SPECsfs97 Result

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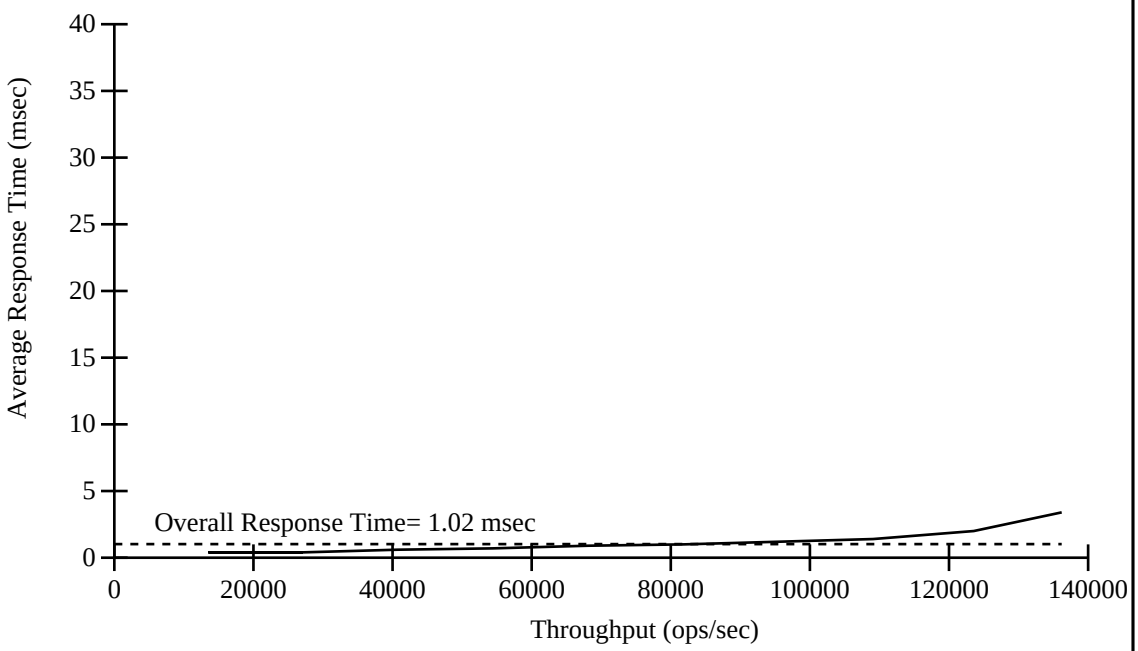
IBM Corporation
IBM eServer pSeries 690 (1.7GHz, TCP)

SPECsfs97_R1.v3 =

136200 Ops/Sec (Overall Response Time = 1.02 msec)

Tested:	By:	License #:	Hardware Avail:	Software Avail:
October 2003	IBM Corporation	11	July 2003	September 2003

Throughput (ops/sec)	Average Response (msec)
13528	0.4
27050	0.4
40662	0.6
54389	0.7
68184	0.9
81875	1.0
95572	1.2
109079	1.4
123557	2.0
136200	**3.4**



CPU, Memory and Power

Model Name:	IBM eServer pSeries 690 (1.7GHz, TCP)
Processor:	1.7GHz POWER4+
# of Processors:	16
Primary Cache:	64KBI+32KBD on chip per CPU
Secondary Cache:	1536KB unified on chip per die
Other Cache:	128MB unified off chip per MCM
UPS:	N/A
Other Hardware:	N/A
Memory Size:	128 GB
NVRAM Size:	16 GB (16 x 1GB)
NVRAM Type:	1GB battery-backed DRAM per controller
NVRAM Description:	5-day battery; cache bypass on battery failure

Server Software

OS Name and Version:	AIX 5L V5.2 (64-bit)
Other Software:	N/A
File System:	JFS and Enhanced JFS
NFS version:	3

Network Subsystem

Network Type:	Jumbo Frame Gigabit
Network Controller Desc.:	IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter
Number Networks:	14 (N1-N14)
Number Network Controllers:	14
Protocol Type:	TCP
Switch Type:	N/A
Bridge Type:	N/A
Hub Type:	N/A
Other Network Hardware:	N/A

Server Tuning

Buffer Cache Size:	Dynamic
# NFS Processes:	1
Fileset Size:	1295.8 GB

Disk Subsystem

Number Disk Controllers:	17
Number of Disks:	561
Number of Filesystems:	112 (F1-F112)
File System Creation Ops:	default
File System Config:	See Other Notes
Disk Controller:	Wide/Ultra-3 SCSI I/O Controller
# of Controller Type:	1
Number of Disks:	1
Disk Type:	36.4GB 10Krpm 16-bit SCSI
File Systems on Disks:	OS, page space
Special Config Notes:	N/A
Disk Controller:	IBM Fiber Channel Adapter (2Gbps)
# of Controller Type:	16
Number of Disks:	560
Disk Type:	18.2GB 15Krpm 2Gb FC
File Systems on Disks:	F1-F7,F8-F14,F15-F21,F22-F28,...,F107-F112
Special Config Notes:	See Other Notes

For More Information contact

SPEC

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

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136200 Ops/Sec (Overall Response Time = 1.02 msec)

Load Generator (LG) Configuration

Number of Load Generators:	14
Number of Processes per LG:	32
Biod Max Read Setting:	2
Biod Max Write Setting:	2
LG Type:	LG1
LG Model:	IBM eServer pSeries 630 Model 6E4
Number and Type Processors:	2 x 1.2GHz POWER4+
Memory Size:	4 GB
Operating System:	AIX 5L V5.2
Compiler:	N/A, SFS97_R1 pre-compiled binaries
Compiler Options:	N/A
Network Type:	IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter

Testbed Configuration

LG #	LG Type	Network	Target File Systems	Notes
1	LG1	N1	F1,F8,F15,F22,F29,F36,F43,F50,F57,F64,F71,F78,F85,F92,F99,F106,F2,F9,F16,...,F93,F100,F107	N/A
2	LG1	N2	F3,F10,F17,F24,F31,F38,F45,F52,F59,F66,F73,F80,F87,F94,F101,F108,F4,F11,F18,...,F95,F102,F109	N/A
3	LG1	N3	F5,F12,F19,F26,F33,F40,F47,F54,F61,F68,F75,F82,F89,F96,F103,F110,F6,F13,F20,...,F97,F104,F111	N/A
4	LG1	N4	F7,F14,F21,F28,F35,F42,F49,F56,F63,F70,F77,F84,F91,F98,F105,F112,F1,F8,F15,...,F92,F99,F106	N/A
5	LG1	N5	F2,F9,F16,F23,F30,F37,F44,F51,F58,F65,F72,F79,F86,F93,F100,F107,F3,F10,F17,...,F94,F101,F108	N/A
6	LG1	N6	F4,F11,F18,F25,F32,F39,F46,F53,F60,F67,F74,F81,F88,F95,F102,F109,F5,F12,F19,...,F96,F103,F110	N/A
7	LG1	N7	F6,F13,F20,F27,F34,F41,F48,F55,F62,F69,F76,F83,F90,F97,F104,F111,F7,F14,F21,...,F98,F105,F112	N/A
8	LG1	N8	F1,F8,F15,F22,F29,F36,F43,F50,F57,F64,F71,F78,F85,F92,F99,F106,F2,F9,F16,...,F93,F100,F107	N/A
9	LG1	N9	F3,F10,F17,F24,F31,F38,F45,F52,F59,F66,F73,F80,F87,F94,F101,F108,F4,F11,F18,...,F95,F102,F109	N/A
10	LG1	N10	F5,F12,F19,F26,F33,F40,F47,F54,F61,F68,F75,F82,F89,F96,F103,F110,F6,F13,F20,...,F97,F104,F111	N/A
11	LG1	N11	F7,F14,F21,F28,F35,F42,F49,F56,F63,F70,F77,F84,F91,F98,F105,F112,F1,F8,F15,...,F92,F99,F106	N/A
12	LG1	N12	F2,F9,F16,F23,F30,F37,F44,F51,F58,F65,F72,F79,F86,F93,F100,F107,F3,F10,F17,...,F94,F101,F108	N/A
13	LG1	N13	F4,F11,F18,F25,F32,F39,F46,F53,F60,F67,F74,F81,F88,F95,F102,F109,F5,F12,F19,...,F96,F103,F110	N/A
14	LG1	N14	F6,F13,F20,F27,F34,F41,F48,F55,F62,F69,F76,F83,F90,F97,F104,F111,F7,F14,F21,...,F98,F105,F112	N/A

Notes/Tuning Information

Other Notes
-There are 8 IBM TotalStorage FAStT700 Storage Server units attached to
-the SUT. Each FAStT700 contains 2 controllers. Each controller is
-connected to an FC adapter. Also, each controller has a 1GB cache.
-Writes to either cache are mirrored in the other such that the total
-effective write cache is 1GB per FAStT700. There are 5 EXP700 expansion
-units connected to each FAStT700. Every EXP700 contains 14 physical
-disks. A logical disk is composed of 5 physical disks in a RAID-5
-configuration. There is one test filesystem per logical disk.
-
-JFS used for the OS, Enhanced JFS used for the test filesystems (F1-F112).
-The size of each test filesystem log is 256MB.
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-MCM stands for Multi-Chip Module. There are 2 MCMs in the SUT. There are
-4 dies per MCM. There are 2 CPUs per die.
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-There were 2 external 7040-61D I/O drawer used in this configuration.
-7 Gigabit Ethernet and 8 Fiber Channel adapters were placed in each
-drawer.
-
-Using jumbo frames (9000-byte MTU) over Gigabit Ethernet.
-
-Server tuning: Gigabit Ethernet adapter jumbo_frames=yes,
-nfs_server_base_priority=80, nfs_server_clread=0
-
-Client tuning: Gigabit Ethernet adapter jumbo_frames=yes
-
-The number of NFS daemons (nfsd threads) is dynamic.
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-APARs IY36772, IY43591, IY46607, and IY47398 applied on AIX 5L V5.2.