



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®_rate2006 = 77.6

CELSIUS R650, Intel Xeon X5450 processor

SPECfp_rate_base2006 = 69.4

CPU2006 license: 22

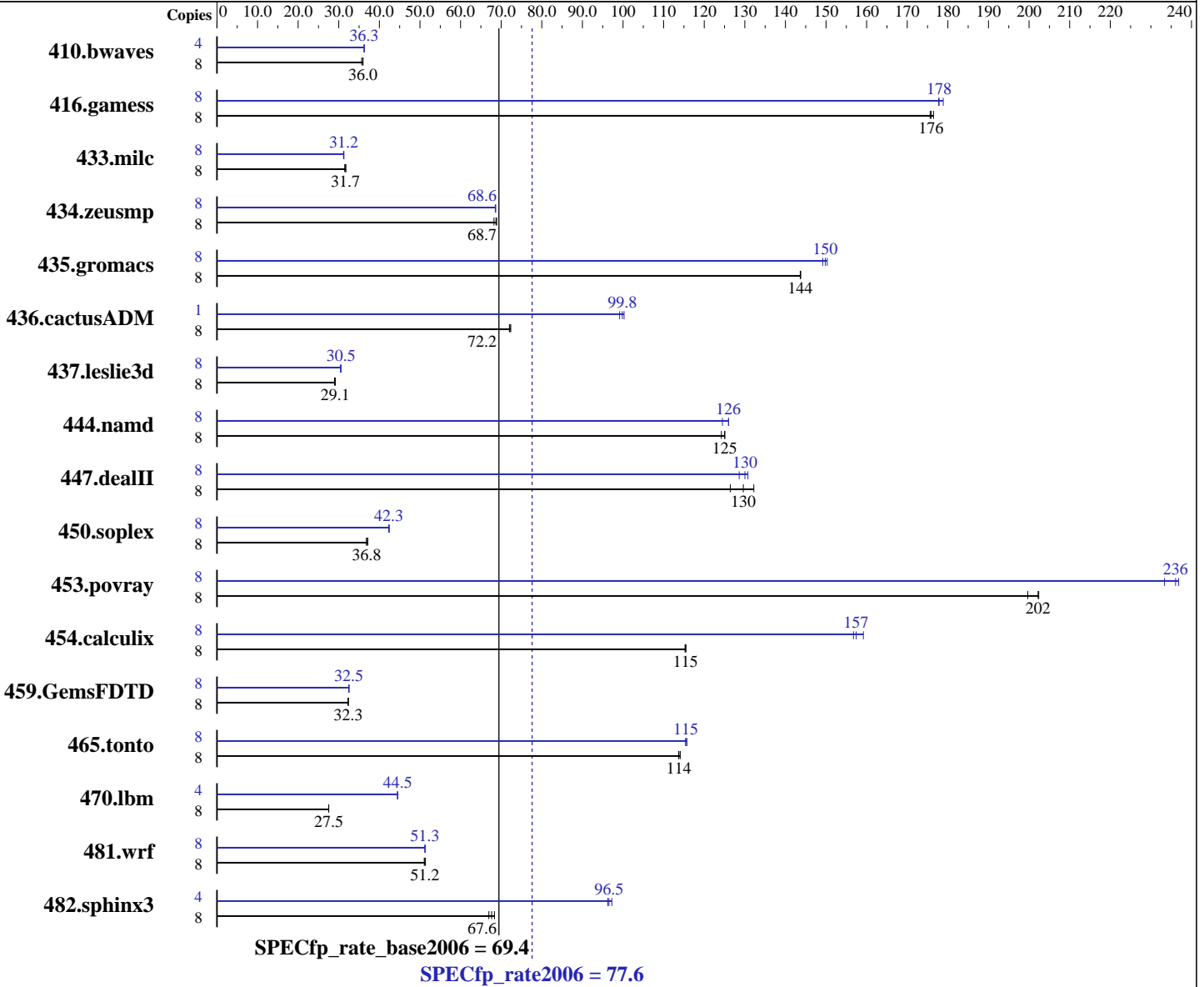
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Dec-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5450
 CPU Characteristics: 3000
 CPU MHz: Integrated
 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: 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) 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: 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 (8x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1 x 400 GB SATA II 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	8	3051	35.6	3024	36.0	<u>3024</u>	<u>36.0</u>	4	1499	36.3	<u>1499</u>	<u>36.3</u>	1498	36.3		
416.gamess	8	888	176	892	176	<u>890</u>	<u>176</u>	8	881	178	<u>881</u>	<u>178</u>	876	179		
433.milc	8	2334	31.5	2314	31.7	<u>2320</u>	<u>31.7</u>	8	2349	31.3	<u>2352</u>	<u>31.2</u>	2357	31.2		
434.zeusmp	8	1057	68.9	1067	68.2	<u>1059</u>	<u>68.7</u>	8	1062	68.5	<u>1061</u>	<u>68.6</u>	1061	68.6		
435.gromacs	8	<u>398</u>	<u>144</u>	397	144	398	144	8	<u>381</u>	<u>150</u>	380	150	383	149		
436.cactusADM	8	1327	72.0	1321	72.4	<u>1325</u>	<u>72.2</u>	1	121	99.2	119	100	<u>120</u>	<u>99.8</u>		
437.leslie3d	8	2597	29.0	<u>2585</u>	<u>29.1</u>	2580	29.1	8	<u>2463</u>	<u>30.5</u>	2471	30.4	2461	30.6		
444.namd	8	<u>513</u>	<u>125</u>	513	125	516	124	8	<u>509</u>	<u>126</u>	509	126	515	124		
447.dealII	8	692	132	724	126	<u>706</u>	<u>130</u>	8	<u>704</u>	<u>130</u>	700	131	712	129		
450.soplex	8	1795	37.2	<u>1811</u>	<u>36.8</u>	1812	36.8	8	1576	42.3	1572	42.4	<u>1576</u>	<u>42.3</u>		
453.povray	8	213	200	210	202	<u>210</u>	<u>202</u>	8	182	233	180	237	<u>180</u>	<u>236</u>		
454.calculix	8	<u>572</u>	<u>115</u>	571	116	573	115	8	415	159	<u>419</u>	<u>157</u>	421	157		
459.GemsFDTD	8	2623	32.4	<u>2626</u>	<u>32.3</u>	2628	32.3	8	2612	32.5	<u>2611</u>	<u>32.5</u>	2610	32.5		
465.tonto	8	<u>692</u>	<u>114</u>	692	114	690	114	8	682	115	680	116	<u>682</u>	<u>115</u>		
470.lbm	8	3994	27.5	<u>3993</u>	<u>27.5</u>	3992	27.5	4	1235	44.5	<u>1235</u>	<u>44.5</u>	1236	44.5		
481.wrf	8	1740	51.3	1751	51.0	<u>1745</u>	<u>51.2</u>	8	1741	51.3	<u>1743</u>	<u>51.3</u>	1745	51.2		
482.sphinx3	8	2281	68.4	2328	67.0	<u>2305</u>	<u>67.6</u>	4	<u>808</u>	<u>96.5</u>	810	96.2	802	97.3		

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).

Platform Notes

BIOS configuration:
Enhanced Speedstep Technology = Disable
Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable
SnoopFilter = Enable



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General Notes

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.

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.deallI: -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-intel64.20080124.html>

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

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.20080124.xml>

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