



SPEC® CFP2006 Result

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Fujitsu

SPECfp®_rate2006 = 123

PRIMERGY BX920 S2, Intel Xeon X5660, 2.80 GHz

SPECfp_rate_base2006 = 119

CPU2006 license: 19

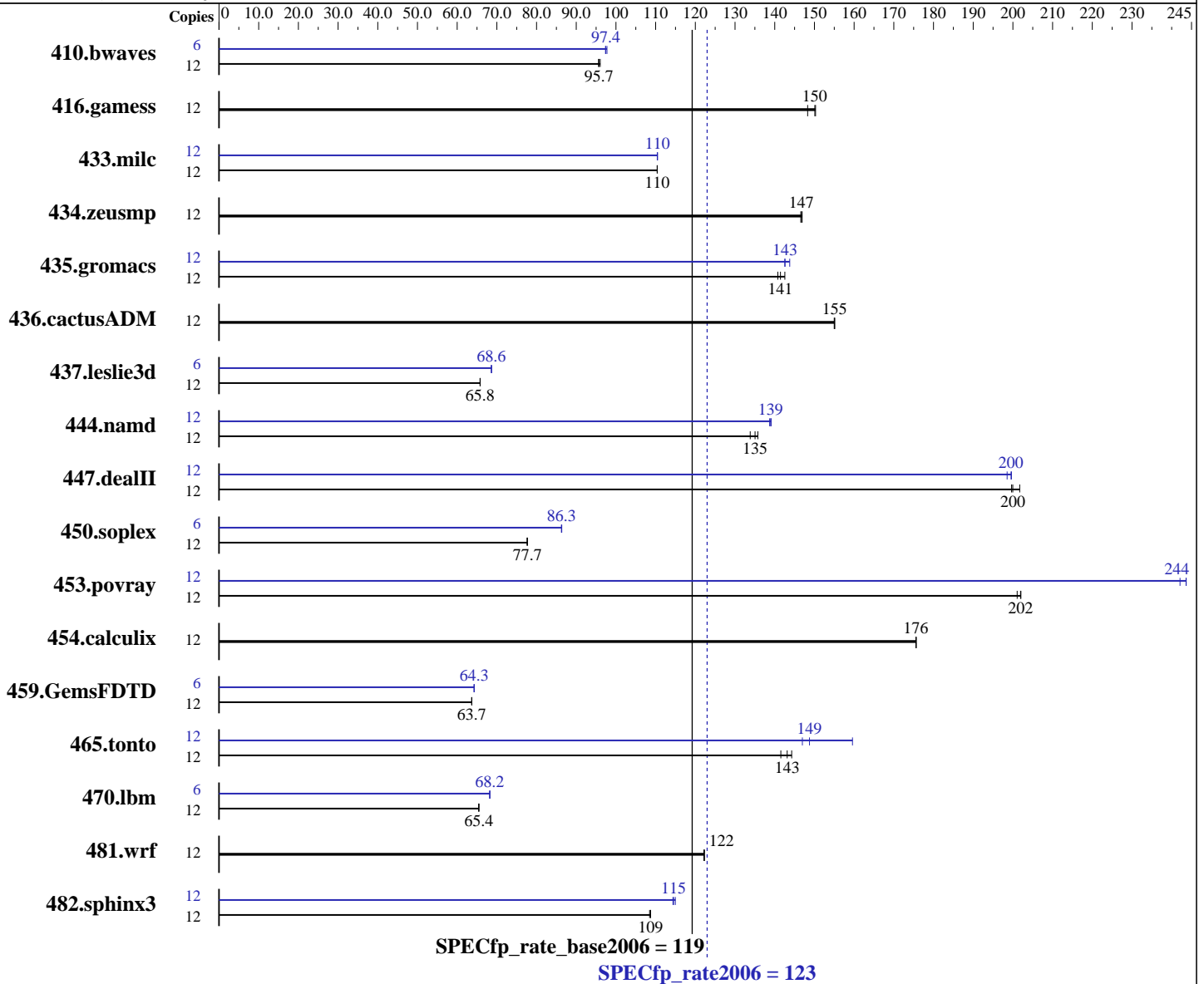
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jul-2010

Hardware Availability: May-2010

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon X5660
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 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 11 (x86_64), Kernel 2.6.27.19-5-default
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
 Auto Parallel: No
 File System: ext3
 System State: Multi-User Run Level 3

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L3 Cache: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 24 GB (3x8 GB PC3-10600R, 2 rank, CL9-9-9, ECC)
 Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM
 Other Hardware: None

Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	12	1698	96.0	<u>1703</u>	<u>95.7</u>	1706	95.6	6	837	97.4	834	97.7	<u>837</u>	<u>97.4</u>
416.gamess	12	<u>1565</u>	<u>150</u>	1584	148	1563	150	12	<u>1565</u>	<u>150</u>	1584	148	1563	150
433.milc	12	<u>998</u>	<u>110</u>	998	110	998	110	12	997	110	998	110	<u>997</u>	<u>110</u>
434.zeusmp	12	745	147	743	147	<u>744</u>	<u>147</u>	12	745	147	743	147	<u>744</u>	<u>147</u>
435.gromacs	12	<u>606</u>	<u>141</u>	609	141	601	143	12	601	143	<u>601</u>	<u>143</u>	596	144
436.cactusADM	12	<u>925</u>	<u>155</u>	925	155	925	155	12	<u>925</u>	<u>155</u>	925	155	925	155
437.leslie3d	12	1714	65.8	1715	65.8	<u>1715</u>	<u>65.8</u>	6	822	68.6	821	68.7	<u>822</u>	<u>68.6</u>
444.namd	12	719	134	<u>713</u>	<u>135</u>	709	136	12	<u>693</u>	<u>139</u>	694	139	692	139
447.dealII	12	681	202	688	200	<u>687</u>	<u>200</u>	12	<u>688</u>	<u>200</u>	691	199	688	200
450.soplex	12	<u>1288</u>	<u>77.7</u>	1288	77.7	1289	77.6	6	580	86.3	<u>580</u>	<u>86.3</u>	580	86.3
453.povray	12	316	202	<u>316</u>	<u>202</u>	317	201	12	264	242	<u>262</u>	<u>244</u>	262	244
454.calculix	12	564	176	<u>564</u>	<u>176</u>	564	176	12	564	176	<u>564</u>	<u>176</u>	564	176
459.GemsFDTD	12	1999	63.7	2000	63.7	<u>1999</u>	<u>63.7</u>	6	<u>990</u>	<u>64.3</u>	990	64.3	990	64.3
465.tonto	12	818	144	<u>825</u>	<u>143</u>	834	142	12	803	147	<u>794</u>	<u>149</u>	740	160
470.lbm	12	2518	65.5	<u>2519</u>	<u>65.4</u>	2519	65.4	6	1209	68.2	<u>1208</u>	<u>68.2</u>	1208	68.2
481.wrf	12	<u>1096</u>	<u>122</u>	1096	122	1097	122	12	<u>1096</u>	<u>122</u>	1096	122	1097	122
482.sphinx3	12	<u>2151</u>	<u>109</u>	2151	109	2156	108	12	2034	115	2045	114	<u>2042</u>	<u>115</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

Operating System Notes

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

Platform Notes

BIOS configuration:
Data Reuse Optimization = Disable
Performance/Power Setting = Traditional



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General Notes

For information about Fujitsu please visit: <http://www.fujitsu.com>
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

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

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

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Base Optimization Flags (Continued)

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 -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

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
 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



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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 -opt-prefetch
470.lbm: -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 -ansi-alias -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.dealIII: -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: basepeak = yes
434.zeusmp: basepeak = yes
437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static
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
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 -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

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Peak Optimization Flags (Continued)

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: basepeak = yes

454.calculix: basepeak = yes

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-ic11.1-linux64-revE.20100708.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.xml>

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