



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu Siemens Computers

### SPECfp<sup>®</sup>\_rate2006 = 52.1

### PRIMERGY RX100 S5, Intel Xeon X3370, 3.0 GHz

### SPECfp\_rate\_base2006 = 47.8

CPU2006 license: 22

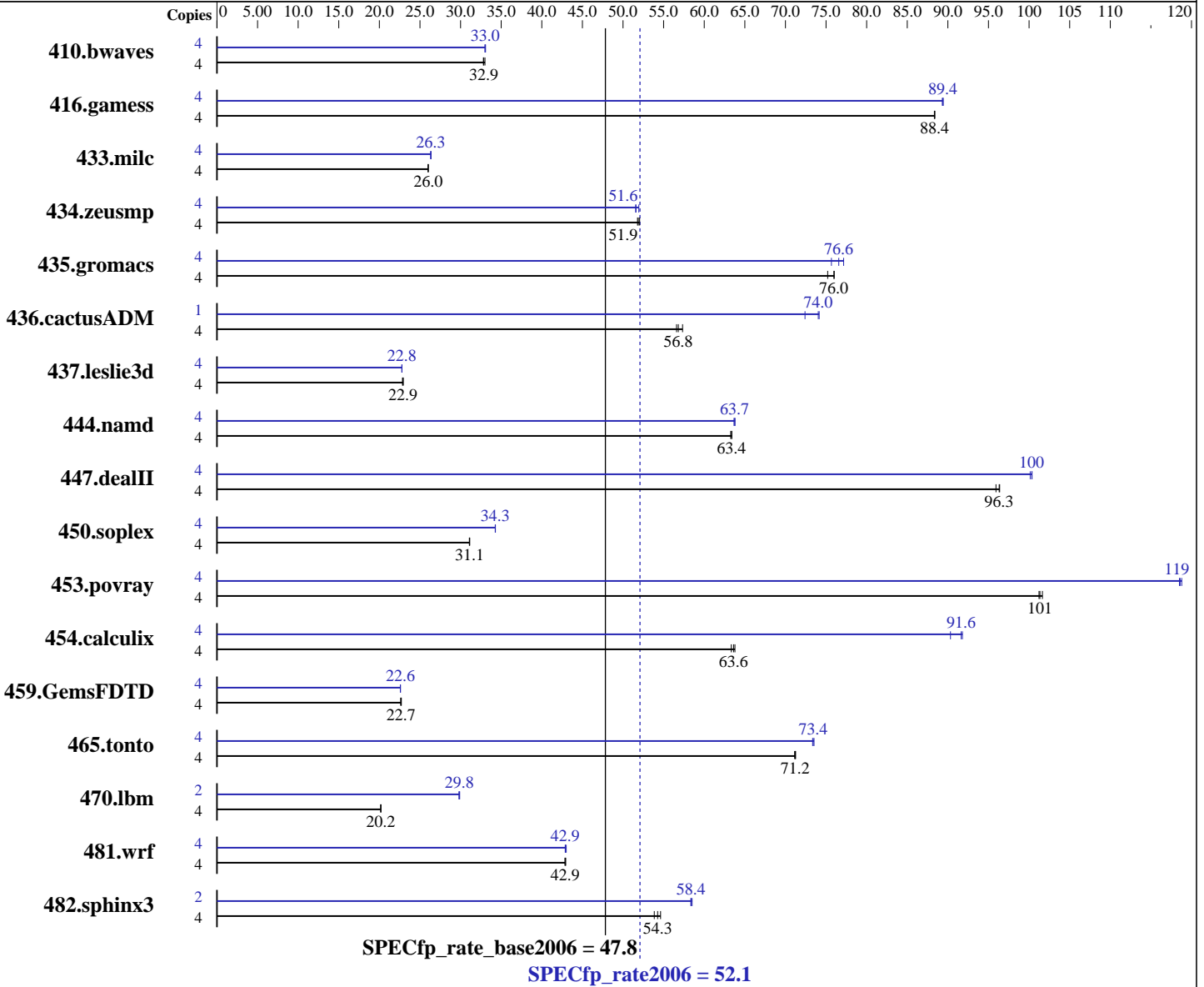
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Aug-2008

Hardware Availability: Oct-2008

Software Availability: May-2008



### Hardware

CPU Name: Intel Xeon X3370  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 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) with 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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### Hardware (Continued)

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

### Software (Continued)

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	4	1647	33.0	<b>1655</b>	<b>32.9</b>	1657	32.8	4	<b>1646</b>	<b>33.0</b>	1644	33.1	1647	33.0		
416.gamess	4	886	88.4	<b>886</b>	<b>88.4</b>	887	88.3	4	877	89.3	876	89.4	<b>876</b>	<b>89.4</b>		
433.milc	4	<b>1412</b>	<b>26.0</b>	1411	26.0	1412	26.0	4	1393	26.4	<b>1395</b>	<b>26.3</b>	1395	26.3		
434.zeusmp	4	699	52.0	703	51.8	<b>702</b>	<b>51.9</b>	4	<b>705</b>	<b>51.6</b>	701	51.9	706	51.6		
435.gromacs	4	<b>376</b>	<b>76.0</b>	376	76.0	380	75.2	4	370	77.2	377	75.7	<b>373</b>	<b>76.6</b>		
436.cactusADM	4	<b>841</b>	<b>56.8</b>	834	57.3	845	56.6	1	161	74.2	<b>161</b>	<b>74.0</b>	165	72.4		
437.leslie3d	4	1639	22.9	1646	22.8	<b>1642</b>	<b>22.9</b>	4	1651	22.8	<b>1650</b>	<b>22.8</b>	1650	22.8		
444.namd	4	<b>506</b>	<b>63.4</b>	506	63.4	507	63.3	4	504	63.7	<b>503</b>	<b>63.7</b>	503	63.8		
447.dealII	4	477	95.9	<b>475</b>	<b>96.3</b>	475	96.4	4	<b>456</b>	<b>100</b>	457	100	456	100		
450.soplex	4	1072	31.1	1073	31.1	<b>1072</b>	<b>31.1</b>	4	<b>973</b>	<b>34.3</b>	973	34.3	973	34.3		
453.povray	4	<b>210</b>	<b>101</b>	209	102	210	101	4	<b>179</b>	<b>119</b>	180	119	179	119		
454.calculix	4	517	63.8	521	63.3	<b>519</b>	<b>63.6</b>	4	365	90.3	359	91.8	<b>360</b>	<b>91.6</b>		
459.GemsFDTD	4	1876	22.6	<b>1872</b>	<b>22.7</b>	1869	22.7	4	<b>1878</b>	<b>22.6</b>	1878	22.6	1880	22.6		
465.tonto	4	552	71.3	553	71.1	<b>553</b>	<b>71.2</b>	4	537	73.3	535	73.5	<b>536</b>	<b>73.4</b>		
470.lbm	4	2724	20.2	2724	20.2	<b>2724</b>	<b>20.2</b>	2	919	29.9	922	29.8	<b>921</b>	<b>29.8</b>		
481.wrf	4	<b>1042</b>	<b>42.9</b>	1040	42.9	1043	42.9	4	<b>1042</b>	<b>42.9</b>	1039	43.0	1042	42.9		
482.sphinx3	4	<b>1437</b>	<b>54.3</b>	1427	54.6	1448	53.8	2	<b>668</b>	<b>58.4</b>	666	58.5	668	58.4		

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

## Compiler Invocation 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.

## 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)



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## Platform Notes

BIOS configuration:

Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable

## General Notes

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

## 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



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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 v1.1.

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