# SPEC® CFP2006 Result

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## Fujitsu Siemens Computers

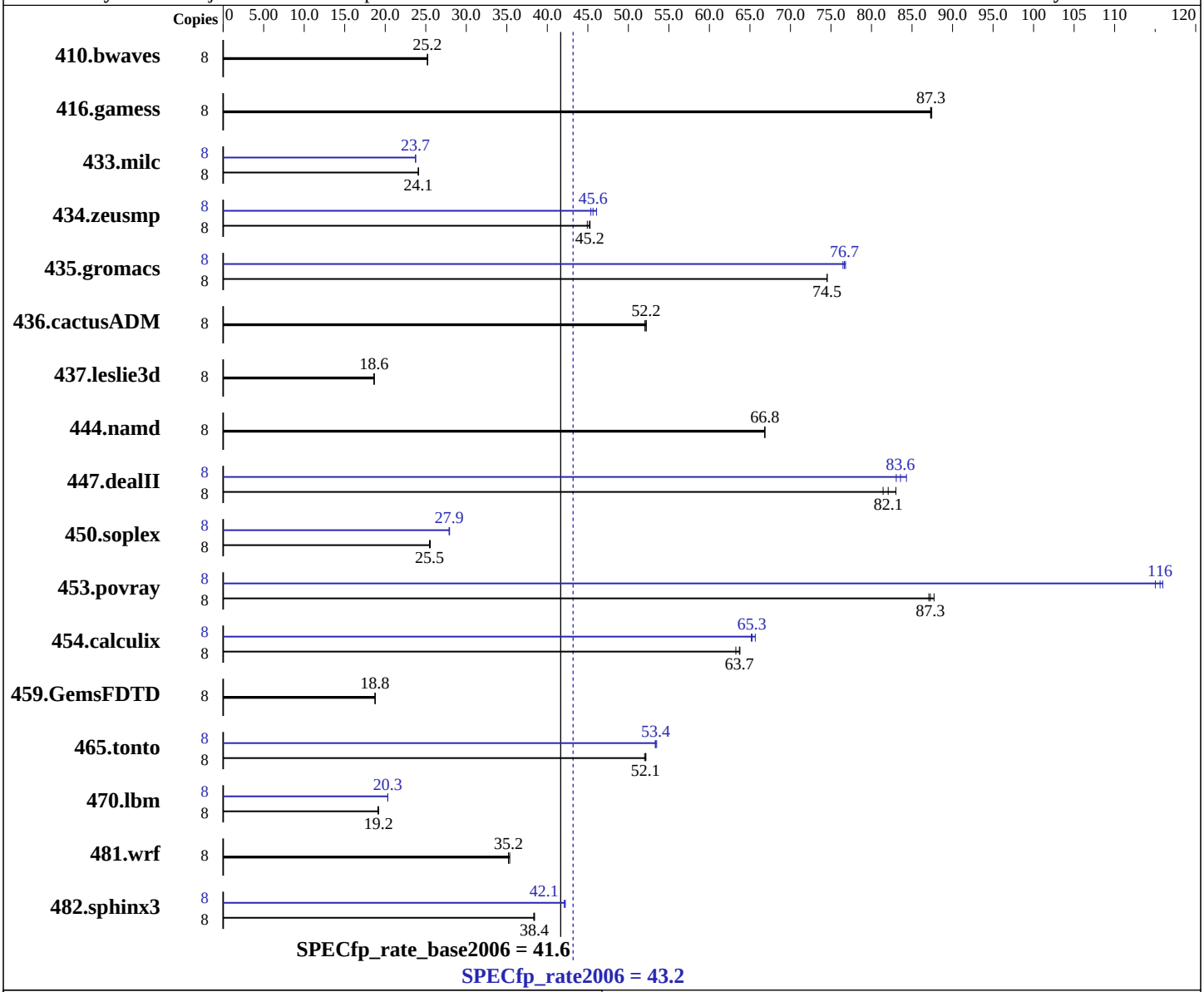
PRIMERGY TX300 S3, Intel Xeon processor E5310, 1.60 GHz

SPECfp®_rate2006 = 43.2

SPECfp_rate_base2006 = 41.6

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

**Test date:** Apr-2007
**Hardware Availability:** Nov-2006
**Software Availability:** Feb-2007




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5310 |
| CPU Characteristics: | 1067 MHz system bus |
| CPU MHz: | 1600 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 2 chips, 4 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 8 MB I+D on chip per chip, 4 MB shared / 2 cores |

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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: 16 GB (8x2 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 | 8 | **4312** | **25.2** | 4310 | 25.2 | 4312 | 25.2 | 8 | **4312** | **25.2** | 4310 | 25.2 | 4312 | 25.2 |
| 416.gamess | 8 | 1794 | 87.3 | 1791 | 87.4 | **1794** | **87.3** | 8 | 1794 | 87.3 | 1791 | 87.4 | **1794** | **87.3** |
| 433.milc | 8 | 3049 | 24.1 | **3049** | **24.1** | 3048 | 24.1 | 8 | 3094 | 23.7 | **3094** | **23.7** | 3093 | 23.7 |
| 434.zeusmp | 8 | 1620 | 44.9 | 1608 | 45.3 | **1611** | **45.2** | 8 | 1580 | 46.1 | 1605 | 45.4 | **1595** | **45.6** |
| 435.gromacs | 8 | 766 | 74.5 | **767** | **74.5** | 767 | 74.5 | 8 | 744 | 76.8 | 747 | 76.5 | **745** | **76.7** |
| 436.cactusADM | 8 | 1837 | 52.0 | **1832** | **52.2** | 1831 | 52.2 | 8 | 1837 | 52.0 | **1832** | **52.2** | 1831 | 52.2 |
| 437.leslie3d | 8 | **4038** | **18.6** | 4042 | 18.6 | 4032 | 18.7 | 8 | **4038** | **18.6** | 4042 | 18.6 | 4032 | 18.7 |
| 444.namd | 8 | **960** | **66.8** | 960 | 66.8 | 960 | 66.9 | 8 | **960** | **66.8** | 960 | 66.8 | 960 | 66.9 |
| 447.dealII | 8 | 1103 | 83.0 | **1115** | **82.1** | 1124 | 81.4 | 8 | 1085 | 84.3 | **1095** | **83.6** | 1102 | 83.1 |
| 450.soplex | 8 | 2611 | 25.6 | **2619** | **25.5** | 2620 | 25.5 | 8 | 2393 | 27.9 | 2388 | 27.9 | **2392** | **27.9** |
| 453.povray | 8 | 485 | 87.7 | 489 | 87.1 | **488** | **87.3** | 8 | 367 | 116 | **368** | **116** | 370 | 115 |
| 454.calculix | 8 | **1036** | **63.7** | 1035 | 63.8 | 1043 | 63.3 | 8 | 1005 | 65.7 | **1011** | **65.3** | 1013 | 65.2 |
| 459.GemsFDTD | 8 | 4529 | 18.7 | 4527 | 18.8 | **4527** | **18.8** | 8 | 4529 | 18.7 | 4527 | 18.8 | **4527** | **18.8** |
| 465.tonto | 8 | **1510** | **52.1** | 1514 | 52.0 | 1509 | 52.2 | 8 | 1472 | 53.5 | 1477 | 53.3 | **1475** | **53.4** |
| 470.lbm | 8 | 5734 | 19.2 | **5735** | **19.2** | 5757 | 19.1 | 8 | 5411 | 20.3 | 5409 | 20.3 | **5410** | **20.3** |
| 481.wrf | 8 | 2539 | 35.2 | 2527 | 35.4 | **2537** | **35.2** | 8 | 2539 | 35.2 | 2527 | 35.4 | **2537** | **35.2** |
| 482.sphinx3 | 8 | **4060** | **38.4** | 4059 | 38.4 | 4069 | 38.3 | 8 | **3702** | **42.1** | 3702 | 42.1 | 3693 | 42.2 |

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.

BIOS configuration:
```

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## General Notes (Continued)

```
Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable

This result was measured on the PRIMERGY RX300 S3. The PRIMERGY RX300 S3 and
the PRIMERGY TX300 S3 are electronically equivalent.

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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`

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## Base Optimization Flags (Continued)

C++ benchmarks:
-fast

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

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