# SPEC® CFP2006 Result

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## Fujitsu Siemens Computers

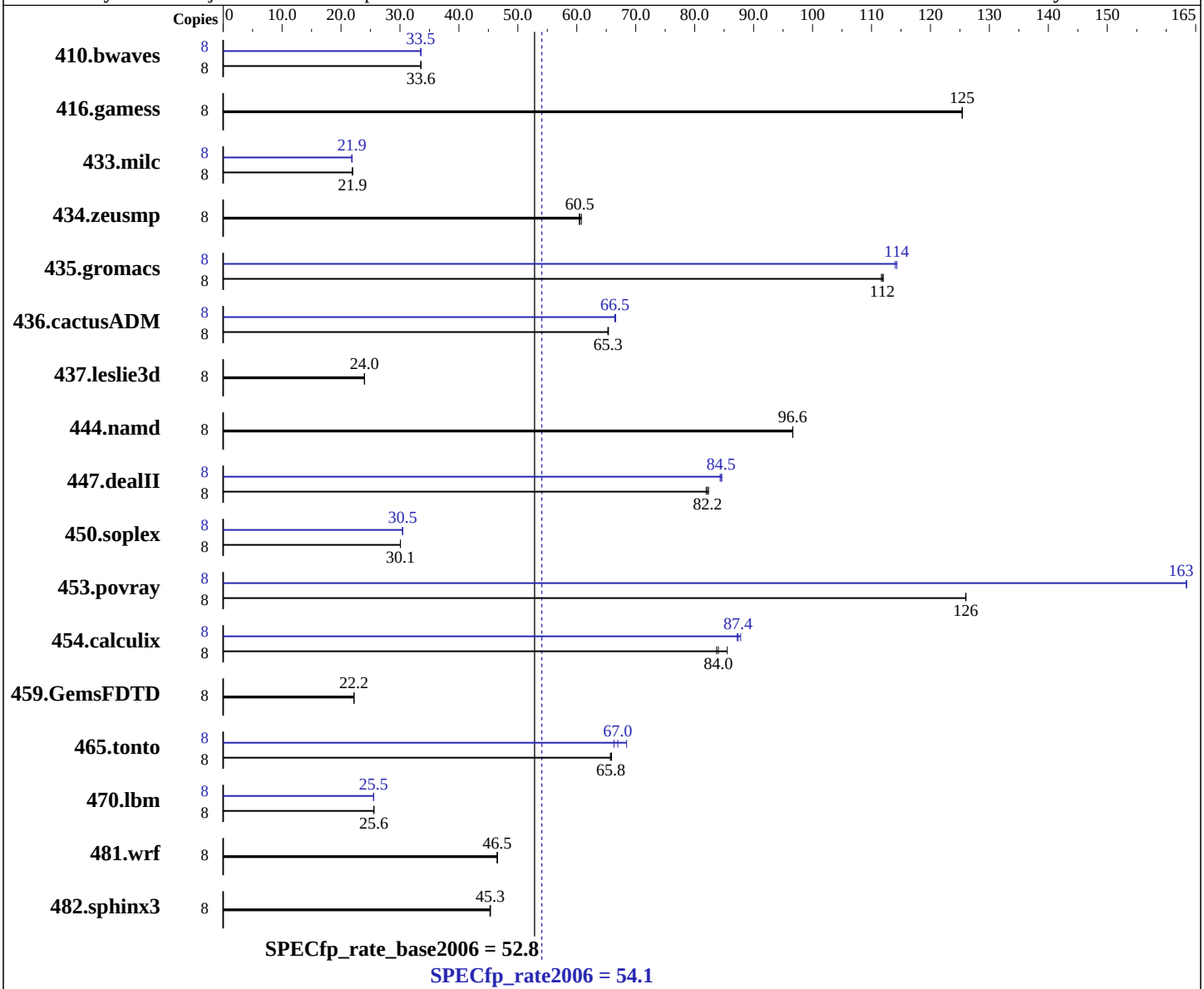
## CELSIUS R640, Intel Xeon E5345 processor

SPECfp®_rate2006 = 54.1

SPECfp_rate_base2006 = 52.8

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

**Test date:** Mar-2007
**Hardware Availability:** Nov-2006
**Software Availability:** Nov-2006




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5345 |
| CPU Characteristics: | E5345 |
| CPU MHz: | 2333 |
| 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: | Windows XP, 64 bit Edition |
| Compiler: | Intel C++ Compiler for EM64T version 9.1<br>- Build 20061104, Package-ID W_CC_C_9.1.033<br>Intel Fortran Compiler for EM64T version 9.1<br>- Build 20061104, Package-ID W_FC_C_9.1.033<br>Microsoft Visual Studio 2005 (libr. & linker) |
| Auto Parallel: | No |
| File System: | NTFS |
| System State: | Default |

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: SATA II 7200 rpm
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 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 | 3241 | 33.5 | **3240** | **33.6** | 3239 | 33.6 | 8 | 3243 | 33.5 | **3241** | **33.5** | 3238 | 33.6 |
| 416.gamess | 8 | 1249 | 125 | **1249** | **125** | 1249 | 125 | 8 | 1249 | 125 | **1249** | **125** | 1249 | 125 |
| 433.milc | 8 | 3349 | 21.9 | 3346 | 21.9 | **3348** | **21.9** | 8 | 3362 | 21.8 | **3361** | **21.9** | 3360 | 21.9 |
| 434.zeusmp | 8 | 1205 | 60.4 | **1203** | **60.5** | 1198 | 60.8 | 8 | 1205 | 60.4 | **1203** | **60.5** | 1198 | 60.8 |
| 435.gromacs | 8 | 510 | 112 | 511 | 112 | **511** | **112** | 8 | 500 | 114 | **500** | **114** | 501 | 114 |
| 436.cactusADM | 8 | **1464** | **65.3** | 1464 | 65.3 | 1462 | 65.4 | 8 | 1439 | 66.4 | **1438** | **66.5** | 1435 | 66.6 |
| 437.leslie3d | 8 | **3136** | **24.0** | 3136 | 24.0 | 3136 | 24.0 | 8 | **3136** | **24.0** | 3136 | 24.0 | 3136 | 24.0 |
| 444.namd | 8 | **664** | **96.6** | 664 | 96.7 | 664 | 96.6 | 8 | **664** | **96.6** | 664 | 96.7 | 664 | 96.6 |
| 447.dealII | 8 | 1117 | 81.9 | **1114** | **82.2** | 1111 | 82.3 | 8 | 1082 | 84.6 | 1085 | 84.3 | **1083** | **84.5** |
| 450.soplex | 8 | 2218 | 30.1 | **2219** | **30.1** | 2219 | 30.1 | 8 | **2191** | **30.5** | 2191 | 30.5 | 2191 | 30.4 |
| 453.povray | 8 | **338** | **126** | 338 | 126 | 338 | 126 | 8 | **260** | **163** | 260 | 163 | 260 | 163 |
| 454.calculix | 8 | 788 | 83.7 | **786** | **84.0** | 772 | 85.5 | 8 | **755** | **87.4** | 752 | 87.8 | 757 | 87.2 |
| 459.GemsFDTD | 8 | 3823 | 22.2 | 3826 | 22.2 | **3823** | **22.2** | 8 | 3823 | 22.2 | 3826 | 22.2 | **3823** | **22.2** |
| 465.tonto | 8 | 1195 | 65.9 | **1196** | **65.8** | 1198 | 65.7 | 8 | 1187 | 66.3 | **1176** | **67.0** | 1150 | 68.5 |
| 470.lbm | 8 | **4298** | **25.6** | 4298 | 25.6 | 4298 | 25.6 | 8 | 4305 | 25.5 | **4305** | **25.5** | 4306 | 25.5 |
| 481.wrf | 8 | **1921** | **46.5** | 1922 | 46.5 | 1921 | 46.5 | 8 | **1921** | **46.5** | 1922 | 46.5 | 1921 | 46.5 |
| 482.sphinx3 | 8 | 3439 | 45.3 | 3445 | 45.3 | **3440** | **45.3** | 8 | 3439 | 45.3 | 3445 | 45.3 | **3440** | **45.3** |

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

## Platform Notes

```
BIOS default settings have been used, except:
High Bandwith Option Enabled
  (To Optimize throughput of High Bandwidth FSB applications
  on multiprocessor configurations)
```

## General Notes

```
'start /b /wait /affinity' command is used to bind CPU(s) to processors.
The Windows command "start /b /wait /affinity <hex_affinity_mask> application"
  starts the specified application without creating a new window (/b)
  and waits for its termination (/wait). Only the processors specified
  in <hex_affinity_mask> are allowed to execute the application.
  See the Windows documentation for the description of other parameters
  of the start command.
```

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## General Notes (Continued)

For information about Fujitsu Siemens Computers in your country please see:
http://www.fujitsu-siemens.com/countries

## Base Compiler Invocation

C benchmarks:
icl -Qvc8 -Qc99

C++ benchmarks:
icl -Qvc8

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

## Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
416.gamess: -DSPEC_CPU_P64
433.milc: -D_Complex= -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -D_Complex= -DSPEC_CPU_P64
436.cactusADM: -D_Complex= -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -D_Complex= -DSPEC_CPU_P64 -DBOOST_NO_INTRINSIC_WCHAR_T
-DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -D_Complex= -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER
-Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -D_Complex= -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -D_Complex= -DSPEC_CPU_P64

## Base Optimization Flags

C benchmarks:
-fast -F950000000

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## Base Optimization Flags (Continued)

C++ benchmarks:
`-fast -Qcxx-features -F950000000`

Fortran benchmarks:
`-fast -F950000000`

Benchmarks using both Fortran and C:
`-fast -F950000000`

## Peak Compiler Invocation

C benchmarks:
`icl -Qvc8 -Qc99`

C++ benchmarks:
`icl -Qvc8`

Fortran benchmarks:
`ifort`

Benchmarks using both Fortran and C:
`icl -Qvc8 -Qc99 ifort`

## Peak Portability Flags

`Same as Base Portability Flags`

## Peak Optimization Flags

C benchmarks:

433.milc: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -F950000000`

470.lbm: `Same as 433.milc`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `basepeak = yes`

447.dealII: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -Qcxx-features -F950000000`

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# Peak Optimization Flags (Continued)

450.soplex: `Same as 447.dealII`

453.povray: `Same as 447.dealII`

Fortran benchmarks:

410.bwaves: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -F950000000`

416.gamess: `basepeak = yes`

434.zeusmp: `basepeak = yes`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `Same as 410.bwaves`

Benchmarks using both Fortran and C:

435.gromacs: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -F950000000`

436.cactusADM: `Same as 435.gromacs`

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.20090714.20.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.20.xml`


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