

9900



Lightning 9900

Technical Specifications

System Capacity	
Number of disk drives (with spares)	5 to 512
Hot spares (maximum)	16
Capacity (GB)	
3.0 inch form factor	18, 47, 73 (10,025 RPM)
Total raw capacity per subsystem	37.3TB
Maximum usable capacity for RAID-5	
Open Systems	27.5TB
S/390-compatible	25.7TB
Maximum usable capacity for RAID-1+	
Open Systems	18.4TB
S/390-compatible	17.2TB
Cache	
Minimum	2GB
Maximum	32GB
Increments	2GB
Client-Host Interface Processors (CHIP)	
Number of CHIP pairs	Up to 4
Simultaneous data transfers per CHIP pair	4 or 8
Physical interfaces per CHIP pair	4 or 8
Physical Interfaces per Subsystem	
Maximum	32
Fibre Channel (fiber-optic cable)	0, 4, 8, 12, 16, 24, or 32
Extended Serial Adapters™ †	0, 4, 8, 12, 16, 24, or 32
Logical Device Support	
	Up to 4,096
Array Control Processor (ACP)	
Number of ACP pairs per subsystem	Up to 4
Physical array paths per ACP pair	8
Physical array paths per subsystem	32
Simultaneous transfers per ACP pair	
To cache	8
To disk array	16
Transfer rate	
Per disk array path	Up to 100MB/sec
Per ACP pair (to cache)	Up to 800MB/sec
Hi-Star architecture	
maximum bandwidth	6.4GB/sec
Physical Specifications	
Control Frame	
Height	1,790mm (70.5 in.)
Width (with two side panels)	750mm (29.5 in.)
Depth	800mm (31.5 in.)
Weight*	451kg (992 lbs)
Heat*	1.5kW
Power*	1.6kVA
Array Frame (one to six)	
Height	1,790mm (70.5 in.)
Width (with two side panels)	600mm (23.6 in.)
Depth	800mm (31.5 in.)
Weight**	469kg (1,031 lbs)
Heat**	3.4kW
Power**	3.7kVA

* One controller, 16GB cache, 2 ACP pairs, 16 Fibre ports.
** One disk array frame, 96 disk drives, 4,530GB raw capacity using 47GB hard disk drives.
† Extended Serial Adapters are compatible with ESCON protocol.

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Hitachi Freedom Storage™
Lightning 9900™

Taking the New Economy by Storm

HITACHI
DATA SYSTEMS

Hitachi Data Systems—Built for fast times™

any computer, any data, anytime, anywhere

Lightning 9900—
The first of a new generation
of intelligent storage systems
designed for

E-business

The competition is only a click
away. Keep your customers with:

- 24x7 availability
- Industry-leading performance driven by a switched fabric architecture
- Non-disruptive scalability to over 37TB
- Concurrent UNIX®, Microsoft® Windows NT®/2000, Linux®, Novell® NetWare® and S/390® connectivity
- The highest ranked service for over a decade.

Business Intelligence

Get to know your customers with:

- Instant, point-in-time copies
- Real-time analysis of customer behavior
- Power to resolve complex queries
- Non-disruptive scalability to over 37TB
- No impact on production systems.

Business Continuity

You can recover quickly
from disasters, thanks to:

- Copy-based, disaster-tolerant solutions
- Off-site redundancy with complete data integrity
- “MIP-less” any-to-any copies—anywhere, anytime
- Tapeless data vaulting
- User-defined point-in-time copies
- No impact to critical applications.

Industry-leading Performance

- High-speed switched fabric architecture
- 32 concurrent data transfers
- Fully addressable 32GB cache
- Optional FlashAccess™ locks LUNs or IVIs into cache
- Fast cache algorithms
- Flexible LUN support
- Self-tuning performance optimizer
- Separate, redundant data and command paths
- High-performance 10K RPM drives.

Extensive Connectivity

- Fibre Channel
- ESCON®
- Storage Area Network (SAN)

Instant Access to Data Around the Clock

- No single point of failure
- Highly resilient switched fabric architecture
- Redundant, hot-swappable components
- Global dynamic hot sparing
- Mirrored write cache with battery backup
- ECC memory
- Hi-Track® “call home” maintenance service
- Host failover and alternate path support
- Non-disruptive microcode upgrades
- RAID-1+ and RAID-5 support
- Industry-leading point-in-time and remote copy software for data backup and rapid recovery
- Proven GDPS™ support
- Professional Services enable rapid deployment of multi-site, multi-platform High Availability solutions

CARE Software Solutions

Copy Suite

- Enables real-time data movement over virtually unlimited distances
- Provides continuous or point-in-time updates at a secondary site, local or remote
- Supports disaster recovery, on-line data migration, tapeless data vaulting, application testing, and data warehousing/data mining

Availability Suite

- Provides alternate path and clustering support
- Allows sophisticated and scalable backup/restore functions
- Ensures non-stop access to information

Resource Management Suite

- Provides event, performance, and configuration management
- Enables Freedom Storage management from any location

Exchange Suite

- Allows heterogeneous data sharing with high performance and high reliability
- Supports data exchange among UNIX, Windows NT and Windows 2000, Linux, and S/390 platforms

Major Platforms Supported

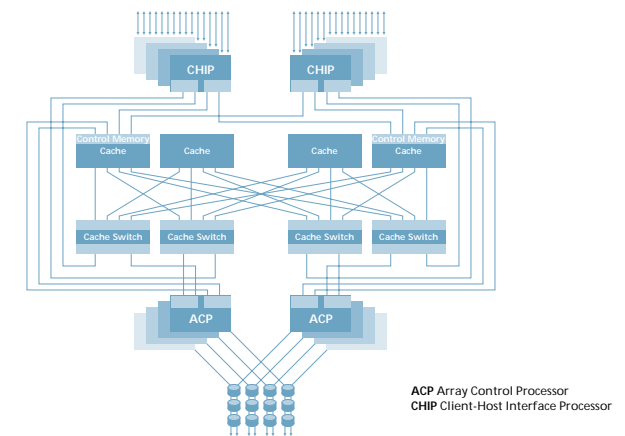
Open System

- SUN™ Solaris™
- Microsoft Windows NT
- Microsoft Windows 2000
- IBM® AIX®
- HP-UX®
- Sequent® DYNIX/ptx®
- SGI™ IRIX®
- Novell NetWare
- Compaq® Tru64™ UNIX
- Red Hat® Linux

Mainframe

- OS/390®
- MVS/ESA™
- MVS/XA™
- TPF/MPLF
- VM/ESA®
- VM/XA
- VM/HPO
- VSE/ESA™
- VSE/SP(4.1)

Hitachi Freedom Storage Lightning 9900
Hi-Star™ Architecture



Storage—No Limits

In today's fast-paced e-world, access to any data from any computer, anywhere, anytime is vital to your enterprise's success. By capitalizing on advances in storage area networks, servers, storage systems, interconnection devices, network protocols, and network configurations, Hitachi Data Systems has created a solutions-based architecture for realizing our “Storage—No Limits” vision. We call this architecture Hitachi Freedom Data Networks™, because it gives you complete freedom of choice in establishing the enterprise information network that best fits your particular environment.

The Hitachi Freedom Storage Lightning 9900 is the cornerstone of this architecture.