SPEC® CINT2006 Result

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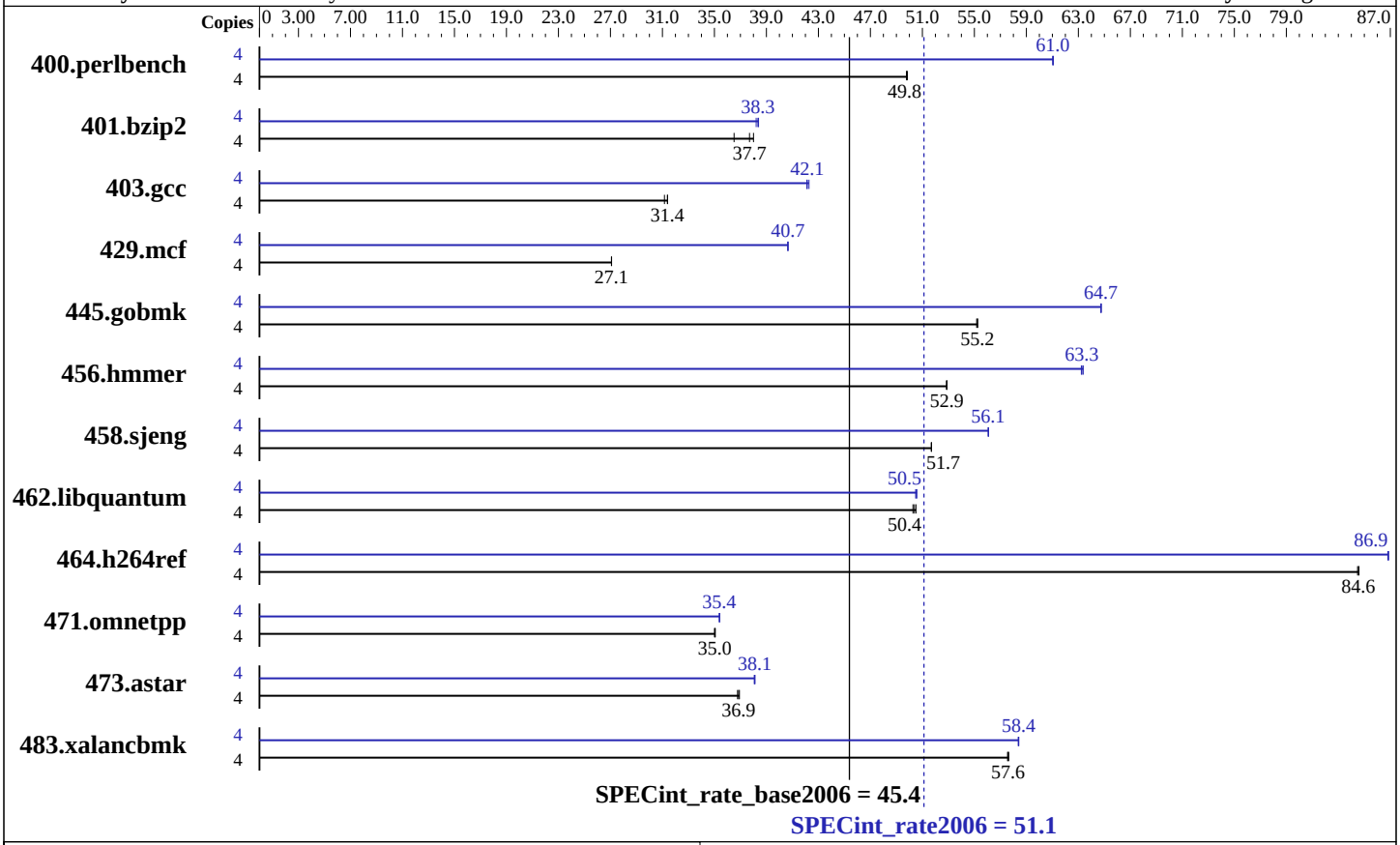
Sun Microsystems
Sun Fire X2200 M2

SPECint®_rate2006 = 51.1

SPECint_rate_base2006 = 45.4

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 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:	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	784	49.8	**785**	**49.8**	785	49.8	4	640	61.1	640	61.0	**640**	**61.0**
401.bzip2	4	1016	38.0	**1024**	**37.7**	1057	36.5	4	1010	38.2	**1007**	**38.3**	1005	38.4
403.gcc	4	1026	31.4	**1026**	**31.4**	1034	31.2	4	765	42.1	**764**	**42.1**	762	42.3
429.mcf	4	**1347**	**27.1**	1347	27.1	1347	27.1	4	897	40.7	898	40.6	**897**	**40.7**
445.gobmk	4	759	55.3	**760**	**55.2**	760	55.2	4	648	64.8	**648**	**64.7**	648	64.7
456.hmmer	4	706	52.9	**706**	**52.9**	706	52.9	4	589	63.4	**590**	**63.3**	590	63.2
458.sjeng	4	936	51.7	**936**	**51.7**	936	51.7	4	863	56.1	**863**	**56.1**	863	56.1
462.libquantum	4	1641	50.5	1649	50.3	**1645**	**50.4**	4	**1640**	**50.5**	1642	50.5	1639	50.6
464.h264ref	4	1046	84.6	**1047**	**84.6**	1048	84.5	4	1020	86.8	1019	86.9	**1019**	**86.9**
471.omnetpp	4	713	35.1	714	35.0	**714**	**35.0**	4	**706**	**35.4**	706	35.4	707	35.4
473.astar	4	764	36.8	**762**	**36.9**	760	36.9	4	737	38.1	**737**	**38.1**	738	38.1
483.xalancbmk	4	479	57.6	**479**	**57.6**	480	57.6	4	472	58.4	**473**	**58.4**	473	58.4

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.
```

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`

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`

Continued on next page

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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