compellent

STORAGE CENTER TECHNICAL SPECIFICATIONS

Storage Center goes beyond the boundaries of traditional storage systems by combining modular standards-based hardware and intelligent, innovative software to manage your data differently. Storage Center's scalable hardware platform features unprecedented flexibility and unlimited growth. The powerful software applications optimize utilization, automate tiered storage, simplify replication and speed data recovery. The entire solution is managed with a single interface, streamlining administration.

Automated Tiered Storage	Unlimited Snapshots
Thin Provisioning	Remote Replication
Virtualization	Reporting

INTERFACE　　　　**SOFTWARE**　　　　**HARDWARE**

Management Interface

Centralized interface streamlines administration and speeds common storage management tasks

Applications

A powerful suite of enterprise capabilities to manage your data differently

Controllers

• Clustered controllers provide automatic failover
• Seamlessly connects to any open-systems server without the need for server agents
• Mix and match Fibre Channel and iSCSI server connectivity

Disk Enclosures

• Supports any external interfaces and disks
  • Fibre Channel
  • Mid-Tier Fibre Channel
  • Serial ATA
• Storage Center with NAS boots from the Compellent SAN

Modular Hardware Architecture

» Standards-based
» Modular, highly available hardware architecture
» Add capacity, connectivity and performance incrementally to match demand
» Mix and match any number of drives, and enclosures

Powerful Software Applications

» Suite of powerful, innovative software applications
» Provision unlimited volumes from a single, shared pool
» Optimize utilization, speed local and remote replication
» Automate tiered storage

Intuitive, Unified Interface

» Centralized, point-and-click wizard-based set up and management
» Comprehensive Phonehome capabilities
» Automatic notification when user-defined capacity thresholds are reached
» Advanced storage consumption and chargeback reporting

STORAGE CENTER HARDWARE

Storage Center's Hardware architecture employs a modular build-as-you-grow approach that provides a low cost of entry with unlimited growth. The flexible hardware platform enables simultaneous mixing and matching of any server interface or drive technology. Add capacity, connectivity and performance incrementally to match demand.

CONTROLLER	SERIES 20	SERIES 30
Number of Controllers	1 or 2	1 or 2
PCI Expansion Slots	PCI - X = 4 PCI - E = 1	PCI - X = 1 PCI - E = 4
Expansion Slot Adapters	Fibre Channel and/or iSCSI	Fibre Channel and/or iSCSI
Maximum Number of Ports	20	20
Modular Architecture	Yes	Yes
Processor Speed	3.2 GHz	3.0 GHz Dual-core
Active/Active Cluster	Yes	Yes
Power Supplies Redundant and Hot-swappable	Yes	Yes
Cooling Fans Redundant and Hot-swappable	Yes	Yes
Controller(s) Redundant and Hot-swappable	Yes, with Clustered Controllers	Yes, with Clustered Controllers
Controller Cluster Distance	300 meters	300 meters
CACHE	SERIES 20	SERIES 30
Maximum Cache Size per System	2.25 GB	3.50 GB
Multi-threaded Read Ahead, Mirrored Write Cache	Yes	Yes
Cache Back-up Battery	72 hours	72 hours

FRONT END (HOST) INTERFACE	SERIES 20 & SERIES 30
Host Interface Support	Fibre Channel (2 Gb and/or 4 Gb) iSCSI
Simultaneous Host Interface Support	Yes, Fibre Channel and/or iSCSI
Maximum Host Ports	18
Fabric Switch Support	Yes
Host Operating System Support	Microsoft Windows, Sun Solaris, HP-UX, Linux, IBM, AIX, Novell Netware, Apple, Tru64, VMware
Server Agent Required	No
Microsoft Cluster Server Support	Yes
Microsoft Multipath Input/Output (MPIO) Support	Yes

File-Level Support	Yes, Storage Center with NAS
	    Boots from Compellent SAN
	    Cluster up to 8 NAS servers for high availability

BACK END (ENCLOSURE) INTERFACE	
Disk Enclosure Interface	Fibre Channel Arbitrated Loop (2 Gb and/or 4 Gb)
Maximum Number of Back End Ports	18
Maximum Number of Back End Loops	9
Enclosures per Loop	
SBOD Fibre Channel	7
JBOD SATA	5

DISK DRIVE ENCLOSURES	
Enclosure Support	SBOD Fibre Channel (2 Gb and/or 4 Gb), JBOD SATA
Disk Drive Support	Fibre Channel (2 Gb and/or 4 Gb), Mid-Tier Fibre Channel, SATA
Intermixed Disk Drive Capacities	Yes
Maximum Number of Disk Drives per Enclosure	16
Maximum Number of Disk Drives	1008
Maximum Raw Capacity	504 TB
Disk Drive Capacity	
Fibre Channel (4 Gb)	15,000 RPM: 73 GB, 146 GB, 300 GB 10,000 RPM: 400 GB
Mid-Tier Fibre Channel	7,200 RPM: 500 GB
SATA	7,200 RPM: 500 GB, 750 GB

DISK DRIVE ENCLOSURES (Continue)

RAID Level Support	RAID 0, 5, and 10
Power Supplies Redundant and Hot-swappable	Yes
Disk Drives Redundant and Hot-swappable	Yes
Automatic Drive Failover	Yes
Automatic Drive Rebuild	Yes
Maximum Number of Hot Spares	Configurable

Operating Environment

	SERIES 30 CONTROLLER	SERIES 20 CONTROLLER	SBOD FIBRE CHANNEL ENCLOSURE	JBOD SATA ENCLOSURE
Physical Configuration	Rack	Rack	Rack	Rack
Height	5.2" (132 mm), 3 EIA Units	5.1" (132 mm), 3 EIA Units	5.12" (130 mm), 3 EIA Units	5.12" (130 mm), 3 EIA Units
Width	17.2", (437 mm)	17.1", (434 mm)	19.0" (482.6 mm)	17.6" (447 mm)
Depth	25.5" (648 mm)	25.5" (648 mm)	19.7" (500 mm)	21.7" (551 mm)
Weight	75 lbs. (34.1 kg)	75 lbs. (34.1 kg)	77.6 lbs. (35 kg)	81lbs. (30.5 kg)
Power Consumption	360 watts	375 watts	450 watts	450 watts
Operating Voltage (115V)	3.2 Amps	3.2 Amps	3.9 Amps	3.9 Amps
Power Supplies	Dual (redundant)	Triple (redundant)	Dual (redundant)	Dual (redundant)
Heat Dissipation (BTU/hr)	1,229	1,280	1,540	1,540
Temperature	50°F - 95°F (10°C - 35°C)	50°F - 95°F (10°C - 35°C)	41°F - 104°F (5°C - 40°C)	41°F - 104°F (5°C - 40°C)
Humidity (non-condensing)	8% - 90%	8% - 90%	20% - 80%	20% - 80%
Inlet Type	NEMA 5-15/CS22.2, n°42	NEMA 5-15/CS22.2, n°42	NEMA 5-15/CS22.2, n°42	NEMA 5-15/CS22.2, n°42

EMISSIONS/SAFETY	
Controller Series 20 & 30	FCC Class B; EN55022 Class B; EN 61000-3-2/-3-3; CISPR 22 Class B; EN55024/CISPR 24; (EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11); EN60950/IEC 60950 Compliant UL Listed (USA), CUL Listed (Canada), TUV Certified (Germany), CE Marking (Europe)
Enclosure	
SBOD Fibre Channel	UL and cUL listed. Tested to UL/IO/EN 60950. Certified Body Certificate and Report to IEC60950. CE marked to the requirements of the Low Voltage Directive 73/23/EEC and the Electromagnetic Compatibility Directive 89/336/EEC. FCC Class A. EMC: EN55022/EN61000-3-2, EN61000-3-3
JBOD SATA	UL and cUL listed. Tested to UL/IO/EN 60950. Certified Body Certificate and Report to IEC60950. CE marked to the requirements of the Low Voltage Directive 73/23/EEC and the Electromagnetic Compatibility Directive 89/336/EEC. FCC Class A. EMC: EN55022/EN61000-3-2, EN61000-3-3

STORAGE CENTER SOFTWARE

Storage Center Software places enterprise storage capabilities at your fingertips through a powerful suite of applications that optimize utilization, automate replication, simplify replication and speed data recovery.

Storage Center Core

Virtualization	Manage disks as a single pool and present disk resources to any server.
Disk Optimizer	Intelligently restripes data as disks are added to optimize performance.
Thin Import	Convert data from legacy systems into thin provisioned volumes on a Compellent SAN.
Application Optimizer	Set the size of data transfers within the SAN to match I/O performance for different applications.
Copy-Mirror-Migrate	Make copies or mirrors and migrate volumes without impacting users.

ABOUT COMPELLENT

Compellent delivers affordable, modular storage solutions exclusively through business partners that provide companies of all sizes enterprise storage capabilities without big system costs or complexities. Designed by network storage and virtualization pioneers, Compellent enables any business to cut storage expenditures in half, recover from data hazards within minutes, scale to any capacity across any technology and easily manage its storage without adding staff.

Boot from SAN	Allow diskless servers to share storage resources and boot from the SAN.
Heterogeneous OS	Support any number of simultaneous operating systems.
LUN Masking	Hide unassigned LUN/ID numbers for secure storage domains.
Performance Monitoring	Real-time reports to identify and optimize performance and utilization.
Unified User Interface	Enterprise-level functionality through a common intuitive user interface.
System Administration	Operate from any standard browser. Create unique user profiles with administrator configured priveleges.
Remote Monitoring/Phonehome	Remotely report status and automatically trigger service responses.

Storage Center Applications

Data Instant Replay	Create space-efficient Replays (snapshots) that restore data instantaneously.
Remote Instant Replay	Create space-efficient Replays (snapshots) of data at multiple locations.
Dynamic Capacity	Allocate space based on actual data written (Thin Provisioning).
Data Progression	Automate tiered storage between storage classes based on user-defined rules.
Fast Track	Place active data on the outer tracks of a disk.
Dynamic Controllers	Cluster storage controllers to increase system availability and performance.
Enterprise Manager	Comprehensive monitoring, reporting and remote replication management.
Multipath Manager for Microsoft Servers	Failover and load balancing for Microsoft Servers (MPIO).
Replay Manager for Microsoft Servers	Non-disruptive Replays for Microsoft Servers (VSS).