



# SPEC® CFP2006 Result

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## Fujitsu Siemens Computers

### SPECfp®\_rate2006 = 75.5

### CELSIUS R550, Intel Xeon X5460 processor

### SPECfp\_rate\_base2006 = 67.0

CPU2006 license: 22

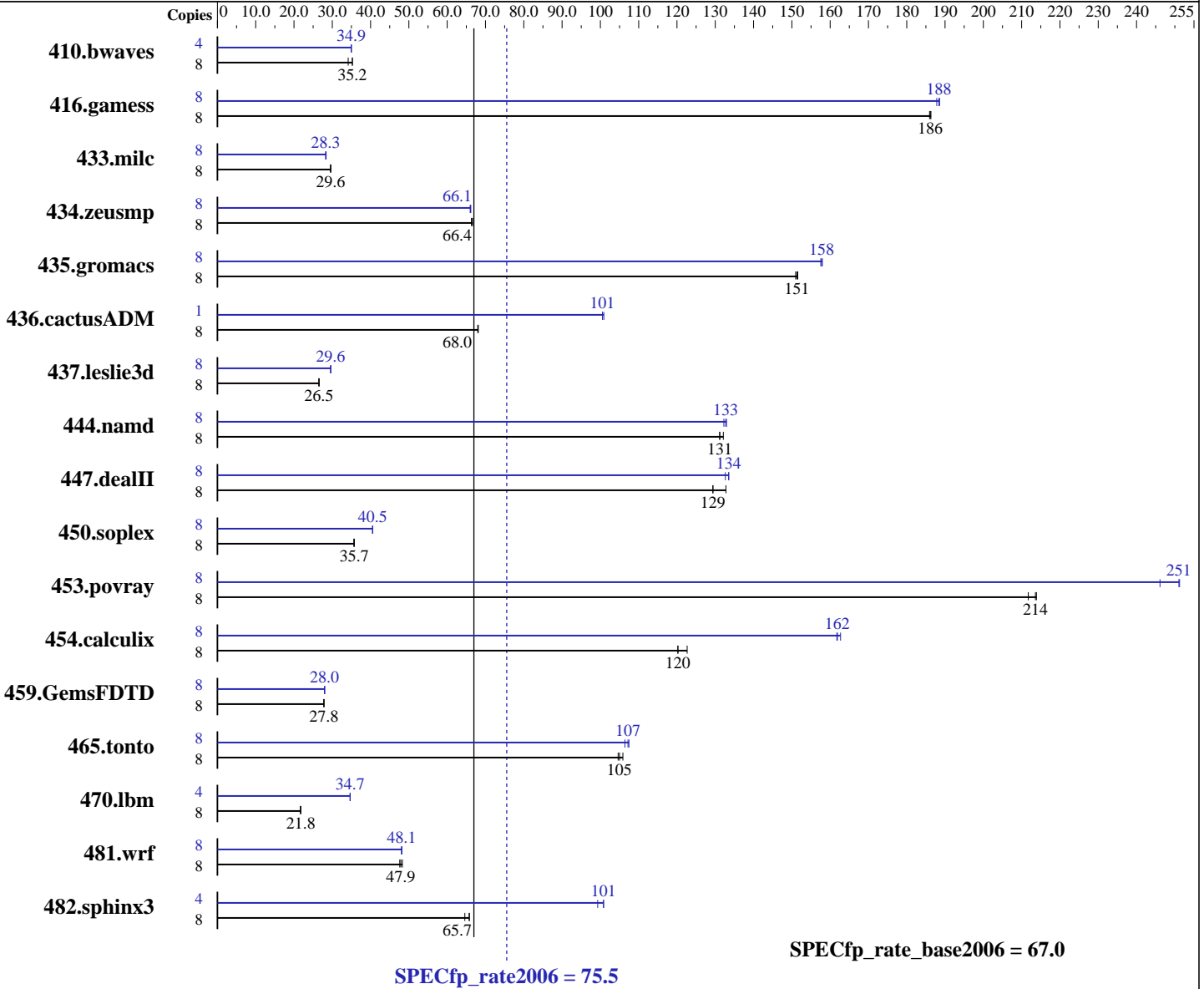
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Dec-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



**Hardware**

CPU Name: Intel Xeon X5460  
 CPU Characteristics: 3167  
 CPU MHz: 3167  
 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

*Continued on next page*

**Software**

Operating System: SuSE Linux Enterprise Server 10 (x86\_64) SP1, kernel 2.6.16.46-0.12-smpp  
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 Version 10.1 - Build 20070725  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Multi-User Run Level 3  
 Base Pointers: 64-bit

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### Hardware (Continued)

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

### Software (Continued)

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	3183	34.2	3085	35.2	<b>3085</b>	<b>35.2</b>	4	<b>1556</b>	<b>34.9</b>	1553	35.0	1557	34.9		
416.gamess	8	<b>841</b>	<b>186</b>	842	186	841	186	8	834	188	831	189	<b>832</b>	<b>188</b>		
433.milc	8	2480	29.6	<b>2483</b>	<b>29.6</b>	2486	29.5	8	2587	28.4	<b>2596</b>	<b>28.3</b>	2596	28.3		
434.zeusmp	8	1097	66.3	<b>1096</b>	<b>66.4</b>	1092	66.6	8	<b>1101</b>	<b>66.1</b>	1103	66.0	1100	66.2		
435.gromacs	8	<b>377</b>	<b>151</b>	378	151	377	152	8	362	158	<b>362</b>	<b>158</b>	363	158		
436.cactusADM	8	1406	68.0	<b>1405</b>	<b>68.0</b>	1403	68.1	1	118	101	119	101	<b>119</b>	<b>101</b>		
437.leslie3d	8	2839	26.5	<b>2837</b>	<b>26.5</b>	2830	26.6	8	2540	29.6	2543	29.6	<b>2542</b>	<b>29.6</b>		
444.namd	8	489	131	486	132	<b>489</b>	<b>131</b>	8	<b>483</b>	<b>133</b>	485	132	483	133		
447.dealII	8	689	133	707	129	<b>707</b>	<b>129</b>	8	685	134	<b>686</b>	<b>134</b>	690	133		
450.soplex	8	1867	35.7	<b>1867</b>	<b>35.7</b>	1873	35.6	8	1646	40.5	<b>1646</b>	<b>40.5</b>	1647	40.5		
453.povray	8	199	214	201	212	<b>199</b>	<b>214</b>	8	169	251	173	246	<b>170</b>	<b>251</b>		
454.calculix	8	538	123	<b>549</b>	<b>120</b>	549	120	8	406	163	408	162	<b>408</b>	<b>162</b>		
459.GemsFDTD	8	<b>3052</b>	<b>27.8</b>	3052	27.8	3051	27.8	8	<b>3033</b>	<b>28.0</b>	3033	28.0	3030	28.0		
465.tonto	8	<b>750</b>	<b>105</b>	752	105	743	106	8	740	106	<b>734</b>	<b>107</b>	733	107		
470.lbm	8	<b>5049</b>	<b>21.8</b>	5048	21.8	5072	21.7	4	1585	34.7	1587	34.6	<b>1586</b>	<b>34.7</b>		
481.wrf	8	<b>1866</b>	<b>47.9</b>	1850	48.3	1877	47.6	8	1856	48.1	1858	48.1	<b>1857</b>	<b>48.1</b>		
482.sphinx3	8	2369	65.8	2413	64.6	<b>2373</b>	<b>65.7</b>	4	785	99.3	773	101	<b>773</b>	<b>101</b>		

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 = Disable, Adjacent Sector Prefetch = Disable  
SnoopFilter = Enable



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## General Notes

All binaries were built with 64-bit Intel compiler except:  
437.leslie3d, 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

C++ benchmarks:

-fast

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

## 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.dealII: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

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

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

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

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## Peak Optimization Flags (Continued)

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>

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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Tested with SPEC CPU2006 v1.0.

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