



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®_rate2006 = 51.2

CELSIUS V840, AMD Opteron 2220

SPECint_rate_base2006 = 45.6

CPU2006 license: 22

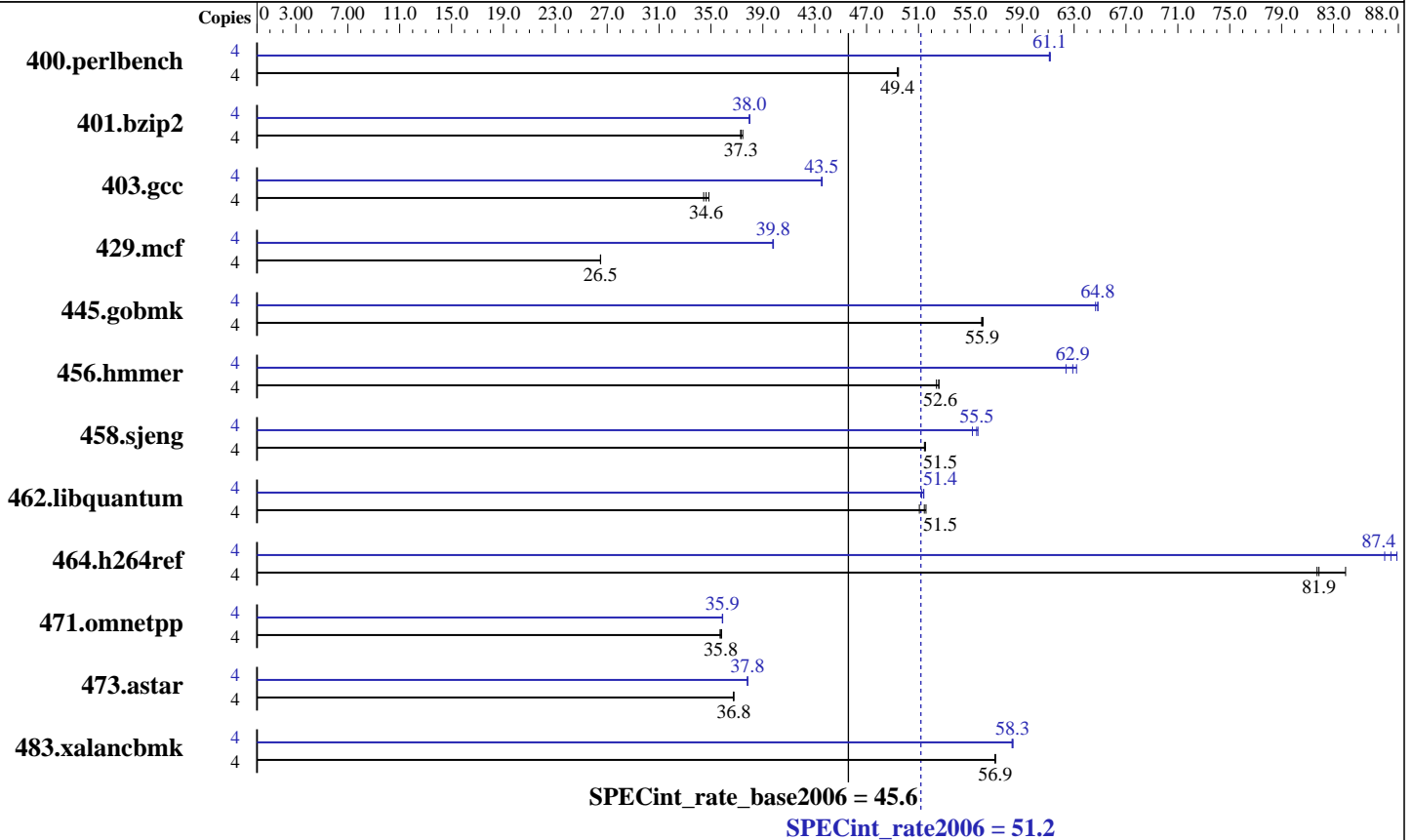
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Feb-2007

Hardware Availability: Feb-2007

Software Availability: Aug-2006



Hardware

CPU Name: AMD Opteron 2220
 CPU Characteristics: Dual Core, 2.8 GHz, 2 MB L2-cache
 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 dual rank ECC DIMMs registered)
 Disk Subsystem: SATA II, 80 GB
 Other Hardware: None

Software

Operating System: SLES 10 for AMD64/EM64T
 Compiler: QLogic Pathscale Compiler Suite 2.5
 Auto Parallel: No
 File System: ext3
 System State: Multi-User SuSE Run Level 3
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: 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	792	49.4	790	49.5	<u>791</u>	<u>49.4</u>	4	640	61.1	639	61.2	<u>639</u>	<u>61.1</u>
401.bzip2	4	1031	37.5	<u>1034</u>	<u>37.3</u>	1035	37.3	4	<u>1017</u>	<u>38.0</u>	1017	38.0	1016	38.0
403.gcc	4	924	34.8	<u>930</u>	<u>34.6</u>	935	34.4	4	739	43.6	740	43.5	<u>739</u>	<u>43.5</u>
429.mcf	4	<u>1377</u>	<u>26.5</u>	1377	26.5	1377	26.5	4	917	39.8	916	39.8	<u>917</u>	<u>39.8</u>
445.gobmk	4	751	55.9	750	56.0	<u>750</u>	<u>55.9</u>	4	649	64.7	<u>647</u>	<u>64.8</u>	647	64.8
456.hammer	4	<u>710</u>	<u>52.6</u>	710	52.6	712	52.4	4	591	63.2	598	62.4	<u>593</u>	<u>62.9</u>
458.sjeng	4	941	51.5	939	51.5	<u>940</u>	<u>51.5</u>	4	<u>872</u>	<u>55.5</u>	871	55.6	877	55.2
462.libquantum	4	1607	51.6	1623	51.1	<u>1611</u>	<u>51.5</u>	4	<u>1612</u>	<u>51.4</u>	1612	51.4	1617	51.3
464.h264ref	4	1083	81.7	1055	83.9	<u>1081</u>	<u>81.9</u>	4	1007	87.9	<u>1013</u>	<u>87.4</u>	1018	86.9
471.omnetpp	4	698	35.8	<u>699</u>	<u>35.8</u>	700	35.7	4	697	35.9	696	35.9	<u>697</u>	<u>35.9</u>
473.astar	4	764	36.8	<u>764</u>	<u>36.8</u>	765	36.7	4	<u>742</u>	<u>37.8</u>	742	37.8	743	37.8
483.xalancbmk	4	<u>485</u>	<u>56.9</u>	485	56.9	485	56.9	4	473	58.3	474	58.2	<u>474</u>	<u>58.3</u>

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

Operating System Notes

powersave -f is applied to set CPU to maximum frequency prior to run
 stacksize is set to unlimited prior to run
 taskset utility used to bind CPU(s) to processes
 numactl utility used to assign to each chip its local memory

General Notes

Binaries are generated on an Opteron-based system
 running SuSE 9.3 (Kernel 2.6.5.7)

BIOS default settings with
 Node memory interleave disabled, SRAT enabled

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<http://www.fujitsu-siemens.com/countries>

Base Compiler Invocation

C benchmarks:
 pathcc

C++ benchmarks:
 pathCC



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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/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmarheap

Base Other Flags

C benchmarks:

-IPA:max_jobs=2

C++ benchmarks:

-IPA:max_jobs=2

Peak Compiler Invocation

Same as Base Compiler Invocation

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
```

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Peak Portability Flags (Continued)

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

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

429.mcf: -m32 -O2 -ipa
-L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap

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/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap

473.astar: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
-m32
-L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap

483.xalancbmk: -Ofast -m32 -OPT:unroll_times_max=8
-L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap

Peak Other Flags

Same as Base Other Flags



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The flags file that was used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.25.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.25.xml

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