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

## Hewlett-Packard Company
## HP 9000 Model K460

### Server Hardware

***CPU, Memory, & Power***

| | |
|---|---|
| Model No. | K460 |
| CPU | 180MHz PA-RISC 8000 |
| # of CPUs | 4 |
| Primary Cache | 1MBI+1MBD off chip |
| Secondary Cache | None |
| Other Cache | None |
| Memory | 2GB |
| UPS | None |
| Other hardware | None |

***Server Software***

| | |
|---|---|
| OS Version | HP-UX 10.20 |
| Other software | PHKL_8429 PHKL_8430 |
| File system | HFS |

***Load Generators (LGs)***

| | |
|---|---|
| Number of Load Generators: | 2 |
| Processes Per Load Generator: | 64 |
| Biod_Max_Reads: | 2 |
| Biod_Max_Writes: | 4 |

***Disk Subsystem & Filesystems***

(Full Configuration on Side 2)

| | |
|---|---|
| Num Disk Controllers | 5 |
| Num Disks | 194 |
| Num File Systems | 128 |

***Network Subsystem***

(Full Configuration On Side 2)

| | |
|---|---|
| Num Net Controllers | 2 |
| Num Networks | 2 |
| Type Network | 266 Mbps Fibre Channel |

***Server Tuning***

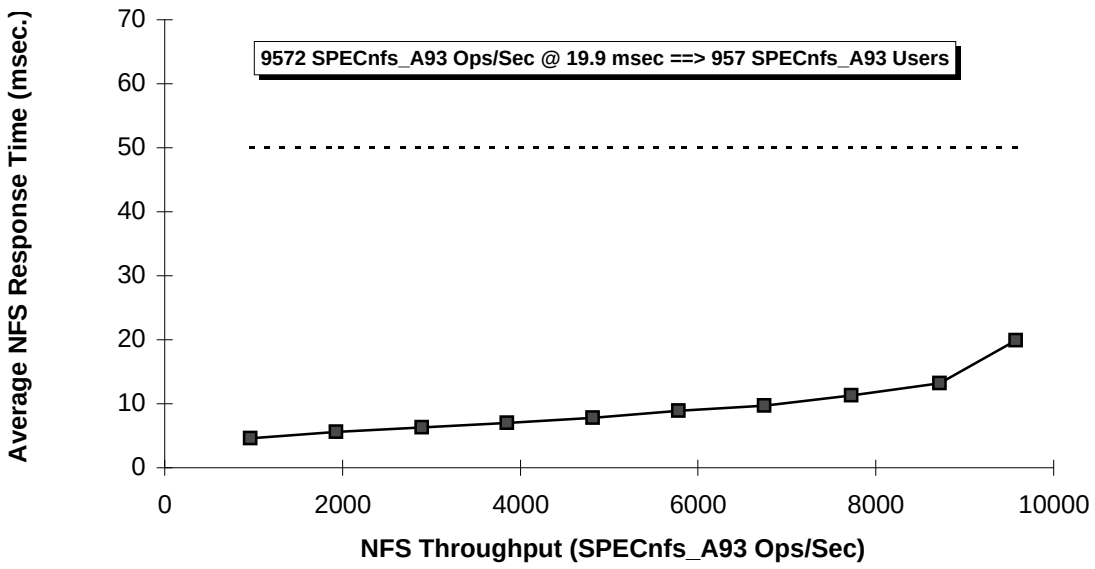
(Also see Notes/Tuning below)

| | |
|---|---|
| Buffer Cache Size | 1.2GB |
| Num NFS Daemons | 192 |
| Fileset Size | 52.2GB |

| NFS Throughput SPECnfs_A93 Ops/Sec | Avg. Response Time (NFS) Milliseconds |
|---|---|
| 964 | 4.6 |
| 1930 | 5.6 |
| 2892 | 6.3 |
| 3853 | 7.0 |
| 4817 | 7.8 |
| 5783 | 8.9 |
| 6747 | 9.7 |
| 7723 | 11.3 |
| 8721 | 13.2 |
| 9572 | 19.9 |

**Hardware Availability:** Sep-96 **Software Availability:** Nov-96

**License #:** 3 **Tested:** Aug-96 **By:** HP **Of:** Cupertino, CA




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

Server's HP-UX Kernel Parameters

nbuf 150000
ninode 400000
nfile 3000
maxswapchunks 1266
nproc 2048

nettune -s ip_intrqmax 256

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

## Hewlett-Packard Company
## HP 9000 Model K460

### Detailed Server Description

***Network Subsystem***

A3406A HP-HSC Fibre Channel Adapter Model 266
A3406A HP-HSC Fibre Channel Adapter Model 266

***Disk Subsystem & Filesystems***

Controller 1: F/W/Differential SCSI-2
Disks: 2 SCSI C2490WD 2GB Built-in
Contents: OS, page space

Controllers 2 - 5: HSC F/W/Differential SCSI A2969A
16 HP Advavced Disk Array with AutoRAID w/12 2GB 7200 rpm drives each
8 Logical Drives (LUNs) striped 1GB across 12 disk mechanisms per array
Contents 2: F1,F5,...,F125
Contents 3: F2,F6,...,F126
Contents 4: F3,F7,...,F127
Contents 5: F4,F8,...,F128

### Detailed Load Generator (LG) Description

| *Load Gen. Type* | *Model* | *# of CPUs* | *RAM* | *OS* | *Compiler* |
|---|---|---|---|---|---|
| LG1 | HP 9000 K420 | 4 | 1GB | HP-UX 10.20 | HP 92453-01 D.10.00 HP C |

### Testbed Configuration

| *Load Gen. #* | *Load Gen. Type* | *Network* | *Target File Systems* | *Notes* |
|---|---|---|---|---|
| 1 | LG1 | N1 | F1,F3,...,F127 | default |
| 2 | LG1 | N2 | F2,F4,...,F128 | default |

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

The adb tool was used to turn off disk i/o statistics:
adb -w /stand/vmunix /dev/kmem km_disable/w 1