



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu Siemens Computers

PRIMERGY BX620 S4, Intel Xeon processor X5365,  
3.0 GHz

SPECfp<sup>®</sup>\_rate2006 = 67.7

SPECfp\_rate\_base2006 = 62.0

CPU2006 license: 22

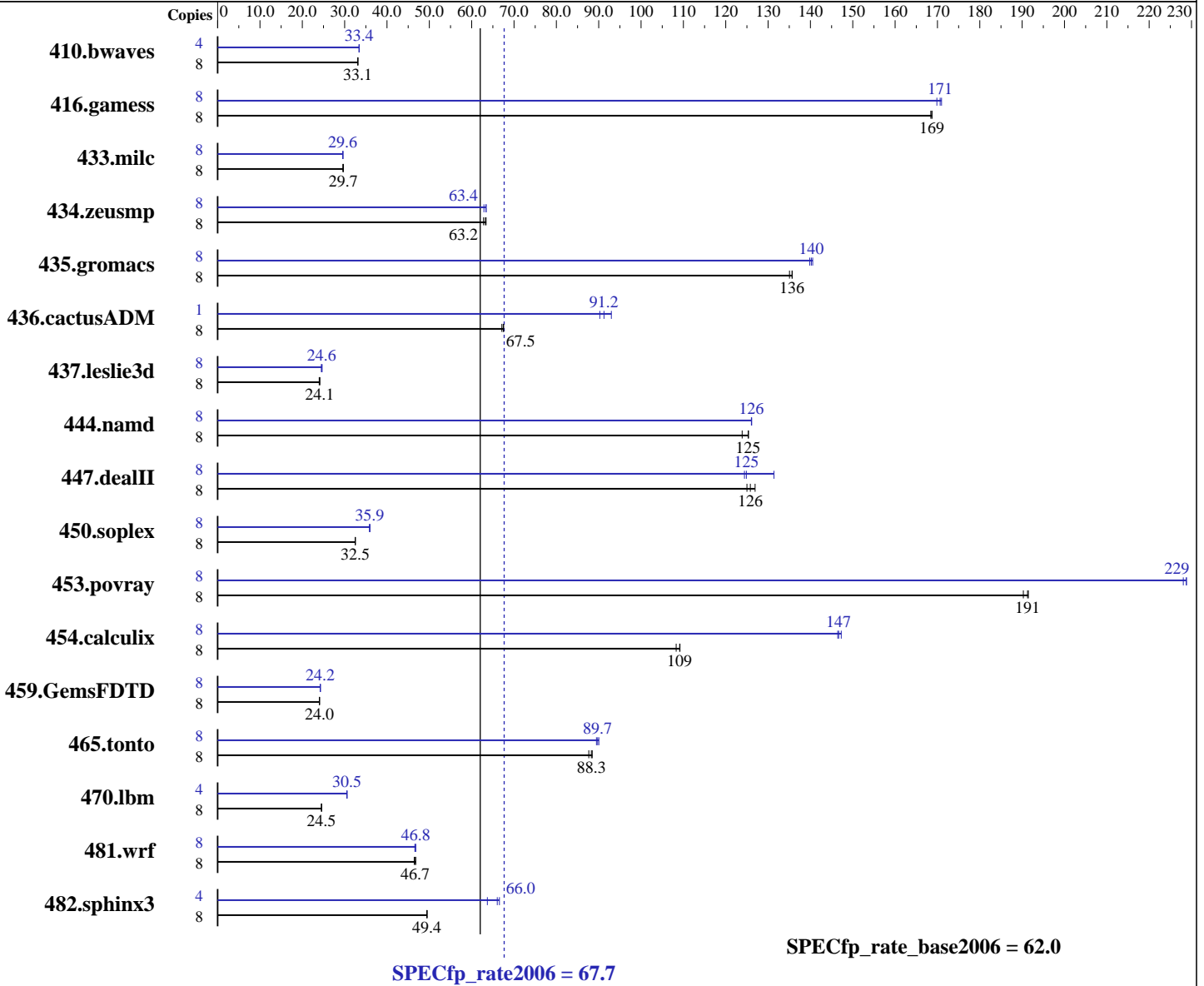
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Oct-2007

Hardware Availability: Sep-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5365  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 3000  
 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: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

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### Software

Operating System: SUSE LINUX Enterprise Server 10 SP1 (x86\_64),  
 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: 16 GB (8x2 GB DDR2 PC2-5300F, 2 rank, CAS 5-5-5, with ECC)  
Disk Subsystem: Seagate ST973451SS (SAS, 73GB, 15000rpm)  
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	8	<b>3283</b>	<b>33.1</b>	3282	33.1	3284	33.1	4	<b>1626</b>	<b>33.4</b>	1626	33.4	1627	33.4
416.gamess	8	930	168	928	169	<b>929</b>	<b>169</b>	8	916	171	<b>918</b>	<b>171</b>	922	170
433.milc	8	2474	29.7	<b>2474</b>	<b>29.7</b>	2483	29.6	8	2484	29.6	<b>2483</b>	<b>29.6</b>	2481	29.6
434.zeusmp	8	<b>1152</b>	<b>63.2</b>	1148	63.4	1159	62.8	8	1148	63.4	<b>1148</b>	<b>63.4</b>	1157	62.9
435.gromacs	8	421	136	<b>421</b>	<b>136</b>	423	135	8	406	141	<b>407</b>	<b>140</b>	408	140
436.cactusADM	8	<b>1417</b>	<b>67.5</b>	1415	67.6	1424	67.1	1	132	90.3	129	93.0	<b>131</b>	<b>91.2</b>
437.leslie3d	8	3135	24.0	<b>3121</b>	<b>24.1</b>	3116	24.1	8	<b>3061</b>	<b>24.6</b>	3068	24.5	3048	24.7
444.namd	8	512	125	518	124	<b>512</b>	<b>125</b>	8	509	126	509	126	<b>509</b>	<b>126</b>
447.dealII	8	<b>727</b>	<b>126</b>	721	127	732	125	8	697	131	<b>733</b>	<b>125</b>	736	124
450.soplex	8	2053	32.5	<b>2053</b>	<b>32.5</b>	2052	32.5	8	1854	36.0	<b>1859</b>	<b>35.9</b>	1859	35.9
453.povray	8	<b>223</b>	<b>191</b>	224	190	222	191	8	186	229	187	228	<b>186</b>	<b>229</b>
454.calculix	8	604	109	<b>605</b>	<b>109</b>	609	108	8	448	147	<b>450</b>	<b>147</b>	451	146
459.GemsFDTD	8	3523	24.1	3534	24.0	<b>3530</b>	<b>24.0</b>	8	<b>3501</b>	<b>24.2</b>	3499	24.3	3501	24.2
465.tonto	8	898	87.7	<b>892</b>	<b>88.3</b>	890	88.5	8	874	90.0	<b>877</b>	<b>89.7</b>	880	89.5
470.lbm	8	4480	24.5	<b>4480</b>	<b>24.5</b>	4479	24.5	4	<b>1799</b>	<b>30.5</b>	1799	30.5	1799	30.5
481.wrf	8	<b>1914</b>	<b>46.7</b>	1910	46.8	1925	46.4	8	1911	46.8	1918	46.6	<b>1911</b>	<b>46.8</b>
482.sphinx3	8	3155	49.4	3152	49.5	<b>3154</b>	<b>49.4</b>	4	<b>1180</b>	<b>66.0</b>	1171	66.6	1224	63.7

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

## 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:

Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable

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## General Notes (Continued)

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.20090714.05.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.20090714.05.xml>

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

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