# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

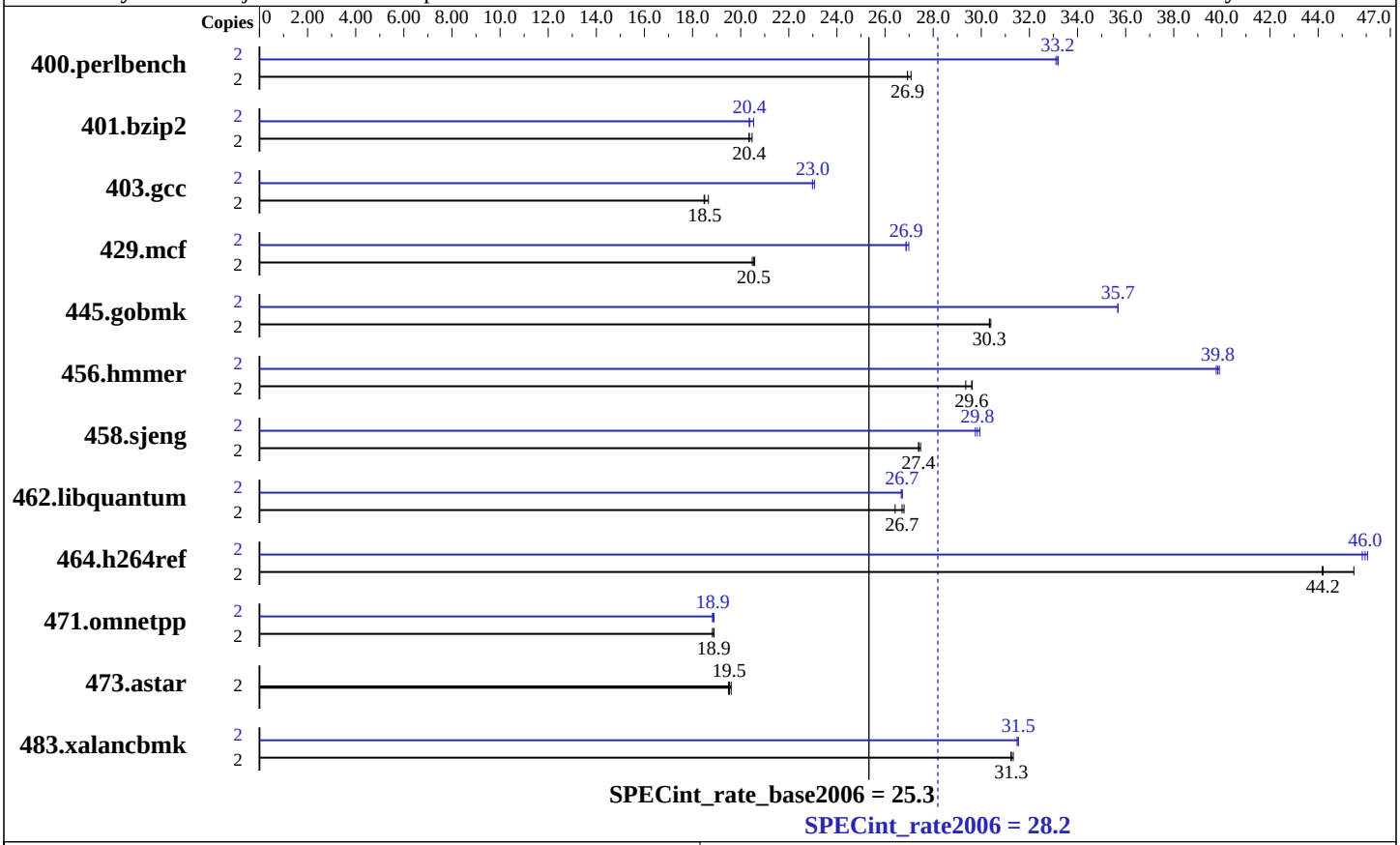
PRIMERGY RX330 S1, AMD Opteron 2222, 3.0 GHz

SPECint®_rate2006 = 28.2

SPECint_rate_base2006 = 25.3

**CPU2006 license:** 22
**Test sponsor:** Fujitsu Siemens Computers
**Tested by:** Fujitsu Siemens Computers

**Test date:** Jun-2007
**Hardware Availability:** Aug-2007
**Software Availability:** Mar-2007




### Hardware

| | |
|---|---|
| CPU Name: | AMD Opteron 2222 |
| CPU Characteristics: | 2222 |
| CPU MHz: | 3000 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 1 chip, 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 (8x2 GB DDR2 PC2-5300P, 2 rank, CAS 5-5-5, with ECC) |
| Disk Subsystem: | Seagate ST336754SS (SAS, 36GB, 15000rpm) |
| 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 | 2 | **726** | **26.9** | 722 | 27.1 | 726 | 26.9 | 2 | 589 | 33.2 | 590 | 33.1 | **589** | **33.2** |
| 401.bzip2 | 2 | **948** | **20.4** | 943 | 20.5 | 949 | 20.3 | 2 | 940 | 20.5 | 948 | 20.4 | **947** | **20.4** |
| 403.gcc | 2 | 863 | 18.7 | 871 | 18.5 | **870** | **18.5** | 2 | **700** | **23.0** | 701 | 23.0 | 698 | 23.1 |
| 429.mcf | 2 | 886 | 20.6 | **888** | **20.5** | 891 | 20.5 | 2 | 676 | 27.0 | 679 | 26.9 | **679** | **26.9** |
| 445.gobmk | 2 | 690 | 30.4 | **691** | **30.3** | 692 | 30.3 | 2 | **588** | **35.7** | 588 | 35.7 | 588 | 35.7 |
| 456.hmmer | 2 | 630 | 29.6 | **630** | **29.6** | 636 | 29.4 | 2 | 469 | 39.8 | **469** | **39.8** | 468 | 39.9 |
| 458.sjeng | 2 | **883** | **27.4** | 883 | 27.4 | 881 | 27.5 | 2 | 813 | 29.8 | 808 | 29.9 | **811** | **29.8** |
| 462.libquantum | 2 | 1569 | 26.4 | 1547 | 26.8 | **1552** | **26.7** | 2 | **1552** | **26.7** | 1551 | 26.7 | 1554 | 26.7 |
| 464.h264ref | 2 | **1001** | **44.2** | 973 | 45.5 | 1002 | 44.2 | 2 | 966 | 45.8 | **963** | **46.0** | 961 | 46.1 |
| 471.omnetpp | 2 | 662 | 18.9 | **662** | **18.9** | 664 | 18.8 | 2 | 662 | 18.9 | 664 | 18.8 | **663** | **18.9** |
| 473.astar | 2 | 716 | 19.6 | 720 | 19.5 | **719** | **19.5** | 2 | 716 | 19.6 | 720 | 19.5 | **719** | **19.5** |
| 483.xalancbmk | 2 | 440 | 31.3 | 442 | 31.2 | **442** | **31.3** | 2 | **438** | **31.5** | 438 | 31.5 | 438 | 31.5 |

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
'numactl' and 'taskset' have 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
```

## 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 -lsmartheap

## 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

Continued on next page

## 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.hmmer: -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

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

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