



# SPEC® CFP2006 Result

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Fujitsu

**SPECfp®\_rate2006 = 134**

PRIMERGY TX200 S6, Intel Xeon E5606, 2.13 GHz

**SPECfp\_rate\_base2006 = 127**

CPU2006 license: 19

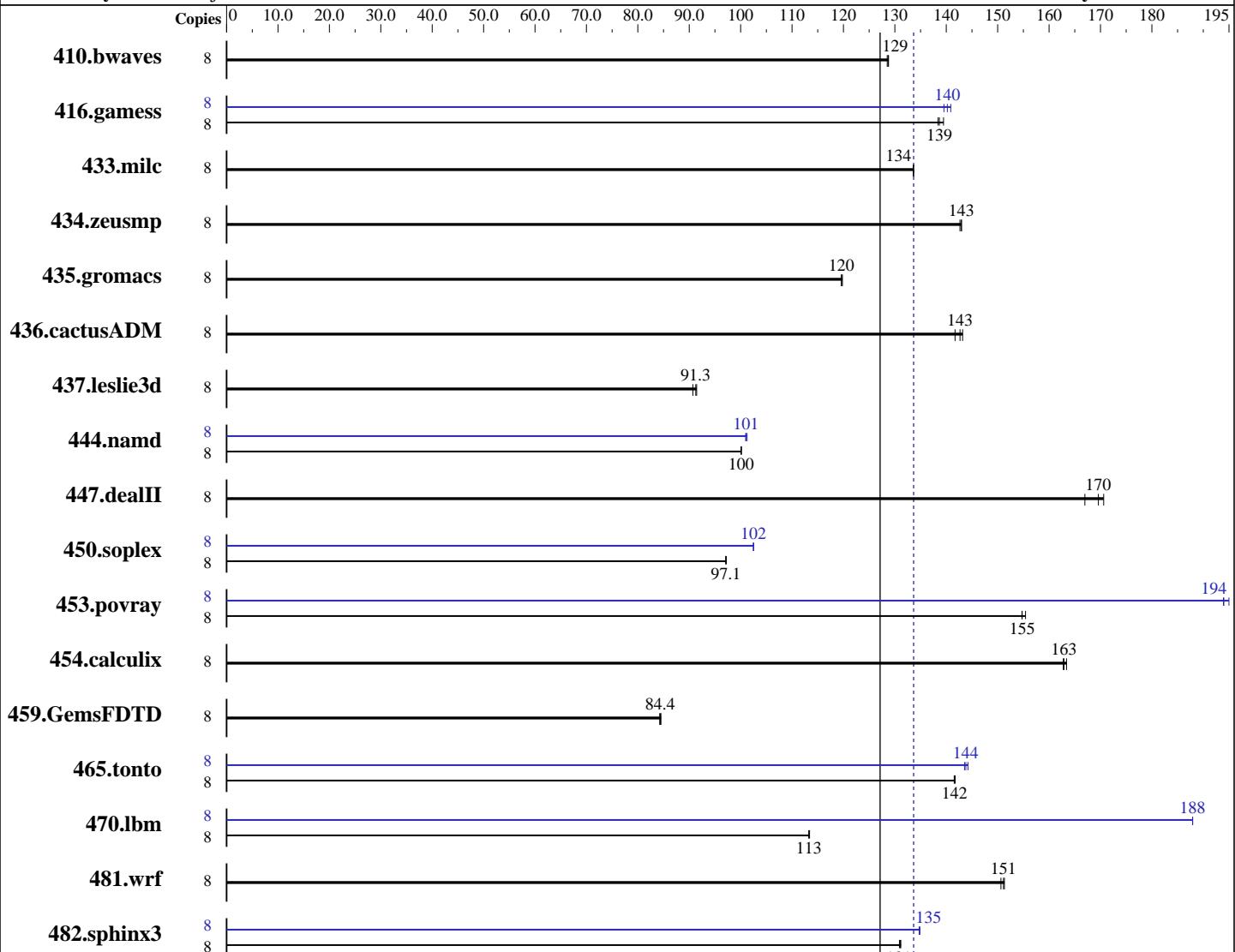
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Dec-2010

Hardware Availability: Jul-2010

Software Availability: Nov-2010



## Hardware

CPU Name: Intel Xeon E5606  
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 11 (x86\_64) with SP1, Kernel 2.6.32.12-0.7-default  
Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.0.082 Build 20101006  
Auto Parallel: No  
File System: ext3  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit

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L3 Cache: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz and CL7)  
 Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM  
 Other Hardware: --

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	8	846	129	<b>845</b>	<b>129</b>	844	129	8	846	129	<b>845</b>	<b>129</b>	844	129
416.gamess	8	1132	138	<b>1130</b>	<b>139</b>	1123	139	8	1122	140	<b>1117</b>	<b>140</b>	1112	141
433.milc	8	<b>550</b>	<b>134</b>	550	134	549	134	8	<b>550</b>	<b>134</b>	550	134	549	134
434.zeusmp	8	510	143	509	143	<b>509</b>	<b>143</b>	8	510	143	509	143	<b>509</b>	<b>143</b>
435.gromacs	8	477	120	478	120	<b>477</b>	<b>120</b>	8	477	120	478	120	<b>477</b>	<b>120</b>
436.cactusADM	8	668	143	<b>670</b>	<b>143</b>	675	142	8	668	143	<b>670</b>	<b>143</b>	675	142
437.leslie3d	8	822	91.4	829	90.7	<b>824</b>	<b>91.3</b>	8	822	91.4	829	90.7	<b>824</b>	<b>91.3</b>
444.namd	8	<b>641</b>	<b>100</b>	641	100	641	100	8	<b>635</b>	<b>101</b>	634	101	<b>635</b>	101
447.dealII	8	<b>540</b>	<b>170</b>	536	171	548	167	8	<b>540</b>	<b>170</b>	536	171	<b>548</b>	167
450.soplex	8	<b>687</b>	<b>97.1</b>	687	97.1	686	97.2	8	<b>651</b>	<b>102</b>	651	102	<b>651</b>	103
453.povray	8	274	155	<b>275</b>	<b>155</b>	275	155	8	218	195	219	194	<b>219</b>	<b>194</b>
454.calculix	8	404	163	405	163	<b>405</b>	<b>163</b>	8	404	163	405	163	<b>405</b>	<b>163</b>
459.GemsFDTD	8	<b>1006</b>	<b>84.4</b>	1007	84.3	1005	84.5	8	<b>1006</b>	<b>84.4</b>	1007	84.3	<b>1005</b>	84.5
465.tonto	8	556	142	555	142	<b>556</b>	<b>142</b>	8	546	144	548	144	<b>547</b>	<b>144</b>
470.lbm	8	970	113	969	113	<b>970</b>	<b>113</b>	8	585	188	<b>585</b>	<b>188</b>	<b>585</b>	188
481.wrf	8	593	151	<b>591</b>	<b>151</b>	591	151	8	593	151	<b>591</b>	<b>151</b>	591	151
482.sphinx3	8	<b>1190</b>	<b>131</b>	1191	131	1189	131	8	<b>1156</b>	<b>135</b>	1156	135	<b>1157</b>	135

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



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## General Notes

For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on SLES 10 SP1 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 -ansi-alias

C++ benchmarks:

    -xSSE4.2 -ipo -O3 -no-prec-div -ansi-alias

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## Base Optimization Flags (Continued)

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -ansi-alias

## 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: basepeak = yes

470.lbm: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-ansi-alias -opt-prefetch -auto-ilp32

482.sphinx3: -xsse4.2 -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

444.namd: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(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) -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) -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) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll14 -auto  
-inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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## Peak Optimization Flags (Continued)

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-ic12.0-linux64-revA.20110222.00.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.

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