IBM Systems and Technology Group

IBM System Storage Product Guide

The future of your business is already here

IBM System Storage™ solutions are built with the success of your business in mind. End-to-end storage ingenuity and unmatched expertise from IBM help you reduce costs, risks and complexity while improving efficiencies and the responsiveness of your infrastructure and people.

Go green for the planet—and your bottom line

Saving energy means saving money. Get a green "thumbs up" when you implement IBM System Storage solutions to drive down runaway costs in power, cooling and space. Regardless of the size of your business, IBM offers energy-efficient strategies and savings for a sustainable enterprise.

Power up your savings by powering down storage inefficiencies

- Prepackaged storage kits and advanced systems virtualization from IBM facilitate easier ways for you to reduce costs, lower energy consumption and dramatically improve storage utilization—without affecting performance.
- Automated tiered storage management and exceptional data mobility let you better match applications and investments to the value of stored data—saving both time and money.

Easy come, easy grow with a nimble, responsive IT infrastructure

Being responsive to changing business needs is often easier said than done. IBM System Storage helps you unlock business resiliency and stay ahead of everyday challenges, with easy-to-use, affordable storage offerings that flexibly manage growth, complexity and risk.

Effectively manage your data with the strength and simplicity of IBM System Storage

- Simplified storage platforms from IBM use graphical interfaces and integrated systems to effortlessly manage both physical and virtual resources across a heterogeneous environment—for easier management of your growing business.
- IBM System Storage platforms allow you to dynamically and reliably scale storage with pervasive infrastructure flexibility to keep you in control of data growth and costs.
- Protecting data is vital to operating efficiently under normal business conditions—and rapidly recovering during emergencies. System Storage helps you reduce risk with rock-solid data protection tools and high availability across the enterprise, especially when you need it most.

Broaden your business horizons with innovation that matters

Imagine breakthrough innovations that allow you to run your organization not only faster, but better, helping to attract new customers and gain competitive advantages. System Storage solutions help you stay consistently out front so that you can make strategic decisions on how to use advancements in technology to broaden your business and gain a better return on investment.

Transform your business through innovation that matters

- Delineated along a clear technical roadmap to help ensure smooth upgrades and transitions, IBM storage platforms are designed to meet even the most stringent data storage requirements, regardless of changes in future technology.
- The long-term binary compatibilities of System Storage platforms foster longevity of the equipment, applications and skills that support your organization, even as new systems are introduced.

Entry-level Disk Systems




	System x and IBM BladeCenter® Direct Attach or SAN Solutions				System p Only Direct Attach Solutions
	EXP3000	**DS3200**	**DS3300**	**DS3400**	**EXP24**
Product	EXP3000	DS3200	DS3300	DS3400	EXP24
Machine/model	1727-01X, 1727-02T Telco DC Power Model	1726-21X, 1726-22X 1726-21E Express 1726-22E Express, 1726-22T Telco DC Power Model	1726-31X, 1726-32X 1726-31E Express 1726-32E Express, 1726-32T Telco DC Power Model	1726-41X, 1726-42X 1726-41E Express 1726-42E Express, 1726-42T Telco DC Power Model	7031-D24—Rack version 7021-T24—Tower version
Platform support[1]	Windows 2003, RedHat 3, RedHat 4, SUSE 9	Windows 2003, RedHat 4, RedHat 5, SUSE 9, SUSE 10, NetWare, VMware 3.5/3i	Windows 2003, RedHat 4, RedHat 5, SUSE 9, SUSE 10	Windows 2003, RedHat 4, RedHat 5, SUSE 9, SUSE 10, NetWare, VMware 2.5.4, VMware 3.0.1, VMware 3.0.2, VMware 3.5/3i, AIX 5.2, AIX 5.3	AIX 5L 5.2 AIX 5L 5.3 RedHat 3 RedHat 4 RedHat 5 SUSE 9 SUSE 10
Host connectivity	SAS	SAS	iSCSI	4 Gbps Fibre Channel	SCSI
SAN support	N/A	N/A	Switched, IP SAN	Direct, Switched Fabric	N/A
Copy services	N/A	IBM FlashCopy®, IBM VolumeCopy	IBM FlashCopy, IBM VolumeCopy	IBM FlashCopy, IBM VolumeCopy	N/A
Availability features	Fault-tolerant RAID, Redundant Hot-swap power, Hot-swap drives, Dual pathing drives	Fault-tolerant, RAID, Redundant Hot-swap power, Hot-swap drives, Dual controller, dual pathing drivers	Fault-tolerant, RAID, Redundant Hot-swap power, Hot-swap drives, Dual controller, dual pathing drivers	Fault-tolerant, RAID, Redundant Hot-swap power, Hot-swap drives, Dual controller, dual pathing drivers	Fault-tolerant RAID, Redundant Hot-swap power, Hot-swap drives
Controller	MegaRAID 8480	Dual active 3 Gbps SAS RAID Controllers	Dual active 1 Gbps iSCSI RAID Controllers	Dual Active 4 GB FC RAID Controllers	System p FC 5741 & 5742 SCSI Repeaters
Cache (min, max)	256 MB battery backup	512 MB, 2 GB battery backup	512 MB, 2 GB battery backup	512 MB, 2 GB battery backup	N/A
RAID support	0, 1, 5, 10, 50	0, 1, 3, 5, 10	0, 1, 3, 5, 10	0, 1, 3, 5, 10	0, 1, 3, 5, 10
Capacity (min, max)	146 GB, 12 TB in a single EXP3000 Expansion Units	146 GB, 48 TB with 3 EXP3000 Expansion Units	146 GB, 48 TB with 3 EXP3000 Expansion Units	146 GB, 48 TB with 3 EXP3000 Expansion Units	73 GB, 7.2 TB
Drive interface	3 Gbps SAS, 3 Gbps SATA II	3 Gbps SAS 3 Gbps SATA II	3 Gbps SAS 3 Gbps SATA II	3 Gbps SAS 3 Gbps SATA II	Ultra320 SCSI
Drive support	SAS: 73 GB, 146 GB, 300 GB 15,000 rpm disk drives; 500 GB, 750 GB, 1 TB SATA II 7,200 rpm	SAS: 73 GB, 146 GB, 300 GB 15,000 rpm disk drives, SATA: 500 GB, 750 GB, 1 TB SATA II 7,200 rpm	SAS: 73 GB, 146 GB, 300 GB 15,000 rpm disk drives, SATA: 500 GB, 750 GB, 1 TB 7,200 rpm	SAS: 73 GB, 146 GB, 300 GB 15,000 rpm disk drives, SATA: 500 GB, 750 GB, 1 TB 7,200 rpm	73 GB, 146 GB, 300 GB 10,000 rpm disk drives; 36 GB, 73 GB, 146 GB, 300 GB 15,000 rpm disk drives
Clustering Support	N/A	Microsoft Windows MSCS	Microsoft Windows MSCS	Microsoft Windows MSCS	HACMP™

Midrange Disk Systems

	DS4200 Express	DS4700 Express	DS4800
Product	DS4200 Express Disk System	DS4700 Express Disk System	DS4800 Disk System
Machine/model	1814-7VA/7VH	1814-72A/70A	1815-80A/82A/84A/88A
Platform support[1]	Microsoft Windows Server® 2003 w/SP1, R2, and x64, Windows 2000 Server & Advanced Server w/SP4, Novell NetWare 6.5 w/SP5 Red Hat Enterprise Linux 3.8 Red Hat Enterprise Linux 4.4 SUSE Linux Enterprise Server 8 SP4 SUSE Linux Enterprise Server 9 SP3 VMware ESX 3.0/3.5/3i AIX 5.1, 5.2, 5.3, 6.1 HP-UX 11.0, 11i and 11.23 with PVLinks Solaris 8, 9, 10	System p, System x, System i w/ VIOS, Windows Server 2003 w/SP1, Windows 2000 Server & Advanced Server w/SP4, Novell NetWare 6.0 w/SP5 & 6.5 w/SP5, Red Hat Enterprise Linux 3.0 U7, Red Hat Enterprise Linux 4.0 U3 SUSE Linux Enterprise Server 8 SP4, SUSE Linux Enterprise Server 9 SP3, VMware ESX 3.0/3.5/3i, VMware ESX 2.5.2 AIX 5.1, 5.2, 5.3, 6.1 HP-UX 11i and 11.23, Solaris 8, 9, 10	System p, System x, System i w/VIOS, Windows Server 2003 w/SP1, Windows 2000 Server & Advanced Server w/SP4, Novell NetWare 6.0 w/SP5 & 6.5 w/SP5, Red Hat Enterprise Linux 3.0 U7, Red Hat Enterprise Linux 4.0 U3 SUSE Linux Enterprise Server 8 SP4, SUSE Linux Enterprise Server 9 SP3, AIX 5.1, 5.2, 5.3, 6.1, VMware ESX 3.0/3.5/3i HP-UX 11i and 11.23, Solaris 8, 9, 10
Host connectivity	Fibre Channel	Fibre Channel	Fibre Channel
SAN support	Direct, FC-AL, Switched Fabric	Direct, FC-AL, Switched Fabric	Direct, FC-AL, Switched Fabric
Copy services	Enhanced Remote Mirroring, FlashCopy, VolumeCopy	Enhanced Remote Mirroring, FlashCopy, VolumeCopy	Enhanced Remote Mirroring, FlashCopy, VolumeCopy
Availability features	Fault-tolerant RAID, redundant power/cooling, hot-swap drives, dual controllers, concurrent microcode update capability, dual-pathing driver	Fault-tolerant RAID, redundant power/cooling, hot-swap drives, dual controllers, concurrent microcode update capability, dual-pathing driver	Fault-tolerant RAID, redundant power/cooling, hot-swap drives, dual controllers, concurrent microcode update capability, dual-pathing driver
Controller	Dual 4 GB RAID controller	Dual active 4 Gbps RAID controllers	Dual active 4 Gbps RAID controllers
Cache (min, max)	2 GB	2 GB, 4 GB (70A/72A)	4 GB, 4 GB (80A/82A) 8 GB, 8 GB (84A) 16 GB, 16 GB (88A)
RAID support	0, 1, 3, 5, 6, 10	0, 1, 3, 5, 6, 10	0, 1, 3, 5, 10
Capacity (min, max)	500 GB, supports 84 TB with six Expansion Units	36.4 GB, 33.6 TB via EXP810, EXP710 (FC), 84 TB via EXP810 (SATA), 44.8 TB via EXP100	36.4 GB, 67.2 TB via EXP810/EXP700/EXP710 (FC) 400 GB, 89.6 TB via EXP100 (SI ATA), 168 TB via EXP810 (SATA)
Drive interface	4 GB FC-AL	4 Gbps Switched	4 Gbps Switched
Drive support	500 GB EV-DDM, 750 GB EV-DDM, 1 TB EV-DDM 7,200 rpm SATA disk drives	2 Gbps 73.4 GB, 146.8 GB and 300 GB 10,000 rpm; (FC) 36.4 GB, 73.4 GB, 146.8 GB 15,000 rpm; 4 Gbps 36.4 GB, 73.4 GB, 146.8 and 300 GB 15,000 rpm (FC) (Serial ATA) 250 GB, 400 GB, 500 GB and 750 GG, 1 TB 7,200 rpm (SATA)	2 Gbps 73.4 GB, 146.8 GB and 300 GB 10,000 rpm; (FC) 36.4 GB, 73.4 GB, 146.8 GB 15,000 rpm; 4 Gbps 36.4 GB, 73.4 GB, 146.8 and 300 GB 15,000 rpm (FC) (Serial ATA) 250 GB, 400 GB, 500 GB and 750 GG, 1 TB 7,200 rpm (SATA)
Certifications	Microsoft Clustering Services, IBM SAN Volume Controller 3.1.0 and 4.1.0	Microsoft RAID, Cluster, NetWare Cluster, HACMP, VERITAS Clustering[4]	Microsoft RAID, Cluster, NetWare Cluster, HACMP, VERITAS Clustering[4]

Enterprise Disk Systems




	DS6800	DS8100	DS8300	ESS 800
Product	IBM System Storage DS6800	IBM System Storage DS8000™ Turbo	IBM System Storage DS8000 Turbo	ESS Model 800 Refurbished with Warranty
Machine/model	1750/522	2421, 2422, 2423, 2424/931	2421, 2422, 2423, 2424/932/9B2	2105/800
Platform support[1]	System x, System i, System p, System z, IBM i5/OS®, OS/400, AIX, Solaris, HP-UX, Windows 2000, Windows Server 2003, Linux for IBM System z, z/OS, IBM z/VM®, IBM VSE/ESA™, TPF, Linux for System i, Linux for System p, Linux for Intel systems, OpenVMS, TRU64, NetWare, VMware, Apple Macintosh OS X, Fujitsu PRIMEPOWER, SGI IRIX	System x, System i, System p, System z, i5/OS, OS/400, AIX, Solaris, HP-UX, Windows 2000, Windows Server 2003, Linux for System z, z/OS, z/VM, VSE/ESA, TPF, Linux for System i, Linux for System p, Linux for Intel systems, OpenVMS, TRU64, NetWare, VMware, Apple Macintosh OS X, Fujitsu PRIMEPOWER, SGI IRIX	System x, System i, System p, System z, i5/OS, OS/400, AIX, Solaris, HP-UX, Windows 2000, Windows Server 2003, Linux for System z, z/OS, z/VM, VSE/ESA, TPF, Linux for System i, Linux for System p, Linux for Intel systems, OpenVMS, TRU64, NetWare, VMware, Apple Macintosh OS X, Fujitsu PRIMEPOWER, SGI IRIX	System x, System i, System p, System z, i5/OS, OS/400, AIX, Solaris, HP-UX, Microsoft Windows NT®, Windows 2000, Windows Server 2003, NetWare, Linux for System z, z/OS, z/VM, OS/390®, VM/ESA®, VSE/ESA, TPF, Linux for Intel systems, Dynix, OpenVMS, Tru64, VMware, Fujitsu PRIME-POWER, SGI Origin IRIX
Host connectivity	1 Gbps and 2 Gbps Fibre Channel/FICON	2 Gbps and 4 Gbps Fibre Channel, FICON, ESCON®	2 Gbps and 4 Gbps Fibre Channel, FICON, ESCON	1 Gbps and 2 Gbps Fibre Channel/FICON, ESCON, SCSI
SAN support	Direct, FC-AL, Switched Fabric	Direct, FC-AL, Switched Fabric	Direct, FC-AL, Switched Fabric	Direct, FC-AL, Switched Fabric
Copy services	FlashCopy, Metro Mirror, Global Mirror, Global Copy, as target for z/OS Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, z/OS Global Mirror, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, z/OS Global Mirror, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, z/OS Global Mirror, Metro/Global Mirror(RPQ)
Availability features	Fault tolerant, dual redundant and hot-swap RAID controller cards, Battery Backup Units, Fibre Channel switch controllers, power supplies, non-disruptive hardware and software code load updates, multi-pathing device driver	Fault tolerant, dual redundant and hot-swap RAID controller cards, Battery Backup Units, Fibre Channel switch controllers, power supplies, non-disruptive hardware and software code load updates, multi-pathing device driver	Fault tolerant, dual redundant and hot-swap RAID controller cards, Battery Backup Units, Fibre Channel switch controllers, power supplies, non-disruptive hardware and software code load updates, multi-pathing device driver	Fault-tolerant, RAID, redundant power/cooling, hot-swap drives, dual controllers, concurrent microcode update capability, dual pathing driver
Controller	Dual active/active	Dual active/active	Dual active/active	SMB dual active; optional turbo feature
Cache (min, max)	4 GB	16/128 GB	32/256 GB	8 GB, 64 GB
RAID support	5, 10	5, 10	5, 10	5, 10
Capacity (min, max)	292 GB, 64 TB	1.1 TB, 192 TB	1.1 TB, 512 TB	582 GB, 55.9 TB
Drive interface	2 Gbps Fibre Channel	2 Gbps Fibre Channel	2 Gbps Fibre Channel	SSA
Drive support	73 GB 15K, 146 GB 15K, 300 GB 15K, 500 GB FATA, 7.2K	73 GB 15K, 146 GB 15K, 300 GB 15K, 500 GB 7.2 FATA	73 GB 15K, 146 GB 15K, 300 GB 15K, 500 GB 7.5K FATA	36.4 GB, 72.8 GB and 145.6 GB 10,000 rpm disk drives 36.4 GB and 72.8 GB 15,000 rpm disk drives
Certifications	Oracle OSCP Validation of Compatibility, HACMP, Solaris Ready, VERITAS Cluster	Oracle OSCP Validation of Compatibility, HACMP, GDPS, Solaris Ready, VERITAS Cluster	Oracle OSCP Validation of Compatibility, HACMP, GDPS, Solaris Ready, VERITAS Cluster	Microsoft RAID, Cluster and Data Center, GDPS, HACMP, Solaris Ready

1: Consult product information for details. **2:** RedHat, SUSE Linux and TurboLinux. Please verify specific product information for details. **3:** Via IBM TotalStorage SAN Controller 160; no cluster or HACMP support. **4:** Also, verification will be completed for HP Service Guard.
5: Metro Mirror is synchronous replication; Global Mirror is asynchronous replication; Metro/Global Mirror is three-site cascading asynchronous replication; Global Copy is extended distance copying.

Selecting a solution

	DS4700 Express	DS4800	DS6800	DS8100 Turbo	DS8300 Turbo	ESS
Local copy within controller	Yes	Yes	Yes	Yes	Yes	Yes
Remote Copy (>10 km)	Yes	Yes	Yes	Yes	Yes	Yes
Centralized management	Yes	Yes	Yes	Yes	Yes	Yes
Storage area network	Yes	Yes	Yes	Yes	Yes	Yes
Concurrent heterogeneous servers (UNIX and Intel)	Yes	Yes	Yes	Yes	Yes	Yes
Concurrent microcode install	Yes	Yes	Yes	Yes	Yes	Yes
Intermix disk capacities	Yes	Yes	Yes	Yes	Yes	Yes
Multiple RAID options	Yes	Yes	Yes	Yes	Yes	Yes
Controller-based call-home	Yes	No	Through DS Storage Manager Server	Through DS Storage Manager Server	Through DS Storage Manager Server	No
Rack mount	Yes	Yes	Yes	No	No	No
Virtualization	No	No	No	No	Yes	No
Virtualization through SAN Volume Controller	Yes	Yes	Yes	Yes	Yes	Yes

* Remote Copy (>10 km) is via System Storage Proven vendors (CNT, Legato, NSI)

Yes No

Selecting a solution (continued)

	EXP3000	DS3200	DS3300	DS3400	DS4200 Express	EXP24
Local copy within controller	No	Yes	Yes	Yes	Yes	No
Remote Copy (>10 km)	No	No	No	No	Yes	No
Centralized management	No	Yes	Yes	Yes	Yes	No
Storage area network	No	No	Yes	Yes	Yes	No
Concurrent heterogeneous servers (UNIX and Intel)	Intel/AMD only	Intel/AMD only	Intel/AMD only	Intel/AMD/AIX	No	No
Concurrent microcode install	No	Yes	Yes	Yes	Yes	No
Intermix disk capacities	Yes	Yes	Yes	Yes	Yes	Yes
Multiple RAID options	Yes	Yes	Yes	Yes	Yes	Yes
Controller-based call-home	No	No	No	No	Yes	No
Rack mount	Yes	Yes	Yes	Yes	Yes	Yes
Virtualization	No	No	No	No	No	No
Virtualization through SAN Volume Controller	No	No	No	No	Yes	No

* Remote Copy (>10 km) is via System Storage Proven vendors (Legato, CNT, NSI)

Yes No

Product	Highlights
DS8300 Turbo	• Outstanding enterprise class functionality with extraordinary performance and scalability up to 512 TB of physical capacity • Host connectivity via 4 Gbps FC/FICON or ESCON interfaces to a wide variety of UNIX, Windows, Linux, System i systems, System p servers, System x servers and System z mainframes • Top notch storage consolidation system with Storage System LPAR capability • Offers FlashCopy, FlashCopy SE, Global and Metro Mirroring functions (2 site and 3 site) • Call home and remote support as well as an Enterprise Choice 1-year, 2-year, 3-year or 4-year warranty
DS8100 Turbo	• Outstanding enterprise class functionality and performance with scalability up to 192 TB of physical capacity • Host connectivity via 4 Gbps FC/FICON or ESCON interfaces to wide variety of UNIX, Windows, Linux, System p servers, System x servers, System i systems and System z mainframes • Offers FlashCopy, FlashCopy SE, Global and Metro Mirroring functions (2 site and 3 site) • Call home and remote support as well as an Enterprise Choice 1-year, 2-year, 3-year or 4-year warranty
DS6800	• Provides enterprise-class disk offering in a modular package at an affordable price • Designed to provide host connectivity via FC/FICON to a wide variety of UNIX, Windows, Linux, System p servers, System x servers, System i systems and System z mainframes • Features FlashCopy as well as Global and Metro Mirroring functions • Enterprise-class warranty, 24x7, same day IBM onsite response
Enterprise Storage Server® Model 800 Refurbished with Warranty	• Affordable enterprise strength reliability and function for modular and mainframe servers • Great second-tier storage option for backup, remote mirroring, test or archive needs • Host connectivity via SCSI, FC/FICON, or ESCON interfaces to a wide variety of UNIX, Windows, System i systems and System z mainframes • Features copy services for rapid backup and disaster recovery • Full 3 year warranty on Refurbished with Warranty systems available worldwide
DS4800	• Provides SAN-ready flexible disk storage system for UNIX and Intel processor-based environments • Offers high-performance, full fibre solution with 4 Gbps Fibre Channel connectivity • Supports business continuance with its optional high-availability software and advanced Enhanced Remote Mirroring function • Helps protect customer data with its multi-RAID capability and hot-swappable redundant components
DS4700 Express	• Provides SAN-ready flexible disk storage system for UNIX and Intel processor-based environments • Offers high-performance, full fibre solution with 4 Gbps Fibre Channel connectivity • Supports business continuance with its optional high-availability software and advanced Enhanced Remote Mirroring function • Helps protect customer data with its multi-RAID capability and hot-swappable redundant components
DS4200 Express	• An SATA-only solution designed to provide an economical alternative storage solution that supports data archiving, reference data and near-line storage applications • Offers high-performance, full fibre solution with 4 Gbps Fibre Channel connectivity • Supports business continuance with its optional high-availability software and advanced Enhanced Remote-Mirroring function • Helps protect customer data with its multi-RAID capability and hot-swappable redundant components
DS3400	• Scalable to 12 terabytes (TB) of storage capacity with 1 TB hot-swappable Serial ATA (SATA) disks • Expandable by attaching up to three EXP3000s, a total of 48 TB of storage capacity • Flexible for use with IBM System x and BladeCenter servers
DS3300	• 1 Gbps iSCSI interface technology • Easy to deploy and manage with the DS3000 Storage Manager • Scalable to 12 TB of storage capacity with 1 TB hot-swappable Serial ATA(SATA) disks • Expandable by attaching up to three EXP3000s, a total of 48 TB of storage capacity
DS3200	• 3 Gbps Serial Attached SCSI (SAS) interface technology • Easy to deploy and manage with the DS3000 Storage Manager • Scalable to 12 TB of storage capacity with 1 TB hot-swappable Serial ATA (SATA) disks
EXP3000	• 3 Gbps SAS interface technology • Support for up to 12 TB of storage in a single enclosure • Support for up to 48 TB in a cascaded configuration with MegaRAID 8480 adapter • Powerful and comprehensive management and configuration tools included
EXP24	• Supports up to 7.2 TB of data • Supports up to 24 U320 SCSI drives in four groups of six drives or two groups of 12 drives

Additional information on these IBM Disk Storage products is available on the Web at **ibm.com**/storage/disk

Operating Systems and Copy Services Platform Coverage

	DS4800	DS6800	DS8100 Turbo	DS8300 Turbo	ESS 800 RwW
Windows NT	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror				FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
Windows 2000	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
Windows Server 2003	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
NetWare	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
Linux[1]	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
AIX	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
VMware	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
Dynix					FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
HP-UX	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
Solaris	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
IRIX	*	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
Tru64 UNIX	*	FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
OpenVMS		FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
z/OS, OS/390, TPF		FlashCopy, Metro Mirror, Global Mirror, Global Copy, as target for z/OS Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, z/OS Global Mirror, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, z/OS Global Mirror, Metro/Global Mirror	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ), z/OS Global Mirror (XRC)
i5/OS		FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Copy	FlashCopy, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror (RPQ)
Apple Macintosh OSX		FlashCopy, Metro Mirror, Global Mirror, Global Copy	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	FlashCopy, FlashCopy SE, Metro Mirror, Global Mirror, Global Copy, Metro/Global Mirror	

* Request via RPQ process

1: Linux distribution support varies per product. Refer to product-specific information for current support. This chart reflects IBM's current intentions. Changes may occur without notice. Consult the appropriate Web pages for support details.

Yes **No**

Operating Systems and Copy Services Platform Coverage (continued)

	EXP3000/MegaRAID	DS3200/DS3300/DS3400	DS4200 Express	DS4700 Express
Windows NT			FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror
Windows 2000			FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror
Windows Server 2003		FlashCopy, VolumeCopy	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror
NetWare		FlashCopy, VolumeCopy	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror
Linux[1]		FlashCopy, VolumeCopy	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror
AIX		FlashCopy, VolumeCopy	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror
VMware			FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror
Dynix				
HP-UX			FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror
Solaris			FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror	FlashCopy, VolumeCopy, Metro Mirror, Global Copy and Global Mirror
IRIX			*	*
Tru64 UNIX			*	*
OpenVMS				
z/OS, OS/390				
i5/OS				
DG/UX				

* Request via RPQ process

1: Linux distribution support varies per product. Refer to product-specific information for current support. This chart reflects IBM's current intentions. Changes may occur without notice. Consult the appropriate Web pages for support details.

2: Metro Mirror is synchronous replication; Global Mirror is asynchronous replication; Metro/Global Mirror is two- or three-site cascading asynchronous replication; Global Copy is extended distance copying.

3: VolumeCopy, Metro Mirror, Global Copy and Global Mirror require turbo option.

Yes **No**

IBM System Storage N series—Unified Storage Systems

	N3000 Express series			N5000 series			N7000 series	
	N3700	**N3300 Express**	**N3600 Express**	**N5200**	**N5300**	**N5600**	**N7700**	**N7900**
Model	2863-A10 (single) 2863-A20 (clustered)	2859-A10 (single) 2859-A20 (clustered)	2862-A10 (single) 2862-A20 (clustered)	2864-A10 (single) 2864-A20 (clustered)	2869-A10 (single) 2869-A20 (clustered)	2868-A10 (single) 2868-A20 (clustered)	2866-A11 (single) 2866-A21 (clustered)	2867-A11(single) 2867-A21 (clustered)
Maximum raw capacity	16 TB	68 TB	104 TB	84 TB	336 TB	504 TB	840 TB	1176 TB
Integrated Onboard I/O ports*	Two optical FC ports for tape attachment Four 1 Gbps Ethernet	Up to four (4) 4 Gbps Fibre Channel ports Up to four (4) 1 GbE ports	Up to four (4) 4 Gbps Fibre Channel ports Up to four (4) 1 GbE ports	Eight 2 Gbps FC Eight 1 Gbps Ethernet	Eight 4 Gbps FC Eight 1 Gbps Ethernet	Eight 4 Gbps FC Eight 1 Gbps Ethernet	Sixteen 4 Gbps FC Twelve 1 Gbps Ethernet	Sixteen 4 Gbps FC Twelve 1 Gbps Ethernet
PCI expansion slots for additional FC HBAs or GbE NIC cards*	NA	0	2	6	6	6	16	16
Performance*	13,620 IO/sec	146 MB/sec	181 MB/sec	34,089 IO/sec	58,906 IO/sec	85,615 IO/sec	100,295 IO/sec	136,048 IO/sec
NVRAM*	256 MB	256 MB	512 MB	1 GB	1 GB	1 GB	1 GB	1 GB
Random Access Memory*	2 GB	2 GB	4 GB	4 GB	8 GB	16 GB	32 GB	64 GB

All N series systems provide the following features:

Storage controllers/filers	Active/Active with automatic failover to secondary system
Fibre channel (FC) disk drive support	2 Gbps FC: 144 GB 10K, 300 GB 10K, 144 GB 15K 4 Gbps FC: 144 GB 15K, 300 GB 15K
SATA disk drive support	250 GB 7.2K, 320 GB 7.2K, 500 GB 7.2K, 1 TB, 7.2K
SAS disk drive support (N3300 and N3600)	144 GB 15K, 300 GB 15K
Host connectivity & platform support	The N series systems support a multitude of host attachment capabilities via FCP, CIFS, NFS and iSCSI protocols. See product "N series Interoperability Matrix" for more information
Network protocol support	NFS V2/V3/V4 over UDP or TCP, PCNFSD V1/V2 for (PC) NFS client authentication, Microsoft CIFS, iSCSI, FCP, VLD, HTTP 1.0, HTTP 1.1 Virtual Host
Other protocol support	SNMP, NDMP, LDAP, NIS, DNS
Operating system	Data ONTAP®
Data protection	Double Parity RAID, Snapshot™, SnapRestore®, SnapMirror®, SyncMirror®, SnapVault®, Open System Snap Vault, MetroCluster, Protection Manager™
Redundancy/ high availability	CompactFlash dual redundant hot-plug integrated cooling fans, hot-swappable auto-ranging power supplies, clustered filers, hot-swappable disk bays
Backup	External tape (SCSI or Fibre Channel)
RAID levels	RAID 4, RAID-DP™ (double parity)
System management/ Storage management	FilerView®, SecureAdmin™, SNMP, Operations Manager, Protection Manager, Industry-standard NDMP protocols
Standard software features	Snapshot™, FlexVol®, FlexShare™, Integrated Automatic RAID Manager, Fast Boot, NIS, DNS, SNMP, FilerView, NDMP, LDAP, iSCSI, AutoSupport, SyncMirror, SnapMover®, FTP protocol feature, SecureAdmin, Disk Sanitization
Optional software features	CIFS protocol, Clustered Failover, Data ONTAP, Disk Sanitization. FCP protocol, FlexCache, FlexClone®, FlexShare, FlexScale, FlexVol, FTP protocol, HTTP protocol, iSCSI protocol, LockVault™ Enterprise, MetroCluster, MultiStore®, NDMP protocol, NearStore® (near-line), NFS protocol, Open Systems SnapVault (OSSV), Operations Manager Core & SRM License, Protection Manager, Provisioning Manager, RAID 4, RAID-DP, SecureAdmin, Single Mailbox Recovery for Exchange (SMBR), SnapDrive®, SnapLock® Enterprise, SnapManager® for Exchange, SnapManager for Oracle, SnapManager for SAP SnapManager for SQL Server®, SnapManager for Microsoft Office SharePoint® Server, SnapMirror, SnapMover, SnapRestore, Snapshot, SnapValidator™, SnapVault, SyncMirror, Virtual File Manager™ (VFM)

IBM System Storage N series—Unified Storage Systems

	N5000 Gateway series			N7000 Gateway series	
	N5200	**N5300**	**N5600**	**N7700**	**N7900**
Model	2864-G10 (single) 2864-G20 (clustered)	2869-G10 (single) 2869-G20 (clustered)	2868-G10 (single) 2868-G20 (clustered)	2866-G11 (single) 2866-G21 (clustered)	2867-G11 (single) 2867-G21 (clustered)
Maximum raw capacity	84 TB	336 TB	504 TB	840 TB	1176 TB
Onboard I/O ports*	Eight 2 Gbps FC Eight 1 Gbps Ethernet	Eight 4 Gbps FC Eight 1 Gbps Ethernet	Eight 4 Gbps FC Eight 1 Gbps Ethernet	Sixteen 4 Gbps FC Twelve 1 Gbps Ethernet	Sixteen 4 Gbps FC Twelve 1 Gbps Ethernet
PCI expansion slots for additional FC HBAs or GbE NIC cards*	6	6	6	16	16
Performance*	34,089 IO/sec	58,906 IO/sec	85,615 IO/sec	100,295 IO/sec	136,048 IO/sec
NVRAM*	1 GB	1 GB	1 GB	1 GB	1 GB
Random Access Memory*	4 GB	8 GB	16 GB	32 GB	64 GB

All N series Gateway systems provide the following features:

Storage controllers/filers	Active/Active with automatic failover to secondary system
Host connectivity & platform support	The N series systems support a multitude of host attachment capabilities via FCP, CIFS, NFS and iSCSI protocols. See product "N series Interoperability Matrix" for more information
Network protocol support	NFS V2/V3/V4 over UDP or TCP, PCNFSD V1/V2 for (PC) NFS client authentication, Microsoft CIFS, iSCSI, FCP, VLD, HTTP 1.0, HTTP 1.1 Virtual Host
Other protocol support	SNMP, NDMP, LDAP, NIS, DNS
Operating system	Data ONTAP
Data protection	Snapshot, SnapRestore, SnapMirror, SyncMirror, SnapVault, Open System Snap Vault, MetroCluster, Protection Manager
Redundancy/ high availability	CompactFlash dual redundant hot-plug integrated cooling fans, hot-swappable auto-ranging power supplies, clustered filers, hot-swappable disk bays
Backup	External tape (SCSI or Fibre Channel)
RAID levels	Provided by backend storage system
System management/ Storage management	FilerView, SecureAdmin, SNMP, Operations Manager/Industry-standard NDMP protocols
Standard software features	Snapshot, FlexVol, FlexShare, Integrated Automatic RAID Manager, Fast Boot, NIS, DNS, SNMP, FilerView, NDMP, LDAP, iSCSI, AutoSupport, SyncMirror, SnapMover, FTP protocol feature, SecureAdmin
Optional software features	CIFS protocol, Clustered Failover, Data ONTAP, Disk Sanitization. FCP protocol, FlexCache, FlexClone, FlexShare, FlexScale, FlexVol, FTP protocol, HTTP protocol, iSCSI protocol, LockVault Enterprise, MetroCluster, MultiStore, NDMP protocol, NearStore (near-line), NFS protocol, Open Systems SnapVault (OSSV), Operations Manager Core & SRM License, Protection Manager, Provisioning Manager, SecureAdmin, Single Mailbox Recovery for Exchange (SMBR), SnapDrive, SnapLock Enterprise, SnapManager for Exchange, SnapManager for Oracle, SnapManager for SAP SnapManager for SQL Server, SnapManager for Microsoft Office SharePoint Server, SnapMirror, SnapMover, SnapRestore, Snapshot, SnapValidator, SnapVault, SyncMirror, Virtual File Manager (VFM)

N series Highlights

- **Unified storage architecture**—provides a single storage platform to support heterogeneous, multiprotocol storage requirements with the capability of simultaneously handling both Block I/O (with FCP or iSCSI protocol) and File I/O (with CIFS, NFS, HTTP, FTP protocols) application needs
- **Application-aware software**—SnapManager software provides host-based data management of N series storage for databases and business applications. Simplifies application-consistent policy-based automation for data protection and disaster recover. Snapshot copies and automates error-free data restores and enables application-aware disaster recovery
- **Thin Provisioning**—allows applications and users to get more space dynamically and non-disruptively without IT staff intervention
- **Ease of installation**—offers installation tools designed to help simplify installation and setup
- **Increased access**—allows heterogeneous access to IP attached storage and Fibre Channel attached storage subsystems
- **Operating system**—optimized and finely tuned for storing and sharing data assets, designing to enable greater efficiency within your organization and help lower total cost of ownership through improved efficiency and productivity
- **Flexibility**—enables cross-platform data access for Microsoft Windows, UNIX and Linux environments that can help reduce network complexity and expense, and allow data to be shared across the organization
- **Network Attached Storage (NAS)**—supports Network File System (NFS), Common Internet File System (CIFS) protocols for attachment to Microsoft Windows, UNIX and Linux systems
- **IP SAN**—supports Internet Small Computer System Interface (iSCSI) protocols for IP SAN attached to a multitude of host servers including Microsoft Windows, Linux, and UNIX systems
- **FC SAN**—supports Fibre Channel protocols (FCP) for accommodating attachment and participation in fibre channel SAN environments
- **Scalability**—supports non-disruptive capacity increases as well as thin-provisioning (dynamically allow the increase and decrease of user capacity assignments). Allows you to scale your storage infrastructure to keep pace with company growth
- **Designed to maintain availability** and productivity during upgrades
- **Manageability**—includes integrated system diagnostics and management tools, which are designed to help minimize downtime
- **Redundancy**—several redundancy and hot-swappable features provide the highest system availability characteristics
- **Copy Services**—provides extensive outboard services that help recover data in disaster recovery environments. SnapMirror provides one-to-one, one-to-many and many-to-one mirroring over Fibre Channel or IP infrastructures
- **NearStore (near-line) feature**—SATA drive technology enables online and quick access to archived and non-intensive transactional data
- **Advanced Single Instance Storage (A-SIS)**—provides block-level deduplication of data stored in NearStore volumes
- **Compliance and data retention**—software and hardware features that offer non-erasable and non-rewritable data protection to meet the industry's highest regulatory requirements for retaining company data assets

NOTES:
*Systems are based on dual clustered storage controllers. Divide all numbers by one-half if a single storage controller system is ordered.
A single controller can be easily upgraded to a dual controller system as your computing needs increase. The dual controller is a fully redundant system and is designed to provide failover and failback capabilities.
The N series Interoperability Matrix can be found at the following Web site:
ibm.com/storage/network/interophome.html

IBM System Storage DR550/Disk Storage Virtualization

	DR550	DR550
Product	IBM System Storage DR550	IBM System Storage DR550
Machine/model	2233 DR1	2233 DR2
Platform support	All IBM systems platforms and other vendor platforms	All IBM systems platforms and other vendor platforms
Host connectivity	2 port Gigabit Copper or Fibre Ethernet (upgrades available)	2 port Gigabit Copper or Fibre Ethernet (upgrades available)
Software	IBM System Storage Archive Manager (SSAM)	IBM System Storage Archive Manager (SSAM)
Archiving application interface	SSAM application programming interface (API) v5.5.0 or DR550 File System Gateway	SSAM application programming interface (API) v5.5.0 or DR550 File System Gateway
Controller	Single System p5™ POWER5+™	Single or Dual active/passive System p5 POWER5+
Operating system	IBM AIX, Version 5.3	IBM AIX, Version 5.3 Dual server includes IBM HACMP 5.3
Management interface	IBM Director 5.20.2	IBM Director 5.20.2
Systems supported	External Tape and Optical	External Tape and Optical
Backup sw	Included in SSAM	Included in SSAM
Backup hw	External tape	External tape
Copy services	NA	Metro or Global mirroring
Encryption	Disk or tape, 128-bit AES or 56-bit DES encryption technology	Disk or tape, 128-bit AES or 56-bit DES encryption technology
RAID support	5	5
Capacity (min, max)	880 GB, 37 TB	6 TB, 168 TB
Drive support	750 GB SATA	750 GB SATA

DR550 Highlights

- An award-winning and industry-proven information archiving and retention offering with built-in lifecycle management capabilities to help organizations meet the growing challenges of efficiently managing, protecting and retaining data.
- Repository for all kinds of content (e-mail, database, documents, images, files, etc.)
- Provide non-erasable, non-rewritable archival storage; prevents deletion or alteration of data stored on the system
- Support multiple storage tiers for long-term archiving (disk, tape and optical) helping lower TCO
- Provide the facilities to migrate archive data from aging disk or tape subsystems to new ones
- Offer automatic provisioning, migration, expiration and archiving capabilities
- Offer scalability up to 168 TB raw physical capacity and supports petabytes of storage with attached tape and optical
- Offer chronological and event-based data retention
- Offer high-availability option to avoid single points of failure
- Provide security and protection through data encryption and data shredding options
- Support and integrate with broad set of IBM and non-IBM content management applications
- Protect customer data against disasters through Synchronous or Asynchronous Replication
- Award-winning: Data Protection Summit—Information Lifecycle Management (ILM)—Best of Show, 2007 and AIIM (The Enterprise Content Management Association)—Best in Show, 2005, 2006

Disk Storage Virtualization

Create a tiered storage environment and help increase the flexibility and efficiency of your storage infrastructure by introducing solutions based on IBM System Storage virtualization software.

Product	Function and Value	Highlights
IBM System Storage SAN Volume Controller (SVC)	Based on virtualization technology, the IBM System Storage SAN Volume Controller is designed to increase the efficiency and flexibility of your storage infrastructure by pooling storage and centralizing management, and enabling changes to the physical storage while avoiding disruption to applications.	• **Manage storage volumes from a central point:** SVC is designed to enhance the flexibility of your storage environment. It can combine the storage capacity from multiple disk systems from different suppliers into a single pool of storage that can be managed from a central point. In this way, fewer skills are required and storage administrators can become more productive. • **Virtually eliminate downtime related to storage:** SVC enables data migrations, maintenance and upgrades to the SVC system itself, and changes to the physical storage without impacting host applications. • **Improve storage resource utilization:** By combining the storage capacity from multiple disk systems into a single pool, SVC uses existing storage capacity more efficiently, which can allow you to defer additional storage purchases to save costs. • **A single, cost-effective set of advanced copy services:** SVC can apply copy services across all the managed storage, regardless of the disk system supplier. This capability helps simplify the environment, can reduce the costs of implementing disaster recovery solutions, increases flexibility in using storage and increases personnel productivity. • **Create a tiered storage environment:** Using virtualization technology, SVC enables customers to match the cost of the storage to the value of their data. For example, mission-critical data can be stored on high-performance, highly available Fibre Channel disks while non-mission-critical data can be stored on Serial ATA disks. Data can easily be moved from one tier to another without application disruption.

IBM TotalStorage Expert Family

Adds value to the storage subsystem solution by providing information for better management.

Product	Function and Value
IBM TotalStorage ETL Expert	Provides a high-performance monitoring tool to help simplify the management of IBM tape subsystems that include the IBM TotalStorage Enterprise Tape Library, Virtual Tape Server and Peer-to-Peer Virtual Tape Server
IBM TotalStorage XRC Performance Monitor	Provides the ability to monitor and evaluate the performance of a running XRC configuration; the monitor function provides information at the real-time, historic and summary levels

DFSMS™ Family

Provides automated and central storage management in the z/OS environment

Product	Function and Value
DFSMSdfp™	Provides data access, program and device management functions that furnish effective management of active data
DFSMSdss™	Provides data movement, copy, backup and space management functions
DFSMShsm™	Provides backup, recovery, migration and space management functions that furnish effective management of inactive data
DFSMSrmm™	Provides a policy-driven solution for the management of removable media, such as tape cartridges and reels
DFSORT™	Provides a solution for faster and easier data sorting, reporting and analysis
DFSMStvs	Enables batch jobs and IBM CICS® (Customer Information Control Systems) online transactions to update shared VSAM data sets concurrently

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.

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.

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 INFRINGEMENT. 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.

Each IBM customer is responsible for ensuring its own compliance with legal requirements. It is the customer's sole responsibility to obtain advice of competent legal counsel as to the identification and interpretation of any relevant laws and regulatory requirements that may affect the customer's business and any actions the customer may need to take to comply with such laws. IBM does not provide legal advice or represent or warrant that its services or products will ensure that the customer is in compliance with any law.

ibm.com/storage

IBM Systems and Technology Group
Route 100
Somers, NY 10589

Produced in the United States
June 2008

TSO00364-USEN-28
G325-3369-28