



SPEC® CINT2006 Result

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Sun Microsystems Sun Ultra 40 M2

SPECint®2006 = 16.1
SPECint_base2006 = 13.8

CPU2006 license: 6

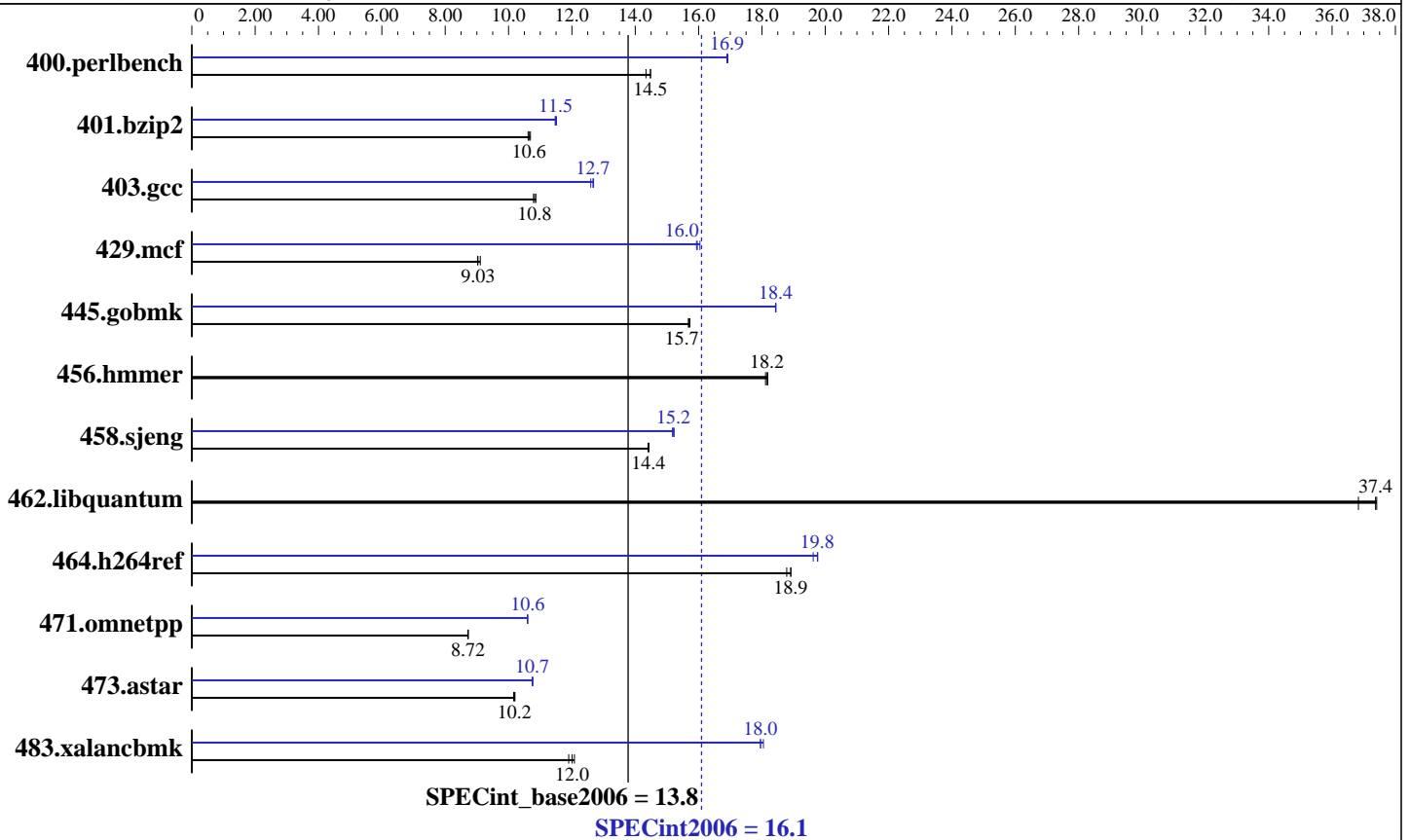
Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: May-2007

Hardware Availability: Jun-2007

Software Availability: Jul-2007



Hardware

CPU Name: AMD Opteron 2222 SE
 CPU Characteristics:
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1-2 (order by number of 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: 32 GB (8x4GB, DDR2-667 CL5 ECC Registered SDRAM)
 Disk Subsystem: SATA, 160 GB, 7200 RPM
 Other Hardware: None

Software

Operating System: Solaris 10 11/06
 Compiler: Sun Studio 12
 Auto Parallel: No
 File System: ufs
 System State: Multiuser, Runlevel 3
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap Library v7.4



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	681	14.3	675	14.5	<u>675</u>	<u>14.5</u>	578	16.9	<u>578</u>	<u>16.9</u>	577	16.9
401.bzip2	903	10.7	<u>906</u>	<u>10.6</u>	909	10.6	<u>840</u>	<u>11.5</u>	841	11.5	838	11.5
403.gcc	741	10.9	<u>744</u>	<u>10.8</u>	746	10.8	<u>636</u>	<u>12.7</u>	639	12.6	635	12.7
429.mcf	<u>1010</u>	<u>9.03</u>	1011	9.02	1001	9.11	569	16.0	<u>571</u>	<u>16.0</u>	572	15.9
445.gobmk	669	15.7	<u>669</u>	<u>15.7</u>	667	15.7	569	18.4	<u>569</u>	<u>18.4</u>	569	18.4
456.hammer	515	18.1	513	18.2	<u>514</u>	<u>18.2</u>	515	18.1	513	18.2	<u>514</u>	<u>18.2</u>
458.sjeng	838	14.4	840	14.4	<u>839</u>	<u>14.4</u>	797	15.2	<u>796</u>	<u>15.2</u>	795	15.2
462.libquantum	563	36.8	554	37.4	<u>554</u>	<u>37.4</u>	563	36.8	554	37.4	<u>554</u>	<u>37.4</u>
464.h264ref	<u>1170</u>	<u>18.9</u>	1178	18.8	1170	18.9	1120	19.8	1128	19.6	<u>1120</u>	<u>19.8</u>
471.omnetpp	<u>717</u>	<u>8.72</u>	717	8.72	716	8.73	589	10.6	<u>590</u>	<u>10.6</u>	590	10.6
473.astar	<u>689</u>	<u>10.2</u>	688	10.2	691	10.2	<u>653</u>	<u>10.7</u>	653	10.7	652	10.8
483.xalancbmk	571	12.1	<u>575</u>	<u>12.0</u>	580	11.9	384	18.0	382	18.0	<u>384</u>	<u>18.0</u>

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

Operating System Notes

ulimit -s unlimited (shell): increases stack

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

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Base Portability Flags (Continued)

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=sse2a -m64
C++ benchmarks:
-fast -xipo=2 -xarch=sse2a -m64 -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_SOLARIS_X64
403.gcc: -DSPEC_CPU_SOLARIS
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS

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Peak Portability Flags (Continued)

483.xalanbmk: -DSPEC_CPU_SOLARIS

Peak Optimization Flags

C benchmarks:

400.perlbench: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xalias_level=std -xvector=simd -lbsdmalloc
-L/data1/SmartHeap_7.4smp/lib -lsmartheap_smp

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -xarch=sse2
-m64 -xalias_level=strong

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xalias_level=std -xprefetch_level=2

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xarch=sse2a -xalias_level=strict -lbsdmalloc

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xarch=sse2a -m64
-xrestrict -xalias_level=strong -xdepend -xpagesize=2m
-lmvec

456.hmmer: basepeak = yes

458.sjeng: -fast -xarch=sse2a -m64 -xipo=2 -xprefetch=auto
-xprefetch_level=3 -xpagesize=2m -lmvec

462.libquantum: basepeak = yes

464.h264ref: -fast -xarch=sse2a -m64 -xipo=2 -xvector -xunroll=8
-xalias_level=strong -xrestrict -xpagesize=2m -lmvec

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xprefetch_level=3 -xarch=sse2a -Qoption ube -fsimple=3
-L/data1/SmartHeap_7.4smp/lib -lsmartheap_smp
-library=stlport4

473.aster: -fast -xipo=2 -L/data1/SmartHeap_7.4smp/lib -lsmartheap_smp
-library=stlport4

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Peak Optimization Flags (Continued)

```
483.xalanbmk: -xprofile=collect:./feedback(pass 1)
              -xprofile=use:./feedback(pass 2) -fast -xipo=2
              -xarch=sse2a -xpagesize_stack=2m
              -L/data1/SmartHeap_7.4smp/lib -lsmartheap_smp
              -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.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.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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