



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu Siemens Computers

PRIMERGY RX100 S5, Intel Pentium Dual Core E2200,  
2.20 GHz

SPECfp<sup>®</sup>\_rate2006 = 22.7

SPECfp\_rate\_base2006 = 21.7

CPU2006 license: 22

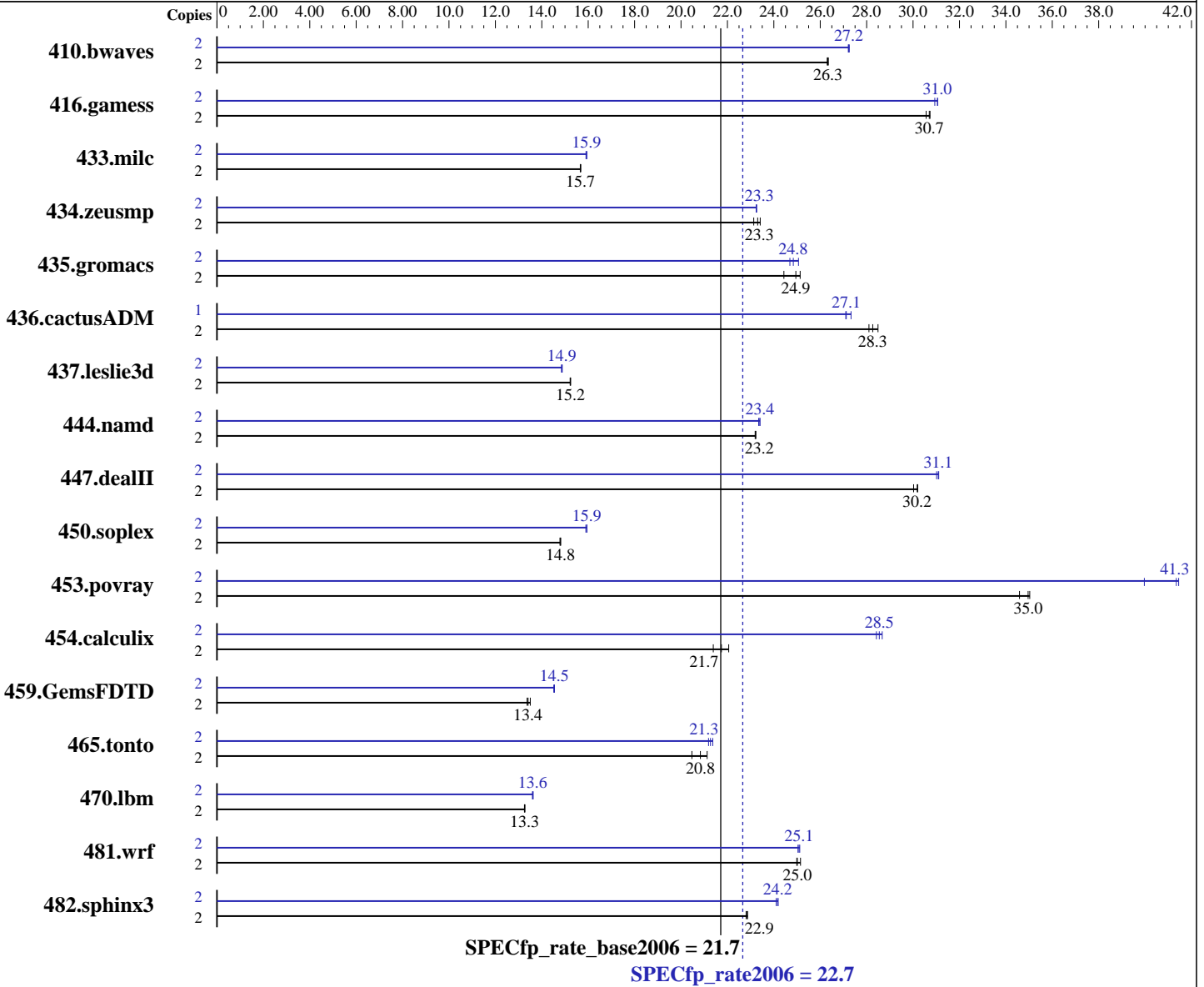
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Oct-2008

Hardware Availability: Sep-2008

Software Availability: May-2008



### Hardware

CPU Name: Intel Pentium Dual Core E2200  
 CPU Characteristics: 800 MHz system bus  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per chip

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### Software

Operating System: SuSE Linux Enterprise Server 10 (x86\_64) SP2,  
kernel 2.6.16.60-0.21-smp  
 Compiler: Intel C++ and Fortran Compiler  
for Linux32 and Linux64  
Version 10.1 - Build 20070913  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Multi-User Run Level 3  
 Base Pointers: 64-bit

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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (4x2 GB PC2-6400E, 2 rank, CL 6-6-6, ECC)  
Disk Subsystem: 1x SATA, 160 GB, 7200 rpm  
Other Hardware: None

Peak Pointers: 32/64-bit  
Other Software: binutils-2.17.50.0.5-0.1.x86\_64

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	<b>1032</b>	<b>26.3</b>	1032	26.3	1033	26.3	2	999	27.2	<b>998</b>	<b>27.2</b>	997	27.3
416.gamess	2	1274	30.7	1281	30.6	<b>1276</b>	<b>30.7</b>	2	<b>1261</b>	<b>31.0</b>	1261	31.1	1266	30.9
433.milc	2	1171	15.7	1173	15.7	<b>1172</b>	<b>15.7</b>	2	1154	15.9	1152	15.9	<b>1153</b>	<b>15.9</b>
434.zeusmp	2	787	23.1	<b>781</b>	<b>23.3</b>	777	23.4	2	<b>783</b>	<b>23.3</b>	782	23.3	783	23.2
435.gromacs	2	<b>572</b>	<b>24.9</b>	568	25.1	584	24.4	2	570	25.1	<b>575</b>	<b>24.8</b>	578	24.7
436.cactusADM	2	851	28.1	<b>846</b>	<b>28.3</b>	839	28.5	1	<b>441</b>	<b>27.1</b>	441	27.1	437	27.3
437.leslie3d	2	<b>1234</b>	<b>15.2</b>	1233	15.2	1235	15.2	2	<b>1264</b>	<b>14.9</b>	1266	14.8	1263	14.9
444.namd	2	691	23.2	692	23.2	<b>691</b>	<b>23.2</b>	2	<b>686</b>	<b>23.4</b>	685	23.4	687	23.3
447.dealII	2	758	30.2	762	30.0	<b>758</b>	<b>30.2</b>	2	738	31.0	<b>736</b>	<b>31.1</b>	736	31.1
450.soplex	2	1128	14.8	<b>1126</b>	<b>14.8</b>	1126	14.8	2	1049	15.9	1046	15.9	<b>1046</b>	<b>15.9</b>
453.povray	2	304	35.0	<b>304</b>	<b>35.0</b>	308	34.6	2	257	41.4	<b>257</b>	<b>41.3</b>	266	40.0
454.calculix	2	748	22.1	771	21.4	<b>759</b>	<b>21.7</b>	2	575	28.7	581	28.4	<b>578</b>	<b>28.5</b>
459.GemsFDTD	2	1587	13.4	<b>1583</b>	<b>13.4</b>	1571	13.5	2	1459	14.5	<b>1459</b>	<b>14.5</b>	1462	14.5
465.tonto	2	932	21.1	961	20.5	<b>945</b>	<b>20.8</b>	2	921	21.4	<b>925</b>	<b>21.3</b>	929	21.2
470.lbm	2	2070	13.3	2074	13.3	<b>2072</b>	<b>13.3</b>	2	2016	13.6	<b>2019</b>	<b>13.6</b>	2021	13.6
481.wrf	2	888	25.1	<b>893</b>	<b>25.0</b>	894	25.0	2	<b>891</b>	<b>25.1</b>	892	25.0	889	25.1
482.sphinx3	2	1709	22.8	<b>1705</b>	<b>22.9</b>	1705	22.9	2	<b>1613</b>	<b>24.2</b>	1612	24.2	1617	24.1

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  
OMP\_NUM\_THREADS set to number of cores (default)

## Platform Notes

BIOS configuration:  
Hardware Prefetch = Enable, Adjacent Sector Prefetch = Enable

## General Notes

For information about Fujitsu Siemens Computers please see:  
<http://www.fujitsu-siemens.com>



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**Software Availability:** May-2008

## 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

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast



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## Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib
-I/opt/intel/fc/10.1.008/include
```

Benchmarks using both Fortran and C:

icc ifort

## Peak 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
444.namd: -DSPEC_CPU_LP64
447.deallI: -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 -fno-alias
-auto-ilp32
```

```
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3
```

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## Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

447.dealIII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast  
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4  
-ansi-alias

### Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

### Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.html>



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

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.xml>

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