SPECsfs97 Result

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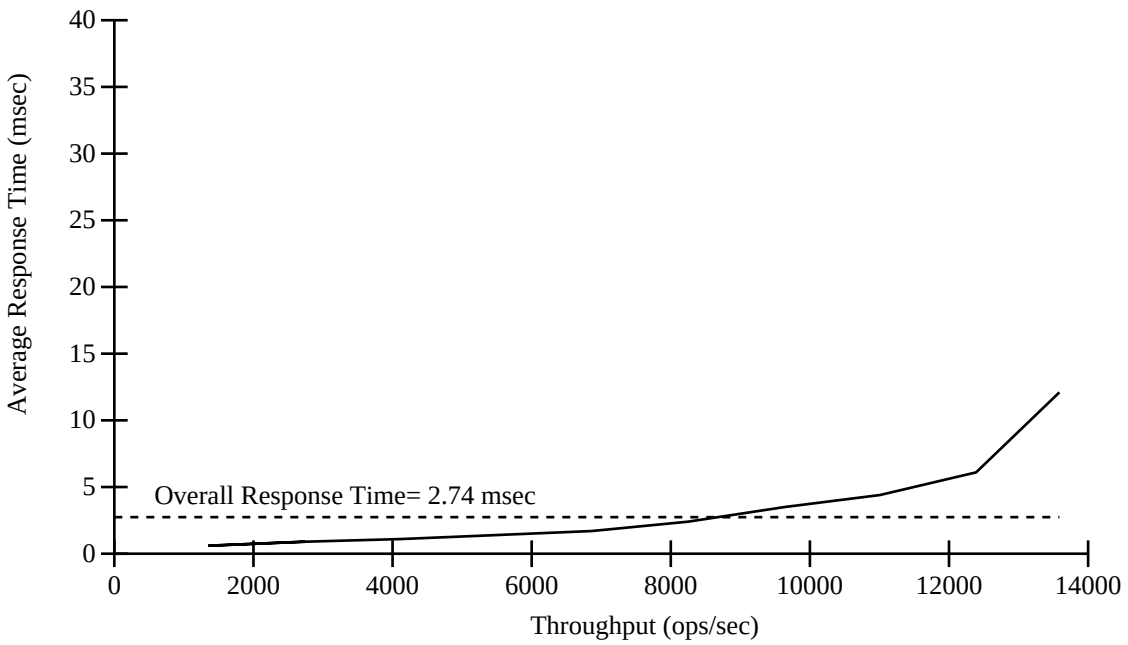
Hewlett-Packard
HP surestore NAS VA 105L

SPECsfs97_R1.v2 =

13587 Ops/Sec (Overall Response Time = 2.74 msec)

Tested:	Sept 2001	By:	Hewlett-Packard	License #:	3	Hardware Avail:	Sept 2001	Software Avail:	Sept 2001

Throughput (ops/sec)	Average Response (msec)
1352	0.6
2737	0.9
4122	1.1
5502	1.4
6863	1.7
8246	2.4
9637	3.5
11007	4.4
12390	6.1
13587	**12.1**



CPU, Memory and Power

Model Name:	HP surestore NAS VA 105L
Processor:	PA-8600@552Mhz
# of Processors:	2
Primary Cache:	512KB Instruction, 1MB data on chip
Secondary Cache:	N/A
Other Cache:	N/A
UPS:	N/A
Other Hardware:	Brocade Silkworm 2800 Fibre channel switch
Memory Size:	16 GB
NVRAM Size:	2GB (1GB per controller)
NVRAM Type:	Double buffered
NVRAM Description:	3-days battery protection

Server Software

OS Name and Version:	HP-UX 11.11
Other Software:	N/A
File System:	JFS
NFS version:	2

Network Subsystem

Network Type:	Gigabit Ethernet
Network Controller Desc.:	PCI 1000Base-SX (A4926A)
Number Networks:	1
Number Network Controllers:	2
Protocol Type:	UDP
Switch Type:	HP Procurve Gigabit Switch 4108GL
Bridge Type:	N/A
Hub Type:	N/A
Other Network Hardware:	N/A

Server Tuning

Buffer Cache Size:	Dynamic 45-55% (see notes below)
# NFS Processes:	100
Fileset Size:	131.5 GB

Disk Subsystem

Number Disk Controllers:	3
Number of Disks:	31
Number of Filesystems:	10 (FS01-FS10)
File System Creation Ops:	See notes below
File System Config:	See notes below
Disk Controller:	Ultra2 Wide SCSI (builtin)
# of Controller Type:	1
Number of Disks:	1
Disk Type:	Seagate ST39204LC
File Systems on Disks:	OS, swap, dump
Special Config Notes:	N/A
Disk Controller:	PCI Fiber Channel A5158A
# of Controller Type:	1
Number of Disks:	15
Disk Type:	18GB, 15000rpm ST318451FC
File Systems on Disks:	FS01,FS03,FS05,FS07,FS09
Special Config Notes:	See notes below ...
Disk Controller:	PCI Fiber Channel A5158A
# of Controller Type:	1
Number of Disks:	15
Disk Type:	18GB, 15000rpm ST318451FC
File Systems on Disks:	FS02,FS04,FS06,FS08,FS10
Special Config Notes:	See notes below ...

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Load Generator (LG) Configuration

Number of Load Generators:	4
Number of Processes per LG:	40
Biod Max Read Setting:	2
Biod Max Write Setting:	2
LG Type:	J6000
LG Model:	J6000
Number and Type Processors:	2X PA-8600 @ 551Mhz
Memory Size:	10GB
Operating System:	HP-UX 11.0
Compiler:	HP ANSI C
Compiler Options:	+O2 -Ae
Network Type:	PCI 1000Base-SX Adapter A4926A

Testbed Configuration

LG #	LG Type	Network	Target File Systems	Notes
1	J6000	1	/FS01../FS10	N/A
2	J6000	1	/FS01../FS10	N/A
3	J6000	1	/FS01../FS10	N/A
4	J6000	1	/FS01../FS10	N/A

Notes/Tuning Information

Other Notes
-NSTREVENT=1056,NSTRSCHED=16,STRMSGSZ=65535,bufcache_hash_locks=4096
-dbc_max_pct=55,dbc_min_pct=45,default_disk_ir=1,dnlc_hash_locks=4096
-ftable_hash_locks=4096,max_fcp_reqs=1024,max_thread_proc=4000
-maxdsiz=0XC0000000,maxdsiz_64bit=0X400000000,maxfiles=2048
-maxfiles_lim=2048,maxssiz=0X4FB3000,maxssiz_64bit=0X10000000
-maxswapchunks=16384,maxtsiz=0X40000000,maxtsiz_64bit=0X100000000
-maxuprc=2048,maxusers=512,maxvgs=50,ncallout=4096,ncsize=500000
-nfile=16384,ninode=2000,nkthread=12000,nproc=4096,npty=200
-nstrpty=200,nswapdev=25,scsi_max_qdepth=32,shmmax=0X40000000
-swchunk=16384,vnode_hash_locks=4096,vps_ceiling=64,vx_fancyra_enable=1
-vx_ninode=1500000
-vxtunefs -o read_pref_io=$bs,read_nstream=10,read_unit_io=$bs,
-write_pref_io=$bs,default_indir_size=$bs,write_unit_io=$bs,
-default_indir_size=$bs write_nstream=20,max_diskq=104857600,
-max_buf_data_size=8K /FS$i with bs=8192
-One Disk array with 30 disks RAID 0/1 (hardware) with 10 filesystems.
-Each filesystem is striped across 15 disks hardware
-There are 2 FC controllers plugged into the Brocade FC switch
-and 2 ports from the Brocade FC switch going to the disk arrays.
-mkfs -F vxfs -o logsize=2048,bsize=8192,largefiles