

Hitachi High-performance NAS Platform, Powered by BlueArc® 3000 Series: Hardware

Hitachi High-performance NAS Platform, powered by BlueArc® 3000 Series, the next generation of intelligent platform for file services, is designed to meet the expanding requirements of sophisticated enterprise data centers and high-performance applications. With its intelligent service oriented architecture, organizations gain new levels of storage performance, scalability and reliability.

Advanced NAS Consolidation, File Services Capabilities, Hardware-accelerated Architecture

Hitachi High-performance NAS Platform is the first network attached storage (NAS) solution that consolidates and manages up to four⁽¹⁾ petabytes (PB) of data in a single storage pool. It also offers a Cluster Name Space option that creates a unified directory structure that supports Common Internet File System (CIFS) and Network File System (NFS) connectivity with seamless extensibility, up to eight nodes in a cluster. Built on hardware-accelerated architecture, the High-performance NAS Platform offers enterprise-class data management, virtualization and data protection for file services.

Feature Highlights

- Hardware-accelerated network storage with up to 1600MB/sec throughput for sequential workloads and up to 200,000 IOPS — demonstrating excellent generation scalability from 2000 series
- Data scalability with up to 4PB⁽¹⁾ in a single storage pool and file systems up to 256TB
- Active-active clustering of up to eight nodes with near linear performance scalability
- Simplified NAS and SAN management

- Cluster Read Caching for scalable read-intensive NFS workloads
- File System Module X (FSX) to boost performance in CIFS environment
- Cluster Name Space for unified directory structure
- Policy-based Hierarchical Storage Management (HSM) feature
- Transparent data migration
- Grow and shrink virtual volumes
- Up to four million files per directory
- Up to 1024 snapshots, one per second per file system
- Dynamic file system and storage pool expansion
- Up to 64 virtual servers with unique AD, LDAP or NIS authentication
- Integrated with the Hitachi Data Discovery Suite for file search and index

Hardware Specifications

- Modules:
 - Network Interface Module (NIM) with 6x1 Gigabit Ethernet (GbE) or 2x 10GbE on models 3100 (optional) and 3200 (default), or 4x1 Gigabit Ethernet (GbE) for 2000 series
 - File System Module A (FSA) only on 3100

⁽¹⁾ Require storage LUN size greater than 2TB. Current LUN size of Hitachi storage supports 1PB capacity.

Business Solutions

Hitachi Data Systems and its Hitachi TrueNorth™ Channel Partners offer industry-leading technology to help organizations of all sizes meet their unique requirements for business continuity, regulatory compliance and data recovery. Together, we provide cost-effective storage products and solutions that leverage world-renowned Hitachi global R&D resources to deliver performance, availability and scalability — supporting business critical applications and strengthening competitive advantage.

Now, as an integrated, unified strategy for networked storage, High-performance NAS Platform hardware supports a multitiered approach that provides different levels of data protection, data management or virtualization depending on the needs of the business.

Complementary Solutions

Hitachi Data Systems Global Solution Services (GSS) group understands the tremendous challenge of today's storage infrastructures. GSS provides design, implementation and data migration services to support the High-performance NAS Platform and the entire suite of Hitachi storage products.

Technical Specifications and Components

Network Interface Module (NIM)

User interface type	Gigabit Ethernet, IEEE 802.3z; Full-duplex support, IEEE 802.3x; Link aggregation (LAG), IEEE 802.3ad; Jumbo Frame support (up to 9,180 bytes); VLAN tagging IEEE 802.1Q; 10Gbit/sec Ethernet, IEEE 802.3ae
Number of ports	6GbE ports; two 10GbE ports
Data interfaces	10GBASE-SR (300m Optical), XFP; 10GBASE-LR (10-25km Optical), XFP; 10GBASE-ER (40km Optical), XFP; 1000 Base-SX (500m Optical), SFP; 1000 Base-TX (100m Copper), SFP
Port configuration	Port-independent configuration; Multiple IP addresses 2048 IP addresses per node (32 IP x 64 EVS)
Module diagnostics	Module status LEDs

NDMP Backup Attributes

NDMP support	NDMP v2, v3 and v4
Tape library system	Support for SAN and LAN connectivity
NDMP features	Direct access recovery (DAR), three-way backup and restore

System Management Attributes

Standard management features	Manage up to 8 nodes; replication management; automated system configuration and backup; role-based management enhanced system monitoring, anti-virus support, out-of-band ethernet management network
Management interfaces	GUI-based — HTTP, HTTPS; CLI-based — Telnet, Serial; Scripting — SiCtrl
Secure management access	SSL, SSH
Management access control	User/password authentication; management port definition; management access method; Access Control Lists (ACLs); NIS, Active Directory and LDAP

Group File System Modules

File System Module A (FSA)	General-purpose file system module (Top Module)
File System Module X (FSX)	Accelerated file system module giving a boost with CIFS clients. Only available on the 3200
File System Module B (FSB)	File System NVRAM module (Bottom Module)

Protocols Supported

Network protocol support	Common Internet File System (CIFS); Network File System (NFS) with UDP v2 and v3, or TCP v2 and v3; NDMP v2, v3 and v4; File Transfer Protocol (FTP); iSCSI
Management and other protocols	HTTP, SSL, SSH and SNMP v1; v2c, NIS, DNS, WINS, NTP; e-mail alerts

Storage Interface Module (SIM)

User interface type	Fibre Channel, SFP connectors
Number of ports	4 ports blade with 2000 and 3100. 8 ports blade on the 3200.
Fibre Channel port interfaces	2Gbit/sec or 4Gbit/sec

File System Attributes

File system	Silicon File System (SiliconFS); hardware-accelerated file system
Multiprotocol support	Simultaneous CIFS and NFS
Maximum volume size	256TB, dynamically scalable
Maximum storage supported	Up to 4PB ⁽¹⁾
Maximum files per directory	Up to 4 million or more files

⁽¹⁾ Require storage LUN size greater than 2TB. Current LUN size of Hitachi storage supports 1PB capacity.

- File System Module B (FSB)
- File System Module X (FSX) only on 3200
- Storage Interface Module (SIM) with 4 ports on 3100 and 8 ports on 3200
- Number of slots: four-slot chassis
- Chassis backplane bandwidth: 40Gbit/sec (full duplex)
- System memory: scalable up to 32GB
- Power supplies (PSU): dual (load sharing) hot-swappable power supplies
- Server diagnostics: status, power LEDs
- PSU diagnostics: AC, battery status LEDs
- Cooling: hot-swappable N+1 fan assembly
- Clustering: cluster interfaces, 10GbE; high availability, active-active cluster of up to eight nodes; dual ports for redundancy, XFP connectors
- Dimensions: height, 4U (7 in., 17.8cm); width, 19 in. IEC rack-compliant (48.4mm); depth, 25 in. (63.3cm); weight, 114 lbs (52kg)
- Mean Time Between Failure: system — 500,000 hours
- Management interface: Ethernet interface — server status, power LEDs; serial interface — AC, battery status LEDs; Ethernet port diagnostics — port status, LEDs, port activity LEDs
- Thermal rating: server BTU/hr — 1467 BTU/hr (430 Watts) CSA
- Power attributes: 4.1A (max) @ 110VAC, 455 W (US) optional; 2.2A (max) @ 208VAC, 455 W (US); 2.0A (max) @ 230 VAC, 455 W (UK)

Compliments of:

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