



SPEC® CFP2006 Result

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Fujitsu

PRIMERGY BX920 S1, Intel Xeon E5506, 2.13 GHz

SPECfp®_rate2006 = 119

SPECfp_rate_base2006 = 114

CPU2006 license: 19

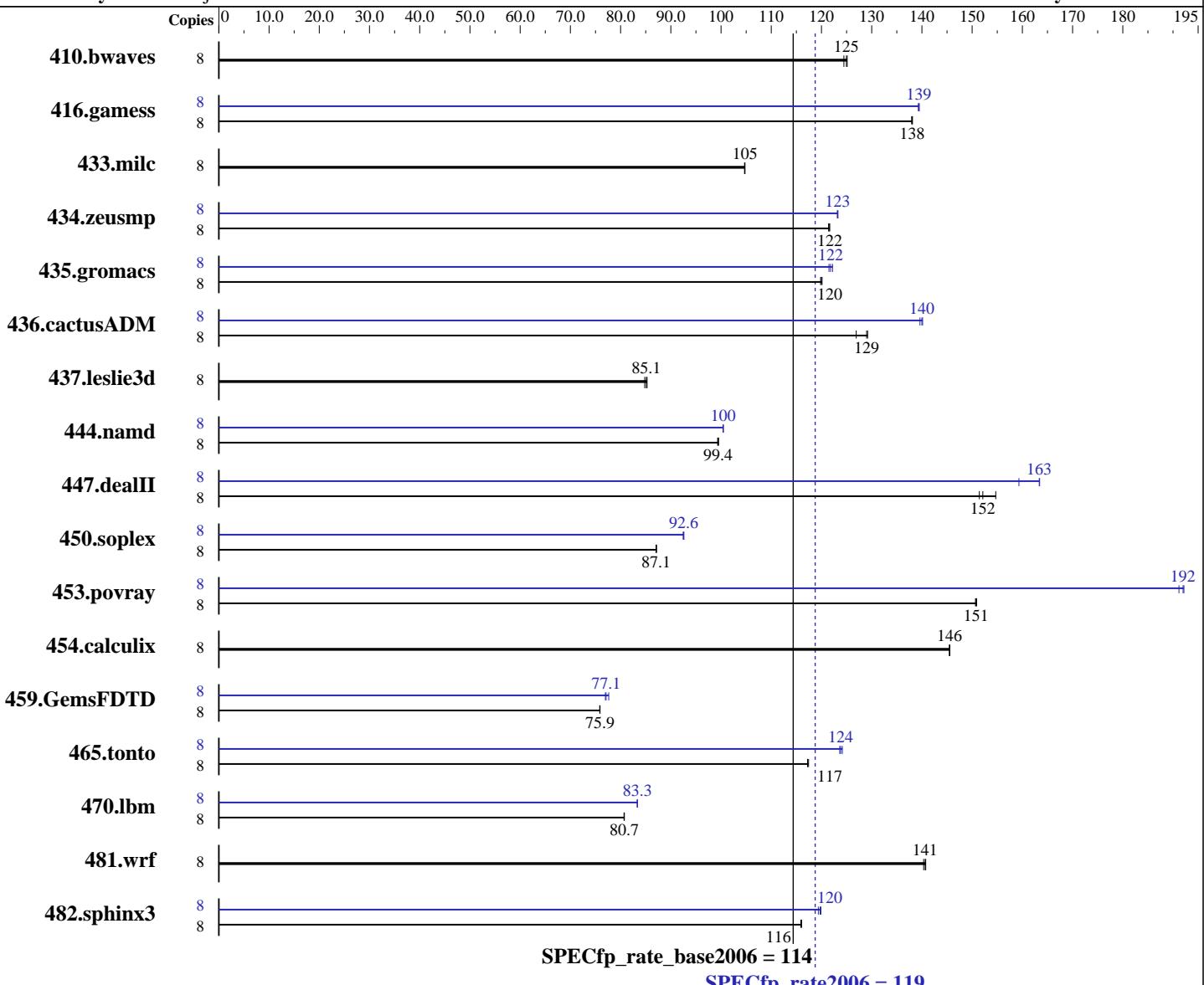
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Feb-2009

Hardware Availability: May-2009

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon E5506
CPU Characteristics:
CPU MHz: 2133
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: 256 KB I+D on chip per core

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: 4 MB I+D on chip per chip
 Other Cache: None
 Memory: 36 GB (9x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC,
 see add'l detail in notes)
 Disk Subsystem: 1 x SAS, 73 GB, 10000 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	Seconds	Ratio
410.bwaves	8	874	124	869	125	<u>870</u>	<u>125</u>	8	874	124	869	125	<u>870</u>	<u>125</u>		
416.gamess	8	1134	138	1135	138	<u>1135</u>	<u>138</u>	8	1123	139	1125	139	<u>1124</u>	<u>139</u>		
433.milc	8	<u>701</u>	<u>105</u>	701	105	702	105	8	<u>701</u>	<u>105</u>	701	105	702	105		
434.zeusmp	8	598	122	<u>599</u>	<u>122</u>	600	121	8	591	123	591	123	<u>591</u>	<u>123</u>		
435.gromacs	8	476	120	477	120	<u>476</u>	<u>120</u>	8	467	122	<u>469</u>	<u>122</u>	470	121		
436.cactusADM	8	<u>741</u>	<u>129</u>	753	127	740	129	8	685	140	682	140	<u>683</u>	<u>140</u>		
437.leslie3d	8	<u>884</u>	<u>85.1</u>	882	85.3	887	84.8	8	<u>884</u>	<u>85.1</u>	882	85.3	887	84.8		
444.namd	8	<u>645</u>	<u>99.4</u>	646	99.3	645	99.5	8	639	100	639	100	<u>639</u>	<u>100</u>		
447.dealII	8	592	155	604	151	<u>602</u>	<u>152</u>	8	560	163	574	159	<u>560</u>	<u>163</u>		
450.soplex	8	<u>766</u>	<u>87.1</u>	765	87.2	766	87.1	8	<u>721</u>	<u>92.6</u>	721	92.6	722	92.5		
453.povray	8	282	151	282	151	<u>282</u>	<u>151</u>	8	223	191	<u>222</u>	<u>192</u>	221	192		
454.calculix	8	<u>454</u>	<u>146</u>	453	146	454	145	8	<u>454</u>	<u>146</u>	453	146	454	145		
459.GemsFDTD	8	<u>1118</u>	<u>75.9</u>	1119	75.8	1118	75.9	8	1093	77.6	<u>1101</u>	<u>77.1</u>	1103	77.0		
465.tonto	8	<u>671</u>	<u>117</u>	670	117	672	117	8	634	124	<u>636</u>	<u>124</u>	637	124		
470.lbm	8	1361	80.7	1362	80.7	<u>1362</u>	<u>80.7</u>	8	<u>1319</u>	<u>83.3</u>	1319	83.3	1319	83.3		
481.wrf	8	<u>635</u>	<u>141</u>	637	140	635	141	8	<u>635</u>	<u>141</u>	637	140	635	141		
482.sphinx3	8	<u>1344</u>	<u>116</u>	1345	116	1344	116	8	<u>1302</u>	<u>120</u>	1301	120	1306	119		

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

The system automatically configures the memory to run at 800 MHz.



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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

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

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Base Optimization Flags (Continued)

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:

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
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

Peak Optimization Flags

C benchmarks:

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Peak Optimization Flags (Continued)

433.milc: basepeak = yes

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)
-unroll12 -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)
-unroll14 -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

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)
-unroll12 -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: basepeak = yes

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)
-unroll12 -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)
-unroll14 -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

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Peak Optimization Flags (Continued)

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)
-unroll12 -opt-prefetch -auto-ilp32

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-ic11.0-fp-linux64-revA.20090710.04.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.20090710.04.xml>

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