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

Network Appliance
NetApp F540

Server Hardware

CPU, Memory, & Power

Model No.	F540-64-2N-0
CPU	275MHz Alpha
# of CPUs	1
Primary Cache	16KBI+16KBD on chip
Secondary Cache	2MB(I+D) off chip
Other Cache	8MB NVRAM
Memory	256MB
UPS	None
Other hardware	FDDI

Server Software

OS Version	Data ONTAP (tm) 3.1.4 Beta
Other software	None
File system	WAFL

Load Generators (LGs)

Number of Load Generators:	2
Processes Per Load Generator:	7
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

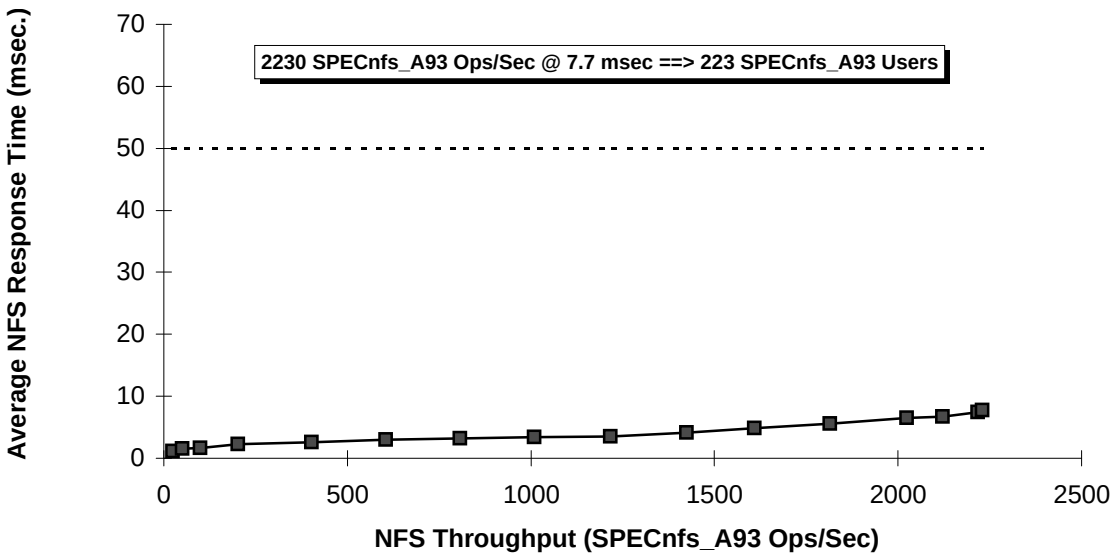
(Also see Notes/Tuning below)

Buffer Cache Size	Dynamic
Num NFS Daemons	See Notes
Fileset Size	12.5GB

NFS Throughput SPECnfs_A93 Ops/Sec	Avg. Response Time (NFS) Milliseconds
24	1.1
50	1.5
100	1.7
202	2.3
403	2.6
605	3.0
808	3.2
1010	3.4
1217	3.5
1425	4.1
1610	4.9
1814	5.6
2024	6.5
2122	6.7
2217	7.4
2230	7.7

Hardware Availability: Jun-96 **Software Availability:** Jun-96

License #: 33 **Tested:** May-96 **By:** Network Appli **Of:** Mountain View, CA



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

The NetApp F540 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 F540 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 F540

Detailed Server Description

Network Subsystem

X1101 (SA TP) MLT3 FDDI Adapter
1 MLT3 FDDI (N1): 2 LGs per Net

Disk Subsystem & Filesystems

Controller 1: two Fast/Wide/Differential SCSI channels
Disks per SCSI channel: 7 model X217 SCSI 4-GB (Seagate Barracuda)
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	Axil Ultima 1 (167-MHz UltraSPARC)	1	64MB	Solaris 2.5	gcc 2.5.6

Testbed Configuration

Load Gen. #	*Load Gen. Type*	*Network*	*Target File Systems*	*Notes*
1,2	LG1	N1	F1	

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