



SPEC® CINT2006 Result

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Sun Microsystems Sun Fire X4200 M2

SPECint®_rate2006 = 50.9

SPECint_rate_base2006 = 45.1

CPU2006 license: 6

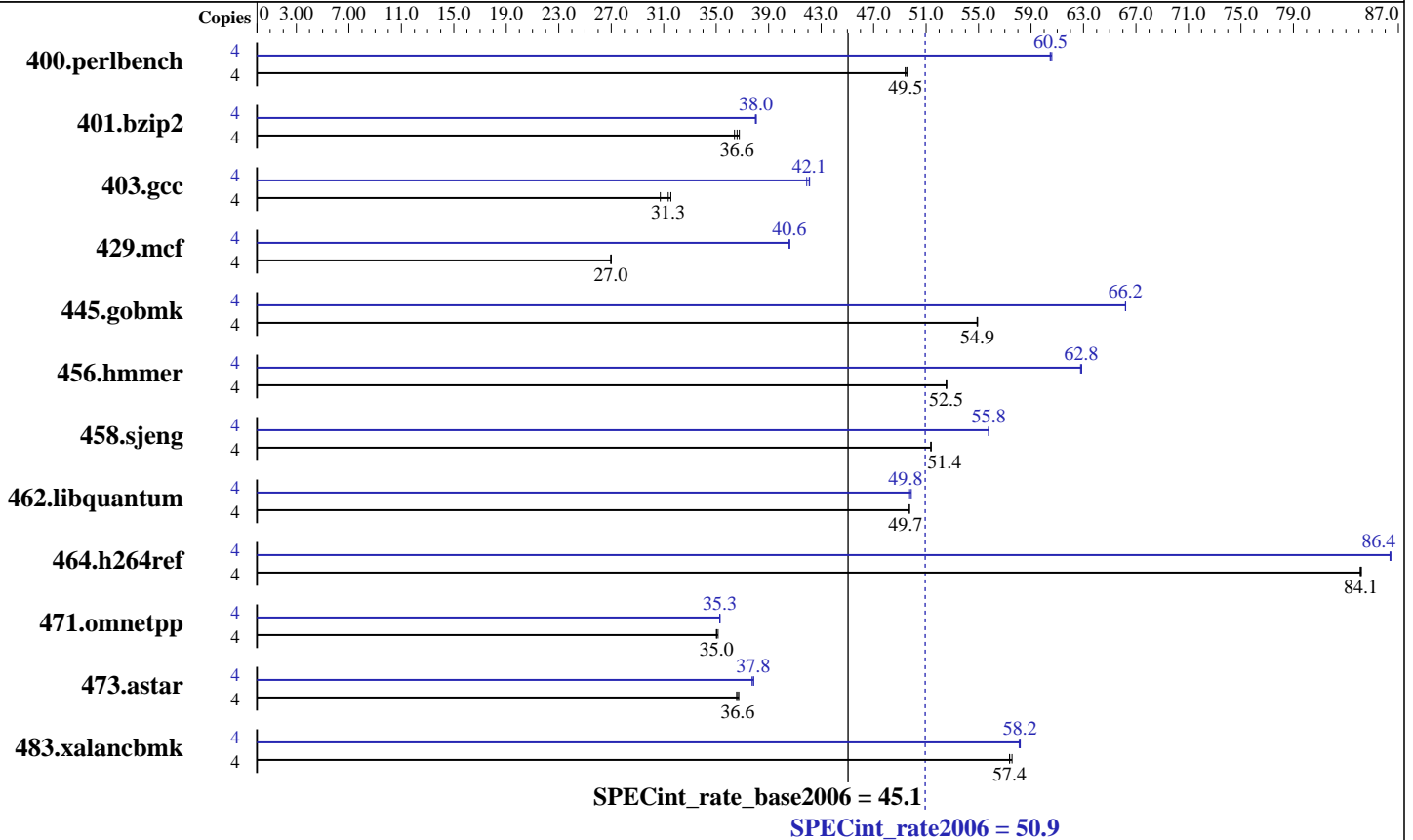
Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Apr-2007

Hardware Availability: Oct-2006

Software Availability: Aug-2006



Hardware

CPU Name: AMD Opteron 2220
 CPU Characteristics:
 CPU MHz: 2800
 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: SAS, 72 GB, 10K RPM
 Other Hardware: None

Software

Operating System: RedHat 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	791	49.4	789	49.6	<u>789</u>	<u>49.5</u>	4	645	60.6	<u>646</u>	<u>60.5</u>	646	60.5		
401.bzip2	4	1050	36.8	1061	36.4	<u>1055</u>	<u>36.6</u>	4	<u>1015</u>	<u>38.0</u>	1016	38.0	1014	38.1		
403.gcc	4	1047	30.7	1021	31.5	<u>1027</u>	<u>31.3</u>	4	768	41.9	764	42.1	<u>765</u>	<u>42.1</u>		
429.mcf	4	1351	27.0	<u>1352</u>	<u>27.0</u>	1353	27.0	4	<u>899</u>	<u>40.6</u>	899	40.6	899	40.6		
445.gobmk	4	764	54.9	765	54.9	<u>764</u>	<u>54.9</u>	4	634	66.2	634	66.2	<u>634</u>	<u>66.2</u>		
456.hmmer	4	710	52.6	710	52.5	<u>710</u>	<u>52.5</u>	4	595	62.8	594	62.9	<u>594</u>	<u>62.8</u>		
458.sjeng	4	<u>942</u>	<u>51.4</u>	942	51.4	942	51.4	4	868	55.8	868	55.8	<u>868</u>	<u>55.8</u>		
462.libquantum	4	1670	49.6	<u>1667</u>	<u>49.7</u>	1666	49.7	4	1669	49.6	<u>1664</u>	<u>49.8</u>	1662	49.9		
464.h264ref	4	1052	84.2	<u>1052</u>	<u>84.1</u>	1053	84.1	4	1025	86.4	<u>1024</u>	<u>86.4</u>	1024	86.4		
471.omnetpp	4	711	35.1	714	35.0	<u>714</u>	<u>35.0</u>	4	708	35.3	709	35.3	<u>709</u>	<u>35.3</u>		
473.astar	4	768	36.6	<u>766</u>	<u>36.6</u>	765	36.7	4	744	37.7	<u>742</u>	<u>37.8</u>	742	37.9		
483.xalancbmk	4	480	57.6	481	57.4	<u>481</u>	<u>57.4</u>	4	<u>474</u>	<u>58.2</u>	475	58.1	474	58.2		

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 was used.

This result was measured on the Sun Fire X4100 M2
Sun Fire X4100 M2 and Sun Fire X4200 M2 are electronically equivalent.

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

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Base Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

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.hmmmer: -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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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

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



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

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