

EMC Celerra NS40 Series Multi-Protocol Storage

EMC[®] Celerra[®] NS40 series systems can be integral elements of a comprehensive information lifecycle management strategy—a strategy that helps your enterprise attain the maximum value from its information, at the lowest TCO, at every point in the information lifecycle. Information lifecycle management maps the right service level to the right application at the right cost—at the right time.

Technical Specifications

Architecture

The NS40 series is available in both gateway (NS40G) and integrated (NS40) models. NS40 and NS40G products support both single and dual X-Blade configurations. X-Blade configurations can be deployed in Primary/Primary mode for performance-oriented environments or Primary/Standby for additional hardware availability protection.

Each X-Blade 40 consists of the following:

- Dual 2.8 GHz Pentium IV CPUs
- 4 GB Double Data Rate RAM (266 MHz)
- 2 Fibre Channel ports for back-end storage connectivity
- 2 Fibre Channel ports for tape connectivity
- 4 10/100/1000 BaseT ports, or 2 optical Gigabit Ethernet ports and 2 10/100/1000 BaseT ports
- 1 10/100/1000 management port
- Instance of DART File Server software

X-Blade failover supported in the Primary/Standby configurations.

Single X-Blade configurations can be upgraded non-disruptively to dual X-Blade configurations.

Platform managed by a Control Station.

- Connection to each X-Blade via 10/100 interface
- Manages X-Blade failover
- Manages all file systems via GUI
- SNMP MIB II manageability
- Telnet access option
- HTTP server management interface
- Dual USB, 40 GB ATA, CD, floppy

Array Connectivity

- NS40 gateway features Fibre Channel connectivity to:
 1. Symmetrix[®] storage: FC disks
 - Symmetrix 5.x and DMX series
 2. CLARiiON[®] storage: FC or ATA disks
 - CX300/500/700, CX3-20/40/80
- NS40 comes with integrated CLARiiON storage, which includes either four (4) additional Fibre Channel ports for host connectivity or four (4) additional iSCSI ports for Celerra MPFS connectivity.

DART File Server Facilities

Protocols Supported

- NFSv2, v3, and v4, CIFS, FTP, iSCSI, Fibre Channel
- Network Lock Manager (NLM) v1, v3, v4
- Routing Information Protocol (RIP) v1-v2
- Simple Network Mgmt Protocol (SNMP)
- Network Data Mgmt Protocol (NDMP) v1-v4
- Address Resolution Protocol (ARP)
- Internet Control Message Protocol (ICMP)
- Network Time Protocol (NTP) client
- Simple Network Time Protocol (SNTP)
- Kerberos Authentication
- Lightweight Directory Access Prot (LDAP)

Client Connectivity Facilities

- File can be accessed by FTP, NFS, CIFS
- Block access by iSCSI and Fibre Channel
- Virtual Data Movers for Windows clients
- Ethernet Trunking
- Link Aggregation (IEEE 802.3ad)
- Virtual LAN (IEEE 802.1q)
- UNIX archive utilities (tar/cpio)
- Network Status Monitor (NSM) v1
- Portmapper v2
- Network Information Service (NIS) Client
- Supports Microsoft DFS as Leaf node or Root Server
- NT LAN Manager (NTLM)
- LDAP signing for Windows
- Microsoft Windows Server 2003 Access-based Enumeration (ABE)

Optional DART Software Facilities

- Celerra Replicator[™]
- TimeFinder[®] FS (Symmetrix only)
- SRDF[®] (Symmetrix only)
- Celerra Manager Advanced Edition
- Celerra File-Level Retention
- Celerra Multi-Path File System (MPFS)

Note: SnapSure[™] licenses are bundled.
Celerra Manager-Basic is bundled.



High Availability Features

X-Blade Enclosure

- Redundant power supplies for X-Blades and Control Stations
- Hot-swappable power and cooling
- Battery backup for AC loss ride-through
- Internal environmental status monitoring

DART Software Capabilities

- Ethernet Trunking
- Link Aggregation
- Failsafe Networking
- Network interface port failover
- Data Mover failover

Control Station

- Hot swappable
- Dial-in remote maintenance
- Phone-home alerts

Symmetrix Storage

- Automatic cache and disk scrubbing
- Auto-call remote monitoring
- RAID 1 and RAID 5 disks
- Online hot-spare disk assemblies
- Battery backup to permit AC power loss ride-through
- Redundant power, battery, bus structures, and I/O subsystems

CLARiiON Storage (NAS only and SAN/NAS)

- Disk scrubbing
- Mirrored write cache with de-stage to disk upon AC power loss
- Redundant hot-swap power, bus structures, and I/O subsystems
- Auto-call remote monitoring
- Online global hot-spare disks

Dimensions (approximate)

Measurement Item	NS40	NS40G	Control Station
Height	11.97 in. (30.38 cm), 7 NEMA units (U), including mounting rails	1.71 in. (4.34 cm), 1 NEMA units (U), including mounting rails	1.75 in. (4.45 cm)
Width	18.92 in. (48.06 cm); mounting bars fit standard 19-inch NEMA cabinets	18.92 in. (48.06 cm); mounting bars fit standard 19-inch NEMA cabinets	17.5 in. (44.45 cm)
Depth	Chassis to rear: 31.58 in. (80.21 cm)	Chassis to rear: 31.58 in. (80.21 cm)	29.5 in. (75.64 cm)
Weight	SPE (max): 189.9 lbs (86.43 kg) (fully configured)	SPE (max): 46.91 lbs (21.3 kg) (fully configured)	28 lbs (12.73 kg)

Operating Environment

(See CLARiiON Environmental and Regulatory Specification)

Temperature: 50–104 degrees F (10–40 degrees C)

Temperature Gradient: 18 degrees F/hr (10 degrees C/hr)

Relative Humidity: 20% to 80% (non-condensing)

Altitude

8,000 ft. (2438.4 m) @ 104 degrees F (40 degrees C) max.

10,000 ft (3048 m) @ 98.6 degrees F (37 degrees C) max.

AC Power and Dissipation

Requirement: Description

AC line voltage: 100 to 240 VAC +10%, single phase

Frequency: 47 to 63 Hz, full auto-ranging

AC line current: 5.2 A maximum at 100 V, 2.6 A maximum at 200 V (gateway configured); 14.0 A maximum at 100 V, 7.5 A maximum at 200 V (configured with 15 disks)

Power consumption: 520 VA (510 W) maximum (gateway configured); 1,229 VA (1,168 W) maximum (configured with 15 disks)

Startup surge current: 15 A peak (gateway configured) at any line voltage; 59 A peak (configured with 15 disks) at any line voltage

Power factor: 0.98 minimum at full load, 100 VAC

Heat dissipation: 1,840 KJ/hr (1,740 Btu/hr) gateway configured estimate; 3,422 KJ/hr (3,236 Btu/hr) estimate configured with 15 disks

In-rush current: 25 A peak estimate for 1/2 line cycle per power supply @ 240 VAC, 15 A peak estimate for 1/2 line cycle per power supply @ 120 VAC (gateway configured); 116 A peak estimate for 1/2 line cycle per power supply @ 240 VAC, 65 A peak estimate for 1/2 line cycle per power supply @ 120 VAC (configured with 15 disks)

AC protection: 10 A internal fuse (non-serviceable)

AC inlet type: IEC320-C14 appliance coupler

Ride-through: 30 ms minimum at full load

Current sharing: 60% maximum, 40% minimum between power supplies



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