCS3700 storage system was developed with green requirements in mind. It offers power supplies designed to meet multiple efficiency standards and variable speed fans to help lower overall energy expenditures. In addition, with 60 drives housed in just 4U of rack space, the DCS3700 storage system has been optimized for maximum storage density, reducing its overall storage footprint. SSDs with low-power usage, high reliability and high performance further help to improve the efficiency of the system.

Delivers intuitive storage management that doesn't sacrifice control

IBM System Storage DS Storage Manager software has the perfect combination of robustness and ease-of-use—two attributes not commonly found together in entry-priced storage. The DS Storage Manager's graphical user interface is ideally suited for full-time storage administrators who want complete control over their storage configuration as well as part-time system administrators who need an intuitive interface that helps them ensure optimal storage utilization. And with its industry-unique dynamic capabilities, administrators can support on-the-fly reconfigurations without interrupting storage system input/output (I/O).

Includes VMware and heterogeneous operating system support

The DCS3700 storage system offers the scalability, availability and integration necessary to power VMware implementations of all sizes. The heterogeneous operating system support provides flexibility to manage a wide range of storage needs. It also includes support for VMware vSphere application programming interface (API) for Array Integration.

The DS Storage Manager software has fully integrated replication features that allow administrators to choose the method that best meets their data utilization and protection requirements:

- IBM Enhanced FlashCopy creates near-instantaneous, capacity-efficient, point-in-time volume images which provide logical volume for such uses as file restoration and backup.
- Volume Copy creates a complete physical copy—or clone—of a volume within a storage system. This unique entity can be assigned to any host and used for application testing or development, information analysis or data mining.

The IBM legacy in enterprise storage systems, with next-generation 6 Gbps SAS drive technology, delivers best-of-breed technology, reliability and capacity in a very dense form factor, addressing the needs of streaming data, low-latency analytics and extreme capacity.

- Remote volume mirroring, supported across Fibre Channel host ports, provides storage-based data replication from one system to another to ensure data protection. And with features such as multiple mirroring modes, dynamic mode switching, suspend/resume, secondary volume access and cross-mirroring, maximum protection and utilization are ensured.
- Thin provisioning helps to create the appearance of more disk space than is actually available, which helps to consume less space. It offers the flexibility to increase space as data grows.

- Data protection capabilities simplify provisioning, improve rebuild times and provide more consistent performance under failure with selectable Dynamic Disk Pooling included with every DCS3700 storage system.

Supports distributed, enterprise-wide and file-based storage

When combined with the IBM General Parallel File System (GPFS™), the DCS3700 becomes a holistic, policy-driven, shared-disk file management solution that can provide faster, more reliable access to a common set of file-based data. GPFS is designed for advanced business analytics, big data or technical computing applications that require application access to very large data files or very large numbers of data files. It's the ideal companion for the DCS3700 storage system.

Why IBM?

IBM is committed to helping you achieve measurable business value with the right combination of storage products to meet your needs. A market leader in the storage industry, IBM offers innovative technology, open standards, excellent performance, and a broad portfolio of storage-proven software, hardware and solutions offerings. Technology and services from IBM help provide an infrastructure for securely managing information, and can open the door to new insights and innovation for your business.

IBM System Storage DCS3700 at a glance

Models	DCS3700 storage system DCS3700 with Performance Modules storage system DCS3700 expansion unit
RAID controller	Dual-active, intelligent controllers
Cache per controller	Base DCS3700 storage system: 4 GB cache (2 GB per controller) with field or plant upgrades to 8 GB (4 GB per controller) DCS3700 with Performance Modules storage system 12, 24 or 48 GB (6, 12, 24 GB per controller)
Host interface	Base DCS3700 storage system: <ul style="list-style-type: none"> • Two 6 Gbps SAS host ports per controller standard with the option to add a daughter card with additional SAS or Fibre Channel connectivity • Two 6Gbps SAS ports per optional host interface card • Four 8 Gbps Fibre Channel ports per optional host interface card (includes eight 8 Gb shortwave small form-factor pluggable transceivers) DCS3700 with Performance Modules storage system: <ul style="list-style-type: none"> • Four 8 Gbps Fibre Channel host ports per controller with the option to add a daughter card with additional Fibre Channel connectivity • Four 8 Gbps Fibre Channel ports per optional host interface card (includes eight 8 Gb shortwave small form-factor pluggable transceivers)
Drive interface	One 6 Gbps SAS drive interface

IBM System Storage DCS3700 at a glance	
Supported drives	6 Gbps SAS 3.5-inch drives: <ul style="list-style-type: none"> • 2 TB 7.2k rpm nearline • 3 TB 7.2k rpm nearline 6 Gbps SAS 2.5-inch drives: <ul style="list-style-type: none"> • 300 GB 15k rpm SAS 2.5-inch SSDs: <ul style="list-style-type: none"> • 200 GB SSD • 400 GB SSD
Data Protection levels	RAID levels 0, 1, 3, 5, 6, 10 or Dynamic Disk Pooling
Storage partitions	Eight partitions standard with upgrade options (16, 32, 64 and 128 for base DCS3700 storage system and up to 512 for DCS3700 with Performance Modules)
Maximum drives supported	Base DCS3700 storage system: Up to 180 drives per system with the attachment of two DCS3700 expansion units (60 drives per enclosure) 20 drives minimum drive quantity per enclosure* DCS3700 with Performance Modules: Up to 360 drives per system with the attachment of five DCS3700 expansion units (60 drives per enclosure) 20 drives minimum drive quantity per enclosure*
Fans and power supplies	Two each per enclosure
Rack support	Slim 4U, 19-inch rack mount enclosure
Management software	DS Storage Manager
Warranty	One-year warranty. On-site service 24x7, 4-hour average and same-day response
Size	Fits in a standard 1,000 mm cabinet (32 in. maximum depth)
Environment	Operating temperature range: 10°C – 40°C (50°F – 104°F)
Heat output	4,030 BTUs per hour
Supported systems	IBM System x servers, BladeCenter and Power Systems Operating systems supported: Apple Macintosh, Solaris (W-SAS Single Drive), Linux, IBM AIX®, Microsoft Windows

Features	Benefits
Supports up to sixty 3.5-inch nearline SAS drives in just 4U	Achieves great capacity per rack and density per floor tile with support for up to 45 TB per U
Unrelenting performance	Meets the demands of high-performance computing and streaming media environments
Front-load, 12-drive drawers which can be extended while drives remain active	Offers superior serviceability and easy installation or replacement of individual drives
Supports up to 180 (base DCS3700) or 360 drives (DCS3700 with Performance Modules) with DCS3700 expansion units	Meets the most demanding data growth requirements

For more information

To learn more about the IBM System Storage DCS3700, please contact your IBM representative or IBM Business Partner, or visit the following website:

ibm.com/systems/storage/disk/dcs3700

To learn more about GPFS, the robust clustered file management solution from IBM, visit the following website:

ibm.com/systems/software/gpfs

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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

¹ The standard DCS3700 storage system features up to 4,000 MBps in sustained drive reads. Up to 6,000 MBps is available with the Performance Module option.

* Limitation: A maximum of 20 SSDs are supported in DCS3700 controller enclosures.



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