



SPEC® CINT2006 Result

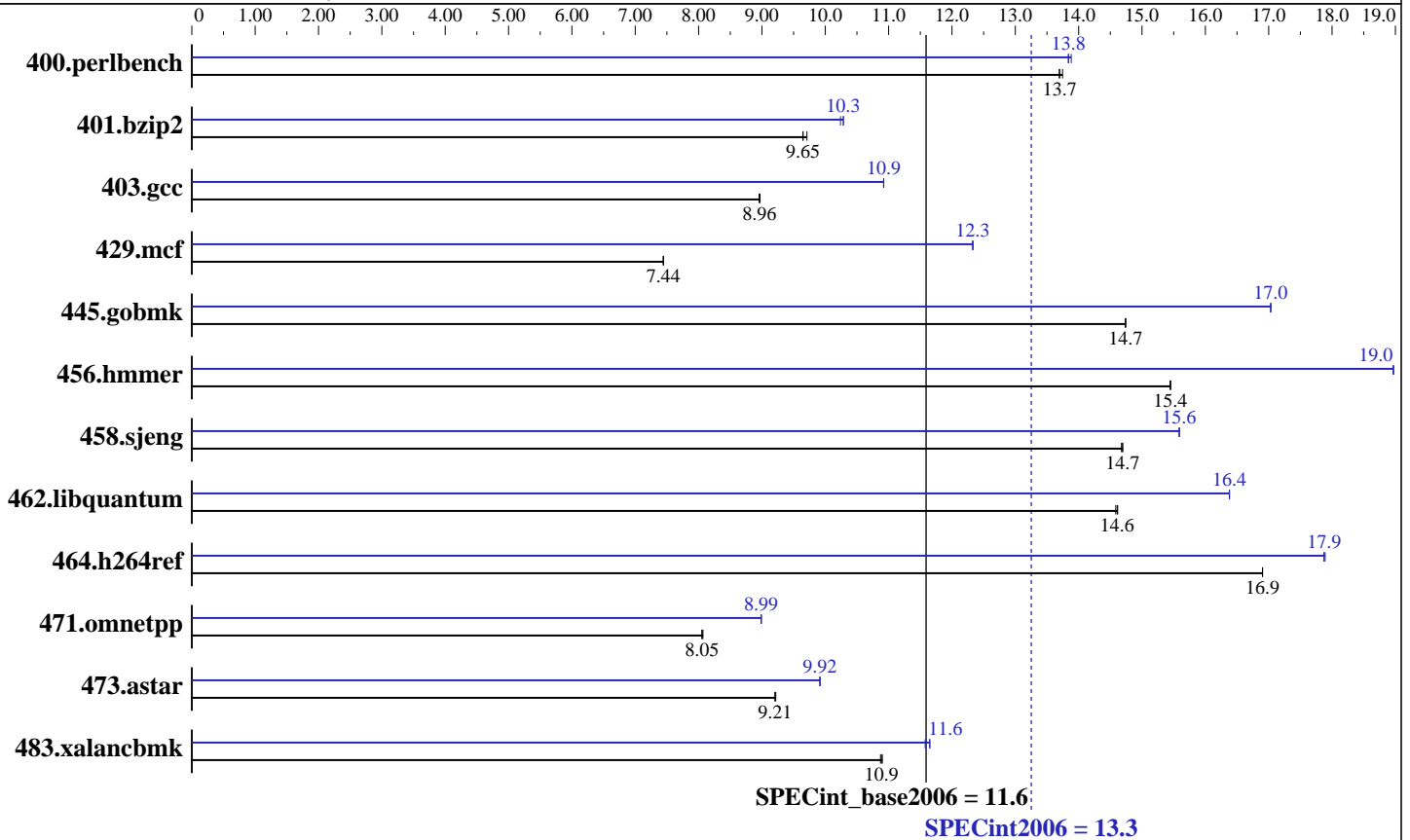
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Sun Microsystems Sun Fire X4200

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	<u>713</u>	<u>13.7</u>	713	13.7	<u>706</u>	<u>13.8</u>	704	13.9	706	13.8
401.bzip2	994	9.71	<u>1000</u>	<u>9.65</u>	1000	9.65	942	10.2	<u>938</u>	<u>10.3</u>	938	10.3
403.gcc	897	8.97	<u>898</u>	<u>8.96</u>	899	8.96	<u>737</u>	<u>10.9</u>	737	10.9	737	10.9
429.mcf	1225	7.45	1225	7.44	<u>1225</u>	<u>7.44</u>	740	12.3	<u>740</u>	<u>12.3</u>	740	12.3
445.gobmk	712	14.7	<u>712</u>	<u>14.7</u>	712	14.7	<u>616</u>	<u>17.0</u>	616	17.0	616	17.0
456.hammer	604	15.4	<u>604</u>	<u>15.4</u>	604	15.5	<u>492</u>	<u>19.0</u>	492	19.0	492	19.0
458.sjeng	<u>823</u>	<u>14.7</u>	823	14.7	824	14.7	<u>776</u>	<u>15.6</u>	776	15.6	776	15.6
462.libquantum	1421	14.6	1418	14.6	<u>1418</u>	<u>14.6</u>	1265	16.4	1265	16.4	<u>1265</u>	<u>16.4</u>
464.h264ref	1309	16.9	1309	16.9	<u>1309</u>	<u>16.9</u>	<u>1238</u>	<u>17.9</u>	1237	17.9	1238	17.9
471.omnetpp	775	8.07	<u>776</u>	<u>8.05</u>	776	8.05	695	8.99	<u>695</u>	<u>8.99</u>	695	8.99
473.astar	762	9.22	762	9.21	<u>762</u>	<u>9.21</u>	<u>708</u>	<u>9.92</u>	708	9.92	708	9.92
483.xalancbmk	633	10.9	635	10.9	<u>634</u>	<u>10.9</u>	596	11.6	<u>592</u>	<u>11.6</u>	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
```

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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.hmmr: -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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