



# SPEC® CFP2006 Result

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Fujitsu

PRIMERGY RX300 S6, Intel Xeon E5607, 2.27 GHz

**SPECfp®\_rate2006 = 137**

**SPECfp\_rate\_base2006 = 131**

CPU2006 license: 19

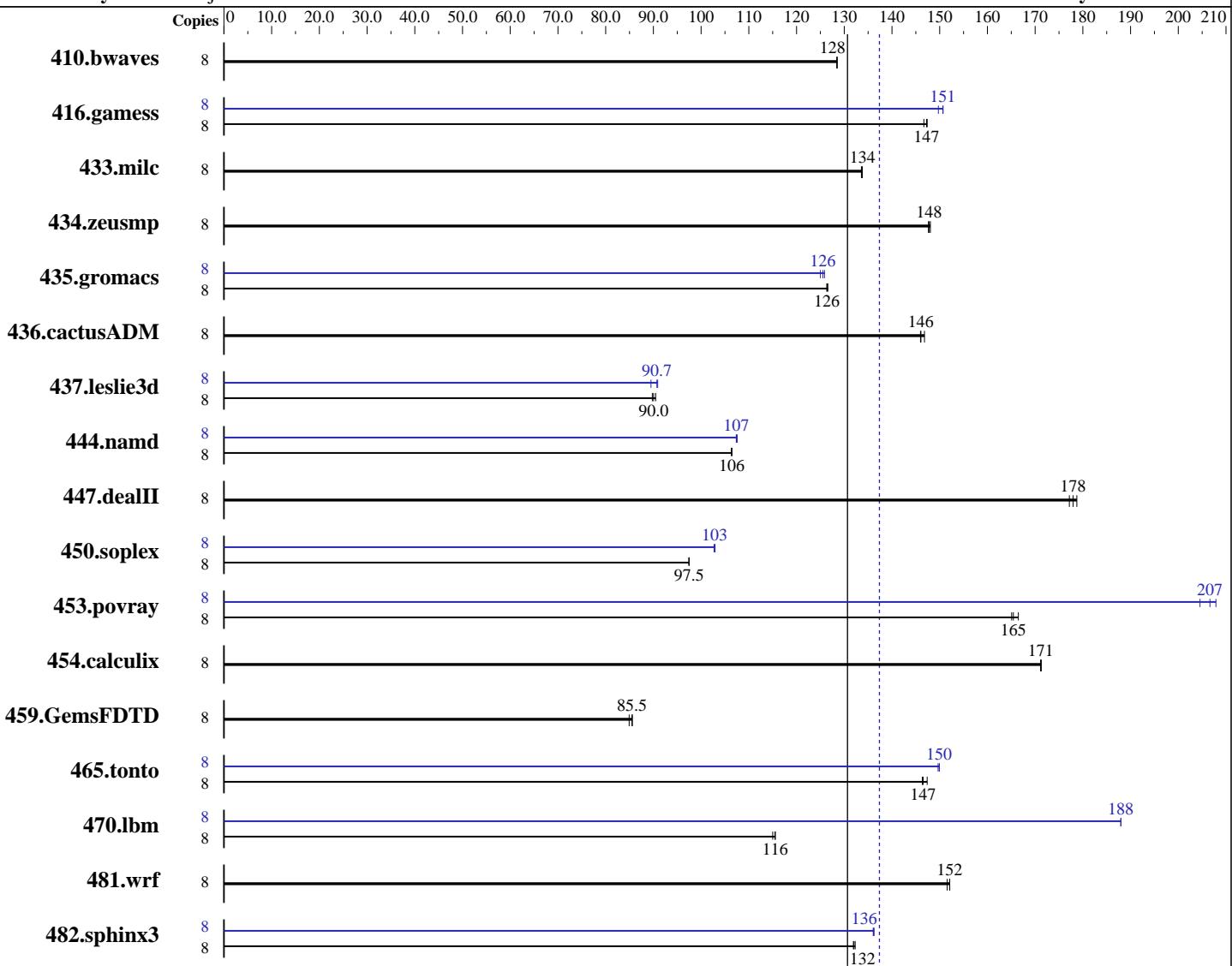
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2011

Hardware Availability: Feb-2011

Software Availability: Nov-2010



**SPECfp\_rate\_base2006 = 131**

**SPECfp\_rate2006 = 137**

## Hardware

CPU Name: Intel Xeon E5607  
CPU Characteristics:  
CPU MHz:  
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

## 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

## Software

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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	128	846	129	<b>846</b>	<b>128</b>	8	846	128	846	129	<b>846</b>	<b>128</b>
416.gamess	8	1068	147	<b>1064</b>	<b>147</b>	1063	147	8	1039	151	1046	150	<b>1040</b>	<b>151</b>
433.milc	8	549	134	<b>549</b>	<b>134</b>	550	134	8	549	134	<b>549</b>	<b>134</b>	550	134
434.zeusmp	8	492	148	<b>493</b>	<b>148</b>	493	148	8	492	148	<b>493</b>	<b>148</b>	493	148
435.gromacs	8	451	127	<b>452</b>	<b>126</b>	452	126	8	457	125	<b>455</b>	<b>126</b>	454	126
436.cactusADM	8	<b>654</b>	<b>146</b>	655	146	651	147	8	<b>654</b>	<b>146</b>	655	146	651	147
437.leslie3d	8	838	89.8	831	90.5	<b>835</b>	<b>90.0</b>	8	827	90.9	<b>829</b>	<b>90.7</b>	840	89.5
444.namd	8	603	106	603	106	<b>603</b>	<b>106</b>	8	596	108	<b>597</b>	<b>107</b>	598	107
447.dealII	8	<b>514</b>	<b>178</b>	517	177	512	179	8	<b>514</b>	<b>178</b>	517	177	512	179
450.soplex	8	684	97.5	<b>684</b>	<b>97.5</b>	685	97.4	8	<b>649</b>	<b>103</b>	648	103	650	103
453.povray	8	258	165	<b>257</b>	<b>165</b>	256	166	8	<b>206</b>	<b>207</b>	208	205	205	208
454.calculix	8	386	171	<b>385</b>	<b>171</b>	385	171	8	386	171	<b>385</b>	<b>171</b>	385	171
459.GemsFDTD	8	1000	84.9	<b>993</b>	<b>85.5</b>	992	85.6	8	1000	84.9	<b>993</b>	<b>85.5</b>	992	85.6
465.tonto	8	534	147	<b>537</b>	<b>147</b>	538	146	8	<b>525</b>	<b>150</b>	526	150	525	150
470.lbm	8	<b>952</b>	<b>116</b>	951	116	956	115	8	<b>585</b>	188	585	188	<b>585</b>	<b>188</b>
481.wrf	8	587	152	590	152	<b>588</b>	<b>152</b>	8	<b>587</b>	<b>152</b>	590	152	<b>588</b>	<b>152</b>
482.sphinx3	8	1182	132	1179	132	<b>1181</b>	<b>132</b>	8	<b>1146</b>	<b>136</b>	1146	136	1144	136

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  
 Hugepages were not configured on the system



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## Platform Notes

BIOS configuration:

Data Reuse Optimization = Disable

## General Notes

This result was measured on the PRIMERGY RX300 S6. The PRIMERGY RX300 S6 and the PRIMERGY TX300 S6 are electronically equivalent.

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



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## 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

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

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## Peak Portability Flags (Continued)

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(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 -unroll12

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) -unroll4 -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) -unroll12  
-inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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) -unroll4 -auto  
-inline-calloc -opt-malloc-options=3

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## Peak Optimization Flags (Continued)

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) -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-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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