SPEC SFS 1 Summary (Side 1 of 2) 097.LADDIS

Network Appliance
NetApp F230

Server Hardware

CPU, Memory, & Power

Model No.	F230
CPU	90MHz Pentium
# of CPUs	1
Primary Cache	8KBI+8KBD on chip
Secondary Cache	256KB(I+D) off chip
Other Cache	8MB NVRAM
Memory	256MB
UPS	None
Other hardware	FDDI

Server Software

OS Version	Data ONTAP (tm) 4.1 Beta
Other software	None
File system	WAFL

Load Generators (LGs)

Number of Load Generators:	3
Processes Per Load Generator:	4
Biod_Max_Reads:	2
Biod_Max_Writes:	2

Disk Subsystem & Filesystems

(Full Configuration on Side 2)

Num Disk Controllers	1
Num Disks	14
Num File Systems	1

Network Subsystem

(Full Configuration On Side 2)

Num Net Controllers	1
Num Networks	1 (N1)
Type Network	FDDI

Server Tuning

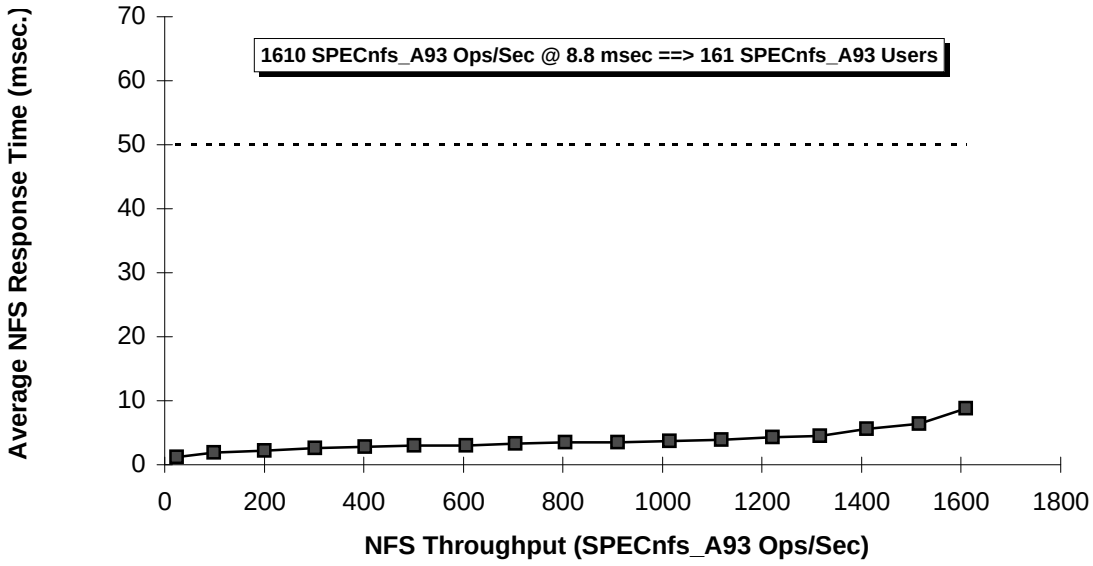
(Also see Notes/Tuning below)

Buffer Cache Size	Dynamic
Num NFS Daemons	See Notes
Fileset Size	8.7GB

NFS Throughput SPECnfs_A93 Ops/Sec	Avg. Response Time (NFS) Milliseconds
24	1.2
99	1.9
200	2.2
302	2.6
402	2.8
502	3.0
605	3.0
704	3.3
805	3.5
910	3.5
1014	3.7
1118	3.9
1221	4.3
1316	4.5
1411	5.6
1516	6.4
1610	8.8

Hardware Availability: May-97 **Software Availability:** Jun-97

License #: 33 **Tested:** Apr-97 **By:** Network Appli **Of:** Santa Clara, CA



Notes/Summary Of Tuning Parameters: (Continued on Side 2 of 2)

The NetApp F230 uses RAID to combine all of its disks into a single large file system. It uses a real-time embedded kernel that processes NFS requests right from the network layer without any NFS daemons. It uses non-volatile RAM to improve NFS performance.

To run the SFS benchmark, configure the NetApp F230 by adding this line to /etc/rc:

options minra 1 nosnap 1 nosnapdir 1

SPEC SFS 1 Summary (Side 2 of 2) 097.LADDIS

Network Appliance
NetApp F230

Detailed Server Description

Network Subsystem

X1102 (SA TP) MLT3 FDDI Adapter
1 MLT3 FDDI (N1): 3 LGs per Net

Disk Subsystem & Filesystems

Controller 1: Dual Fast/Wide SCSI
Disks: two X621 7-disk shelves (ea incl 7 4-GB Seagate Barracudas)
(one X621 per SCSI channel)
Contents: F1 (RAID 4: 13 Data Disks and 1 Parity Disk)

Detailed Load Generator (LG) Description

Load Gen. Type	*Model*	*# of CPUs*	*RAM*	*OS*	*Compiler*
LG1	Sun Ultra 170 (167-MHz UltraSPARC)	1	64MB	Solaris 2.5.1	gcc 2.5.6

Testbed Configuration

Load Gen. #	*Load Gen. Type*	*Network*	*Target File Systems*	*Notes*
Load Gen Number	Load Gen Type	Network	Target Filesys	Filesystem Mount Options
1-3	LG1	N1	F1	Default

Notes/Summary Of Tuning Parameters: (Continued from Side 1 of 2)