



# SPEC® CFP2006 Result

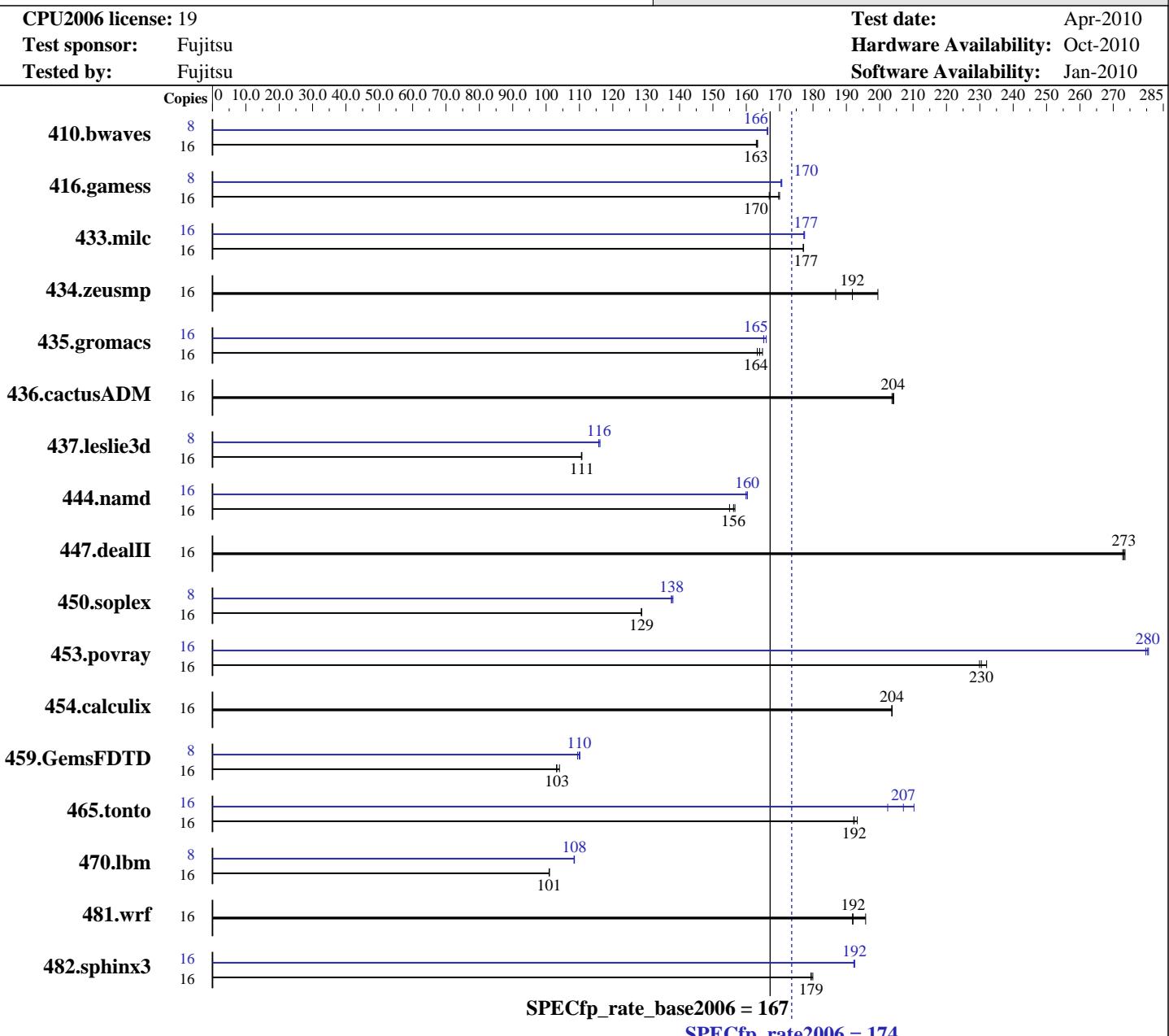
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Fujitsu

**SPECfp®\_rate2006 = 174**

PRIMERGY RX200 S6, Intel Xeon E5630, 2.53 GHz

**SPECfp\_rate\_base2006 = 167**



## Hardware

CPU Name: Intel Xeon E5630  
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
CPU MHz: 2533  
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

## 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: 48 GB (12x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC,  
 see add'l detail in notes)  
 Disk Subsystem: 1 x SATA, 160 GB, 5400 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	Seconds	Ratio
410.bwaves	16	1331	163	<u>1332</u>	<u>163</u>	1334	163	8	<u>654</u>	<u>166</u>	653	166	<u>654</u>	<u>166</u>	654	166
416.gamess	16	1843	170	<u>1846</u>	<u>170</u>	1877	167	8	<u>919</u>	<u>170</u>	918	171	<u>919</u>	<u>170</u>	919	170
433.milc	16	<u>829</u>	<u>177</u>	829	177	830	177	16	<u>828</u>	<u>177</u>	828	177	<u>828</u>	<u>177</u>	828	177
434.zeusmp	16	779	187	730	199	<u>759</u>	<u>192</u>	16	<u>779</u>	<u>187</u>	730	199	<u>759</u>	<u>192</u>	759	<u>192</u>
435.gromacs	16	700	163	693	165	<u>697</u>	<u>164</u>	16	688	166	<u>691</u>	<u>165</u>	691	165	691	165
436.cactusADM	16	<u>937</u>	<u>204</u>	939	204	936	204	16	<u>937</u>	<u>204</u>	939	204	<u>936</u>	<u>204</u>	936	204
437.leslie3d	16	1360	111	1359	111	<u>1359</u>	<u>111</u>	8	<u>649</u>	<u>116</u>	647	116	<u>650</u>	<u>116</u>	650	116
444.namd	16	819	157	<u>822</u>	<u>156</u>	828	155	16	<u>801</u>	<u>160</u>	802	160	<u>800</u>	<u>160</u>	800	160
447.dealII	16	671	273	<u>670</u>	<u>273</u>	669	274	16	671	273	<u>670</u>	<u>273</u>	669	274	669	274
450.soplex	16	<u>1037</u>	<u>129</u>	1037	129	1038	129	8	485	138	483	138	<u>485</u>	<u>138</u>	485	<u>138</u>
453.povray	16	370	230	367	232	<u>369</u>	<u>230</u>	16	304	280	<u>304</u>	<u>280</u>	<u>303</u>	<u>281</u>	303	281
454.calculix	16	648	204	648	204	<u>648</u>	<u>204</u>	16	648	204	648	204	<u>648</u>	<u>204</u>	648	<u>204</u>
459.GemsFDTD	16	<u>1644</u>	<u>103</u>	1632	104	1646	103	8	776	109	<u>772</u>	<u>110</u>	771	110	771	110
465.tonto	16	819	192	<u>819</u>	<u>192</u>	815	193	16	749	210	<u>760</u>	<u>207</u>	778	202	778	202
470.lbm	16	2177	101	<u>2178</u>	<u>101</u>	2179	101	8	1013	109	<u>1014</u>	<u>108</u>	1014	108	1014	108
481.wrf	16	913	196	932	192	<u>931</u>	<u>192</u>	16	913	196	932	192	<u>931</u>	<u>192</u>	931	<u>192</u>
482.sphinx3	16	1733	180	1738	179	<u>1737</u>	<u>179</u>	16	<u>1620</u>	<u>192</u>	1620	193	1622	192	1622	192

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 1067 MHz.  
 BIOS configuration:  
 Data Reuse Optimization = Disable



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## General Notes

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

## 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

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 -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

## Peak Optimization Flags

C benchmarks:

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Software Availability: Jan-2010

## Peak Optimization Flags (Continued)

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.dealII: basepeak = yes

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: -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)  
-unroll12 -Ob0 -ansi-alias -scalar-rep-

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)  
-unroll12 -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)  
-unroll14 -auto -inline-calloc -opt-malloc-options=3

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: 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.20100330.02.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.20100330.02.xml>

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