# EMC Celerra NS20 Multi-protocol Storage

## Technical Specifications

### Architecture

The EMC® Celerra® NS20 multi-protocol system supports both single and dual X-Blade 20 configurations. Dual X-Blade 20 configurations can be deployed in Primary/Primary mode for highest performance or Primary/Standby for additional hardware availability protection (i.e., X-Blade failover).

Each X-Blade 20 consists of the following:

- Dual 2.8 GHz Pentium IV CPUs
- 4 GB Double Data Rate RAM (266 MHz)
- 2 Fibre Channel ports for switch connectivity
- 1 Fibre Channel port for tape connectivity
- 4 10/100/1000 BaseT ports
- 1 10/100/1000 management port
- Instance of DART File Server software

Single X-Blade 20 configurations can be upgraded non-disruptively to dual X-Blade 20 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

NS20 comes with integrated EMC CLARiiON® storage featuring:

- 6 to 60 FC or SATA disks in up to 4 drive trays configured as
- — All FC drives
- — All SATA drives
- — Mixed FC and SATA drives (FC and SATA drives must be in separate trays.)
- 8 Optional Fibre Channel ports for host connectivity

EMC Celerra NS20 systems can be integral elements of a comprehensive information life-cycle 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.

### 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**

- Files can be accessed by FTP, NFS, and 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 Anti-virus
- Celerra Replicator
- Celerra Manager Advanced Edition
- Celerra File-Level Retention

Note: SnapSure™ and Celerra Manager-Basic are bundled.

**Optional CLARiiON Software Facilities**

- Navisphere®
- SnapView™
- MirrorView™
- SAN Copy™

Note: PowerPath® is bundled.

## High Availability Features

**NS20 X-Blade Enclosure**
- Redundant power supplies for X-Blades
- Hot-swappable power and cooling
- Internal environmental status monitoring

**DART Software Capabilities**
- Ethernet Trunking
- Link Aggregation
- Failsafe Networking
- Network interface port failover
- X-Blade failover

**Control Station**
- Auto Dial-out event alerting
- Dial-in remote maintenance

**CLARiiON Storage**
- Disk scrubbing
- Mirrored write cache with de-stage AC power loss
- Redundant hot-swap power, bus structures, and I/O subsystems
- Online global hot-spare disks
- PowerPath failover for Windows and UNIX hosts

## Dimensions (approximate)

| Measurement Item | NS20 with 1 15-disk tray | Expansion Disk Tray (can add 3) |
|---|---|---|
| Height | 12.25 in. (31.36 cm), 7 NEMA units (U), including mounting rails | 5.25 in. (13.34 cm) 3 NEMA units (U) |
| Width | 18.92 in. (48.06 cm); mounting bars fit standard 19-inch NEMA cabinets | 17.72 in. (45.0 cm) |
| Depth | Chassis to rear: 31.58 in. (80.21 cm) | 14.00 in. (35.56 cm) |
| Weight | SPE (max): 203.3 lbs (92.4 kg) (NS20 with 1 15-disk tray) | 68 lbs (30.8 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. (2,438.4 m) @ 104 degrees F (40 degrees C) max.

10,000 ft (3,048 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: 14.0 A maximum at 100 V, 7.5 A maximum at 200 V (configured with 15 disks)

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

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

Power factor: 0.98 minimum at full load, 100 VAC

Heat dissipation: 3,422 KJ/hr (3,236 Btu/hr) estimate configured with 15 disks

In-rush current: 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

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