

# EMC Celerra NS600

## Technical Specifications

### Network and Protocol Specifications

NFSv2 and NFSv3, CIFS, FTP	Ethernet Trunking
Network Lock Manager (NLM) V1, V3, V4	Link Aggregation IEEE 802.3ad
Routing Information Protocol (RIP) V1, V2	Gigabit Ethernet
Disk quota support (including rquotad)	UNIX archive utilities (tar/cpio)
Dynamic Domain Name Service (DNS) Client	Network Status Monitor (NSM) V1
Simple Network Management Protocol (SNMP)	Virtual LAN (VLAN) 802.1q
Simple Mail Transfer Protocol (SMTP)	Address Resolution Protocol (ARP)
Network Data Management Protocol (NDMP) V1.0, V2.0, V3.0	Internet Control Management Protocol (ICMP)
Portmapper V2	Network Time Protocol (NTP) Client
10/100/1000 Ethernet (RJ-45)	Simple Network Time Protocol (SNTP) Client
NT LAN Manager (NTLM)	Kerberos Authentication
Network Information Service (NIS) Client	Lightweight Directory Access Protocol (LDAP)
	Microsoft DFS Leaf Server Support

### Control Station Support (NS600-CS)

Two Ethernet (10/100BaseT RJ-45) connections	SNMP MIB II manageability
Five Serial Ports	Telnet manageability
Two USB Ports	

### Data Mover Enclosure (NS602)

**Two Data Movers per Data Mover Enclosure**  
Data Mover Connectivity:  
Six 10/100/1000 Mbps Ethernet RJ-45 connectors  
Four Fibre Channel connections  
Two serial ports  
One 10/100 Ethernet RJ-45 connector

### Storage Processor Enclosure (NS600-AUX)

**Two Storage Processors per Storage Processor Enclosure**  
Storage Processor Connectivity:  
Four Fibre Channel connections  
Two serial ports  
One 10/100 Ethernet RJ-45 connector

### High Availability Features

<b>Data Mover</b> Multiple copies of operating system on disk Ethernet Trunking IEEE 802.2 ad Link Aggregation	<b>Storage</b> Redundant Fibre Channel connections between Data Mover Enclosure and Storage Processor Enclosure Continuous disk data scrubbing Mirrored write cache with destage to disk Redundant hot-swap power, cooling, disks, Storage Processors Redundant standby power supplies to protect cached data from power outages Automatic Storage Processor Failover Max. number of disk supported on NS600 is 150 (10 expansion chassis) Max. addressable usable storage is 6.2TB (Primary/Primary mode of operation)
<b>Failsafe Networking</b> Network Interface Port Failover Primary to Secondary Data Mover Failover Mirrored write cache	

### RAID Levels

RAID 1: Mirrored pairs of two drives  
RAID 5: 4+1 and 8+1 RAID 5 groups  
Rebuild priority tuning: adjustment of minimum I/O reserved for server use during rebuild  
Configurable global hot spares; one hot spare required for every 30 drives

EMC Celerra NS600



## Drive Interface

Dual, independent FC-AL interface ports on each drive, operating at 200 MB/s  
Failover from each storage processor to both Fibre Channel loops is possible

Drive Type	36 GB (15K)	73 GB (10K)
Formatted Capacity (520 bytes/sector)	32.9 GB	71.25 GB
Form Factor	3.5"	3.5"
Height	1.0"	1.0"
Rotational Speed	15,000 rpm	10,000 rpm
Interface	Fibre Channel	Fibre Channel
Data Buffer	8 MB	16 MB
# of Segments	Up to 16	Up to 16
Transfer Rates		
Buffer to/from Media	51-69 MB/s	26.7-40.2 MB/s
SP to/from Buffer	200 MB/s (max.)	200 MB/s (max.)
Access Time		
Average Seek	3.6 ms Read 4.2 ms Write	5.2 ms Read 6.2 ms Write
Rotational Latency	2 ms	2.99 ms

## Dimensions (approximate)

### Rackmount Data Mover Enclosure — NS602 (standard NEMA 19-inch rack)

Height	Width	Depth	Weight
7.00 in. (17.8 cm)	17.5 in. (44.5 cm)	26.5 in. (70.02 cm)	139 lb. (63.1kg) max.

### Rackmount Storage Processor Enclosure — NS600-AUX (standard NEMA 19-inch rack)

Height	Width	Depth	Weight
8.58 in. (32.61 cm) (includes SPS)	17.5 in. (44.5 cm)	27.57 in. (70.02 cm)	139 lb. (63.1 kg) max.

### Control Station — NS600-CS (standard NEMA 19-inch rack)

Height	Width	Depth	Weight
1.7 in. (4.3cm)	17.5 in. (44.5cm)	29.5 in. (74.9cm)	28 lb. (12.7 kg) max.

### Rackmount Disk Expansion Chassis — CX-2GDAE (standard NEMA 19-inch rack)

Height	Width	Depth	Weight
5.2 in. (13.3 cm)	17.5 in. (44.5 cm)	24.75 in. (60.3 cm)	99 lb. (45 kg) max.

### 40U Rack Enclosure — RACK-40U

Height	Width	Depth	Weight
75.0 in. (190.8 cm)	24.0 in. (61.1 cm)	36.0 in. (91.6 cm)	Empty: 300 lb. (136 kg)

## Operating Environment

### (See CLARiiON Environmental and Regulatory Specification):

Ambient Temperature	10 to 40 Deg C
Temperature Gradient	10 Deg C/hr
Relative Humidity	20 to 80 (% , non-condensing)
Elevation	8,000 ft @ 40 degrees C 10,000 ft @ 37 degrees C

## AC Power and Dissipation:

AC Mains Voltage	DME/SPE
Frequency	100-240 Vac +10%, -10% Single Phase
AC Mains Current (max. est.)	47-63 Hertz; full auto-ranging
VA Rating (max. est.)	8.5 A max @ 100V (fully configured)
Input Power (max. est.)	520 Volt-Amps max (fully configured)
Efficiency	510 Watts max (fully configured)
Heat Dissipation (max. est.)	0.76 Min @ full load, 90VAC
Inrush Current (est.)	1740 Btu/hr max (fully configured)
AC Protection	25 Amp max per supply, for 1/2 line cycle
AC Inlet Type	10 Amp; non-serviceable fuse
Hold-up Time	IEC320-C14 Appliance Coupler
Current Sharing	30 mSec minimum at full load
Leakage Current	60/40 % max./min.
	3.5 mA max per supply

## Electromagnetic Emissions and Immunity

FCC Class A	EN55022 Class A
CE Mark	VCCI Class A (for Japan)
ICES-003 Class A (for Canada)	AS/NZS 3548 Class A (for Australia/New Zealand)
EN55024 Immunity, ITE	BSMI Class A (for Taiwan)

## Safety

UL 1950; CSA C22.2-950; IEC 950, TUV

## Quality Standard

Manufactured under an ISO 9000-registered quality system

# EMC<sup>2</sup>

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Published in the USA. 12/02

Specification Sheet  
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