



# SPEC® CFP2006 Result

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## Fujitsu Siemens Computers

**SPECfp®2006 = 19.8**

### CELSIUS R550, Intel Xeon E5410 processor

**SPECfp\_base2006 = 16.7**

CPU2006 license: 22

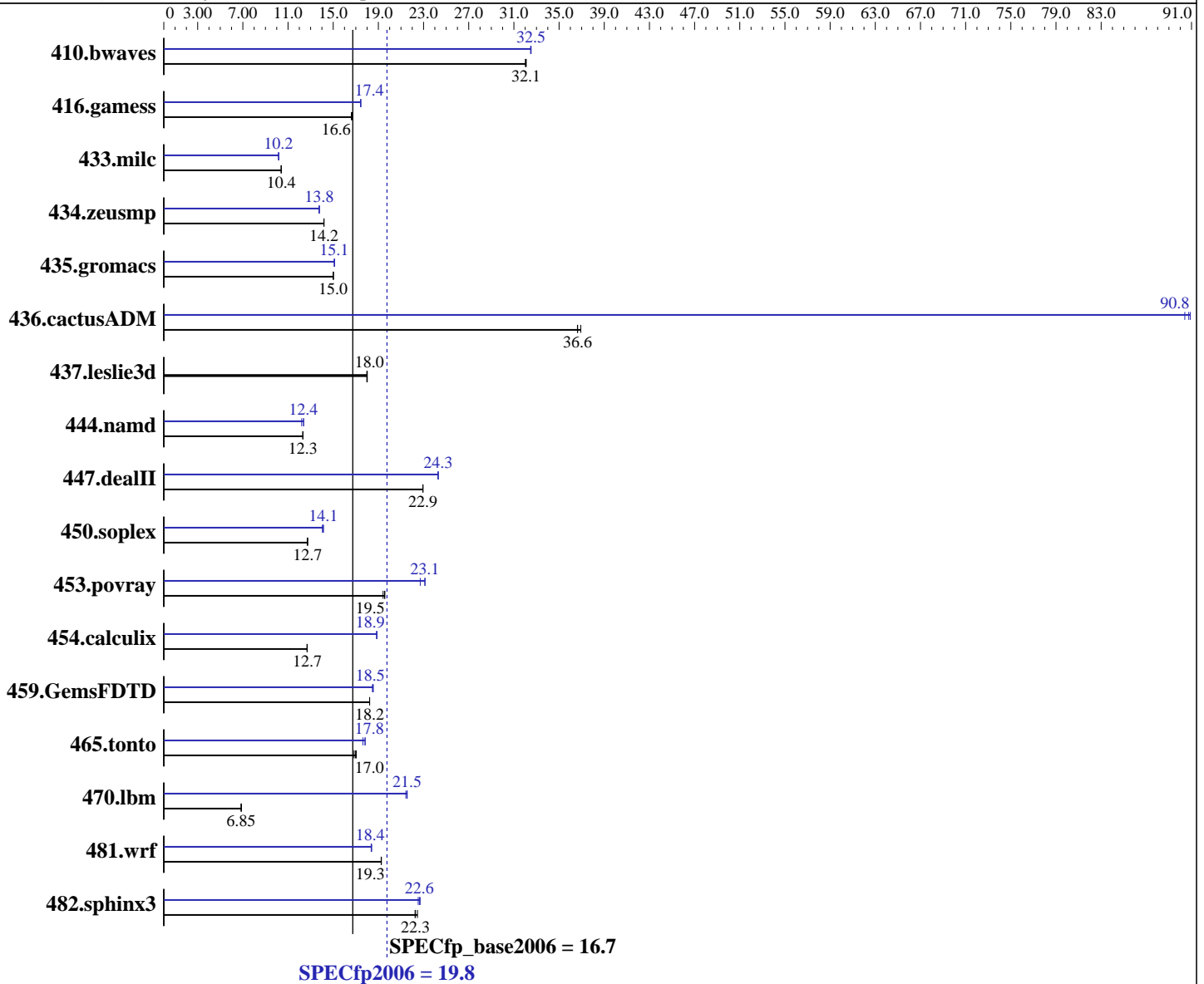
Test date: Nov-2007

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Nov-2007

Tested by: Fujitsu Siemens Computers

Software Availability: Nov-2007



#### Hardware

CPU Name: Intel Xeon E5410  
 CPU Characteristics:  
 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: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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#### Software

Operating System: SuSE Linux Enterprise Server 10 (x86\_64) SP1, kernel 2.6.16.46-0.12-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  
 Peak Pointers: 32/64-bit

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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (4x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
Disk Subsystem: 1x SATA II, 400 GB, 7200 rpm  
Other Hardware: None

Other Software: binutils-2.17.50.0.5-0.1.x86\_64

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	424	32.1	<b>424</b>	<b>32.1</b>	425	32.0	418	32.5	<b>418</b>	<b>32.5</b>	418	32.5
416.gamess	1174	16.7	1179	16.6	<b>1177</b>	<b>16.6</b>	1123	17.4	<b>1123</b>	<b>17.4</b>	1124	17.4
433.milc	882	10.4	883	10.4	<b>883</b>	<b>10.4</b>	904	10.2	<b>903</b>	<b>10.2</b>	902	10.2
434.zeusmp	642	14.2	642	14.2	<b>642</b>	<b>14.2</b>	<b>661</b>	<b>13.8</b>	660	13.8	662	13.8
435.gromacs	475	15.0	476	15.0	<b>476</b>	<b>15.0</b>	<b>473</b>	<b>15.1</b>	473	15.1	472	15.1
436.cactusADM	326	36.6	<b>326</b>	<b>36.6</b>	324	36.9	131	90.9	132	90.4	<b>132</b>	<b>90.8</b>
437.leslie3d	522	18.0	<b>522</b>	<b>18.0</b>	523	18.0	522	18.0	<b>522</b>	<b>18.0</b>	523	18.0
444.namd	651	12.3	<b>651</b>	<b>12.3</b>	651	12.3	648	12.4	657	12.2	<b>648</b>	<b>12.4</b>
447.dealII	<b>499</b>	<b>22.9</b>	499	22.9	498	22.9	471	24.3	<b>471</b>	<b>24.3</b>	471	24.3
450.soplex	654	12.7	657	12.7	<b>655</b>	<b>12.7</b>	590	14.1	594	14.0	<b>590</b>	<b>14.1</b>
453.povray	<b>272</b>	<b>19.5</b>	272	19.6	274	19.4	230	23.1	<b>230</b>	<b>23.1</b>	234	22.7
454.calculix	<b>650</b>	<b>12.7</b>	649	12.7	651	12.7	437	18.9	438	18.8	<b>437</b>	<b>18.9</b>
459.GemsFDTD	582	18.2	<b>582</b>	<b>18.2</b>	582	18.2	574	18.5	572	18.6	<b>573</b>	<b>18.5</b>
465.tonto	577	17.0	584	16.9	<b>579</b>	<b>17.0</b>	552	17.8	<b>552</b>	<b>17.8</b>	558	17.6
470.lbm	1998	6.88	2007	6.85	<b>2007</b>	<b>6.85</b>	638	21.6	<b>638</b>	<b>21.5</b>	641	21.4
481.wrf	<b>580</b>	<b>19.3</b>	580	19.2	580	19.3	<b>608</b>	<b>18.4</b>	607	18.4	608	18.4
482.sphinx3	868	22.5	876	22.2	<b>875</b>	<b>22.3</b>	859	22.7	<b>861</b>	<b>22.6</b>	865	22.5

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

## Platform Notes

BIOS configuration:  
Enhanced Speedstep Technology = Disable  
Hardware Prefetch = Enable, Adjacent Sector Prefetch = Enable  
SnoopFilter = Disable



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## General Notes

All binaries were built with 64-bit Intel compiler except: 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.

For information about Fujitsu Siemens Computers in your country please see: <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.deallI: -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

```



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## Base Optimization Flags

C benchmarks:

-fast -parallel

C++ benchmarks:

-fast -parallel

Fortran benchmarks:

-fast -parallel

Benchmarks using both Fortran and C:

-fast -parallel

## 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:

ifort

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  
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

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## Peak Portability Flags (Continued)

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

482.sphinx3: -fast -unroll2

C++ benchmarks:

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

447.dealII: -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 -parallel

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: basepeak = yes

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

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

Benchmarks using both Fortran and C:

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## Peak Optimization Flags (Continued)

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 -parallel -prefetch -auto-ilp32

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.31.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.31.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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