

STORAGE AREA NETWORK (SAN)

StorageDR™



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The GST SAN Appliance is part of GST's StorageDR™ family. The SAN Appliance handles all data storage applications for a wide variety of enterprises needing central availability of data files. All components are modular and easily configured and connected. Open architecture is powered by IBM's Linux-based xSeries and OpenPower™ models that provide a robust scalable base. IBM TotalStorage™ disk technology provides the industry's best hard drives for greater reliability. A rich variety of configurations permits starting with one drawer of 6 drives and expands with 14-drive drawers to a maximum of 230 drives. High performance 10K and 15K RPM hard drives are available in 73GB, 146GB, and 300GB capacities. Total capacity ranges up to 69TB.

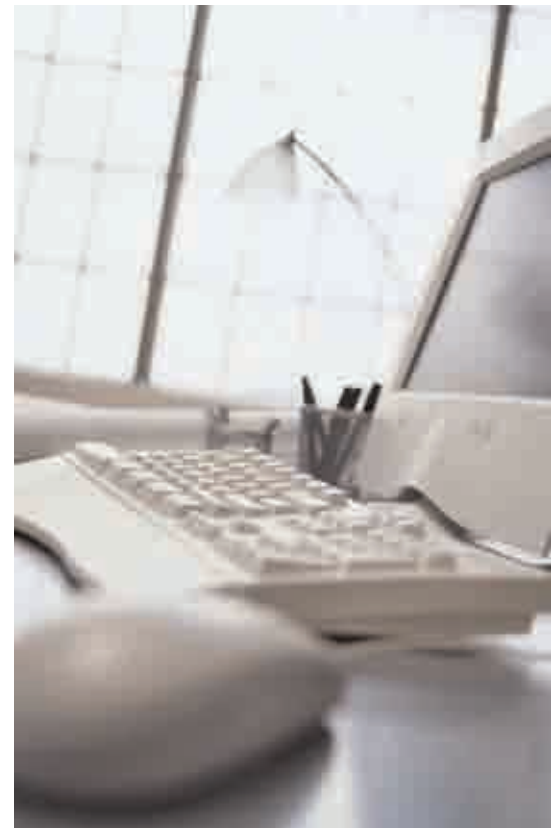
The GST StorageDR™ family is engineered to provide a broad range of storage capabilities, including the management of the storage infrastructure, Hierarchical Storage Management (HSM), archiving, and tape backup and recovery. StorageDR products including the SAN Appliance are complemented with IBM TotalStorage hardware and optional services including consulting/assessment, training and financing. Major features of all GST storage solutions in the StorageDR™ family include:

- Easily configurable with a wide variety of component choices
- Modular components
- Scalable as needs arise
- All IBM hardware

GST SAN Appliances utilize rack-mountable components and can be housed in GST's 11U, 25U, or 42U rack for easy installation and maintenance. A SAN Appliance starter configuration might contain a single processor and 2GB of memory, 2MB of Cache, 73 GB of 10K disks, single SAN switch. Later, add additional processors, additional 1, 2 or 4GB of memory, a RAID card and additional Fibre switch options. To accommodate scalable expansion, a variety of rack enclosures, storage towers and PCI-X Expansion Slot kits are available.

In addition, GST's LPAReplication™ software can be augmented with any one of the following additional software modules:

- **High Availability Module** – mirrors drives within the SAN Appliance
- **Replication Module** – copies and transforms database content
- **Snapshot Module** – for quick SAN backup



THE BIG PICTURE

- Speed: 2Gbit transfer speed
- Capacity: up to 69TB
- Software: GST's LPAReplication™
- Drawers: attachment up to 14 disk drawers
- Drives: supports up to 230 disk
- Hardware: IBM xSeries, OpenPower and TotalStorage technology
- Connectivity: IBM eServer platform
- Support: IBM 24/7 or 9/5 service
- Cost: industry's lowest cost per gigabyte

KEY BENEFITS

LPAReplication™ - GST's exclusive LPAReplication™ software runs on the two most popular versions of Linux: Novell SuSE Linux and Red Hat Linux. Most computing environments are supported by LPAReplication™, permitting a wide variety of servers to use GST's SAN Appliance.

GST Storage Manager – GST's LPAReplication™ disk management tools optimize use of disk in a SAN environment.

Copy Functions – GST's copy options include capabilities supplied by GST's software modules for High Availability, data replication, and snapshots for data protection.

Open Architecture – Linux operating system in the IBM xSeries and OpenPower servers permits connectivity to a wide variety of servers and enables low cost of ownership.

Space Saver – The small dimensions and modular configurations facilitate the optimum use of datacenter space.

Serviceability – Modular building-block design permits individual drives, servers and other modules to be easily serviced or replaced.

KEY BENEFITS

Scalable Processors – Can start with a single processor of 2.2, 2.7 or 3.0 GHz and add processors, up to four.

Scalable Memory – Memory can be added in 1, 2, 4GB increments up to a total of seven additional memory cards, providing a range of memory from 2GB on the base processor to 30GB with the scalable memory options.

Scalable Disk – Both 10K RPM and 15K RPM disks are available in units of 73GB, 146GB and 300GB. Disk can be added as needed to create a disk capacity that can accommodate expanding requirements, up to 230 drives. Maximum capacity for 230 x 300GB drives is 69TB.

Scalable PCI Expansion – Additional PCI-X Slot Expansion options are available for 6 slots and 12 slots.

Rack-mountable Enclosures – Individual modular enclosures enable each Disk Drawer and other modules to be handled separately; field upgrades of additional Disk Drawers are simple.

11U, 25U, 42U Equipment Rack – Standard equipment racks hold the many different configurations of the SAN Appliance plus other servers that are being backed up.

Scalable Connectivity – Wide range of IO cards provides considerable choice in configuring Fibre Channel (FC) connectivity.

Service and Support – A variety of support programs provide installation and onsite service; includes IBM support and GST's Accelerated Ship Program (GASP) to get replacement units on the scene rapidly.

Warranty – Purchase price includes GST's 3-year warranty.



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SPECIFICATIONS	StorageDR™ - SAN
Configuration	
Disk Capacity	up to 69TB
Host Support	up to 4
Host Connectivity	2Gbit Fibre
RAID Levels	5, 10
Physical Characteristics	
Processor Types	2.2GHz, 2.7GHz, 3.0GHz
Processors	1 - 4
Cache	2 - 256GB
PCI-X Slots	6 - 12 Slots
Disk Drives	up to 230
Storage Towers	up to 32
Flat Panel Monitor	up to 1
PCI-X Expansion Tower	up to 1
Fibre Switch	up to 1
Rack Enclosure Models	11U, 25U, 42U
UPS Models	3000XHV, 7500XHV, 10000XHV
Supported Disk Drives	
73GB - 10K RPM	Yes
73GB - 15K RPM	Yes
146GB - 10K RPM	Yes
146GB - 15K RPM	Yes
300GB - 10K RPM	Yes
OS Support	
OS/400, i5/OS	Yes
AIX	Yes
HP-UX	Yes
Linux	Yes
Novell NetWare	Yes
Solaris	Yes
Windows	Yes
Optional Modules	
High Availability	Yes
Replication	Yes
Snapshot	Yes
Service Options	
9x5/Next Day	Yes
24x7x4	Yes



3419 Via Lido, Suite 164
 Newport Beach, CA 92663
 949.673.1248
 949.673.3163 - Fax
www.gstinc.com ~ sales@gstinc.com

GST, Inc. engineers, manufactures, markets and sells a full line of tape, disk, networking, and memory hardware and high availability and security software plus storage-related services for the midrange server community. Product development closely tracks market needs, providing latest engineering, product design and customer support facilities. For information about the company, its products and support see: <http://www.gstinc.com>.

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