# SPEC® CFP2006 Result

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## Fujitsu Siemens Computers

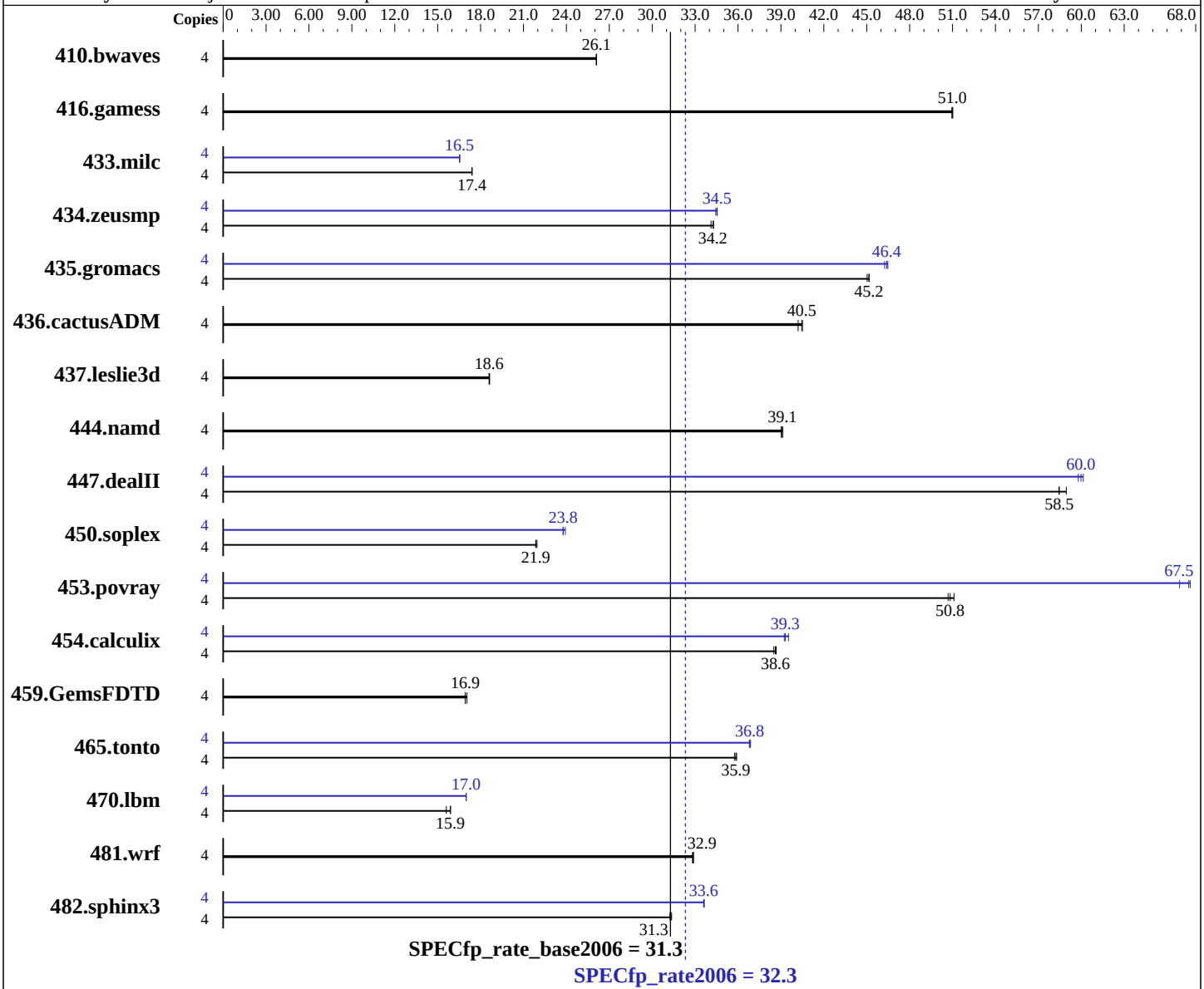
PRIMERGY RX300 S3, Intel Xeon processor 5120, 1.86 GHz

SPECfp®_rate2006 = 32.3

SPECfp_rate_base2006 = 31.3

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

**Test date:** May-2007
**Hardware Availability:** Jul-2006
**Software Availability:** Feb-2007




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon 5120 |
| CPU Characteristics: | 1067 MHz system bus |
| CPU MHz: | 1867 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 4 MB I+D on chip per chip |

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### Software

| | |
|---|---|
| Operating System: | 64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp on an x86_64 |
| Compiler: | Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070215, Package-ID: l_cc_p_9.1.047<br>Intel Fortran Compiler for IA32/EM64T application, Version 9.1 - Build 20070215, Package ID: l_fc_p_9.1.043 |
| Auto Parallel: | No |
| File System: | ext2 |

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L3 Cache: None
Other Cache: None
Memory: 8 GB (8x1 GB DDR2 PC2-5300F, 2 rank, CAS 5-5-5, with ECC)
Disk Subsystem: SAS (73GB 15400 rpm)
Other Hardware: None

System State: Multiuser, Runlevel 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 4 | **2083** | **26.1** | 2083 | 26.1 | 2083 | 26.1 | 4 | **2083** | **26.1** | 2083 | 26.1 | 2083 | 26.1 |
| 416.gamess | 4 | 1535 | 51.0 | **1536** | **51.0** | 1537 | 51.0 | 4 | 1535 | 51.0 | **1536** | **51.0** | 1537 | 51.0 |
| 433.milc | 4 | **2110** | **17.4** | 2110 | 17.4 | 2111 | 17.4 | 4 | 2221 | 16.5 | **2221** | **16.5** | 2221 | 16.5 |
| 434.zeusmp | 4 | 1067 | 34.1 | **1063** | **34.2** | 1062 | 34.3 | 4 | 1057 | 34.4 | **1054** | **34.5** | 1054 | 34.5 |
| 435.gromacs | 4 | 632 | 45.2 | **632** | **45.2** | 634 | 45.0 | 4 | 617 | 46.3 | **616** | **46.4** | 615 | 46.5 |
| 436.cactusADM | 4 | 1180 | 40.5 | **1182** | **40.5** | 1189 | 40.2 | 4 | 1180 | 40.5 | **1182** | **40.5** | 1189 | 40.2 |
| 437.leslie3d | 4 | 2022 | 18.6 | **2021** | **18.6** | 2018 | 18.6 | 4 | 2022 | 18.6 | **2021** | **18.6** | 2018 | 18.6 |
| 444.namd | 4 | **820** | **39.1** | 820 | 39.1 | 822 | 39.0 | 4 | **820** | **39.1** | 820 | 39.1 | 822 | 39.0 |
| 447.dealII | 4 | **783** | **58.5** | 783 | 58.5 | 776 | 59.0 | 4 | **763** | **60.0** | 761 | 60.1 | 765 | 59.8 |
| 450.soplex | 4 | 1520 | 21.9 | 1526 | 21.9 | **1526** | **21.9** | 4 | **1403** | **23.8** | 1403 | 23.8 | 1394 | 23.9 |
| 453.povray | 4 | **419** | **50.8** | 416 | 51.1 | 420 | 50.7 | 4 | 315 | 67.6 | 318 | 66.9 | **315** | **67.5** |
| 454.calculix | 4 | 853 | 38.7 | 857 | 38.5 | **855** | **38.6** | 4 | 835 | 39.5 | **840** | **39.3** | 841 | 39.2 |
| 459.GemsFDTD | 4 | 2489 | 17.0 | **2507** | **16.9** | 2508 | 16.9 | 4 | 2489 | 17.0 | **2507** | **16.9** | 2508 | 16.9 |
| 465.tonto | 4 | 1101 | 35.8 | **1098** | **35.9** | 1096 | 35.9 | 4 | 1067 | 36.9 | 1070 | 36.8 | **1069** | **36.8** |
| 470.lbm | 4 | 3456 | 15.9 | 3523 | 15.6 | **3460** | **15.9** | 4 | 3236 | 17.0 | **3235** | **17.0** | 3234 | 17.0 |
| 481.wrf | 4 | 1359 | 32.9 | 1362 | 32.8 | **1359** | **32.9** | 4 | 1359 | 32.9 | 1362 | 32.8 | **1359** | **32.9** |
| 482.sphinx3 | 4 | **2491** | **31.3** | 2496 | 31.2 | 2486 | 31.4 | 4 | **2320** | **33.6** | 2317 | 33.6 | 2320 | 33.6 |

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' used to bind processes to CPUs
```

## General Notes

```
The system bus runs at 1067 MHz

All binaries were built with 64-bit Intel compiler except:
433.milc, 434.zeusmp, 450.soplex, 470.lbm and 482.sphinx3 in peak were built with
32-bit Intel compiler by changing the path for include and library files.

The PRIMERGY RX300 S3 and the PRIMERGY TX300 S3 are electronically equivalent.
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## General Notes (Continued)

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http://www.fujitsu-siemens.com/countries
```

## Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

## Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

## Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-fast

Continued on next page

## Base Optimization Flags (Continued)

Fortran benchmarks:
`-fast`

Benchmarks using both Fortran and C:
`-fast`

## Peak Compiler Invocation

C benchmarks:
`/opt/intel/cc/9.1.047/bin/icc -I/opt/intel/cc/9.1.047/include -L/opt/intel/cc/9.1.047/lib`

C++ benchmarks (except as noted below):
`icpc`

450.soplex: `/opt/intel/cc/9.1.047/bin/icpc -I/opt/intel/cc/9.1.047/include -L/opt/intel/cc/9.1.047/lib`

Fortran benchmarks (except as noted below):
`ifort`

434.zeusmp: `/opt/intel/fc/9.1.043/bin/ifort -I/opt/intel/fc/9.1.043/include -L/opt/intel/fc/9.1.043/lib`

Benchmarks using both Fortran and C:
`icc ifort`

## Peak Portability Flags

410.bwaves: `-DSPEC_CPU_LP64`
416.gamess: `-DSPEC_CPU_LP64`
435.gromacs: `-DSPEC_CPU_LP64 -nofor_main`
436.cactusADM: `-DSPEC_CPU_LP64 -nofor_main`
437.leslie3d: `-DSPEC_CPU_LP64`
444.namd: `-DSPEC_CPU_LP64`
447.dealII: `-DSPEC_CPU_LP64`
453.povray: `-DSPEC_CPU_LP64`
454.calculix: `-DSPEC_CPU_LP64 -nofor_main`
459.GemsFDTD: `-DSPEC_CPU_LP64`
465.tonto: `-DSPEC_CPU_LP64`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

# Peak Optimization Flags

C benchmarks:

433.milc: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

470.lbm: `Same as 433.milc`

482.sphinx3: `-fast`

C++ benchmarks:

444.namd: `basepeak = yes`

447.dealII: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

450.soplex: `Same as 447.dealII`

453.povray: `Same as 447.dealII`

Fortran benchmarks:

410.bwaves: `basepeak = yes`

416.gamess: `basepeak = yes`

434.zeusmp: `-fast`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

Benchmarks using both Fortran and C:

435.gromacs: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

436.cactusADM: `basepeak = yes`

454.calculix: `Same as 435.gromacs`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.09.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.09.xml`

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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 11:42:29 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 29 May 2007.