



# SPEC® CFP2006 Result

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## Fujitsu Siemens Computers

PRIMERGY TX600 S3, Intel Xeon processor 7110M, 2.60 GHz

SPECfp®\_rate2006 = 29.8

SPECfp\_rate\_base2006 = 29.4

CPU2006 license: 22

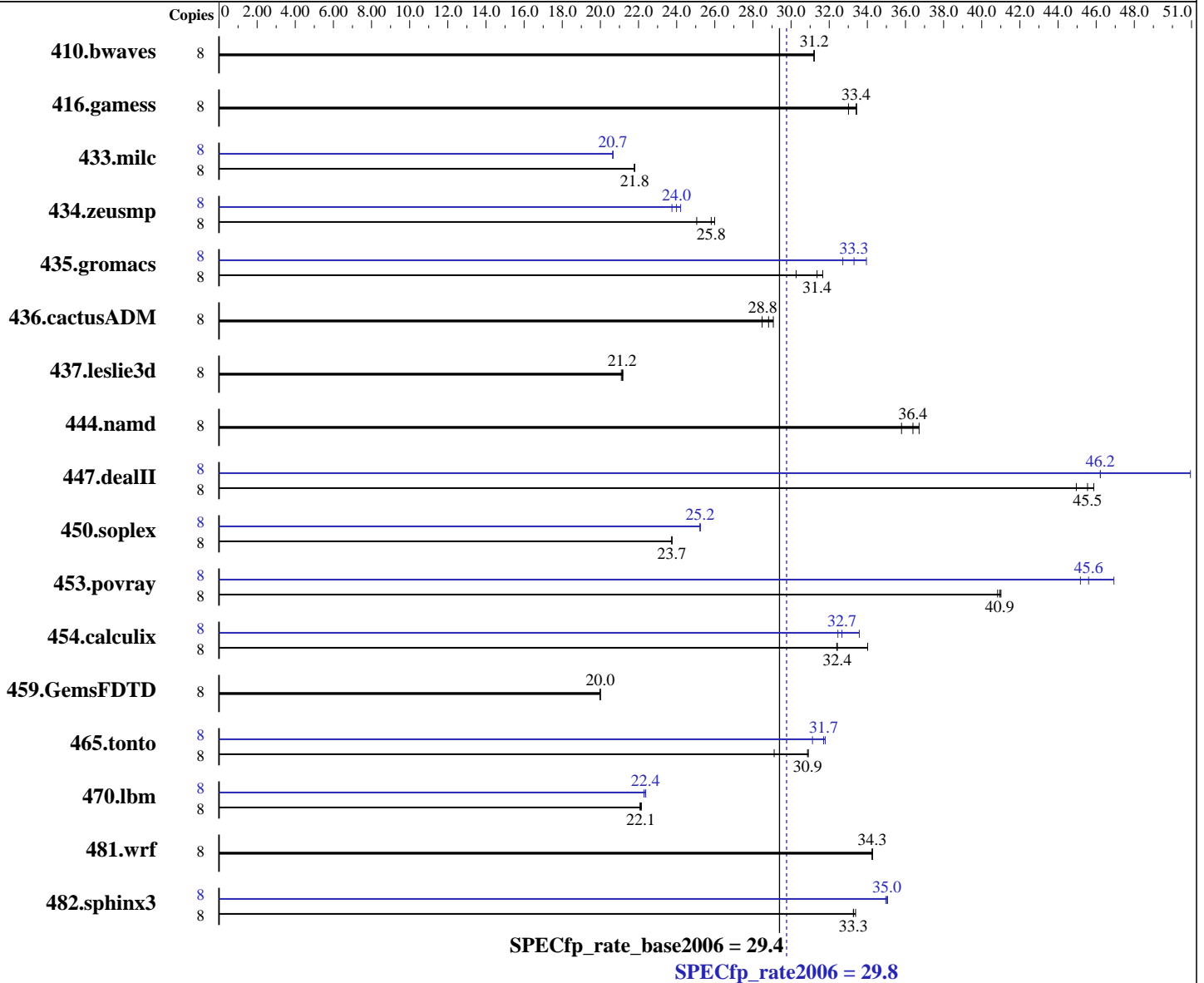
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jun-2007

Hardware Availability: Aug-2006

Software Availability: Mar-2007



### Hardware

CPU Name: Intel Xeon 7110M  
 CPU Characteristics: 800 MHz system bus  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip, 2 threads/core  
 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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L3 Cache: 4 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: Seagate ST973401SS (SAS, 73GB, 10000rpm)  
Other Hardware: None

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	<b>3483</b>	<b>31.2</b>	3483	31.2	3485	31.2	8	<b>3483</b>	<b>31.2</b>	3483	31.2	3485	31.2
416.gamess	8	<b>4688</b>	<b>33.4</b>	4684	33.4	4745	33.0	8	<b>4688</b>	<b>33.4</b>	4684	33.4	4745	33.0
433.milc	8	<b>3369</b>	<b>21.8</b>	3368	21.8	3372	21.8	8	3556	20.7	3555	20.7	<b>3555</b>	<b>20.7</b>
434.zeusmp	8	<b>2820</b>	<b>25.8</b>	2906	25.1	2801	26.0	8	<b>3034</b>	<b>24.0</b>	3007	24.2	3065	23.8
435.gromacs	8	1804	31.7	1888	30.3	<b>1821</b>	<b>31.4</b>	8	1746	32.7	<b>1715</b>	<b>33.3</b>	1682	34.0
436.cactusADM	8	3289	29.1	<b>3317</b>	<b>28.8</b>	3356	28.5	8	3289	29.1	<b>3317</b>	<b>28.8</b>	3356	28.5
437.leslie3d	8	3564	21.1	<b>3555</b>	<b>21.2</b>	3550	21.2	8	3564	21.1	<b>3555</b>	<b>21.2</b>	3550	21.2
444.namd	8	1748	36.7	1793	35.8	<b>1763</b>	<b>36.4</b>	8	1748	36.7	1793	35.8	<b>1763</b>	<b>36.4</b>
447.dealII	8	<b>2009</b>	<b>45.5</b>	2036	45.0	1995	45.9	8	1980	46.2	1796	50.9	<b>1980</b>	<b>46.2</b>
450.soplex	8	2809	23.8	<b>2809</b>	<b>23.7</b>	2810	23.7	8	2645	25.2	2644	25.2	<b>2644</b>	<b>25.2</b>
453.povray	8	1042	40.8	1038	41.0	<b>1039</b>	<b>40.9</b>	8	942	45.2	907	46.9	<b>933</b>	<b>45.6</b>
454.calculix	8	<b>2035</b>	<b>32.4</b>	1940	34.0	2037	32.4	8	1966	33.6	<b>2020</b>	<b>32.7</b>	2034	32.5
459.GemsFDTD	8	<b>4246</b>	<b>20.0</b>	4247	20.0	4244	20.0	8	<b>4246</b>	<b>20.0</b>	4247	20.0	4244	20.0
465.tonto	8	2547	30.9	<b>2551</b>	<b>30.9</b>	2704	29.1	8	2529	31.1	2476	31.8	<b>2483</b>	<b>31.7</b>
470.lbm	8	<b>4970</b>	<b>22.1</b>	4963	22.1	4979	22.1	8	4912	22.4	4932	22.3	<b>4915</b>	<b>22.4</b>
481.wrf	8	<b>2609</b>	<b>34.3</b>	2608	34.3	2609	34.3	8	<b>2609</b>	<b>34.3</b>	2608	34.3	2609	34.3
482.sphinx3	8	4671	33.4	4687	33.3	<b>4686</b>	<b>33.3</b>	8	4459	35.0	<b>4451</b>	<b>35.0</b>	4447	35.1

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  
'/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.

BIOS configuration:

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## General Notes (Continued)

Hardware Prefetch = Enable

This result was measured on the PRIMERGY RX600 S3.  
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.lelie3d: -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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