



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®_rate2006 = 79.2

CELSIUS R650, Intel Xeon X5460 processor

SPECfp_rate_base2006 = 70.4

CPU2006 license: 22

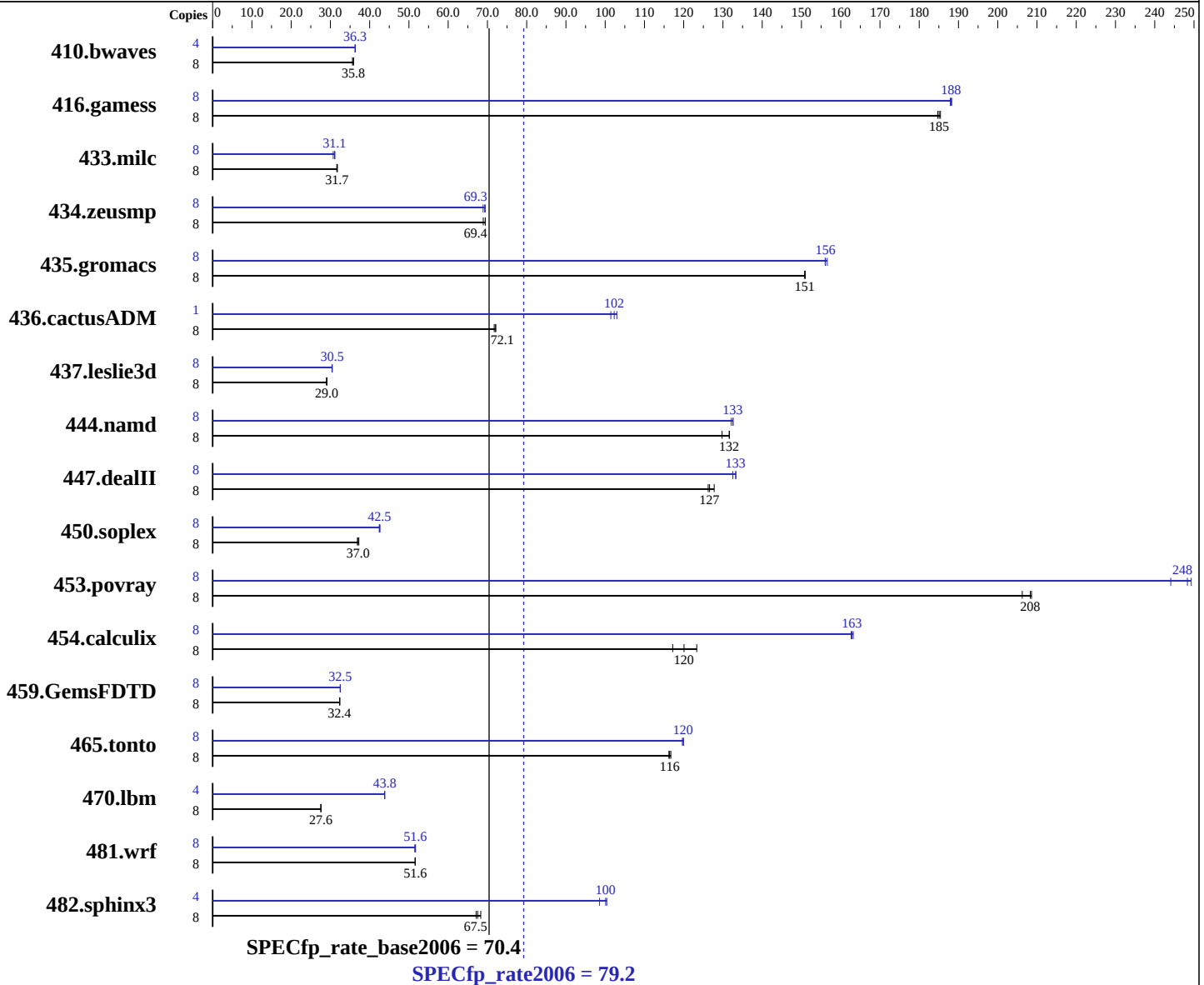
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Nov-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5460
CPU Characteristics: 3166
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)
kernel 2.6.16.21-0.8-smpp
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)

Software (Continued)

L3 Cache: None
 Other Cache: None
 Memory: 8 GB (8x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: SATA II 7200 rpm
 Other Hardware: None

Peak Pointers: 32/64-bit
 Other Software: binutils-2.17.tar.gz, Version 2.17

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3053	35.6	<u>3033</u>	<u>35.8</u>	3029	35.9	4	1498	36.3	<u>1497</u>	<u>36.3</u>	1496	36.3		
416.gamess	8	848	185	845	185	<u>846</u>	<u>185</u>	8	832	188	<u>833</u>	<u>188</u>	834	188		
433.milc	8	2322	31.6	2311	31.8	<u>2318</u>	<u>31.7</u>	8	<u>2365</u>	<u>31.1</u>	2391	30.7	2358	31.1		
434.zeusmp	8	1056	68.9	1048	69.5	<u>1048</u>	<u>69.4</u>	8	1048	69.4	<u>1050</u>	<u>69.3</u>	1057	68.9		
435.gromacs	8	379	151	<u>379</u>	<u>151</u>	378	151	8	366	156	365	157	<u>366</u>	<u>156</u>		
436.cactusADM	8	1333	71.7	<u>1326</u>	<u>72.1</u>	1326	72.1	1	118	101	116	103	<u>117</u>	<u>102</u>		
437.leslie3d	8	2592	29.0	<u>2589</u>	<u>29.0</u>	2580	29.1	8	<u>2470</u>	<u>30.5</u>	2468	30.5	2473	30.4		
444.namd	8	487	132	494	130	<u>488</u>	<u>132</u>	8	486	132	<u>484</u>	<u>133</u>	484	133		
447.dealII	8	725	126	716	128	<u>723</u>	<u>127</u>	8	687	133	<u>687</u>	<u>133</u>	691	133		
450.soplex	8	1791	37.2	<u>1801</u>	<u>37.0</u>	1809	36.9	8	1572	42.4	<u>1570</u>	<u>42.5</u>	1565	42.6		
453.povray	8	204	209	206	206	<u>204</u>	<u>208</u>	8	171	249	<u>171</u>	<u>248</u>	174	244		
454.calculix	8	535	123	563	117	<u>550</u>	<u>120</u>	8	406	163	<u>405</u>	<u>163</u>	404	163		
459.GemsFDTD	8	<u>2623</u>	<u>32.4</u>	2624	32.3	2620	32.4	8	<u>2611</u>	<u>32.5</u>	2612	32.5	2610	32.5		
465.tonto	8	674	117	677	116	<u>676</u>	<u>116</u>	8	<u>657</u>	<u>120</u>	658	120	656	120		
470.lbm	8	3985	27.6	3984	27.6	<u>3985</u>	<u>27.6</u>	4	1254	43.8	1255	43.8	<u>1254</u>	<u>43.8</u>		
481.wrf	8	1731	51.6	1733	51.6	<u>1732</u>	<u>51.6</u>	8	1729	51.7	1735	51.5	<u>1731</u>	<u>51.6</u>		
482.sphinx3	8	2283	68.3	2323	67.1	<u>2309</u>	<u>67.5</u>	4	791	98.6	<u>779</u>	<u>100</u>	776	100		

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

Platform Notes

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



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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.

For information about Fujitsu Siemens Computers in your country please see:
<http://www.fujitsu-siemens.com/countries>

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

C++ benchmarks:

-fast

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

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Peak Portability Flags (Continued)

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
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

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Peak Optimization Flags (Continued)

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:

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-file-20070816.xml.20071009.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-file-20070816.xml.20071009.xml>

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Tested with SPEC CPU2006 v1.0.

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