SPECsfs97 Result

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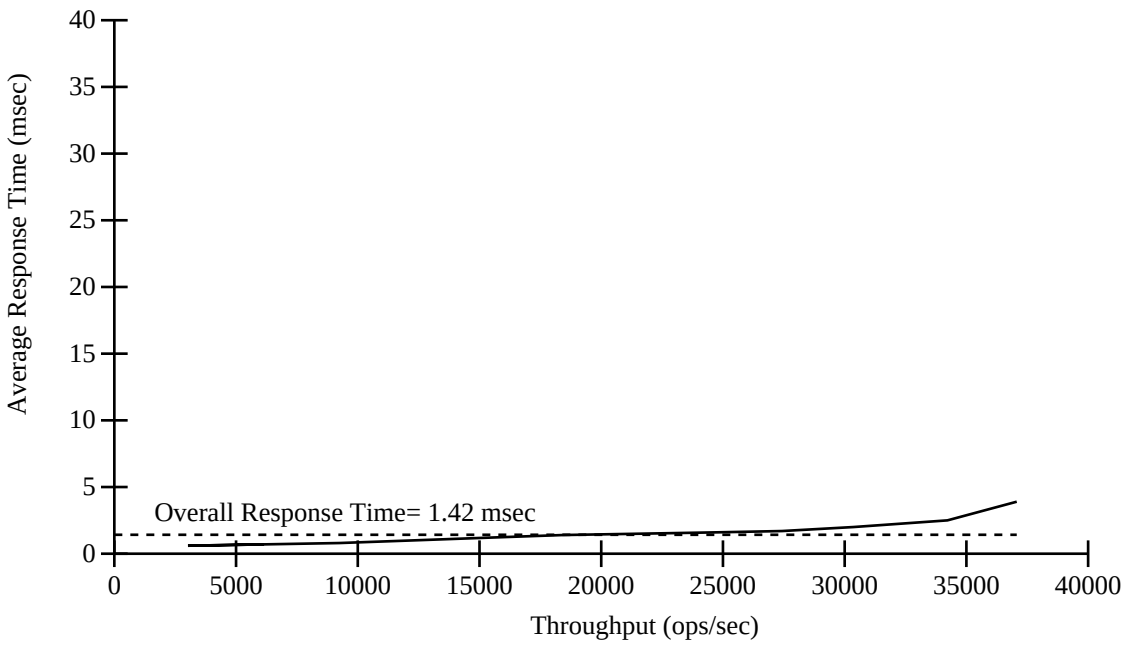
Hewlett-Packard
HP Server rx5670

SPECsfs97_R1.v2 =

37068 Ops/Sec (Overall Response Time = 1.42 msec)

Tested:	Oct 2002	By:	Hewlett-Packard	License #:	3	Hardware Avail:	Sept 2002	Software Avail:	Sept 2002

Throughput (ops/sec)	Average Response (msec)
3025	0.6
6149	0.7
9235	0.8
12298	1.0
15317	1.2
18418	1.4
21582	1.5
24668	1.6
27425	1.7
30362	2.0
34220	2.5
37068	**3.9**



CPU, Memory and Power

Model Name:	HP Server rx5670
Processor:	Itanium II @ 1000 Mhz
# of Processors:	4
Primary Cache:	16 KB + 16 KB (I + D)
Secondary Cache:	256 K
Other Cache:	L3 Cache 3 MB
UPS:	N/A
Other Hardware:	2 HP16B Fibre Channel Switches
Memory Size:	12 GB
NVRAM Size:	8 GB (1 GB/VA7400 * 8)
NVRAM Type:	1 GB battery backed NVRAM (3 day)
NVRAM Description:	VA7400 Array controller

Server Software

OS Name and Version:	HP-UX 11.22
Other Software:	N/A
File System:	JFS
NFS version:	2

Network Subsystem

Network Type:	Gigabit Ethernet
Network Controller Desc.:	HP A6847-60001 PCI 1000Base-SX
Number Networks:	4
Number Network Controllers:	4
Protocol Type:	UDP
Switch Type:	HP Procurve 4000M Gigabit
Bridge Type:	N/A
Hub Type:	N/A
Other Network Hardware:	N/A

Server Tuning

Buffer Cache Size:	Dynamic with ceiling at 65 percent
# NFS Processes:	256
Fileset Size:	352.8 GB

Disk Subsystem

Number Disk Controllers:	5
Number of Disks:	337
Number of Filesystems:	129
File System Creation Ops:	mkfs -F vxfs -bs 8192 -o logsize=2048
File System Config:	N/A
Disk Controller:	Ultra2 Wide SCSI (Builtin)
# of Controller Type:	1
Number of Disks:	1
Disk Type:	ST173404LC (10k RPM)
File Systems on Disks:	os, swap, dump
Special Config Notes:	N/A
Disk Controller:	Fibre Channel A6795A
# of Controller Type:	4
Number of Disks:	336
Disk Type:	9GB, 10000 rpm
File Systems on Disks:	F1,F5..124/F2,F6..F125/F3,F7..F126/F4,F8..F128
Special Config Notes:	See notes below.

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Load Generator (LG) Configuration

Number of Load Generators:	32
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:	256 MB
Operating System:	HP-UX 11.11
Compiler:	HP ANSI C compiler
Compiler Options:	+O2 -Ae
Network Type:	PCI 1000Base-SX Adapter. A4926A-60001

Testbed Configuration

LG #	LG Type	Network	Target File Systems	Notes
1,2..8	LG1	N1	F1..F8/F9..F16/F17..F24/..../F57..F64	8 clients/net
9,10..16	LG1	N2	F65..F72/F73..F80/F81..F88/..../F121..F128	8 clients/net
17,18..24	LG1	N3	F1..F8/F9..F16/F17..F24/..../F57..F64	8 clients/net
25,26..32	LG1	N4	F65..F72/F73..F80/F81..F88/..../F121..F128	8 clients/net

Notes/Tuning Information

Other Notes
-System tunables:
-nstrpty=200,scsi_max_qdepth=90
-swapmem_on=0,vps_pagesize=4,vps_ceiling=8
-nkthread=10000,max_thread_proc=2048,nproc=8192
-maxuprc=3277,dnlc_hash_locks=4096,ftable_hash_locks=4096
-bufcache_hash_locks=4096,vnode_hash_locks=4096
-dbc_min_pct=40,dbc_max_pct=65,nfile=16384
-maxfiles=2048,max_fcp_reqs=1024,ninode=100000
-ncsize=100000,vx_fancyra_enable=1
-There are 8 VA7400 disk arrays. Four connected to FC switch #1
-and four connected to FC switch #2. Two fibre channel controllers
-are connected to FC switch #1 and the other two fibre channel
-controllers are connected to FC switch #2.
-There are 16 filesystems on each VA7400 array and each
-filesystem is a 42 disk simple RAID 0/1 configuration.
-FC controllers and switches are in 2 Gbit mode.