SPEC® CINT2006 Result

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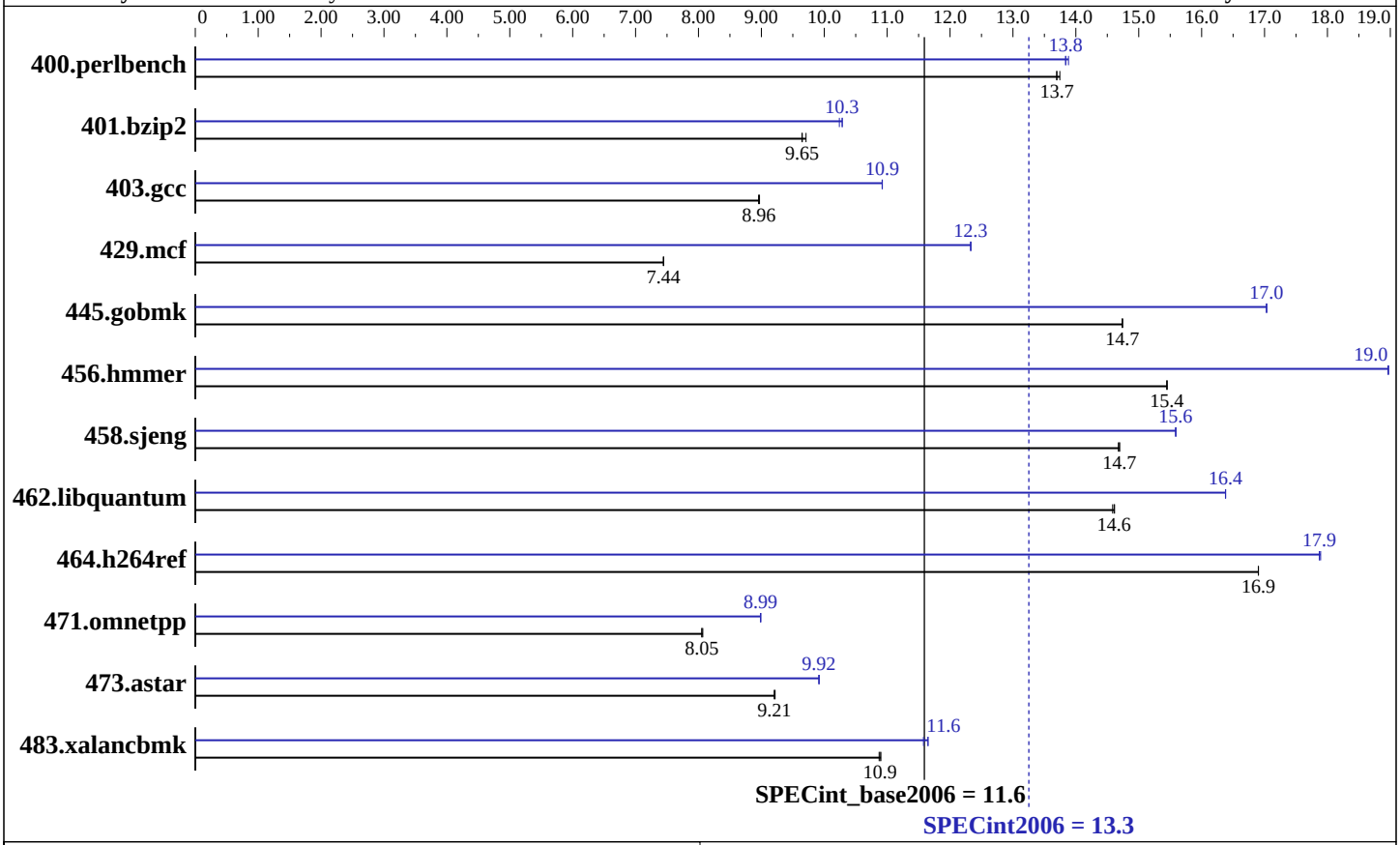
Sun Microsystems
Sun Fire X4200

SPECint®2006 = 13.3

SPECint_base2006 = 11.6

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

Test date: Apr-2006
Hardware Availability: May-2006
Software Availability: Jul-2006



Hardware

CPU Name:	AMD Opteron 256
CPU Characteristics:	
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip
CPU(s) orderable:	1-2 chips
Primary Cache:	64 KB I + 64 KB D on chip per chip
Secondary Cache:	1 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4x2 GB, PC3200 CL3 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	711	13.7	**713**	**13.7**	713	13.7	**706**	**13.8**	704	13.9	706	13.8
401.bzip2	994	9.71	**1000**	**9.65**	1000	9.65	942	10.2	**938**	**10.3**	938	10.3
403.gcc	897	8.97	**898**	**8.96**	899	8.96	**737**	**10.9**	737	10.9	737	10.9
429.mcf	1225	7.45	1225	7.44	**1225**	**7.44**	740	12.3	**740**	**12.3**	740	12.3
445.gobmk	712	14.7	**712**	**14.7**	712	14.7	**616**	**17.0**	616	17.0	616	17.0
456.hmmer	604	15.4	**604**	**15.4**	604	15.5	**492**	**19.0**	492	19.0	492	19.0
458.sjeng	**823**	**14.7**	823	14.7	824	14.7	**776**	**15.6**	776	15.6	776	15.6
462.libquantum	1421	14.6	1418	14.6	**1418**	**14.6**	1265	16.4	1265	16.4	**1265**	**16.4**
464.h264ref	1309	16.9	1309	16.9	**1309**	**16.9**	**1238**	**17.9**	1237	17.9	1238	17.9
471.omnetpp	775	8.07	**776**	**8.05**	776	8.05	695	8.99	**695**	**8.99**	695	8.99
473.astar	762	9.22	762	9.21	**762**	**9.21**	**708**	**9.92**	708	9.92	708	9.92
483.xalancbmk	633	10.9	635	10.9	**634**	**10.9**	596	11.6	**592**	**11.6**	592	11.7

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

Operating System Notes

```
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

Continued on next page

Base Compiler Invocation (Continued)

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

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:

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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