



SPEC® CFP2006 Result

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Fujitsu

SPECfp®_rate2006 = 101

CELSIUS M470, Intel Xeon W5580

SPECfp_rate_base2006 = 97.5

CPU2006 license: 19

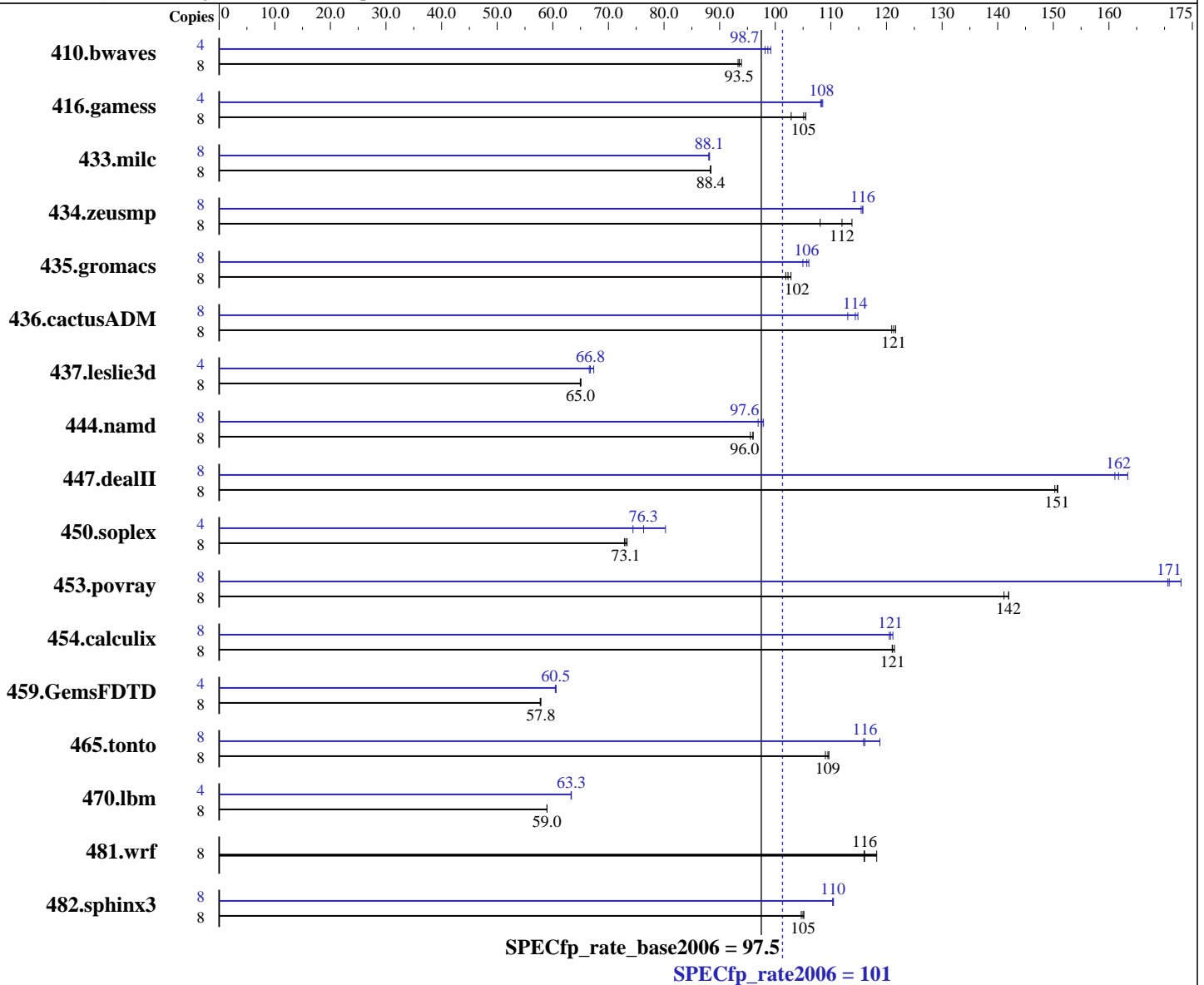
Test sponsor: Fujitsu

Tested by: Fujitsu Siemens Computers

Test date: Feb-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon W5580
 CPU Characteristics: Intel Turbo Boost Technology up to 3.46 GHz
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

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Software

Operating System: SuSe Linux Enterprise Server 10 (x86_64) SP2, kernel 2.6.16.60-0.21-smp
 Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080, l_cprof_p_11.0.080
 Auto Parallel: No
 File System: ext3
 System State: Multi-User Run Level 3
 Base Pointers: 64-bit

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 12 GB (6x2 GB PC3 10600E, 2 rank, CL9-9-9, ECC)
Disk Subsystem: 1 x SATA II, 400 GB, 7200 rpm
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	1158	93.9	<u>1162</u>	<u>93.5</u>	1165	93.3	4	554	98.2	548	99.2	<u>551</u>	<u>98.7</u>
416.gamess	8	1485	105	<u>1490</u>	<u>105</u>	1523	103	4	722	109	<u>723</u>	<u>108</u>	724	108
433.milc	8	<u>831</u>	<u>88.4</u>	831	88.4	831	88.3	8	<u>834</u>	<u>88.1</u>	834	88.0	833	88.2
434.zeusmp	8	674	108	640	114	<u>650</u>	<u>112</u>	8	629	116	<u>629</u>	<u>116</u>	631	115
435.gromacs	8	<u>558</u>	<u>102</u>	561	102	555	103	8	539	106	<u>541</u>	<u>106</u>	544	105
436.cactusADM	8	790	121	<u>788</u>	<u>121</u>	786	122	8	<u>836</u>	<u>114</u>	832	115	846	113
437.leslie3d	8	1156	65.1	1158	64.9	<u>1157</u>	<u>65.0</u>	4	<u>563</u>	<u>66.8</u>	565	66.6	558	67.4
444.namd	8	672	95.5	<u>668</u>	<u>96.0</u>	668	96.0	8	655	97.9	<u>657</u>	<u>97.6</u>	662	96.9
447.dealII	8	<u>607</u>	<u>151</u>	607	151	609	150	8	568	161	560	163	<u>566</u>	<u>162</u>
450.soplex	8	916	72.9	<u>913</u>	<u>73.1</u>	909	73.4	4	448	74.4	<u>437</u>	<u>76.3</u>	416	80.3
453.povray	8	302	141	<u>300</u>	<u>142</u>	300	142	8	249	171	246	173	<u>249</u>	<u>171</u>
454.calculix	8	<u>545</u>	<u>121</u>	545	121	543	121	8	545	121	<u>547</u>	<u>121</u>	548	121
459.GemsFDTD	8	1470	57.7	1468	57.8	<u>1468</u>	<u>57.8</u>	4	<u>701</u>	<u>60.5</u>	701	60.6	702	60.4
465.tonto	8	718	110	722	109	<u>719</u>	<u>109</u>	8	<u>678</u>	<u>116</u>	663	119	679	116
470.lbm	8	<u>1864</u>	<u>59.0</u>	1864	59.0	1865	58.9	4	868	63.3	<u>868</u>	<u>63.3</u>	869	63.3
481.wrf	8	756	118	771	116	<u>770</u>	<u>116</u>	8	756	118	771	116	<u>770</u>	<u>116</u>
482.sphinx3	8	<u>1485</u>	<u>105</u>	1483	105	1490	105	8	1413	110	1411	110	<u>1413</u>	<u>110</u>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores
using following bind list:
bind = 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run



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Platform Notes

BIOS configuration:
Memory speed set to "Max Performance" (Switch in "Advanced Memory Options")

General Notes

For information about Fujitsu please visit:
<http://www.fujitsu.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:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

Peak Compiler Invocation

C benchmarks (except as noted below):

`icc`

`482.sphinx3: icc -m32`

C++ benchmarks (except as noted below):

`icpc`

`450.soplex: icpc -m32`

Fortran benchmarks (except as noted below):

`ifort`

`437.leslie3d: ifort -m32`

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
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-fno-alias

470.lbm: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
-auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias -scalar-rep-

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)

437.leslie3d: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-malloc-options=3 -opt-prefetch

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Peak Optimization Flags (Continued)

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0 -opt-prefetch

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -opt-prefetch -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090713.07.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090713.07.xml>

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