



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu Siemens Computers

### SPECfp<sup>®</sup>\_rate2006 = 33.7

### PRIMERGY TX150 S6, Intel Xeon E3110, 3.0 GHz

### SPECfp\_rate\_base2006 = 31.0

CPU2006 license: 22

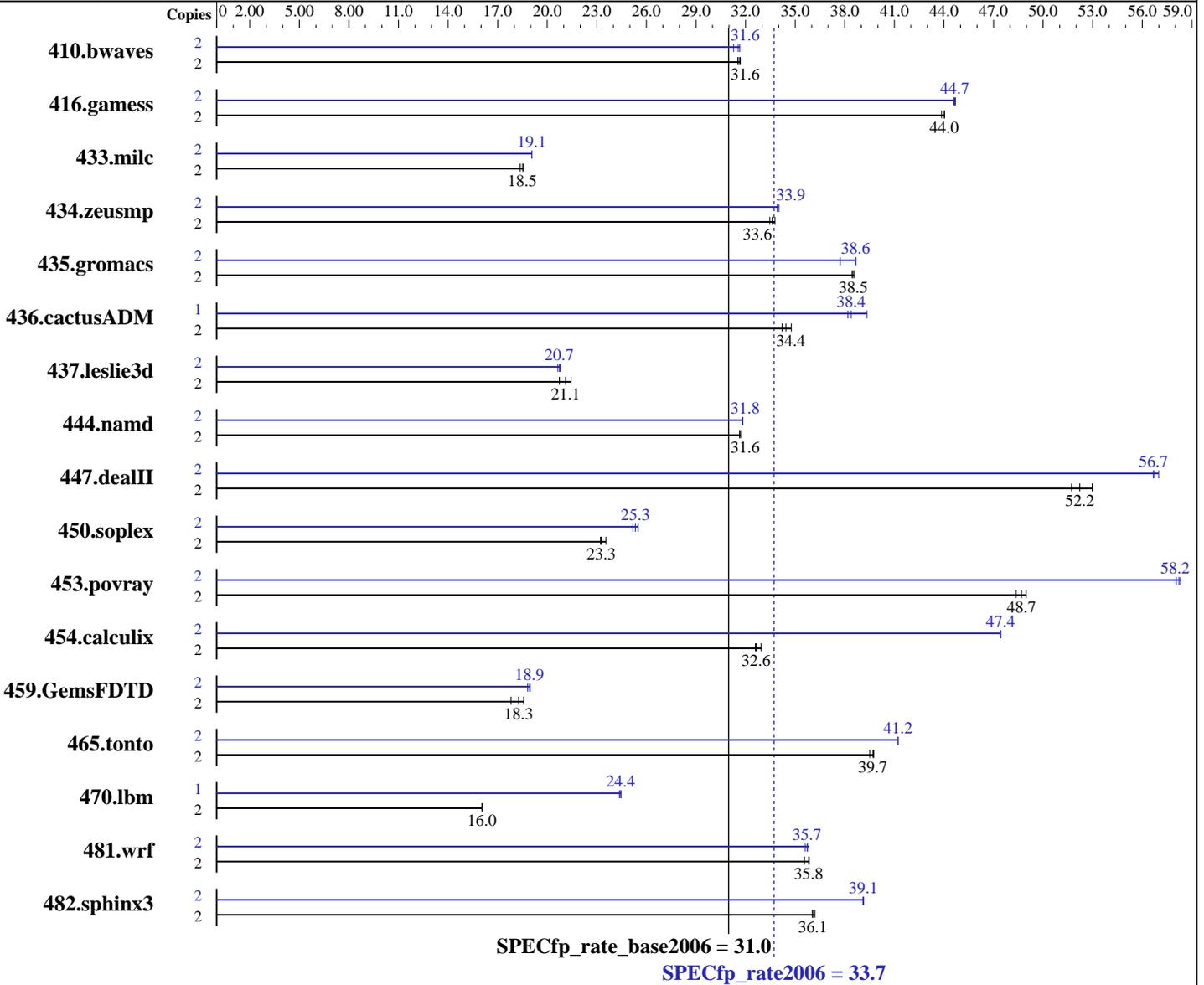
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jan-2008

Hardware Availability: Feb-2008

Software Availability: Nov-2007



#### Hardware

CPU Name: Intel Xeon E3110  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip

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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 20070725  
 Auto Parallel: Yes  
 File System: ext2  
 System State: Multiuser, Runlevel 3  
 Base Pointers: 64-bit

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L3 Cache: None  
Other Cache: None  
Memory: 4 GB (4x1 GB PC2-6400E, 2 rank, CAS 6-6-6, with ECC)  
Disk Subsystem: Fujitsu MAY2036RC (SAS, 36GB, 10000rpm)  
Other Hardware: None

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	2	858	31.7	<b>860</b>	<b>31.6</b>	862	31.5	2	<b>861</b>	<b>31.6</b>	859	31.7	869	31.3
416.gamess	2	<b>890</b>	<b>44.0</b>	889	44.0	893	43.9	2	876	44.7	878	44.6	<b>877</b>	<b>44.7</b>
433.milc	2	1000	18.4	<b>993</b>	<b>18.5</b>	989	18.6	2	963	19.1	<b>963</b>	<b>19.1</b>	963	19.1
434.zeusmp	2	544	33.5	<b>541</b>	<b>33.6</b>	539	33.8	2	536	33.9	<b>536</b>	<b>33.9</b>	535	34.0
435.gromacs	2	370	38.6	<b>371</b>	<b>38.5</b>	372	38.4	2	<b>369</b>	<b>38.6</b>	369	38.7	379	37.7
436.cactusADM	2	687	34.8	<b>694</b>	<b>34.4</b>	699	34.2	1	<b>311</b>	<b>38.4</b>	313	38.2	304	39.3
437.leslie3d	2	907	20.7	<b>891</b>	<b>21.1</b>	877	21.4	2	910	20.6	<b>907</b>	<b>20.7</b>	904	20.8
444.namd	2	506	31.7	<b>507</b>	<b>31.6</b>	507	31.6	2	<b>504</b>	<b>31.8</b>	504	31.8	504	31.8
447.dealII	2	<b>438</b>	<b>52.2</b>	442	51.7	432	53.0	2	<b>404</b>	<b>56.7</b>	404	56.7	401	57.0
450.soplex	2	718	23.2	<b>717</b>	<b>23.3</b>	708	23.5	2	<b>658</b>	<b>25.3</b>	654	25.5	662	25.2
453.povray	2	<b>218</b>	<b>48.7</b>	217	49.0	220	48.4	2	182	58.3	183	58.1	<b>183</b>	<b>58.2</b>
454.calculix	2	506	32.6	501	32.9	<b>506</b>	<b>32.6</b>	2	348	47.4	<b>348</b>	<b>47.4</b>	348	47.4
459.GemsFDTD	2	1192	17.8	1142	18.6	<b>1161</b>	<b>18.3</b>	2	1127	18.8	1119	19.0	<b>1121</b>	<b>18.9</b>
465.tonto	2	<b>496</b>	<b>39.7</b>	495	39.8	498	39.5	2	477	41.2	477	41.2	<b>477</b>	<b>41.2</b>
470.lbm	2	<b>1712</b>	<b>16.0</b>	1710	16.1	1713	16.0	1	562	24.5	564	24.4	<b>562</b>	<b>24.4</b>
481.wrf	2	628	35.6	623	35.8	<b>624</b>	<b>35.8</b>	2	627	35.6	<b>625</b>	<b>35.7</b>	624	35.8
482.sphinx3	2	1081	36.0	1077	36.2	<b>1081</b>	<b>36.1</b>	2	997	39.1	996	39.1	<b>996</b>	<b>39.1</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  
'OMP\_NUM\_THREADS' set to number of cores (default)

## General Notes

This result has been produced with binaries provided and compiled by Intel.

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.

BIOS configuration:

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## General Notes (Continued)

Hardware Prefetch = Enable, Adjacent Sector Prefetch = Disable

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

```

## Base Optimization Flags

C benchmarks:  
-fast

C++ benchmarks:  
-fast

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## Base Optimization Flags (Continued)

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

## Peak Compiler Invocation

C benchmarks (except as noted below):

/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

433.milc: icc

C++ benchmarks (except as noted below):

icpc

450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/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  
453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

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

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 -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.20090714.01.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.20090714.01.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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