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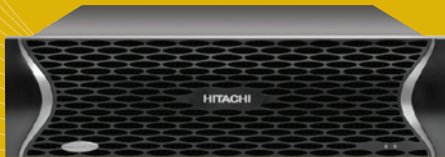
Hitachi NAS Platform 3080 and 3090: Hardware

The midrange Hitachi NAS Platform 3080 and 3090 offer best-in-class performance and scalability for unstructured data consolidation, multiprotocol file sharing, backup, replication, archive and disaster recovery of commercial application data.

Unified Storage Architecture and Intelligent Tiered Storage for Enterprise Midrange NAS

Hitachi NAS Platform uses a Hybrid Core Architecture that efficiently consolidates capacity across multiple applications and simplifies storage management for businesses with midrange storage requirements, without compromising performance and scalability. In addition, Hitachi NAS Platform 3080 and 3090 are designed for highly efficient content indexing and "intelligent file tiering," which enable policy-based migration of data and content among storage and archive tiers.

The unique Hardware Accelerated File system in Hitachi NAS Platform, powered by BlueArc®, delivers "no compromise" system performance and scalability, while multiple levels of virtualization overcome the complexities of large scale file system management and support popular commercial applications like Microsoft® Exchange, SQL Server® and SharePoint®, as well as Oracle, especially within VMware environments. The Hitachi NAS Platform 3080 and 3090 provide file server consolidation and advanced content management integration that simplifies data reorganization, classification, movement and protection for medium-sized enterprises.

Feature Highlights

- Massive computing parallelism delivers the performance to support multiple, varied applications.
- Hardware accelerated network storage supports up to 1,100MB/sec throughput for sequential workloads and up to 73,000 IOPS per node[1].
- Intelligent file tiering enables policy-based Hierarchical Storage Management (HSM) within Hitachi NAS Platform and enhanced "write once, read many" (WORM) capability.
- Scalability supports up to 2PB[2] usable capacity, a 256TB file system, and 30,000 concurrent CIFS users or 60,000 concurrent NFS users.
- Cluster Namespace (CNS) enables horizontal scalability by clustering up to four nodes in a single namespace.
- Advanced virtualization framework delivers thin provisioning and virtual server capabilities.
- Concurrent support for iSCSI, NFS and CIFS eliminates storage silos.

- Hitachi Data Discovery Suite integration enables efficient indexing and content search; it also enables e-discovery.
- Hitachi Content Platform for active archiving, data deduplication and content-aware compression.
- Unlimited snapshots are available, with up to 1024 snapshots per file system.
- Direct connection to Hitachi Adaptable Modular Storage 2000 family is supported.

Hardware Specifications

- Chassis: 3U, 5.1 in. (130mm); width 17.2 in. (437mm); depth 27 in. (685mm)
- System memory: 32GB Main/2GB NVRAM
- Clustering: interfaces, 10GbE; high availability, active-active cluster up to 4 nodes; dual ports for redundancy; XFP connectors
- Mean Time Between Failure: system — 500,000 hours
- Thermal rating (server): 1057 BTU/hr (max. 310 Watts); 853 BTU/hr (typical 250 Watts)
- Power attributes: 2.8A (max.) @ 110VAC, 450W (US) optional; 1.5A (max) @ 208VAC, 450W (US); 1.4A (max.) @ 230VAC, 450W (UK)

Hitachi Storage Solutions

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TECHNICAL SPECIFICATIONS AND COMPONENTS

Network Interfaces

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; 10Gb/sec Ethernet, IEEE 802.3ae
Number of ports	Four 10GbE ports; six 1GbE ports; five 10/100Mb 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; 256 IP addresses per node (4 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 four nodes; replication management; automated system configuration and backup; role-based management; enhanced system monitoring; antivirus 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 (AD) with Auditing and LDAP

Protocols Supported

Network protocol support	Common Internet File System (CIFS)/SMB 2; Network File System (NFS) with UDP v2 and v3 or TCP v2, v3 and v4; 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; email alerts

Connectivity

User interface type	Fibre Channel, SFP connectors
Number of ports	Two 10GbE ports for clustering; two 10GbE for file serving; six 1GbE ports for file serving; five 10/100 Ethernet Switch ports; four Fibre Channel ports for storage; one serial I/O port for management
Fibre Channel port interfaces	1, 2 or 4Gb/sec; aggregate 8Gb/sec

File System Attributes

File system	Silicon File System (SiliconFS); hardware accelerated file system
Single Namespace	Cluster Namespace (CNS) for file system virtualization and unified directory structure
Maximum volume size	256TB, dynamically scalable
Maximum virtual volumes	10,000
Maximum files per directory	Up to 16 million or more objects
Maximum file systems per Namespace	128
Maximum snapshots per file system	Unlimited, up to 1024 snapshots per file system, one per second per file system

Hitachi Storage Supported

Storage systems	Hitachi Adaptable Modular Storage 2000 family; Hitachi Universal Storage Platform® family
Disk drive types	Fibre Channel, SATA, SAS

Model	File System Object	IOPS per Node[1]	Throughput	Scalability	File System Size	Ethernet Ports	Fibre Channel Ports	Number of Nodes/per Cluster
3080	16 million per directory	40,000	Up to 700MB/sec[1]	1PB[2]	128TB	6 x 1Gb, 4 x 10Gb, 5 x 10/100Mb	4 x 4/2/1Gb Ports	Up to 2 Nodes
3090	16 million per directory	73,000	Up to 1,100MB/sec	2PB	256TB	6 x 1Gb, 4 x 10Gb, 5 x 10/100Mb	4 x 4/2/1Gb Ports	Up to 4 Nodes

- Weight: racked 55 lbs. (25Kg); shipped 60 lbs. (27.2Kg)
- Regulatory: RoHS 6 and China RoHS, UL/CSA/EN 60950-1, FCC Part 15/B Class A, EU 55022 Class A, EN61000, VDDI Class A

Complementary Solutions

The Hitachi Data Systems Global Solution Services (GSS) team offers design, implementation and data migration services that support Hitachi NAS Platform and the entire suite of Hitachi storage products.

With proven methodology, GSS ensures successful implementations that reduce risk and accelerate time to results.

[1] In mixed workloads, using SPECsfs2008_nfs.v3
[2] When used with the Hitachi Adaptable Modular Storage 2000 family

⊚ Hitachi Data Systems Corporation