



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu Siemens Computers

PRIMERGY RX600 S3, Intel Xeon processor 7140M, 3.40 GHz

SPECfp<sup>®</sup>\_rate2006 = 60.2

SPECfp\_rate\_base2006 = 58.5

CPU2006 license: 22

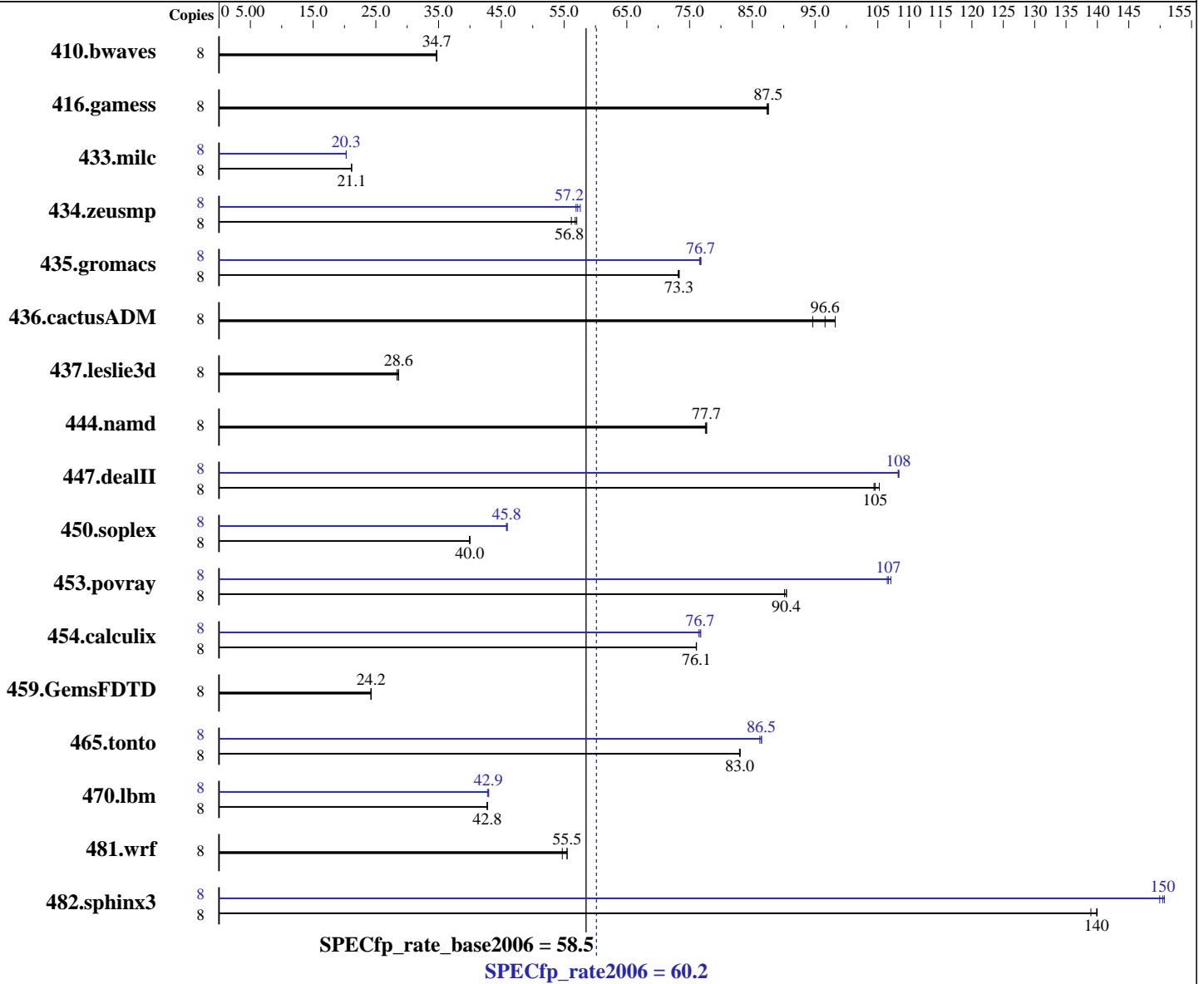
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Apr-2007

Hardware Availability: Dec-2006

Software Availability: Feb-2007



### Hardware

CPU Name: Intel Xeon 7140M  
 CPU Characteristics: 800 MHz system bus  
 CPU MHz: 3400  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip  
 CPU(s) orderable: 1,2,4 chips  
 Primary Cache: 12 K micro-ops I + 16 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per core

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### Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp on an x86\_64  
 Compiler: Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070215, Package-ID: l\_cc\_p\_9.1.047  
 Intel Fortran Compiler for IA32/EM64T application, Version 9.1 - Build 20070215, Package ID: l\_fc\_p\_9.1.043  
 Auto Parallel: No  
 File System: ReiserFS

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### Hardware (Continued)

L3 Cache: 16 MB I+D on chip per chip  
Other Cache: None  
Memory: 32 GB (16x2 GB DDR2 PC2-3200R, 1 rank, CAS 3-3-3, with ECC)  
Disk Subsystem: Fujitsu MAS3735NC (SCSI 73GB 15 krpm)  
Other Hardware: None

### Software (Continued)

System State: Multiuser, Runlevel 3  
Base Pointers: 64-bit  
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	3139	34.6	3131	34.7	<b>3131</b>	<b>34.7</b>	8	3139	34.6	3131	34.7	<b>3131</b>	<b>34.7</b>
416.gamess	8	1793	87.3	<b>1790</b>	<b>87.5</b>	1789	87.6	8	1793	87.3	<b>1790</b>	<b>87.5</b>	1789	87.6
433.milc	8	3475	21.1	<b>3475</b>	<b>21.1</b>	3480	21.1	8	3624	20.3	3620	20.3	<b>3620</b>	<b>20.3</b>
434.zeusmp	8	1296	56.2	1277	57.0	<b>1282</b>	<b>56.8</b>	8	<b>1274</b>	<b>57.2</b>	1279	56.9	1264	57.6
435.gromacs	8	781	73.2	<b>779</b>	<b>73.3</b>	779	73.4	8	<b>744</b>	<b>76.7</b>	746	76.6	744	76.8
436.cactusADM	8	973	98.2	<b>990</b>	<b>96.6</b>	1010	94.6	8	973	98.2	<b>990</b>	<b>96.6</b>	1010	94.6
437.leslie3d	8	2650	28.4	2627	28.6	<b>2629</b>	<b>28.6</b>	8	2650	28.4	2627	28.6	<b>2629</b>	<b>28.6</b>
444.namd	8	828	77.5	826	77.7	<b>826</b>	<b>77.7</b>	8	828	77.5	826	77.7	<b>826</b>	<b>77.7</b>
447.dealII	8	877	104	<b>875</b>	<b>105</b>	870	105	8	<b>845</b>	<b>108</b>	846	108	844	108
450.soplex	8	1670	39.9	1668	40.0	<b>1670</b>	<b>40.0</b>	8	1451	46.0	1456	45.8	<b>1455</b>	<b>45.8</b>
453.povray	8	472	90.1	<b>471</b>	<b>90.4</b>	471	90.4	8	400	107	397	107	<b>399</b>	<b>107</b>
454.calculix	8	867	76.1	868	76.1	<b>867</b>	<b>76.1</b>	8	863	76.5	859	76.8	<b>861</b>	<b>76.7</b>
459.GemsFDTD	8	<b>3502</b>	<b>24.2</b>	3502	24.2	3504	24.2	8	<b>3502</b>	<b>24.2</b>	3502	24.2	3504	24.2
465.tonto	8	949	83.0	<b>948</b>	<b>83.0</b>	948	83.1	8	910	86.5	<b>910</b>	<b>86.5</b>	913	86.2
470.lbm	8	2569	42.8	<b>2570</b>	<b>42.8</b>	2573	42.7	8	<b>2560</b>	<b>42.9</b>	2557	43.0	2569	42.8
481.wrf	8	<b>1611</b>	<b>55.5</b>	1633	54.7	1610	55.5	8	<b>1611</b>	<b>55.5</b>	1633	54.7	1610	55.5
482.sphinx3	8	1114	140	<b>1115</b>	<b>140</b>	1122	139	8	<b>1037</b>	<b>150</b>	1040	150	1035	151

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  
'/usr/bin/taskset' used to bind processes to CPUs

## General Notes

The system bus runs at 800 MHz

All binaries were built with 64-bit Intel compiler except:  
433.milc, 434.zeusmp, 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.

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## General Notes (Continued)

BIOS configuration:

Hardware Prefetch = Enable, Adjacent Sector Prefetch = Enable

The PRIMERGY RX600 S3 and the PRIMERGY TX600 S3 are electronically equivalent.

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.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

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## Base Optimization Flags (Continued)

C++ benchmarks:

-fast

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

## Peak Compiler Invocation

C benchmarks:

/opt/intel/cc/9.1.047/bin/icc -I/opt/intel/cc/9.1.047/include  
-L/opt/intel/cc/9.1.047/lib

C++ benchmarks (except as noted below):

icpc

450.soplex: /opt/intel/cc/9.1.047/bin/icpc  
-I/opt/intel/cc/9.1.047/include -L/opt/intel/cc/9.1.047/lib

Fortran benchmarks (except as noted below):

ifort

434.zeusmp: /opt/intel/fc/9.1.043/bin/ifort  
-I/opt/intel/fc/9.1.043/include -L/opt/intel/fc/9.1.043/lib

Benchmarks using both Fortran and C:

icc ifort

## Peak Portability Flags

410.bwaves: -DSPEC\_CPU\_LP64  
416.gamess: -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  
459.GemsFDTD: -DSPEC\_CPU\_LP64  
465.tonto: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX



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## Peak Optimization Flags

C benchmarks:

433.milc: -prof\_gen(pass 1) -prof\_use(pass 2) -fast

470.lbm: Same as 433.milc

482.sphinx3: -fast

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -prof\_gen(pass 1) -prof\_use(pass 2) -fast

450.soplex: Same as 447.dealII

453.povray: Same as 447.dealII

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: -fast

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -prof\_gen(pass 1) -prof\_use(pass 2) -fast

Benchmarks using both Fortran and C:

435.gromacs: -prof\_gen(pass 1) -prof\_use(pass 2) -fast

436.cactusADM: basepeak = yes

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.20090714.09.html](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.09.html)

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

[http://www.spec.org/cpu2006/flags/CPU2006\\_flags.20090714.09.xml](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.09.xml)



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

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