Hitachi Freedom Storage™

# Thunder 9500<sup>™</sup> V Series Join the V Generation: Modular. Flexible. Intelligent.



### Setting a new standard for modular storage systems

Incorporating innovative features and functions of the technology- and marketleading Hitachi Freedom Storage<sup>™</sup> Lightning 9900<sup>™</sup> V Series, the Thunder 9500<sup>™</sup> V Series systems redefine the notion of modular storage. This new generation of the "Thunder family" inherits the virtual ports concept and shares a common set of APIs and software tools, as well as a common management framework, with the "Lightning family." So you can choose the best solution for your business needs—modular or carrier-class storage systems—and be confident that your investment is protected for the long term.

The Thunder 9500 V Series highly versatile storage systems deliver the performance for demanding applications and the intelligence for simplified management. Starting with the deskside units, these systems smoothly scale or upgrade in an affordable and easy-to-grow footprint, so you can meet your evolving storage requirements without difficulty. The Thunder 9500 V Series storage systems support diverse data-dependent markets, such as life sciences, retail, healthcare, and broadcast. In many instances, success is as easy as plug-and-play for data warehousing, data mining, 24/7 online business transactions, and rich media applications.

The Thunder 9500 V Series storage fits squarely in our widely acclaimed Hitachi TrueNorth<sup>™</sup> vision, offering you a simplified infrastructure for easy management, protection for your critical information, and optimized resource utilization.



### Thunder is heard across the world!

# Hitachi Freedom Storage<sup>™</sup>

# Thunder 9500<sup>™</sup> V Series

#### Hitachi Freedom Storage<sup>™</sup> Thunder 9500<sup>™</sup> V Series Storage Systems

- > Simplify infrastructure for easy management
  - Consolidate storage systems and pool resources with the Thunder 9570V system
  - Deploy distributed storage with the Thunder 9531V, 9532V, or 9533V models
  - Centralize storage management with the HiCommand<sup>™</sup> Management Framework open, extensible, modular storage-management software based on industry standards: Seamless integration of best-of-breed products Policy-based automation
    - Heterogeneous system management from any location Control Hitachi Freedom Storage and partner products with HiCommand Device Manager
  - Simplify infrastructure through virtual ports and Host Storage Domains
  - Reduce licensing and maintenance costs
  - Protect investment—Thunder 9570V storage system Expansion Modules; upgrade path for the Thunder 9531V, 9532V, and 9533V models
  - Easily support SAN and NAS data access
  - Exploit concurrent support for Microsoft<sup>®</sup> Windows NT<sup>®</sup>/Windows<sup>®</sup> 2000, major UNIX<sup>®</sup> platforms, Linux<sup>®</sup>, Novell<sup>®</sup> NetWare<sup>®</sup>, and HP<sup>®</sup> OpenVMS<sup>™</sup>

#### > Protect critical information

- Instant, user-defined point-in-time copies—recover quickly from disasters
- Nondisruptive, real-time copies for backups, application testing, and data warehousing/data mining
- Nondisruptive expansion to over 30TB
- Easy deployment and off-site redundancy for 24/7 data availability
- "Server-less" copies
- · Tapeless data vaulting
- Hi-Track<sup>®</sup> service

#### > Optimize resource utilization

- Multidimensional scalability, including capacity, bandwidth, and connectivity
- Vertical market requirement compliance for embedded applications,
- from entry-level to high-capacity

  Industry-leading performance—over 4GB/sec aggregate internal
- system bandwidth—driven by our Hi-PER Architecture™ • Choose from four models—scale to over 30TB

#### > Maintain peace of mind

- Hitachi Data Systems delivers consistently exceptional service and support
- Surveys by FIND/SVP place Hitachi Data Systems Number One in overall
- service and support as well as in technical performance—two years in a row (2001-2002).
  Comprehensive professional planning and enablement services are available
- through Hitachi Data Systems Global Solution Services

### Hitachi Freedom Storage Thunder 9500 V Series Systems

#### Rackmount

> Thunder 9570

# Deskside, preconfigured

- > Thunder 953
  - > Thunder 9532V\*
  - > Thunder 9533V"

# The Hitachi Freedom Storage Thunder 9500 V Series storage systems shake up the status quo by giving today's businesses exactly what they want

Thunder 9500 V Series storage systems employ the Hi-PER Architecture to:

- > Control large amounts of data with single view
- > Enable storage pooling through consolidation
- > Reduce physical complexity and lower cost
- > Work with evolving virtualization architecture
- Optimize connectivity with ultrahigh-speed controller interconnects
- > Protect investment with trouble-free integration



Deskside

Rackmount



The next-generation Thunder 9500 V Series systems introduce a storage technology platform that's designed to meet the requirements of dynamic environments support for demanding applications and intelligence for simplified infrastructure management. It's the "V" generation—for virtualization-enabled! Building on the capabilities of the carrier-class Hitachi Freedom Storage Lightning 9900<sup>™</sup> V Series systems, Thunder 9500 V Series storage systems reduce complex connectivity with a virtualization assist layer that eases management, simplifies infrastructure, and better utilizes resources. Sharing common APIs and software tools, as well as a common management infrastructure with the Lightning 9900 V Series systems ensures that the Thunder 9500 V Series systems reflect the intelligence of our leading enterprise-level systems.

Each Thunder 9500 V Series model is based on the same innovative Hi-PER Architecture for high performance and common components, such as cabinetry and microcode, for trouble-free integration. Our Hi-PER Architecture supports the information management demands of dynamic enterprises—from collaborative business applications to business-process automation applications.

Supporting your business objectives with increased bandwidth, capacity, availability, and ease-of-use, the Thunder 9500 V Series systems offer you highperformance, easy-to-manage open modular storage in a small footprint. With a broad range of models, these advanced modular systems are also quickly installed, configured, and expanded to enhance fundamental continuity and make your life easier.

# DEPLOY THE INFORMATION INFRASTRUC-TURE AND MANAGEMENT TOOLS YOUR BUSINESS NEEDS TO THRIVE

With the Hitachi TrueNorth<sup>™</sup> vision working for you and Hitachi-engineered technology and solutions at hand, you're positioned to launch exceptional storage management solutions. Getting started is easy with the Thunder 9500 V Series storage platform, which combines power and intelligence to simplify infrastructures for easy management, protect critical information, and optimize resource utilization.

Consider your storage system options: the enterprise-class Thunder 9570V model, or smaller, preconfigured Thunder 9531V, Thunder 9532V, or Thunder 9533V models. Simply select the storage system that best supports your objectives. You'll be surprised at how quickly you can achieve new levels of availability and performance with highly productive solutions such as storage area networks (SANs) and network attached storage (NAS).

Distributed retail outlets, business franchises, professional offices—no matter what your enterprise—the modularity of Thunder 9500 V Series storage allows you to easily identify and install the ideal system to help you to reduce total cost of ownership and achieve a more rapid return on your investment. The Thunder 9500 V Series provides instant access to data 24/7—it's all about business continuity

- > No single point of failure
- Highly resilient optional dual controller, based on Hi-PER Architecture
- > Redundant, hot-swappable components
- > Global dynamic hot sparing
- > Mirrored write cache with battery backup
- > Error Correction Code memory
- Hi-Track "call-home" predictive maintenance service
- Host failover and alternate path support
- > Nondisruptive microcode upgrades
- > RAID-0, RAID-1, RAID-1+0, and RAID-5 support
- Point-in-time and remote copy software for data backup and rapid recovery

# SIMPLIFY

In many instances, you can replace your existing storage systems with a single Thunder 9570V storage system. In this virtualization-enabled system, Host Storage Domains allow host pooling at the LUN level, optimizing connectivity and reducing the network infrastructure, while Hitachi SANtinel<sup>™</sup> software ensures authorized access. Ultimately, this lowers your IT costs and extends your capital investment by consolidating storage resources and sharing information across disparate platforms.

- Form centralized host group pools
- Replace several systems with one reduce environmental expenses (floor space, power, cooling) to simplify and save
- Reduce management tasks—lower staff costs
- > Reduce licensing and maintenance costs

# The Thunder 9531V, 9532V, and 9533V storage systems you have the freedom to choose

The Thunder 9531V, Thunder 9532V, and Thunder 9533V storage systems, ranging from 360GB to 1TB in raw capacities, make a practical addition to retail operations that seek to supply seamless service to their customers (electronic or brick-and-mortar), as well as professional offices that require business continuity on a small, but upgradeable scale. You determine capacity required now—then, expand as needed.

In these smaller, preconfigured advanced modular options, we offer you the same high-speed characteristics in each of today's Thunder 9500 V Series storage systems, including a hot-swappable component design and innovative Hi-PER Architecture. These attributes allow each system to assume key responsibilities in support of sustained growth. Or, you can set up distributed strategies for reliable information sharing.

- Deploy for truly manageable SAN strategies
- > Implement for disaster recovery assurance
- Use for broadly distributed environments



Major Operating Systems Supported

- > Sun<sup>™</sup> Solaris<sup>™</sup>
- > Microsoft Windows NT
- > Microsoft Windows 2000
- > IBM<sup>®</sup> AIX<sup>®</sup>
- > HP-UX®
- > Sequent® DYNIX/ptx®
- > SGI<sup>™</sup> IRIX<sup>®</sup>
- > Novell NetWare
- > HP Tru64<sup>™</sup> UNIX
- > Red Hat<sup>®</sup> Linux
- > SuSE<sup>®</sup> Linux
- > Turbolinux®
- > HP OpenVMS
- > NCR<sup>™</sup> MP-RAS



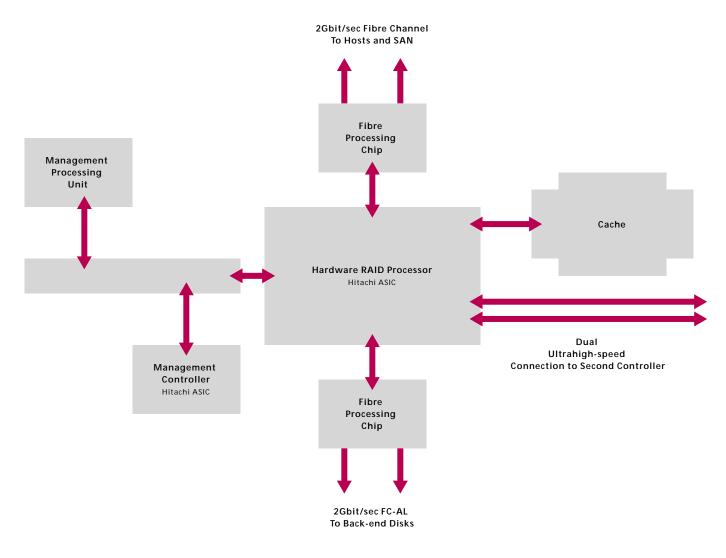
### Simplify Your Infrastructure

# The Thunder 9570V storage system an easy-to-manage option for data-intensive industries and consolidation strategies

The enterprise-class Thunder 9570V storage system is the perfect fit for extremely data-dependent industries, such as life sciences, which require capacity and performance for database management, visualization, and analytical tools. It's also an excellent choice for healthcare industries relying on rapid access to patient records and billing, for broadcast/rich media applications such as audio/video editing, and for frequently used business applications such as Microsoft Exchange and Lotus Notes<sup>®</sup>.

With Thunder 9570V storage, you can consolidate existing storage systems into one footprint. Not only do you reduce the initial purchase costs for your organization, but you also lower your total cost of ownership over each system's lifetime. By simplifying your information infrastructure and management responsibilities, you continue to save on operating and resource expenditures.

### Thunder 9500 V Series Hi-PER Architecture



# Manage it all with HiCommand Management Framework

**HiCommand Management Framework** software provides open and intuitive tools for streamlined storage management of distributed enterprise applications. It's built on industry standards, including the Common Information Model (CIM), the Simple Object Access Protocol (SOAP), and eXtensible Markup Language (XML), and will adhere to the Storage Networking Industry Association's (SNIA) Bluefin Storage Management Initiative. Compliance to these standards enables the snap-in of software developed by Hitachi or complementary independent software vendors. As a result, the **HiCommand Management Framework** is customizable and easily integrates with existing infrastructures to optimize storage management.

#### HiCommand Management Framework:

- Reduces storage administration staff training time and enables faster response to change
- Lowers total cost of ownership by simplifying storage management, streamlining processes, and increasing productivity
- > Delivers real freedom of choice—HiCommand seamlessly integrates with a variety of independent software vendor products

The HiCommand Device Manager module enables you to configure, monitor, manage, and tune Thunder 9500 V Series, Hitachi Freedom Storage Lightning 9900 V Series, and Lightning 9900 Series systems, as well as Sun StorEdge<sup>™</sup> 9900 Series and T3 systems, through a single graphical user interface over an IP connection device.

# Connectivity simplified for the future: ready for SAN, NAS, and iSCSI

A number of storage network protocols and connectivity methods are available to match application requirements. Whether Fibre Channel SANs, gigabit Ethernet NAS, or iSCSI for open systems and SAN interconnect are required, the Thunder 9500 V Series will inherently support them all.

Backed by the our highly integrated Hi-PER Architecture, end-to-end Fibre, and high-performance disks, the Thunder 9500 V Series systems easily handle simultaneous information access through multiple protocols and connections.

# PROTECT



When you choose Thunder 9500 V Series systems

You control the bigger picture:

- > Simplified management
- > Open systems
- > Optimized resources
- > Enhanced business continuity
- > Reduced operational costs
- > Maximized return on technology investment

#### You gain ongoing support for your business objectives:

- > Increase productivity
- > Shorten time to market
- Adapt quickly to economic changes
- > Mitigate risk
- > Improve top and bottom line



Protect Your Business-critical Information

# Maximum data availability a continuing tradition

Thunder 9500 V Series storage systems are designed to satisfy numerous requirements, including availability, capacity, and scalability. Not only do the Thunder 9500 V Series systems consolidate and upgrade easily, but they also scale nondisruptively, which means your collaborative business applications— Microsoft Exchange, Lotus Notes—and your data warehousing, data mining, decision support and business process automation applications—SAP<sup>®</sup>, BAAN<sup>®</sup>, PeopleSoft<sup>®</sup> stay online and accessible.

With no single point of failure, the Thunder 9500 V Series systems provide business continuity capabilities through seamless backup and rapid recovery. The Hi-PER Architecture, redundant, online replaceable active components, and mirrored cache set the stage for nondisruptive service and data protection. Our advanced Business Continuity Software Suite further ensures that your Thunder 9500 V Series systems will keep data available and your business applications running without pause.

Additionally, Thunder 9500 V Series storage supports open systems in direct attached or networked configurations, allowing you to choose the optimal information infrastructure for your applications.

# Thunder 9500 V Series solutions protect your data and your IT investment

The Thunder 9500 V Series systems allow you to fulfill new application commitments and surges in demand—problem-free. Features that protect your information and your IT investment include:

- Virtualization-enabling layer
- > Web-based management and Java<sup>™</sup> serial peripheral interface/remote method invocation
- > Extended RAID group support
- High-throughput
   10,000RPM and 15,000RPM
   dual-ported Fibre Channel
   disk drives
- Fully addressable 4GB cache with dual controllers
- > Permanently assignable LUNs to cache
- Extremely fast and intelligent cache algorithms
- > Flexible LUN support
- > Performance tuning
- > Separate, redundant data and command paths

# Data Protection Services for special projects, including migration and consolidation

Hitachi Data Systems Global Solution Services ensures that our Professional Services teams are trained in architectural analysis, configuration planning, and enterprise assessment to deliver fully effective Data Protection Services. We work with structured methodologies that promote consistent results. Our industry-leading software, based on high-performance platforms, allows us to implement essential copy solutions. We perform data relocation and migration tasks for consolidation projects. And, we establish rock-solid backup and disaster recovery copy facilities that will keep your business up and running.

By supporting your special project activities and fully exploiting the capabilities of our Hitachi Freedom Storage software suites, we help you quickly address storage management challenges while preserving critical business continuity.

# OPTIMIZE

#### Employ Thunder 9500 V Series systems to:

#### Simplify

- Consolidated and centralized management resources
- Easy to install, configure, and expand
- Versatile solutions to meet diverse application and business needs
- Fewer licenses, lower cost of ownership

#### Protect

- > Adaptive and scalable storage for investment protection and business agility
- Resilient architecture, advanced data protection software—keeps businessimperative applications up and running

#### Optimize

- High performance, highly scalable
- Easier to manage increases staff and IT productivity
- World-class service and support





### **Optimize Resource Utilization**

# With the Thunder 9500 V Series systems, optimizing your resources ensures reduced total cost of ownership

Install the Thunder 9570V system to consolidate and centralize for simplified storage networking environments. Or, deploy dedicated strategies with our smaller modular models. Whatever your plan, you'll spend less time managing storage and gain more time for new business efforts. Leverage your IT investment. Reduce the amount of software. Spend less money on licensing and maintenance fees. The payback is clear.

- > Fewer connections
- Fewer storage management activities
- Easy-to-handle, automated tools—staff can be assigned to more productive tasks
- Aggressive use of intelligent management
- Improved capacity utilization—less equipment required, lower total cost of ownership

# SOFTWARE



Use Powerful Hitachi Freedom Storage Software to Automate Management Tasks and Maintain Your Competitive Edge

Our Hitachi Freedom Storage software solutions serving the Thunder 9500 V Series systems include the following suites:

- > Storage Area Management
- > Business Continuity
- > Backup and Recovery
- > Data Movement
- > Performance Enhancement

#### Storage Area Management Suite

The Storage Area Management Suite, including HiCommand Management Framework with its unique tools and Hitachi Resource Manager<sup>™</sup> software, dramatically reduces storage management concerns, and makes it possible for you to increase your own productivity.

Open and extensible, the HiCommand Management Framework allows for easy integration and optimized storage management for existing infrastructures and mixed environments. Beginning with the HiCommand Device Manager module, the HiCommand Management Framework will expand to provide a full suite of storage management applications.

These modules enable you to configure, monitor, manage, and tune Hitachi Freedom Storage Thunder 9200<sup>°°</sup>, Thunder 9500 V Series, Lightning 9900 V Series, and Lightning 9900 Series systems, as well as Sun StorEdge 9900 Series and T3 systems, from any location. Working at the logical or physical level, Device Manager simplifies storage management complexities, allowing existing IT resources to be more productive.

For simple environments, Resource Manager, a package of management utilities, including Hitachi FlashAccess<sup>™</sup>, LUN Manager, and SANtinel software, is ideal for storage administrators who need a flexible, easy-to-use configuration and error management tool. Users can monitor and manage their storage systems through a graphical user interface or a command line interface. Resource Manager helps optimize performance by providing valuable resource utilization information, such as I/O activity, cache usage, and availability status/event notification. Administrators can use Password Protection to authorize up to 20 users. SANtinel controls host access to the Thunder 9500 V Series system LUNs in SAN environments, preventing unauthorized users from overriding other server disks.

VERITAS® Volume Manager<sup>™</sup>, a component of the VERITAS Foundation Suite<sup>™</sup>, is available for flexible storage configuration, ensuring powerful, reliable performance.

#### **Business Continuity Suite**

A well-planned business continuity strategy is essential if your organization is to survive planned or unplanned downtime. Our Business Continuity Suite includes Hitachi TrueCopy<sup>™</sup> technology (for the Thunder 9570V system), Hitachi ShadowImage<sup>™</sup> and Hitachi Dynamic Link Manager<sup>™</sup> software, Hi-Track service, and our Data Protection Services.

TrueCopy software replicates information locally between the Thunder 9570V systems within one data center, or to remote models in geographically dispersed locations—with minimum impact on performance. TrueCopy seamlessly protects your critical information right up to the point of an outage, eliminating the complexities of multi-step, manual, tape recovery processes.

ShadowImage software duplicates LUNs within the system without disrupting service or performance of business-critical applications. As a result, backups and tests can be conducted more completely and more frequently. Deploy applications faster—while safeguarding your critical information.

In addition, Hitachi Command Control Interface allows open systems users to manage TrueCopy and ShadowImage software from programs running on their host. This enables you to create batch streams that automate TrueCopy and ShadowImage operations using the command line interface.

Dynamic Link Manager software provides automatic load balancing across paths, as well as path failover and recovery capabilities in the event of path failure, ensuring no single path becomes overworked while others are underutilized or not available. And the Hi-Track "call-home" system, our predictive maintenance system, ensures maximum availability. Hi-Track continuously monitors Thunder 9500 V Series systems and automatically transmits collected hardware status information to a Hitachi Data Systems support center for proactive corrective action. This reliable error management and reporting offers a big breakthrough for IT troubleshooters who seek rapid-fire detection and notification to maintain productivity.

### Backup and Recovery Suite

Through our strategic alliances, we empower you to optimize backup and recovery tasks. VERITAS NetBackup™ offers backup and recovery solutions for heterogeneous environments, delivering quick and reliable backup/recovery that can span from terabytes to petabytes in size. The VERITAS NetBackup Array Integration option and VERITAS NetBackup ServerFree Agent are tightly integrated with ShadowImage and Hitachi e-Copy functions, enabling you to automate splitmirror backups on Hitachi Freedom Storage systems with zero impact on applications availability. We also offer CommVault™ Galaxy<sup>™</sup> to help you safeguard your data and gain a wider choice of backup and recovery solutions.

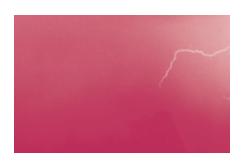
# Performance Enhancement Suite

This robust suite comprises FlashAccess and Dynamic Link Manager software for the Thunder 9500 V Series systems to accelerate information access and help you keep pace with today's evolving business environment.

FlashAccess software helps you meet performance requirements right up to the maximum raw capacity while providing access to information at lightning-fast speeds. Dynamic Link Manager software automates I/O load balancing, path failover, and recovery capabilities in the event a single path breaks down.

With the ability and resources to support e-business, our Performance Enhancement Suite, coupled with the virtualizationassist layer in our Thunder 9500 V Series systems, helps you avoid downtime by ensuring maintenance-free performance for seamless scalability. To maximize resource use, this Suite:

- Locks data into cache in real time
- Performs read and write functions at cache speeds without disk access delays
- Uses Dynamic Link
   Manager software
   to provide load balancing
   and path failover





As the need for capacity increases, all Thunder 9500 V Series systems leverage your initial investment and scale up seamlessly without disrupting missioncritical business applications.

Customers, partners, and employees have learned to expect instantaneous information access. With the Thunder 9500 V Series systems, you can increase productivity, shorten time to market, and mitigate risk. The Thunder 9500 V Series systems, powered by our Hi-PER Architecture, are ready to respond to your needit-now market.



# Maximize Your Return on Investment

Use the HiReturn<sup>™</sup> evaluation process to quantify your return on investment for Hitachi Freedom Storage solutions and systems consolidation—at no cost to you.

The HiReturn collection of return on investment tools, methodologies, best practices, industry empirical data, and oneon-one coaching allows you to calculate the costs and benefits of implementing Hitachi Freedom Storage technology and solutions. With this advanced tool kit, Hitachi Data Systems delivers a pre-sales, no-cost service that provides the objective validation you need to cost-justify big-ticket purchases.

Cold, hard facts create a solid business case for Hitachi Freedom Storage networked infrastructures and consolidation. That's why the HiReturn can play such a valuable role in the effort to simplify, protect, and optimize the storage environment that supports your enterprise.

		Thunder 9531V	Thunder 9532V	Thunder 9533V	Thunder 9570V	
hysical Cha	iracteristics					
	Command/expansion modules	3 EIA	3 EIA	3 EIA	3 EIA	1 EIA = 1 3/4 inches/44.5mm
	Maximum number of expansion modules	0	0	0	14+1	
	Number of disk drives	5	9	13	4 - 224	
	Raw capacity	358GB	645GB	931GB	32TB	
	Capacity RAID-0	NA	NA	NA	32TB	
	Capacity RAID-5	201GB	410GB	696GB	30TB	
	Floor models	yes	yes	yes	yes	
	Cache size (GB) max per system	1	2	2	4	
	Controllers	1	2	2	1 or 2	
Disk Drives S	Supported (all 2Gbit/sec)					
	36GB 15,000RPM	no	no	no	yes	
	73GB 10,000RPM	yes	yes	yes	yes	
	73GB 15,000RPM	no	no	no	yes	
	146GB 10,000RPM	no	no	no	yes	
	Number of 2Gbit/sec backend loops	2	4	4	4	
	· · · · · · · · · · · · · · · · · · ·					
Host Ports	Movimum physical ports	1	2	2	4	
	Maximum physcial ports	1 2	2	2	4	
	Speed Gbit/sec					
	Autodetect (1, 2Gbit/sec)	yes	yes	yes	yes	
	Hosts per port	128	128	128	128	
	Host Storage Domains	yes	yes	yes	yes	
	Operating systems supported	14	14	14	14	see list on next page
	F-port, FL-port	yes	yes	yes	yes	
LUNs						
	RAID-0, 1, 1+0	no	no	no	yes	
	RAID-5 (2 - 16 disk drives with floating parity)	yes	yes	yes	yes	
	Maximum # of RAID groups	1	2	2	45	
	Maximun number of LUNs	256	256	256	512	
	LUN Management (including Free format LUN size, LUN expansion, LUN deletion, Queuing LUN format, Quick LUN format)	yes	yes	yes	yes	
Availability						
	All parts redundant and hot-swappable	yes	yes	yes	yes	
	Disk drives, Controller Patrol function	yes	yes	yes	yes	
	Hitachi Dynamic Link Manager (failover)	optional	optional	optional	optional	
	VERITAS DMP support	yes	yes	yes	yes	
	Supports most other failover	yes	yes	yes	yes	
	Battery backup	yes	yes	yes	yes	
	Optional UPS battery	later	later	later	later	
	Maximum hot spares	1	1	1	15	
	LAN maintenance connections	2	2	2	2	
	Hi-Track	mandatory	mandatory	mandatory	mandatory	
Software		-	*	-	-	
bortware	ТгиеСору	no	no	no	optional	
	ShadowImage	optional	optional	optional	optional	
	-	included	included	included		
	Resource Manager				required*	
	HiCommand Device Manager	optional	optional	optional	optional	
	SANtinel	included	included	included	optional	
	FlashAccess	included	included	included	optional	
	SNMP	included	included	included	optional	

\* One copy of Resource Manager software is required for a Thunder 9570V system environment

#### Operating Systems Supported

Microsoft Windows NT Microsoft Windows 2000 Sun Solaris HP-UX IBM AIX Red Hat Linux SuSE Linux Turbolinux HP OpenVMS HP Tru64 UNIX NCR MP-RAS IBM DYNIX/ptx Novell NetWare SGI IRIX

#### Superlative Services and Support — Ranked Number One

When you partner with Hitachi Data Systems, we're with you every step of the way. Our storage experts provide experienced consultation—backed by comprehensive assessment, planning, and implementation services—to help you develop your enterprise information strategies and deploy your systems. In fact, respondents to a recent survey by FIND/SVP placed Hitachi Data Systems *Number One in overall service and support as well as technical performance—two years in a row (2001-2002)*.

#### Hitachi TrueNorth<sup>™</sup>—the Direction You Can Trust

Information and knowledge are determinants for success in the global economy. Thus, the standards for storage infrastructure availability, performance, scalability, and manageability continue to rise. Hitachi TrueNorth<sup>™</sup> is our response to the ensuing demand, allowing you to simplify, protect, and optimize your information infrastructure, reducing total cost of ownership and ensuring a more rapid return on investment.

The Hitachi TrueNorth vision and strategic direction, along with an associated product road map, anticipate customer needs. We view the future storage infrastructure as a synergistic combination of management software and powerful, intelligent storage systems that will deliver set-and-forget management, complemented by flexible capacity, performance, and connectivity.

Prepare for the future with Hitachi. As we move forward, we offer you an open and collaborative storage management framework, policy-based automation tools, virtualization capabilities, and the world's finest storage systems.

 For platform-specific feature availability, please contact your Hitachi Data Systems account representative or visit our Web site at www.hds.com.

# **Unylogix Technologies Inc**

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