SPECsfs97 Result

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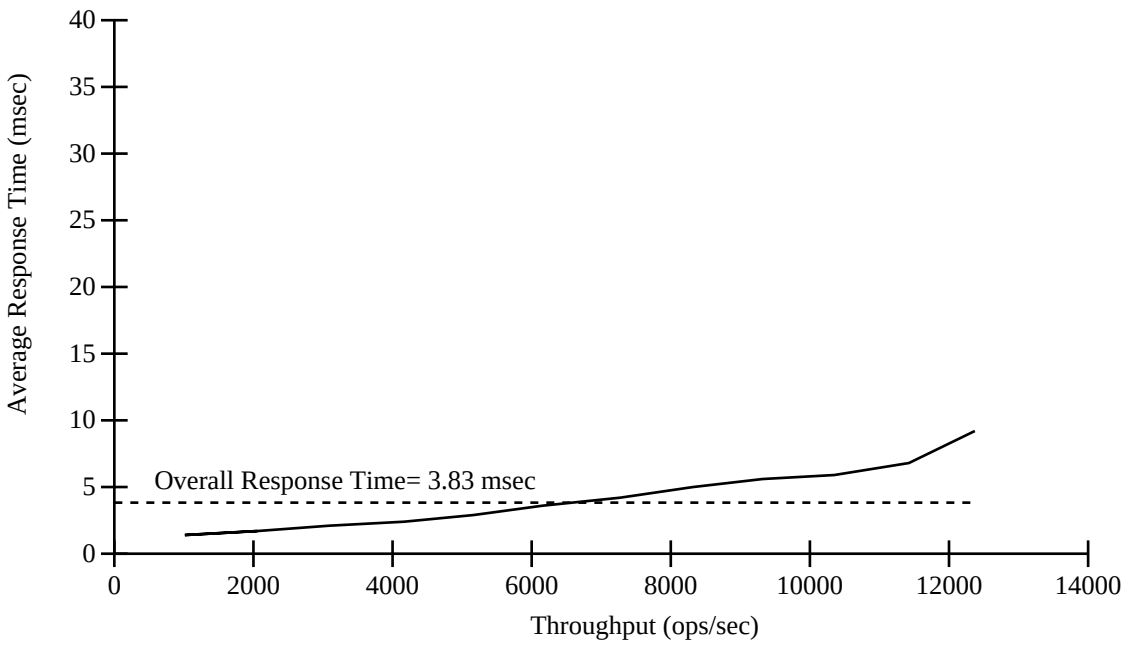
Hewlett Packard
HP Surestore NAS-105L

SPECsfs97_R1.v3 =

12371 Ops/Sec (Overall Response Time = 3.83 msec)

Tested:	Jan 2002	By:	Hewlett Packard	License #:	3	Hardware Avail:	Jan 2002	Software Avail:	Jan 2002

Throughput (ops/sec)	Average Response (msec)
1014	1.4
2057	1.7
3088	2.1
4166	2.4
5164	2.9
6156	3.6
7271	4.2
8321	5.0
9320	5.6
10351	5.9
11424	6.8
12371	**9.2**



CPU, Memory and Power

Model Name:	HP Surestore NAS-105L
Processor:	PA-8600 @ 550 Mhz
# of Processors:	4
Primary Cache:	512 KB Inst, 1 MB data
Secondary Cache:	N/A
Other Cache:	N/A
UPS:	N/A
Other Hardware:	Brocade fibre channel Silkworm 2800
Memory Size:	16 GB
NVRAM Size:	1 GB (512 MB /VA7400)
NVRAM Type:	VA7400
NVRAM Description:	Built into VA7400

Server Software

OS Name and Version:	HP-UX 11.11
Other Software:	N/A
File System:	JFS
NFS version:	3

Network Subsystem

Network Type:	PCI 1000Base-SX Adapter.
Network Controller Desc.:	Gigabit Adapter
Number Networks:	2
Number Network Controllers:	2
Protocol Type:	TCP
Switch Type:	HP Procurve 4000M
Bridge Type:	N/A
Hub Type:	N/A
Other Network Hardware:	N/A

Server Tuning

Buffer Cache Size:	Dynamic with ceiling at 62 percent
# NFS Processes:	128
Fileset Size:	118.8 GB

Disk Subsystem

Number Disk Controllers:	3
Number of Disks:	43
Number of Filesystems:	8
File System Creation Ops:	mkfs -F vxfs -o logsize=2048,bs=8k
File System Config:	N/A
Disk Controller:	Ultra2 Wide SCSI (builtin)
# of Controller Type:	1
Number of Disks:	1
Disk Type:	HP-C4476 18.2GB 10k RPM
File Systems on Disks:	os, swap, dump
Special Config Notes:	N/A
Disk Controller:	PCI FiberChannel A3740A Shortwave
# of Controller Type:	1
Number of Disks:	21
Disk Type:	36 GB, FC, 15K RPM
File Systems on Disks:	F1,F2..F4
Special Config Notes:	See notes below.
Disk Controller:	PCI FiberChannel A3740A Shortwave
# of Controller Type:	1
Number of Disks:	21
Disk Type:	36 GB, FC, 15K RPM
File Systems on Disks:	F5,F6..F8
Special Config Notes:	See notes below.

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Load Generator (LG) Configuration

Number of Load Generators:	16
Number of Processes per LG:	8
Biod Max Read Setting:	2
Biod Max Write Setting:	2
LG Type:	A-Class
LG Model:	A-180C
Number and Type Processors:	PA-7300LC @ 180 MHz
Memory Size:	128 MB
Operating System:	HP-UX 11.00
Compiler:	HP ANSI C compiler
Compiler Options:	+O2 -Ae
Network Type:	PCI 100 BaseT

Testbed Configuration

LG #	LG Type	Network	Target File Systems	Notes
1..16	LG1	N1	F1,F2..F8 / F1,F2..F8 / ...	

Notes/Tuning Information

Other Notes
-Configuration notes.
-.. Server is an rp5470 and contains:
-.. 4cpus, 16GB ram, 2 FC controllers, 2 Gigabit NICs
-.. Server has 2 fibre channel controllers. One
-.. is connected to FC switch #1, the second is
-.. connected to FC switch #2. Each VA7400 has 2 FC ports.
-.. The first VA7400 has one port is connected to FC switch #1
-.. The second VA7400 has one port connected to FC switch #2.
-.. Each VA7400 contains: 42 disks, 512 MB NVram, 1 FC port in use.
-.. Both VA7400s are using RAID 0/1.
-.. Each VA7400 has 4 LUNs. LUNs 1,2,3,4 are striped across 21 disks.
-.. LUNs 5,6,7,8 are striped across the other 21 disks in the second array.
-System tuneables.
-.. bufcache_hash_locks=4096, dbc_min_pct=40
-.. dbc_max_pct=62, dnlc_hash_locks=4096, scsi_max_qdepth=90
-.. ftable_hash_locks=4096, max_thread_proc=1000
-.. maxswapchunks=16384, ncsize=12000, nfile=16384
-.. ninode=800000, nkthread=10000, nproc=4096
-.. nstrpty=200, vnode_hash_locks=4096
-.. nc_hash_size=800000, vps_pagesize=4k,max_fcp_reqs=1024
-.. vx_fancyra_enable=1, create_fastlinks=1, vx_ninode=800000
-Filesystem tunes:
-.. read_unit_io=8192,read_pref_io=8192,write_unit_io=8192,write_pref_io=8192,
-..
max_buf_data_size=8192,read_nstream=1,write_nstream=1000,max_diskq=104857600