SPEC® CINT2006 Result

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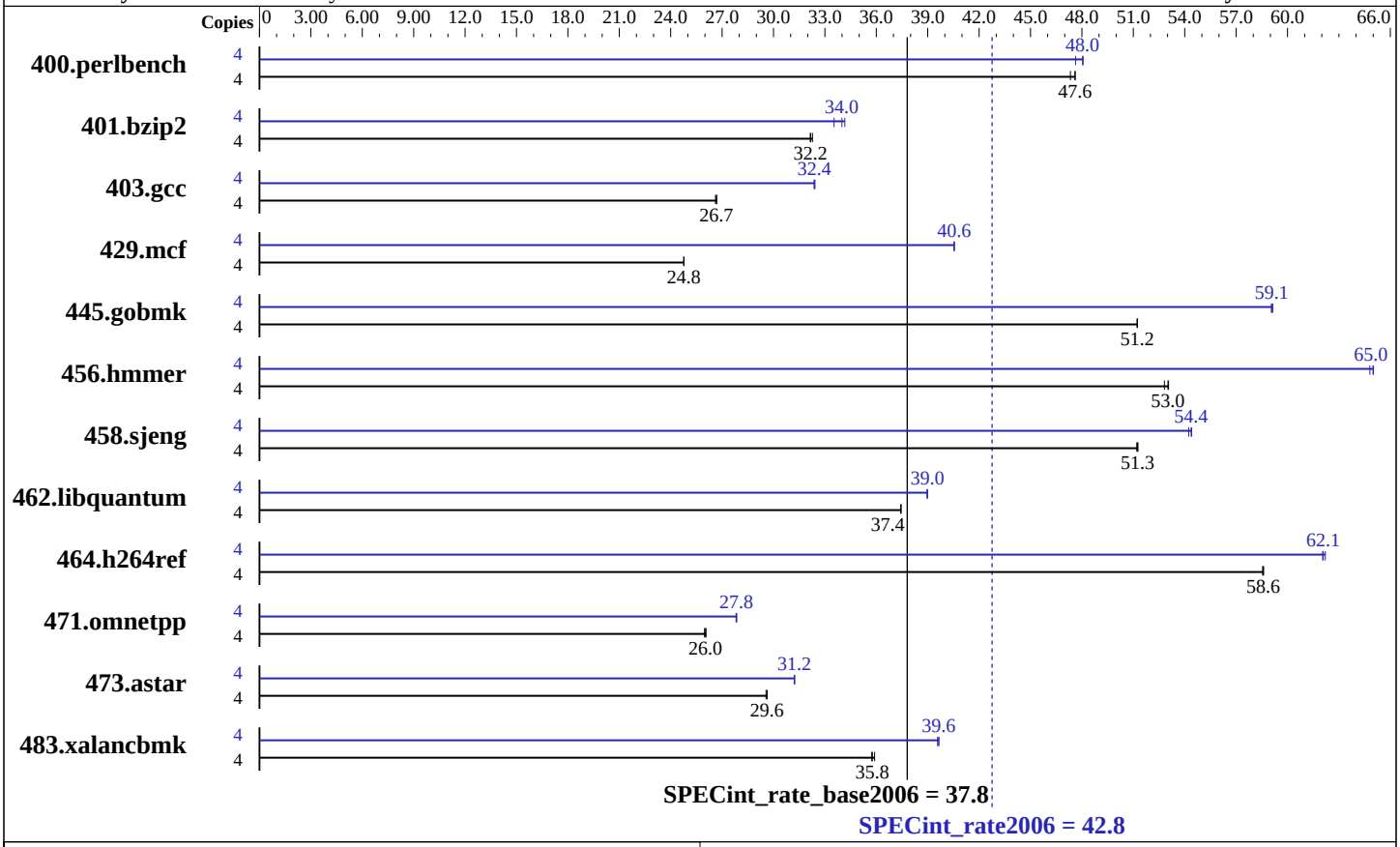
Sun Microsystems
Sun Fire X4200

SPECint®_rate2006 = 42.8

SPECint_rate_base2006 = 37.8

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems

Test date: Apr-2006
Hardware Availability: Dec-2005
Software Availability: Jul-2006



Hardware

CPU Name:	AMD Opteron 285
CPU Characteristics:	
CPU MHz:	2600
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1-2 chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8x2 GB, PC3200 CL3 DDR ECC Reg)
Disk Subsystem:	SAS,36GB,10K RPM
Other Hardware:	None

Software

Operating System:	Solaris 10 1/06
Compiler:	Sun Studio 11 with patch 120759-06
Auto Parallel:	No
File System:	ufs
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	821	47.6	**821**	**47.6**	826	47.3	4	**814**	**48.0**	820	47.6	813	48.1
401.bzip2	4	1196	32.3	1201	32.1	**1200**	**32.2**	4	1151	33.5	**1136**	**34.0**	1130	34.2
403.gcc	4	1210	26.6	**1207**	**26.7**	1207	26.7	4	993	32.4	**994**	**32.4**	995	32.4
429.mcf	4	**1473**	**24.8**	1473	24.8	1472	24.8	4	900	40.5	900	40.6	**900**	**40.6**
445.gobmk	4	819	51.2	819	51.2	**819**	**51.2**	4	710	59.1	**710**	**59.1**	710	59.1
456.hmmer	4	703	53.1	**704**	**53.0**	707	52.8	4	**574**	**65.0**	576	64.8	574	65.0
458.sjeng	4	945	51.2	**944**	**51.3**	944	51.3	4	890	54.4	**890**	**54.4**	892	54.2
462.libquantum	4	**2214**	**37.4**	2214	37.4	2214	37.4	4	2126	39.0	**2126**	**39.0**	2127	39.0
464.h264ref	4	**1511**	**58.6**	1512	58.5	1511	58.6	4	1423	62.2	**1426**	**62.1**	1427	62.0
471.omnetpp	4	963	26.0	959	26.1	**960**	**26.0**	4	899	27.8	**898**	**27.8**	898	27.9
473.astar	4	950	29.6	948	29.6	**948**	**29.6**	4	**899**	**31.2**	900	31.2	899	31.2
483.xalancbmk	4	772	35.7	**772**	**35.8**	769	35.9	4	**696**	**39.6**	697	39.6	696	39.7

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

```
Processes were bound to cores using "submit" and "pbind".

ulimit -s 131072  (shell): increases stack

/etc/system parameters
   tune_t_fsflushr=1
      Controls how many seconds elapse between runs of the
      page flush daemon, fsflush.
   autoup=900
      Causes pages older than the listed number of seconds to
      be written by fsflush.
```

Platform Notes

```
Default BIOS settings were used.
```

Base Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS

Base Optimization Flags

C benchmarks:
-fast -xipo=2 -xarch=amd64a

C++ benchmarks:
-fast -xipo=2 -xarch=amd64a -library=stlport4

Base Other Flags

C benchmarks:
-V

C++ benchmarks:
-verbose=version

Peak Compiler Invocation

C benchmarks:
cc

Continued on next page

Peak Compiler Invocation (Continued)

C++ benchmarks:
CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS_X64
403.gcc: -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_SOLARIS
483.xalancbmk: -DSPEC_CPU_SOLARIS

Peak Optimization Flags

C benchmarks:

400.perlbench: -fast -xarch=amd64a

401.bzip2: ONESTEP -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=2m
-xcrossfile -xarch=sse2a -M /usr/lib/ld/map.bssalign

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xbuiltin=%none

429.mcf: -fast -xpagesize=2m -M /usr/lib/ld/map.bssalign

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xarch=amd64a
-xrestrict -xalias_level=strong -xdepend

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xarch=amd64a

458.sjeng: -fast -xarch=amd64a -xipo=2 -xprefetch=auto
-xprefetch_level=3 -xpagesize=2m

462.libquantum: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xarch=amd64a
-xipo=2 -xunroll=8

464.h264ref: -fast -xarch=amd64a -xipo=2 -xvector -xunroll=8
-xalias_level=strong -xrestrict

C++ benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

471.omnetpp: `-fast -xarch=amd64a -xipo=2 -xprefetch_level=3 -xpagesize=2m -Qoption ube -fsimple=3 -library=stlport4`

473.astar: `-fast -xarch=amd64a -xipo=2 -xprefetch_level=3 -xpagesize=2m -library=stlport4`

483.xalancbmk: `-xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xipo=2 -xarch=sse2a -library=stlport4`

Peak Other Flags

C benchmarks:
`-V`

C++ benchmarks:
`-verbose=version`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio-Opteron.20090715.02.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio-Opteron.20090715.02.xml`

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