



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®_rate2006 = 53.8

PRIMERGY RX330 S1, AMD Opteron 2220, 2.8 GHz

SPECint_rate_base2006 = 48.3

CPU2006 license: 22

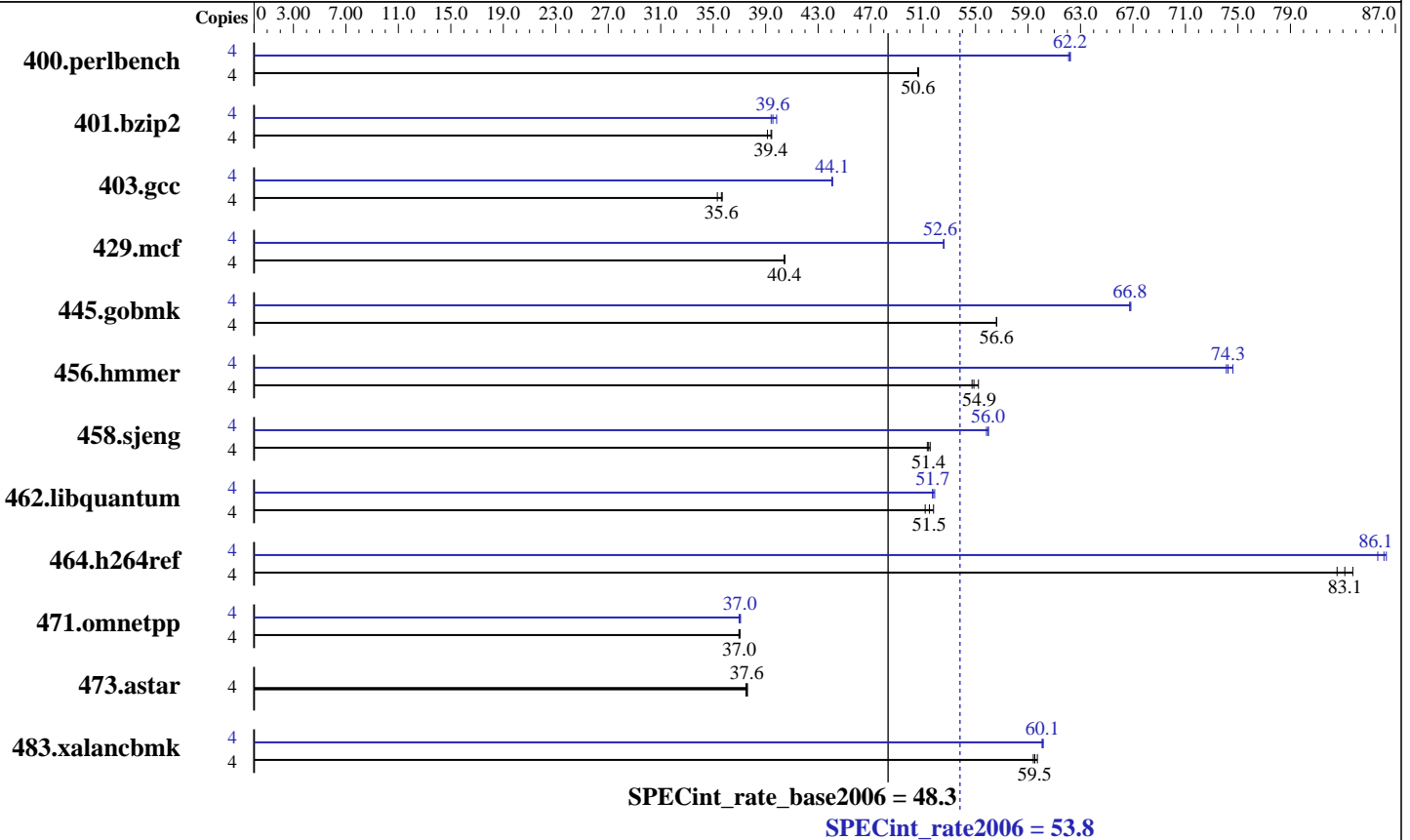
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Mar-2007

Hardware Availability: May-2007

Software Availability: Mar-2007



Hardware

CPU Name: AMD Opteron 2220
 CPU Characteristics: 2220
 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: 32 GB (8x4 GB DDR2 PC2-5300P, 2 rank, CAS 5-5-5, with ECC)
 Disk Subsystem: SAS (36GB 15.4 krpm)
 Other Hardware: None

Software

Operating System: SLES 10 for AMD64/EM64T
 Compiler: QLogic PathScale Compiler Suite, - Release 3.0
 Auto Parallel: No
 File System: ReiserFS
 System State: Multi-user run level 3
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap 8.1



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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	<u>772</u>	<u>50.6</u>	773	50.6	772	50.7	4	629	62.1	628	62.2	<u>628</u>	<u>62.2</u>
401.bzip2	4	978	39.5	<u>980</u>	<u>39.4</u>	986	39.1	4	979	39.4	969	39.8	<u>976</u>	<u>39.6</u>
403.gcc	4	<u>904</u>	<u>35.6</u>	902	35.7	912	35.3	4	<u>731</u>	<u>44.1</u>	730	44.1	731	44.0
429.mcf	4	902	40.5	<u>902</u>	<u>40.4</u>	903	40.4	4	<u>694</u>	<u>52.6</u>	694	52.6	694	52.6
445.gobmk	4	741	56.6	<u>741</u>	<u>56.6</u>	741	56.6	4	628	66.8	629	66.8	<u>628</u>	<u>66.8</u>
456.hammer	4	676	55.2	<u>680</u>	<u>54.9</u>	682	54.7	4	<u>503</u>	<u>74.3</u>	504	74.1	500	74.6
458.sjeng	4	<u>941</u>	<u>51.4</u>	943	51.3	939	51.5	4	<u>865</u>	<u>56.0</u>	867	55.8	865	56.0
462.libquantum	4	1620	51.2	<u>1610</u>	<u>51.5</u>	1600	51.8	4	1597	51.9	<u>1602</u>	<u>51.7</u>	1603	51.7
464.h264ref	4	1057	83.8	<u>1065</u>	<u>83.1</u>	1072	82.6	4	1033	85.7	1026	86.3	<u>1028</u>	<u>86.1</u>
471.omnetpp	4	675	37.0	<u>676</u>	<u>37.0</u>	676	37.0	4	674	37.1	676	37.0	<u>675</u>	<u>37.0</u>
473.astar	4	<u>747</u>	<u>37.6</u>	749	37.5	747	37.6	4	<u>747</u>	<u>37.6</u>	749	37.5	747	37.6
483.xalancbmk	4	462	59.7	465	59.4	<u>464</u>	<u>59.5</u>	4	459	60.2	<u>459</u>	<u>60.1</u>	459	60.1

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' has been used to bind processes to CPUs

General Notes

BIOS settings:
Node Interleave = disabled

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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 -OPT:malloc_alg=1

C++ benchmarks:
-Ofast -m32 -L/opt/SmartHeap_8.1/lib -lsmarheap

```

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

```

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Peak Portability Flags (Continued)

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
 -LNO:opt=0

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 -O3 -ipa -L/opt/SmartHeap_8.1/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.hmmr: -O2 -OPT:alias=disjoint -OPT:malloc_alg=1 -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 -CG:gcm=off -m32
 -L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -Ofast -m32 -OPT:unroll_times_max=8
 -L/opt/SmartHeap_8.1/lib -lsmartheap



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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.20090714.10.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.10.xml

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