



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

### SPECfp<sup>®</sup>\_rate2006 = 163

### PRIMERGY BX620 S5, Intel Xeon E5530, 2.40 GHz

### SPECfp\_rate\_base2006 = 157

CPU2006 license: 19

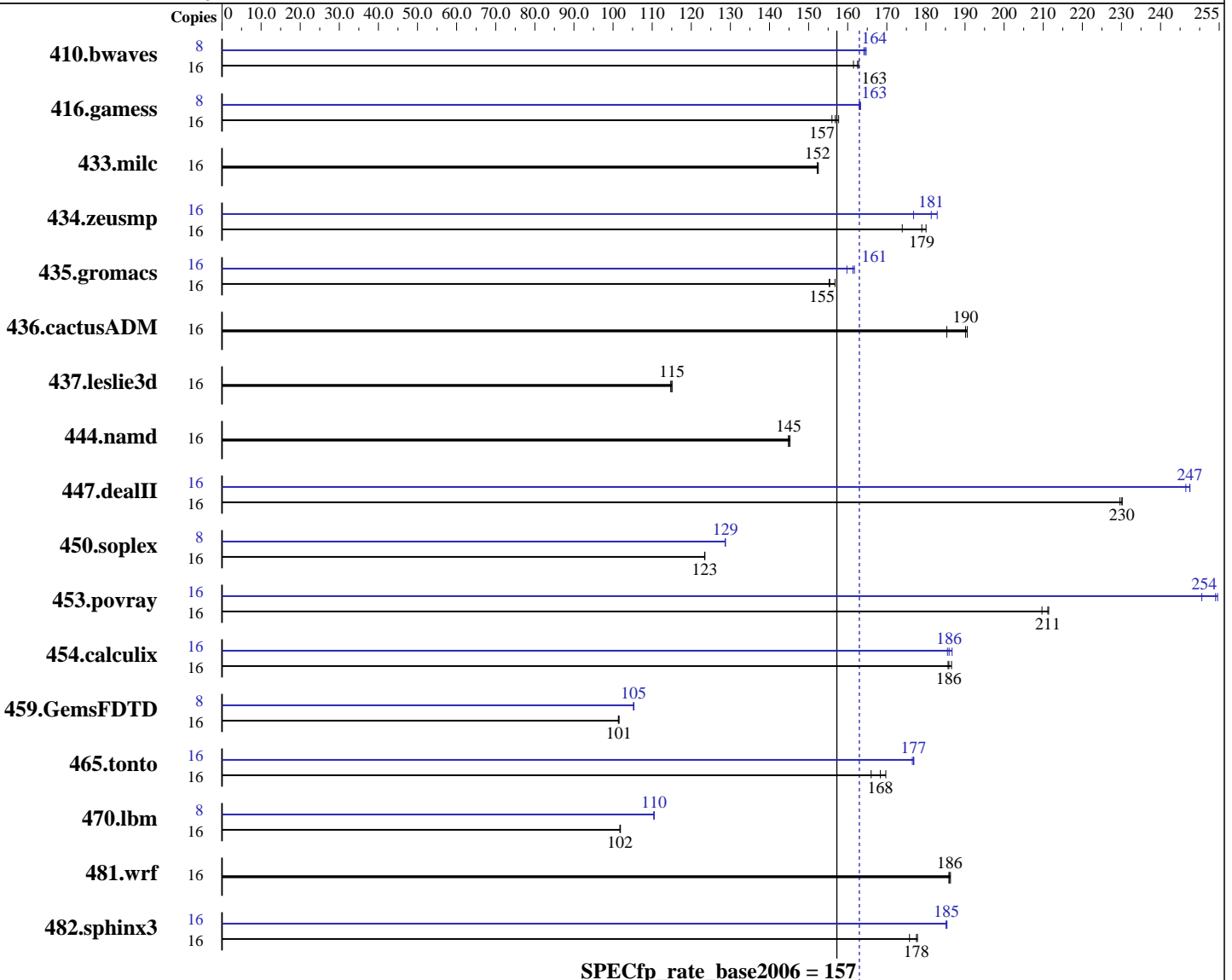
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Aug-2009

Hardware Availability: Jul-2009

Software Availability: Feb-2009



#### Hardware

CPU Name: Intel Xeon E5530  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 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 10 (x86\_64) SP2, Kernel 2.6.16.60-0.21-smpp  
 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: 48 GB (12x4 GB PC3-8500R, 2 rank, CL7-7-7, ECC)  
Disk Subsystem: 1 x SATA, 250 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	16	1347	161	1336	163	<b><u>1338</u></b>	<b><u>163</u></b>	8	<b><u>661</u></b>	<b><u>164</u></b>	660	165	662	164
416.gamess	16	2008	156	1987	158	<b><u>1998</u></b>	<b><u>157</u></b>	8	<b><u>960</u></b>	<b><u>163</u></b>	961	163	959	163
433.milc	16	963	152	965	152	<b><u>965</u></b>	<b><u>152</u></b>	16	963	152	965	152	<b><u>965</u></b>	<b><u>152</u></b>
434.zeusmp	16	837	174	809	180	<b><u>814</u></b>	<b><u>179</u></b>	16	796	183	823	177	<b><u>803</u></b>	<b><u>181</u></b>
435.gromacs	16	<b><u>735</u></b>	<b><u>155</u></b>	736	155	729	157	16	715	160	<b><u>708</u></b>	<b><u>161</u></b>	706	162
436.cactusADM	16	1032	185	<b><u>1006</u></b>	<b><u>190</u></b>	1003	191	16	1032	185	<b><u>1006</u></b>	<b><u>190</u></b>	1003	191
437.leslie3d	16	1307	115	1311	115	<b><u>1307</u></b>	<b><u>115</u></b>	16	1307	115	1311	115	<b><u>1307</u></b>	<b><u>115</u></b>
444.namd	16	886	145	883	145	<b><u>885</u></b>	<b><u>145</u></b>	16	886	145	883	145	<b><u>885</u></b>	<b><u>145</u></b>
447.dealII	16	795	230	797	230	<b><u>795</u></b>	<b><u>230</u></b>	16	743	246	739	248	<b><u>740</u></b>	<b><u>247</u></b>
450.soplex	16	1081	123	<b><u>1081</u></b>	<b><u>123</u></b>	1081	123	8	518	129	<b><u>518</u></b>	<b><u>129</u></b>	519	129
453.povray	16	406	210	403	211	<b><u>403</u></b>	<b><u>211</u></b>	16	340	251	<b><u>335</u></b>	<b><u>254</u></b>	334	255
454.calculix	16	711	186	<b><u>710</u></b>	<b><u>186</u></b>	708	187	16	707	187	712	186	<b><u>710</u></b>	<b><u>186</u></b>
459.GemsFDTD	16	1675	101	1672	102	<b><u>1673</u></b>	<b><u>101</u></b>	8	806	105	807	105	<b><u>806</u></b>	<b><u>105</u></b>
465.tonto	16	<b><u>935</u></b>	<b><u>168</u></b>	927	170	948	166	16	892	177	<b><u>890</u></b>	<b><u>177</u></b>	890	177
470.lbm	16	2158	102	<b><u>2160</u></b>	<b><u>102</u></b>	2160	102	8	995	111	<b><u>995</u></b>	<b><u>110</u></b>	995	110
481.wrf	16	959	186	<b><u>961</u></b>	<b><u>186</u></b>	962	186	16	959	186	<b><u>961</u></b>	<b><u>186</u></b>	962	186
482.sphinx3	16	<b><u>1756</u></b>	<b><u>178</u></b>	1774	176	1753	178	16	<b><u>1683</u></b>	<b><u>185</u></b>	1682	185	1684	185

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 processes to cores and its local memory.  
Details may be found in the config file.

## Operating System Notes

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

## General Notes

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



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**SPECfp\_rate\_base2006 = 157**

**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu

**Test date:** Aug-2009  
**Hardware Availability:** Jul-2009  
**Software Availability:** Feb-2009

## 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  
  
Benchmarks using both Fortran and C:  
-xSSE4.2 -ipo -O3 -no-prec-div -static



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## 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:

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

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## Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: basepeak = yes

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: 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)  
-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: basepeak = yes

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

481.wrf: basepeak = yes



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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.20090901.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.20090901.xml>

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