



SPEC® CINT2006 Result

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Sun Microsystems Sun Fire X4200

SPECint®2006 = 12.6
SPECint_base2006 = 11.1

CPU2006 license: 6

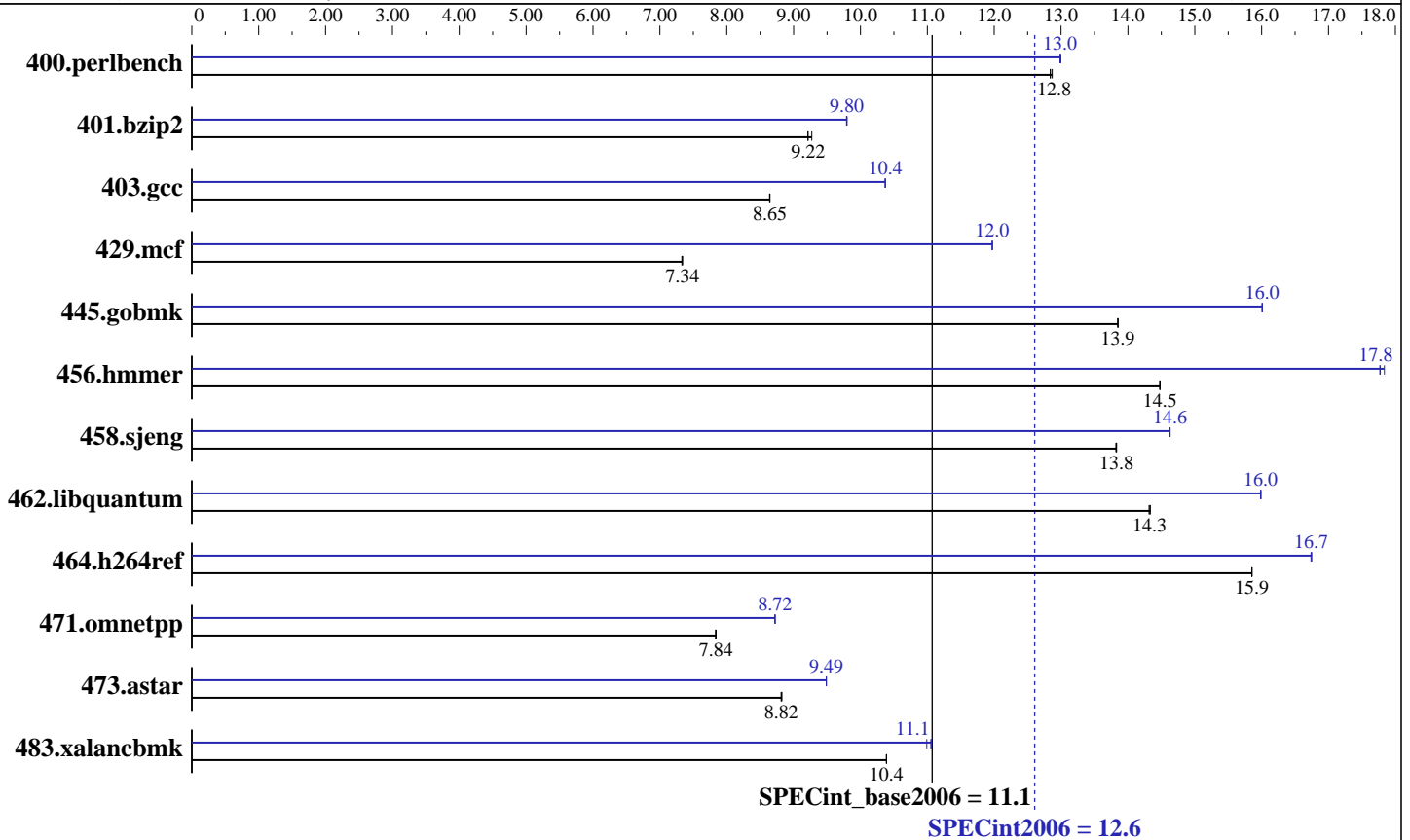
Test sponsor: Sun Microsystems

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	<u>761</u>	<u>12.8</u>	761	12.8	752	13.0	<u>752</u>	<u>13.0</u>	752	13.0
401.bzip2	1041	9.27	<u>1047</u>	<u>9.22</u>	1047	9.21	986	9.79	985	9.80	<u>985</u>	<u>9.80</u>
403.gcc	931	8.65	<u>931</u>	<u>8.65</u>	932	8.64	776	10.4	776	10.4	<u>776</u>	<u>10.4</u>
429.mcf	1243	7.34	<u>1243</u>	<u>7.34</u>	1244	7.33	762	12.0	<u>762</u>	<u>12.0</u>	762	12.0
445.gobmk	758	13.8	<u>757</u>	<u>13.9</u>	757	13.9	655	16.0	655	16.0	<u>655</u>	<u>16.0</u>
456.hammer	<u>644</u>	<u>14.5</u>	644	14.5	644	14.5	525	17.8	<u>525</u>	<u>17.8</u>	523	17.8
458.sjeng	875	13.8	<u>875</u>	<u>13.8</u>	876	13.8	<u>827</u>	<u>14.6</u>	827	14.6	827	14.6
462.libquantum	<u>1446</u>	<u>14.3</u>	1445	14.3	1447	14.3	<u>1296</u>	<u>16.0</u>	1296	16.0	1296	16.0
464.h264ref	<u>1396</u>	<u>15.9</u>	1396	15.9	1396	15.9	1322	16.7	<u>1322</u>	<u>16.7</u>	1321	16.7
471.omnetpp	797	7.84	<u>797</u>	<u>7.84</u>	798	7.83	716	8.72	717	8.72	<u>717</u>	<u>8.72</u>
473.astar	795	8.83	796	8.81	<u>796</u>	<u>8.82</u>	740	9.49	740	9.49	<u>740</u>	<u>9.49</u>
483.xalancbmk	664	10.4	<u>664</u>	<u>10.4</u>	664	10.4	<u>624</u>	<u>11.1</u>	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

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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



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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.hmmcr: -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



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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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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v91.
Report generated on Tue Jul 22 09:59:49 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 24 August 2006.