SPECsfs97 Result

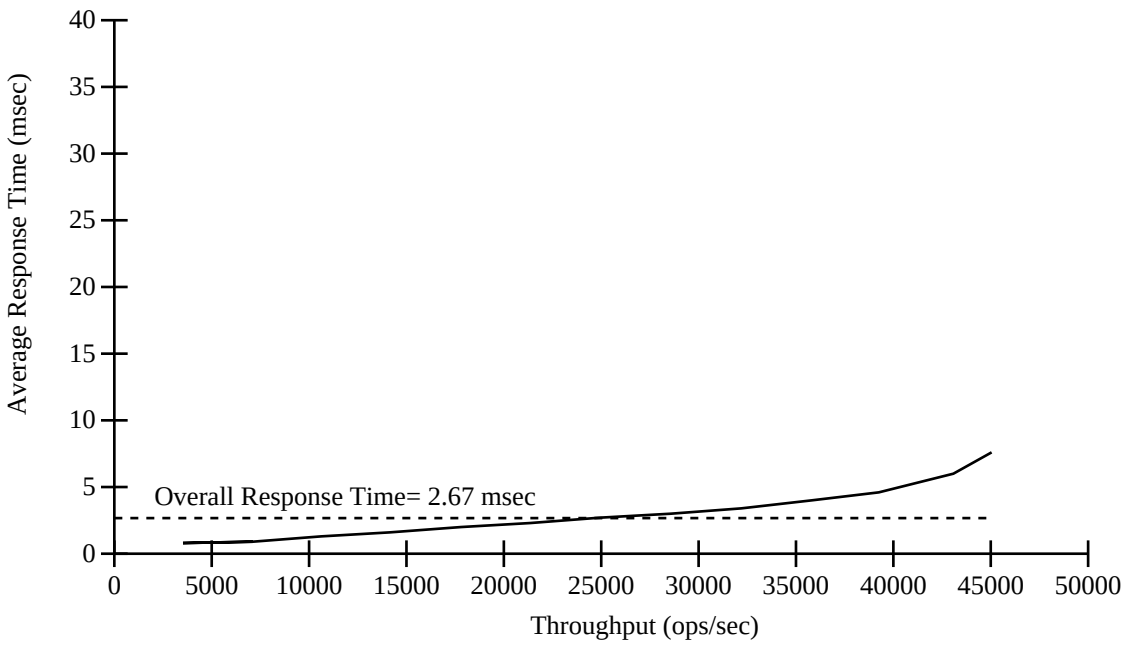
© Copyright 1997-2002 Standard Performance Evaluation Corporation

EMC Corp.
Celerra NS600 Cluster (2FS, primary/primary, 8GB BE)

SPECsfs97_R1.v3 =
45045 Ops/Sec (Overall Response Time = 2.67 msec)

Tested:	April 2003	By:	EMC Corp.	License #:	47	Hardware Avail:	April 2003	Software Avail:	June 2003

Throughput (ops/sec)	Average Response (msec)
3526	0.8
7101	0.9
10623	1.3
14144	1.6
17807	2.0
21357	2.3
24912	2.7
28570	3.0
32192	3.4
35803	4.0
39253	4.6
43081	6.0
45045	**7.6**



CPU, Memory and Power

Model Name:	Celerra NS600 Cluster (2FS, primary/primary, 8GB BE)
Processor:	2GHz Pentium 4
# of Processors:	4 [2 per datamover]
Primary Cache:	16KBI+16KBD on chip
Secondary Cache:	512KB(I+D)
Other Cache:	N/A
UPS:	N/A
Other Hardware:	N/A
Memory Size:	8 GB (4 GB per datamover)
NVRAM Size:	N/A
NVRAM Type:	N/A
NVRAM Description:	N/A

Server Software

OS Name and Version:	Dart 5.1.15.99
Other Software:	Redhat Linux 7.2 on Control Station
File System:	N/A
NFS version:	3

Network Subsystem

Network Type:	Jumbo Gigabit Ethernet
Network Controller Desc.:	Gigabit Ethernet Controller
Number Networks:	1
Number Network Controllers:	4 [2 per datamover]
Protocol Type:	TCP
Switch Type:	Cisco 6509 Gbit Switch (Jumbo)
Bridge Type:	N/A
Hub Type:	N/A
Other Network Hardware:	N/A

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

For More Information contact

SPEC

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

SPECsfs97 Result

© Copyright 1997-2002 Standard Performance Evaluation Corporation

EMC Corp.
Celerra NS600 Cluster (2FS, primary/primary, 8GB BE)

SPECsfs97_R1.v3 =
45045 Ops/Sec (Overall Response Time = 2.67 msec)

Load Generator (LG) Configuration

Number of Load Generators:	12
Number of Processes per LG:	24
Biod Max Read Setting:	5
Biod Max Write Setting:	5

LG Type:	LG1	LG Type:	LG3
LG Model:	Sun Sparc 220R	LG Model:	Sun Sparc 220R
Number and Type Processors:	2 x 450 MHz Sparc	Number and Type Processors:	2 x 360 MHz Sparc
Memory Size:	512 MB	Memory Size:	512 MB
Operating System:	Solaris 2.8	Operating System:	Solaris 2.8
Compiler:	Sun Forte 6.2	Compiler:	Sun Forte 6.2
Compiler Options:	None	Compiler Options:	None
Network Type:	Intraserver Gbe	Network Type:	Intraserver Gbe
LG Type:	LG2	LG Type:	LG4
LG Model:	Sun Sparc 420R	LG Model:	Sun Sparc 280R
Number and Type Processors:	2 x 450 MHz Sparc	Number and Type Processors:	2 x 750 MHz Sparc
Memory Size:	1 GB	Memory Size:	1 GB
Operating System:	Solaris 2.8	Operating System:	Solaris 2.8
Compiler:	Sun Forte 6.2	Compiler:	Sun Forte 6.2
Compiler Options:	None	Compiler Options:	None
Network Type:	Intraserver Gbe	Network Type:	Intraserver Gbe

Testbed Configuration

LG #	LG Type	Network	Target File Systems	Notes
1..2	LG1	1	/fs1, /fs2, ..., /fs1, /fs2	N/A
3..6	LG2	1	/fs1, /fs2, ..., /fs1, /fs2	N/A
7..8	LG3	1	/fs1, /fs2, ..., /fs1, /fs2	N/A
9..12	LG4	1	/fs1, /fs2, ..., /fs1, /fs2	N/A

Notes/Tuning Information

Other Notes
-param ufs inoBlkHashSize=170669 (inode block hash size)
-param ufs inoHashTableSize=1218761 (inode hash table size)
-param ufs updateAccTime=0 (disable access-time updates)
-param nfs withoutCollector=1 (enable NFS-to-CPU thread affinity)
-param file prefetch=0 (disable Dart read prefetch)
-param kernel maxStrToBeProc=16 (no. of network streams to process at once)
-file initialize nodes=980000 dnlc=1056000 (no. of inodes, no. of dirctory name) (lookup cache entries)
-nfs start openfiles=722462 nfsd=4 (no. of open files and 4 NFS daemons)
-bcm cge0 offload (offload IP checksum calc. to the NIC for network controller) (0)
-bcm cge1 offload (offload IP checksum calc. to the NIC for network controller) (1)
-bcm cge0 packetburst=16 (maximum no. of packets to be processed at once)
-bcm cge1 packetburst=16 (maximum no. of packets to be processed at once)
-setiter num=8 (8 consecutive iterations of network packets processing)
-Storage array notes:
-The storage array was configured into 43 RAID-0 groups of 3 spindles each (129) (total disk spindles, log+data)
-Each RAID group was striped with an 8KB size stripe. Two of the 43 LUN
-groups were used for the ufs logs. Each of the 41 file data LUNs was 30 GB.
-The ufs logs were 2GB each.
-The storage array has dual storage processor units that work as
-an active-active failover pair. The mirrored write cache is backed up
-with a battery unit capable of saving the write cache to disk prior to
-a power failure. In the event of a storage array failure, the second
-storage processor unit is capable of saving all state that was managed
-by the first (and vise-versa), even with a simultaneous power failure.
-When one of the storage processors or battery units are off-line, the
-system turns off the write cache and writes directly to disk before
-acknowledging any write operations.
-The length of time the battery can support the retention of data is 2
-minutes - that is sufficient to write all necessary data twice.
-Storage processor A could have written 99% of its memory to disk and
-then fail. In that case storage processor B has enough battery to
-store its copy of A's data as well as its own.