



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®2006 = 22.3

CELSIUS R550, Intel Xeon E5440 processor

SPECfp_base2006 = 18.8

CPU2006 license: 22

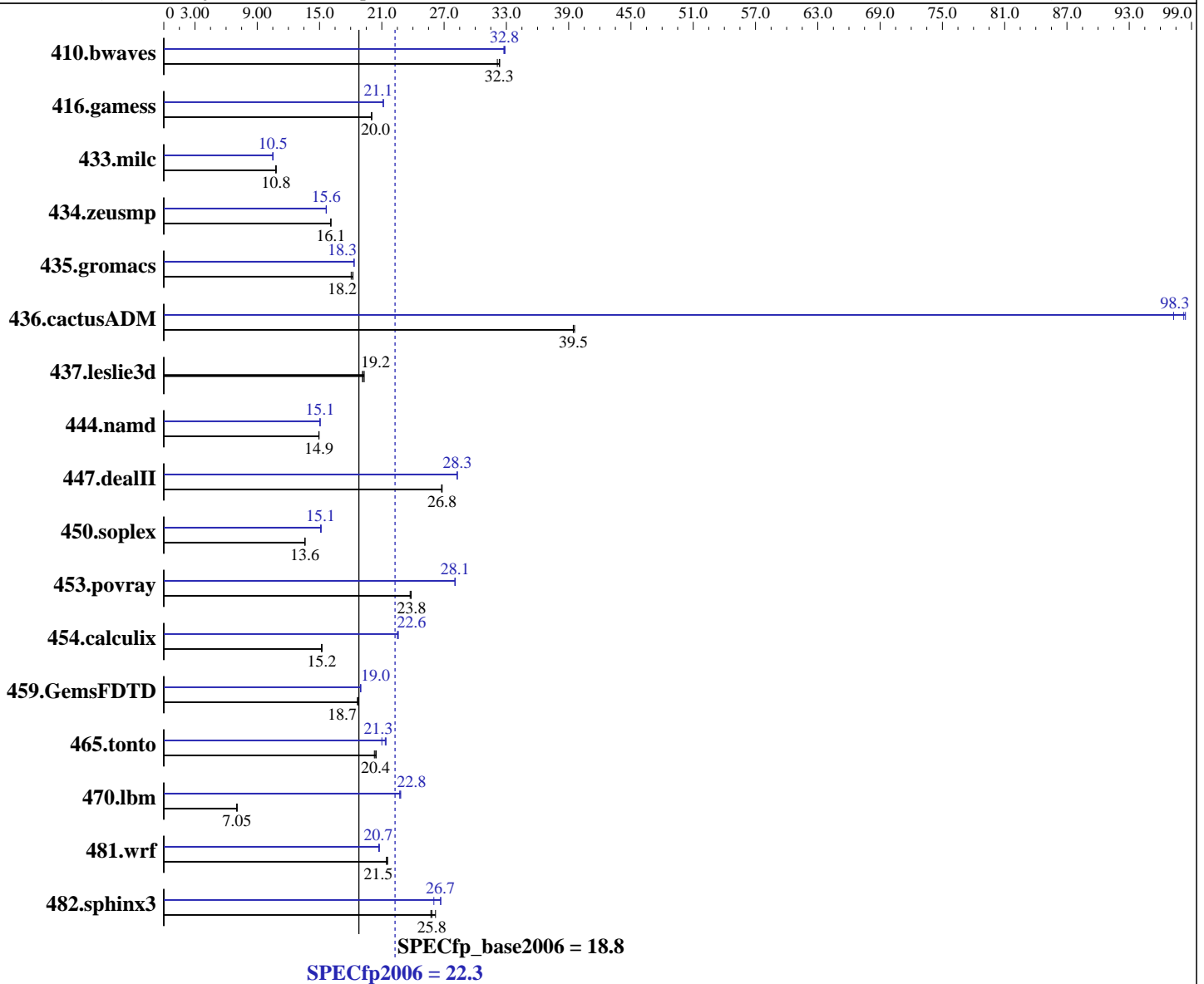
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Dec-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5440
 CPU Characteristics:
 CPU MHz: 2833
 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	423	32.1	420	32.4	421	32.3	414	32.8	415	32.8	413	32.9
416.gamess	978	20.0	978	20.0	979	20.0	926	21.1	926	21.2	926	21.1
433.milc	851	10.8	847	10.8	850	10.8	875	10.5	874	10.5	872	10.5
434.zeusmp	566	16.1	565	16.1	565	16.1	582	15.6	581	15.7	582	15.6
435.gromacs	396	18.0	392	18.2	392	18.2	390	18.3	390	18.3	390	18.3
436.cactusADM	303	39.5	302	39.6	303	39.4	122	98.3	123	97.3	121	98.4
437.leslie3d	491	19.1	487	19.3	489	19.2	491	19.1	487	19.3	489	19.2
444.namd	536	15.0	537	14.9	537	14.9	533	15.0	532	15.1	533	15.1
447.dealII	427	26.8	427	26.8	428	26.8	405	28.3	405	28.3	405	28.3
450.soplex	613	13.6	613	13.6	613	13.6	551	15.1	550	15.2	552	15.1
453.povray	224	23.8	223	23.8	224	23.7	189	28.1	190	28.0	190	28.1
454.calculix	541	15.2	542	15.2	543	15.2	365	22.6	367	22.5	365	22.6
459.GemsFDTD	568	18.7	568	18.7	568	18.7	560	19.0	559	19.0	560	18.9
465.tonto	481	20.5	483	20.4	485	20.3	460	21.4	461	21.3	468	21.0
470.lbm	1948	7.05	1957	7.02	1945	7.07	602	22.8	604	22.8	604	22.7
481.wrf	518	21.6	520	21.5	521	21.4	538	20.8	539	20.7	539	20.7
482.sphinx3	745	26.2	758	25.7	755	25.8	730	26.7	749	26.0	731	26.7

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
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.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 -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-intel64.20090714.00.html>

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

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.20090714.00.xml>

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For other inquiries, please contact webmaster@spec.org.

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