

NetApp Enterprise Filer Specifications

Operating System	Network Appliance Data ONTAP™ 6.1.2 Software
Standard Software Features	Integrated automatic RAID manager, Snapshot™, Fast Boot, telnet, e-mail alerts, NIS, DNS, SNMP, FilerView®, NDMP. Typical system startup in under 10 minutes
Network Protocol Support	NFS v2/v3 over UDP or TCP, PCNFSD v1/v2 for (PC) NFS client authentication, Microsoft® CIFS with NT LM 0.12 using NetBIOS over TCP/IP, HTTP 1.0, HTTP 1.1 Virtual Hosts
Licensed Software Products	SnapManager® for Exchange, SnapRestore™, DataFabric™ Manager, Clustered Failover, SnapMirror®, ApplianceWatch™ for HP Openview and BMC
Hardware Features	Full duplex 10/100BT Ethernet onboard, diagnostic LEDs/LCD, 19-in. rack-mount enclosure, redundant hot-plug cooling fans, redundant hot-plug power supplies, floppy drive (Compact Flash on F880/F880c), optional 220V 36U 19-in. system cabinet
Default/Minimum/Maximum RAID Group Sizes	Default: 7 data + 1 parity/minimum: 1 data + 1 parity/maximum: 27 data + 1 parity
Maximum Volume Size	1.5TB
Disk Shelves Supported (Fibre Channel)	FC7, FC8, FC9, DS14
Disk Drive Capacities Supported (FC)	9/18/36/72GB

Clustered Filer Specifications	NetApp F880c	NetApp F840c	NetApp F820c	NetApp F810c
System Storage Capacity				
Maximum Number of Disk Drives by Capacity 9/18/36/72GB	224 224/224/168/84	224 224/224/168/84	168 168/168/168/84	168 168/168/168/84/42
Maximum Number of FC Loops	8	8	8	8
Maximum Drives per FC Loop	56	56	56	56
Maximum Raw Capacity	12/18TB*	12TB	6TB	3TB
Volumes & RAID Groups (minimum/maximum, min. of 1 volume per RAID group)	2/84	2/84	2/56	2/56
ECC Memory	6GB	6GB	2GB	1GB
Non-Volatile Memory	256MB	256MB	256MB	256MB
PCI Expansion Capacity	18	18	12	10
Optional Network Connectivity (total)	12 max	12 max	6 max	4 max
Single 10/100Base-T Ethernet	12 max	12 max	6 max	n/a
Quad 10/100Base-T Ethernet	6 max	6 max	6 max	4 max
Gigabit Ethernet	12 max	12 max	6 max	4 max
ATM	8 max	8 max	n/a	n/a
Fibre Channel Arbitrated Loop Disk Adapters	8 max	8 max	8 max	4 max
Clustered Failover Capable	Standard	Standard	Standard	Standard
Optional LVD, FWD SCSI Adapter Tape Backup	4 max	4 max	2 max	2
Optional FC-AL Adapter for Tape Backup	2 max	2 max	2 max	2 max

Filer Specifications	NetApp F880	NetApp F840	NetApp F820	NetApp F810
System Storage Capacity				
Max. Number Disk Drives (incl. legacy drives) by Capacity 9/18/36/72GB	168 168/168/168/84	168 168/168/168/84	112 112/112/84/42	112 112/84/42/21
Max. Number of FC Loops, Single/Dual Path	3/6	3/6	2/4	2/4
Max. Drives per FC Loop	56	56	56	56
Max. Raw Capacity	6/9TB*	6TB	3TB	1.5TB
Volumes & RAID Groups (minimum/maximum, min. of 1 volume per RAID group)	1/84	1/84	1/56	1/56
ECC Memory	3GB	3GB	1GB	512MB
Non-Volatile Memory	128MB	128MB	128MB	128MB
PCI Expansion Capacity	10	10	7	6
Optional Network Connectivity (total)	6 max	6 max	4 max	3 max
Single 10/100Base-T Ethernet	6 max	6 max	4 max	n/a
Quad 10/100Base-T Ethernet	3 max	3 max	3 max	3 max
Gigabit Ethernet	6 max	6 max	4 max	3 max
ATM	4 max	4 max	n/a	n/a
Fibre Channel Arbitrated Loop Disk Adapters	3 max	3 max	2 max	2 max
Clustered Failover Capable	Optional	Optional	Optional	Optional
Optional LVD, FWD SCSI Adapter Tape Backup	2 max	2 max	1 max	1 max
Optional FC-AL Adapter for Tape Backup	1 max	1 max	1 max	1 max

Filer Environmental Specifications	F880c, F840c, F820c	F880, F840, F820, F810
AC Power/Maximum Current	90-254 VAC, 10A @ 90 VAC	90-254 VAC, 5A @ 90 VAC
Thermal Rating	1200 BTU/hour	600 BTU/hour
Weight	60 kg (132 lb)	30 kg (66 lb)
Height	44.5 cm (17.5 in)	22.2 cm (8.75 in)
Width/Depth	43.2 cm (17 in)/55.9 cm (24 in)	
Operating Temperature & Relative Humidity	10° C to 40° C (50° F to 104° F); 10% to 90% relative humidity, noncondensing	
Nonoperating Temperature & Relative Humidity	-20° C to 65° C (-4° F to 149° F); 8% to 95% relative humidity, noncondensing, in original container	
Operating Acoustic Noise	<52 dBA at 1 meter	
Minimum Clearances	2.54 cm (1 in) for bezel, 22.9 cm (9 in) front; 76.2 cm (30 in) rear	

Storage Subsystem Specifications

Host Interface	PCI-based Fibre Channel Arbitrated Loop (FC-AL)
Disk Drive Storage Shelf	DiskShelf14-14 low-profile slots for FC disk drives
DiskShelf14 Interface	Dual redundant loop resiliency circuit (LRC) modules
Power Supply/Cooling Fans	Dual redundant, hot-pluggable, integrated power supply/fan assemblies (220 V)
AC/Power/Maximum Current	100-120 VAC/4A; 200-240 VAC/2A
Operating Temperature & Relative Humidity	10° C to 40° C (50° F to 104° F); 5% to 95% relative humidity, noncondensing
Nonoperating Temperature & Relative Humidity	-40° C to 65° C (-40° F to 149° F); 5% to 95% relative humidity, noncondensing
Thermal Rating	1195 BTU/hour (fully loaded shelf)
Operating Acoustic Noise	<60 dBA at 1 meter at 20° C
Height	13.3 cm (5.25 in)
Width/Depth	44.7 cm (17.6 in)/50.85 cm (20 in)
Weight	35 kg (77 lb) fully loaded

NetApp Systems Cabinet

Includes 1 Power Distribution Unit (PDU) with 2 Power-Sharing, Hot-Pluggable Power Drawers	Accommodates 1 filer head & 8 disk shelves, or 2 filer heads & 6 disk shelves, or 10 shelves
AC Power	200-240 VAC
Current	24A
Thermal Rating	3,000 watts/10,239 BTU/hr
Dimensions (height, width, depth)	186 cm (73 in)/61 cm (24 in)/92 cm (36 in)
Minimum Clearances	122 cm (48 in) front and rear; 30.5 cm (12 in) side
Weight (empty)	200 kg (440 lb)

Regulations

NetApp F800 Series Filer Appliance, DiskShelf14

Filer Safety	EN 60950:1992, CE, UL 1950, CSA 950, TUV 950, CB (all national deviations), EN 60825-1
Disk Shelf Safety	UL/C-UL; CE
Emissions	FCC Class A, EN 55022:1987, CE, BSMI, AS/NZ 3548
Immunity	EN 55024: 1998

F800 Series Enterprise FC Switch Support (for tape backup only)

FC Switch Vendor	Model Number	Minimum Firmware Level
Brocade	2400	2.2.2a
Brocade	2800	2.2.2a

F800 Series Enterprise Filer Tape Drive Support

Qualified Tape Devices

Tape Drives	Interface
Exabyte 8900 (Mammoth-1)	HVD/LVD SCSI
Exabyte (Mammoth-2)	HVD/LVD SCSI
IBM 3590B & 3590E	HVD SCSI or FC
IBM ULT3580-TDI (LTO)	LVD
IBM Ultrium-TDI (LTO)	LVD
Quantum DLT 7000	HVD/SE SCSI
Quantum DLT 8000	HVD/LVD SCSI
Quantum Super DLT-1	LVD SCSI
Seagate Ultrium (LTO)	LVD SCSI
Sony AIT-1	HVD/LVD SCSI
Sony AIT-2	HVD/LVD SCSI
Sony GY 2120 (DTF)	HVD/SCSI
Sony GY 8240 (DTF2)	HVD SCSI or FC
STK 9840 & 9940	HVD SCSI or FC



HVD = high voltage differential SCSI, LVD = low voltage differential SCSI, SE = single-ended SCSI; SE and LVD can not be mixed on an adapter. FC = Fibre Channel.

*F880 and F880c currently support 6 and 12TB respectively. They will support 9 and 18TB with a software release expected in Q1, 2002.

Specifications are subject to change without notice. Contact Network Appliance for current PCI adapter and disk drive support maximums.