SPEC® CINT2006 Result

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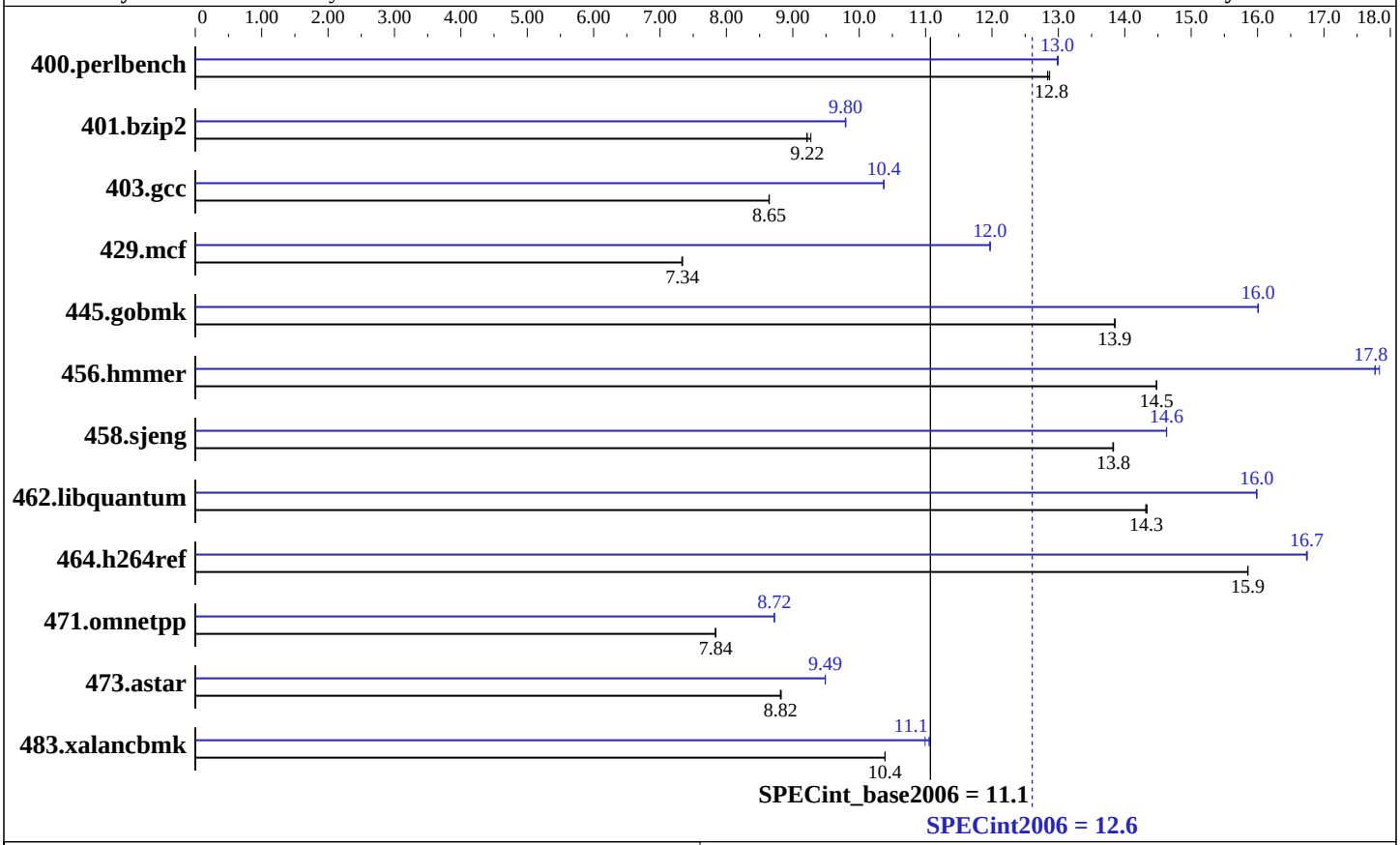
Sun Microsystems
Sun Fire X4200

SPECint®2006 = 12.6

SPECint_base2006 = 11.1

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

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



Hardware

CPU Name:	AMD Opteron 254
CPU Characteristics:	
CPU MHz:	2800
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 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	759	12.9	**761**	**12.8**	761	12.8	752	13.0	**752**	**13.0**	752	13.0
401.bzip2	1041	9.27	**1047**	**9.22**	1047	9.21	986	9.79	985	9.80	**985**	**9.80**
403.gcc	931	8.65	**931**	**8.65**	932	8.64	776	10.4	776	10.4	**776**	**10.4**
429.mcf	1243	7.34	**1243**	**7.34**	1244	7.33	762	12.0	**762**	**12.0**	762	12.0
445.gobmk	758	13.8	**757**	**13.9**	757	13.9	655	16.0	655	16.0	**655**	**16.0**
456.hmmer	**644**	**14.5**	644	14.5	644	14.5	525	17.8	**525**	**17.8**	523	17.8
458.sjeng	875	13.8	**875**	**13.8**	876	13.8	**827**	**14.6**	827	14.6	827	14.6
462.libquantum	**1446**	**14.3**	1445	14.3	1447	14.3	**1296**	**16.0**	1296	16.0	1296	16.0
464.h264ref	**1396**	**15.9**	1396	15.9	1396	15.9	1322	16.7	**1322**	**16.7**	1321	16.7
471.omnetpp	797	7.84	**797**	**7.84**	798	7.83	716	8.72	717	8.72	**717**	**8.72**
473.astar	795	8.83	796	8.81	**796**	**8.82**	740	9.49	740	9.49	**740**	**9.49**
483.xalancbmk	664	10.4	**664**	**10.4**	664	10.4	**624**	**11.1**	624	11.1	628	11.0

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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