SPECsfs97 Result

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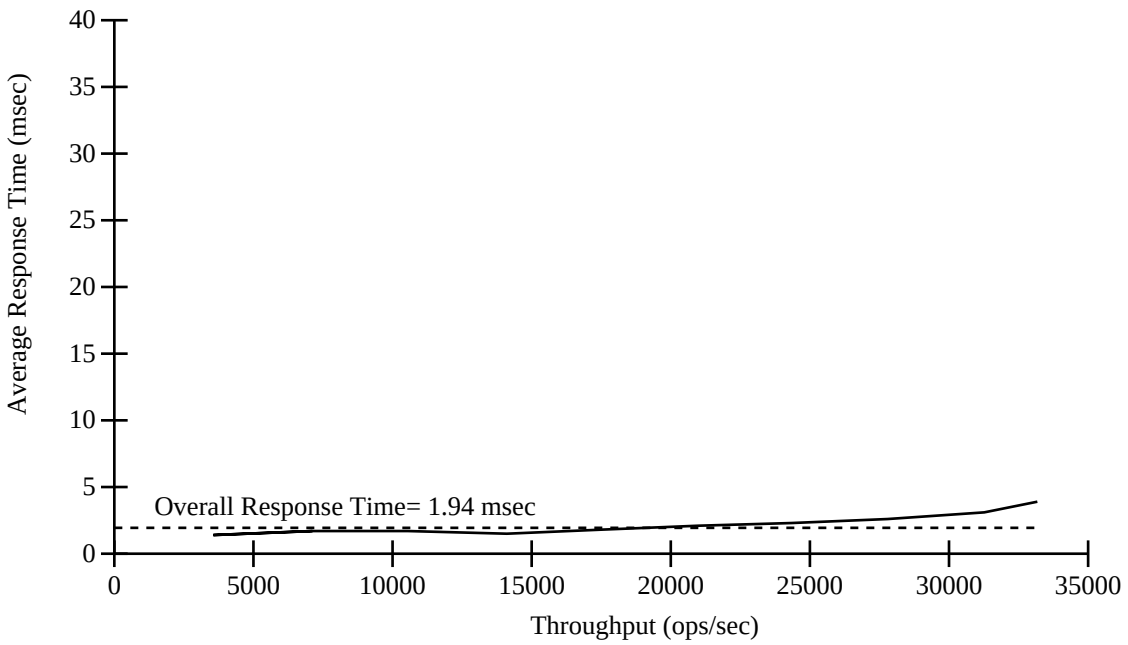
Procom Technology Inc.
NetFORCE 4200c (Failover Cluster)

SPECsfs97_R1.v3 =

33175 Ops/Sec (Overall Response Time = 1.94 msec)

Tested:	July 2003	By:	Procom Technology Inc.	License #:	80	Hardware Avail:	May 2003	Software Avail:	June 2003

Throughput (ops/sec)	Average Response (msec)
3560	1.4
7122	1.7
10542	1.7
14107	1.5
17462	1.8
20996	2.1
24334	2.3
27792	2.6
31268	3.1
33175	**3.9**



CPU, Memory and Power

Model Name:	NetFORCE 4200c (Failover Cluster)
Processor:	3.06GHz Xeon (533 MHz Front_side Bus)
# of Processors:	2(one per node)
Primary Cache:	(12KBI + 8KBD) on chip
Secondary Cache:	512KB
Other Cache:	N/A
UPS:	N/A
Other Hardware:	Brocade switch(SilkWorm 3200)
Memory Size:	8 GB (system Memory:4GB per node)
NVRAM Size:	8 GB (RAID controller:4GB per node)
NVRAM Type:	SDRAM Cache Memory
NVRAM Description:	3-days battery Protection

Server Software

OS Name and Version:	NetFORCE Ver.4.2 M24B76
Other Software:	None
File System:	sfs2
NFS version:	3

Network Subsystem

Network Type:	Gigabit Ethernet
Network Controller Desc.:	Gigabit Ethernet [PCI,1000Base-SX]
Number Networks:	1
Number Network Controllers:	2 (one per node)
Protocol Type:	TCP
Switch Type:	Extreme Summit48i
Bridge Type:	N/A
Hub Type:	N/A
Other Network Hardware:	N/A

Server Tuning

Buffer Cache Size:	Default
# NFS Processes:	70
Fileset Size:	335.8 GB

Disk Subsystem

Number Disk Controllers:	4 [Dual ports: two Per node]
Number of Disks:	230 (115 per node)
Number of Filesystems:	14
File System Creation Ops:	N/A
File System Config:	23 RAID0 group of five disks on each node.
Disk Controller:	Integrated 2Gb Fibre Channel
# of Controller Type:	4 [Model No: BA03052]
Number of Disks:	230 (115 per node)
Disk Type:	Seagate ST3146807FC 146GB 10K RPM
File Systems on Disks:	Filesystem (vola1 vola2 ... vola7 volb1 volb2 ... volb7)
Special Config Notes:	See notes below.

For More Information contact

SPEC

info@spec.org
http://www.spec.org/

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Load Generator (LG) Configuration

Number of Load Generators:	28
Number of Processes per LG:	4
Biod Max Read Setting:	2
Biod Max Write Setting:	2
LG Type:	LG1
LG Model:	Intel Base
Number and Type Processors:	PIII 700 MHz
Memory Size:	256 MB
Operating System:	Redhat 7.0
Compiler:	gcc 2.96
Compiler Options:	-DNO_T_TYPES-DUSE_INTTYPES
Network Type:	Intel PCI 100Base-T

A line in your configuration is too long
or you have too many lines.
Please fix the problem and try again

Notes/Tuning Information

Other Notes
-The NetFORCE 4200 is cluster system with two nodes. All RAID groups in the system have the same configuration.
-Each RAID group is configured as RAID zero with five drives and 8KB stripe.
-File system configuration per node:
-Each node has seven file systems that are on two RAID zero groups; one RAID zero group contains four file systems and the other contains three file systems.
-For each file system there are three additional extensions, each extension is on a separate RAID zero group. The extension is concatenated to the base file system to provide additional capacity.
-Total number of disks per node:115
-For file systems: 5*2=10
-For the partitions: 5*3*7=105
-Total disks:10 + 105=115
-These are the parameters set in the OS:
-Set the number of NFS workers to 70. This specifies the number
-of NFS request handlers to run within the NetFORCE operating system.
-Disable directory auditing. Directory auditing is an optional file
-system validation and integrity check feature that can be enabled or
-disabled as required.
-Set the NFS UTF8 option to yes
-Disable file system readahead.
-Disable file system access time updates.
-RAID sub-system configuration per node: each node has 4 RAID enclosures.
-Each RAID enclosure has a dual-controller with disk drives which is connected to another JBOD with disk drives.
-All RAID controllers of the node, and its HBAs, are connected thru fiber channel switches.
-The switches are linked together allowing a node to access any RAID controller in the system.