



SPEC[®] CINT2006 Result

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Sun Microsystems Sun Fire X2200 M2

SPECint[®]_rate2006 = 36.3
SPECint_rate_base2006 = 32.2

CPU2006 license: 6

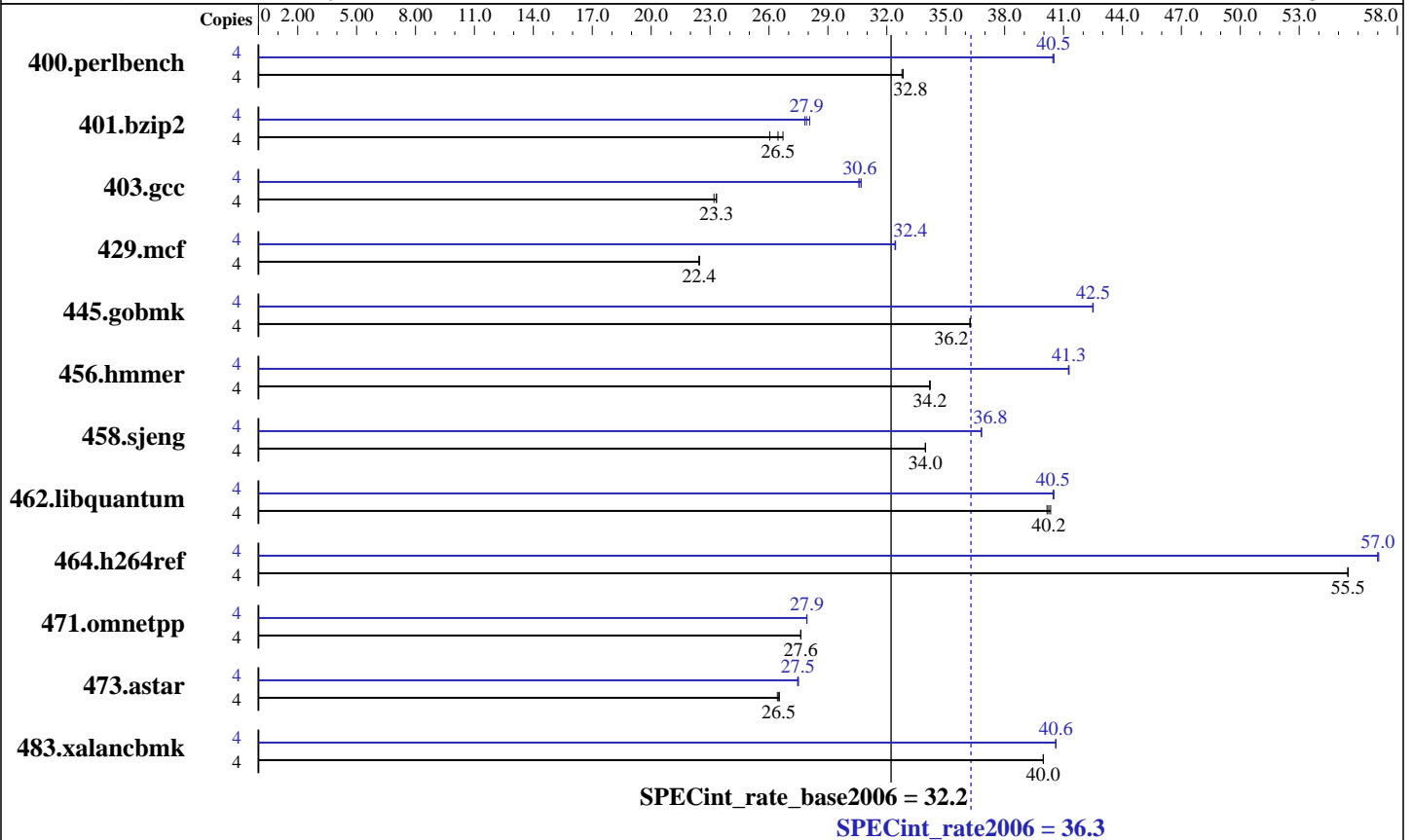
Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Apr-2007

Hardware Availability: Feb-2007

Software Availability: Aug-2006



Hardware

CPU Name: AMD Opteron 2210
 CPU Characteristics:
 CPU MHz: 1800
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 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: 16 GB (8x2GB, DDR2-667 CL5 ECC Reg Dual Rank)
 Disk Subsystem: SATA, 250 GB, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux AS release 4 Update 5
 Compiler: QLogic PathScale Compiler Suite, Release 2.5
 Auto Parallel: No
 File System: ext3
 System State: Multi-user, run level 3
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill's SmartHeap 8.0 32-bit Library for Linux



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	1190	32.8	<u>1191</u>	<u>32.8</u>	1192	32.8	4	965	40.5	<u>965</u>	<u>40.5</u>	966	40.5
401.bzip2	4	1482	26.0	<u>1459</u>	<u>26.5</u>	1445	26.7	4	1375	28.1	<u>1383</u>	<u>27.9</u>	1387	27.8
403.gcc	4	1380	23.3	<u>1381</u>	<u>23.3</u>	1388	23.2	4	1053	30.6	<u>1052</u>	<u>30.6</u>	1049	30.7
429.mcf	4	1624	22.5	<u>1625</u>	<u>22.4</u>	1626	22.4	4	1125	32.4	1124	32.4	<u>1125</u>	<u>32.4</u>
445.gobmk	4	<u>1158</u>	<u>36.2</u>	1158	36.2	1157	36.3	4	988	42.5	<u>987</u>	<u>42.5</u>	987	42.5
456.hmmer	4	1091	34.2	<u>1091</u>	<u>34.2</u>	1092	34.2	4	904	41.3	<u>904</u>	<u>41.3</u>	905	41.2
458.sjeng	4	1425	34.0	1425	34.0	<u>1425</u>	<u>34.0</u>	4	1315	36.8	<u>1315</u>	<u>36.8</u>	1314	36.8
462.libquantum	4	2054	40.3	<u>2059</u>	<u>40.2</u>	2064	40.2	4	2048	40.5	2046	40.5	<u>2048</u>	<u>40.5</u>
464.h264ref	4	<u>1595</u>	<u>55.5</u>	1596	55.5	1595	55.5	4	1552	57.1	1553	57.0	<u>1553</u>	<u>57.0</u>
471.omnetpp	4	905	27.6	<u>905</u>	<u>27.6</u>	905	27.6	4	<u>895</u>	<u>27.9</u>	895	27.9	895	27.9
473.astar	4	1063	26.4	<u>1060</u>	<u>26.5</u>	1059	26.5	4	<u>1022</u>	<u>27.5</u>	1021	27.5	1022	27.5
483.xalancbmk	4	<u>691</u>	<u>40.0</u>	691	40.0	690	40.0	4	<u>680</u>	<u>40.6</u>	680	40.6	679	40.6

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

General Notes

taskset utility used to bind CPU(s) to processes
Default BIOS settings were used.

Base Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
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_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

```



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Base Optimization Flags

C benchmarks:
-Ofast
C++ benchmarks:
-Ofast -m32 -L/data1/SmartHeap_8smp/lib -lsmartheap_smp

Base Other Flags

C benchmarks:
-IPA:max_jobs=4
C++ benchmarks:
-IPA:max_jobs=4

Peak Compiler Invocation

C benchmarks:
pathcc
C++ benchmarks:
pathCC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -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_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:
400.perlbench: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
401.bzip2: -O3 -LNO:ou_prod_max=10 -OPT:Ofast -OPT:alias=disjoint

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Peak Optimization Flags (Continued)

403.gcc: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -m32 -O3
-OPT:Ofast

429.mcf: -m32 -O2 -ipa -L/data1/SmartHeap_8smp/lib -lsmartheap_smp

445.gobmk: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-OPT:alias=disjoint -LNO:simd=0 -LNO:minvariant=off
-WOPT:retype_expr=on

456.hmmer: -O2 -OPT:alias=disjoint -WOPT:aggstr=0 -CG:cflow=0

458.sjeng: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-IPA:plimit=50000 -IPA:pu_reorder=2

462.libquantum: -O3 -ipa -CG:local_fwd_sched=on -IPA:space=1000

464.h264ref: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-IPA:plimit=20000 -OPT:alias=disjoint -LNO:prefetch=0

C++ benchmarks:

471.omnetpp: -Ofast -IPA:pu_reorder=2 -CG:gcm=off -m32
-L/data1/SmartHeap_8smp/lib -lsmartheap_smp

473.astar: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
-m32 -L/data1/SmartHeap_8smp/lib -lsmartheap_smp

483.xalancbmk: -Ofast -m32 -OPT:unroll_times_max=8
-L/data1/SmartHeap_8smp/lib -lsmartheap_smp

Peak Other Flags

C benchmarks:
-IPA:max_jobs=4

C++ benchmarks:
-IPA:max_jobs=4

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.27.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.27.xml



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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 12:08:21 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 May 2007.