



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®2006 = 23.0

CELSIUS R550, Intel Xeon X5450 processor

SPECfp_base2006 = 19.4

CPU2006 license: 22

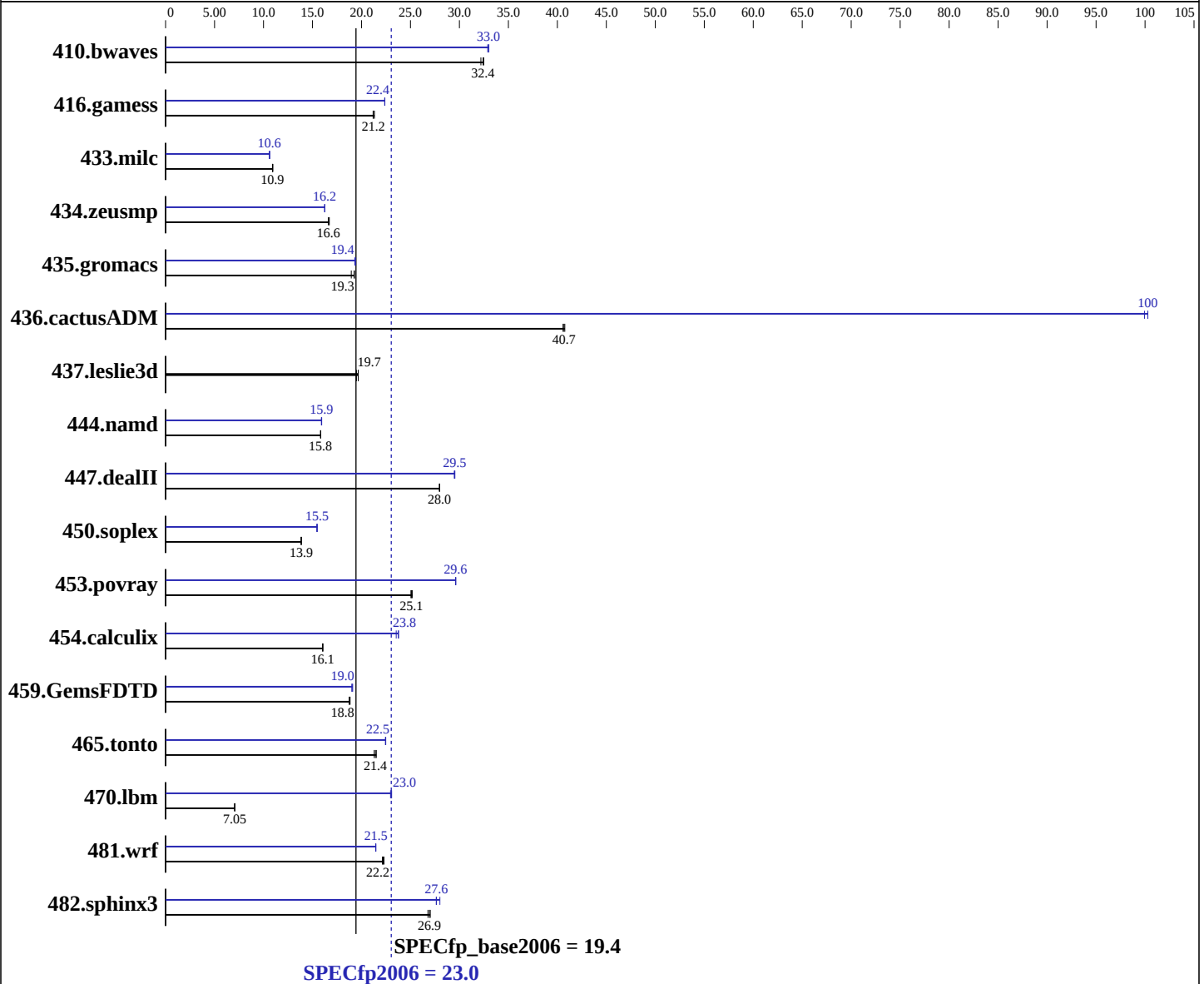
Test sponsor: Fujitsu Siemens Computers

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:
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: 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 20070913
Auto Parallel: Yes
File System: ext3
System State: Multi-User Run Level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit

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Hardware (Continued)

Software (Continued)

L3 Cache: None
 Other Cache: None
 Memory: 8 GB (4x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: 1 x 400 GB SATA II 7200 RPM
 Other Hardware: None

Other Software: binutils-2.17.50.0.5-0.1.x86_64

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	422	32.2	418	32.5	<u>419</u>	<u>32.4</u>	<u>412</u>	<u>33.0</u>	413	32.9	412	33.0
416.gamess	918	21.3	<u>923</u>	<u>21.2</u>	924	21.2	<u>875</u>	<u>22.4</u>	<u>875</u>	<u>22.4</u>	874	22.4
433.milc	<u>841</u>	<u>10.9</u>	841	10.9	838	11.0	<u>864</u>	<u>10.6</u>	<u>865</u>	<u>10.6</u>	866	10.6
434.zeusmp	547	16.6	<u>547</u>	<u>16.6</u>	544	16.7	<u>559</u>	<u>16.3</u>	<u>560</u>	<u>16.2</u>	<u>560</u>	<u>16.2</u>
435.gromacs	377	19.0	<u>371</u>	<u>19.3</u>	371	19.3	<u>369</u>	<u>19.3</u>	<u>368</u>	<u>19.4</u>	<u>369</u>	<u>19.4</u>
436.cactusADM	<u>294</u>	<u>40.7</u>	293	40.8	294	40.6	<u>119</u>	<u>100</u>	<u>120</u>	<u>99.9</u>	<u>119</u>	<u>100</u>
437.leslie3d	<u>478</u>	<u>19.7</u>	478	19.7	482	19.5	<u>478</u>	<u>19.7</u>	<u>478</u>	<u>19.7</u>	<u>482</u>	<u>19.5</u>
444.namd	506	15.8	507	15.8	<u>507</u>	<u>15.8</u>	<u>503</u>	<u>15.9</u>	<u>503</u>	<u>15.9</u>	<u>504</u>	<u>15.9</u>
447.dealII	409	28.0	<u>409</u>	<u>28.0</u>	409	28.0	<u>387</u>	<u>29.5</u>	<u>387</u>	<u>29.5</u>	<u>388</u>	<u>29.5</u>
450.soplex	603	13.8	<u>602</u>	<u>13.9</u>	602	13.9	<u>539</u>	<u>15.5</u>	<u>539</u>	<u>15.5</u>	<u>540</u>	<u>15.4</u>
453.povray	212	25.1	<u>212</u>	<u>25.1</u>	211	25.2	<u>180</u>	<u>29.6</u>	<u>180</u>	<u>29.6</u>	<u>180</u>	<u>29.6</u>
454.calculix	<u>514</u>	<u>16.1</u>	515	16.0	514	16.1	<u>347</u>	<u>23.8</u>	<u>350</u>	<u>23.5</u>	<u>347</u>	<u>23.8</u>
459.GemsFDTD	563	18.8	<u>565</u>	<u>18.8</u>	566	18.8	<u>558</u>	<u>19.0</u>	<u>557</u>	<u>19.0</u>	<u>555</u>	<u>19.1</u>
465.tonto	457	21.5	462	21.3	<u>459</u>	<u>21.4</u>	<u>438</u>	<u>22.5</u>	<u>438</u>	<u>22.5</u>	<u>438</u>	<u>22.5</u>
470.lbm	1943	7.07	1949	7.05	<u>1948</u>	<u>7.05</u>	<u>596</u>	<u>23.0</u>	<u>595</u>	<u>23.1</u>	<u>598</u>	<u>23.0</u>
481.wrf	<u>503</u>	<u>22.2</u>	505	22.1	501	22.3	<u>520</u>	<u>21.5</u>	<u>520</u>	<u>21.5</u>	<u>521</u>	<u>21.5</u>
482.sphinx3	721	27.0	<u>723</u>	<u>26.9</u>	728	26.8	<u>696</u>	<u>28.0</u>	<u>705</u>	<u>27.6</u>	<u>705</u>	<u>27.6</u>

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 = Enable, Adjacent Sector Prefetch = Enable
 SnoopFilter = Disable



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General Notes

All binaries were built with 64-bit Intel compiler except:
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.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



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Base Optimization Flags

C benchmarks:
-fast -parallel

C++ benchmarks:
-fast -parallel

Fortran benchmarks:
-fast -parallel

Benchmarks using both Fortran and C:
-fast -parallel

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:
ifort

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
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

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Peak Portability Flags (Continued)

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 -parallel

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: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch -parallel

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 -parallel -prefetch -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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Tested with SPEC CPU2006 v1.0.

Report generated on Thu Jan 24 17:44:04 2008 by SPEC CPU2006 PS/PDF formatter v5614.