



# SPEC® CFP2006 Result

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## Fujitsu

### SPECfp®\_rate2006 = 137

PRIMERGY BX920 S2, Intel Xeon E5607, 2.27 GHz

### SPECfp\_rate\_base2006 = 131

CPU2006 license: 19

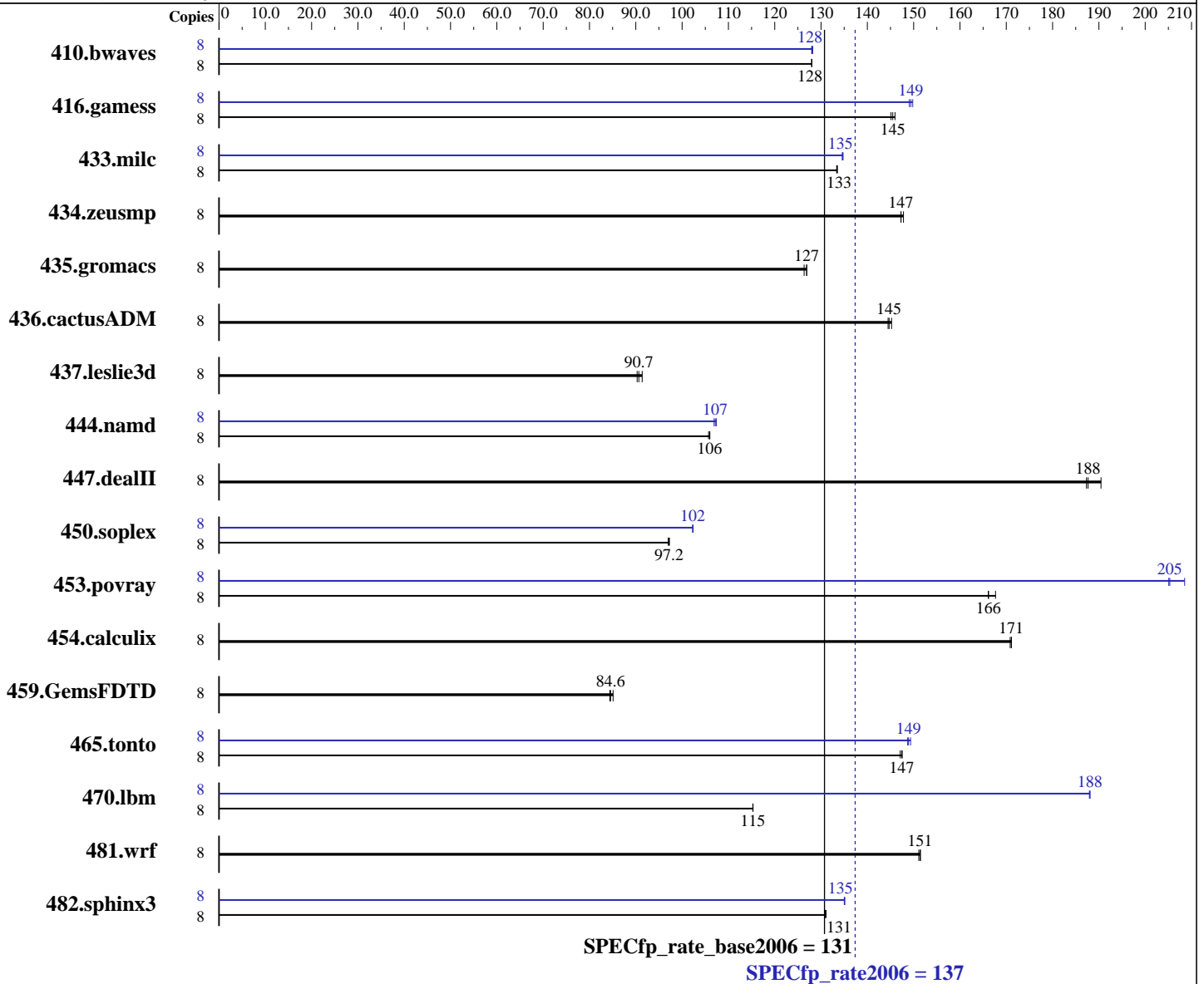
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E5607  
 CPU Characteristics: 2267  
 CPU MHz: 2267  
 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

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### 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 12.0.1.116 Build 20101116  
 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 (6 x 8 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: Binaries compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5

## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	8	850	128	<b>849</b>	<b>128</b>	849	128	8	849	128	<b>849</b>	<b>128</b>	848	128		
416.gamess	8	1073	146	1079	145	<b>1077</b>	<b>145</b>	8	1046	150	<b>1048</b>	<b>149</b>	1051	149		
433.milc	8	<b>550</b>	<b>133</b>	550	134	551	133	8	545	135	<b>545</b>	<b>135</b>	546	135		
434.zeusmp	8	<b>494</b>	<b>147</b>	494	147	493	148	8	<b>494</b>	<b>147</b>	494	147	493	148		
435.gromacs	8	450	127	452	126	<b>450</b>	<b>127</b>	8	450	127	452	126	<b>450</b>	<b>127</b>		
436.cactusADM	8	662	144	658	145	<b>661</b>	<b>145</b>	8	662	144	658	145	<b>661</b>	<b>145</b>		
437.leslie3d	8	<b>829</b>	<b>90.7</b>	823	91.4	833	90.3	8	<b>829</b>	<b>90.7</b>	823	91.4	833	90.3		
444.namd	8	<b>606</b>	<b>106</b>	607	106	605	106	8	597	107	<b>599</b>	<b>107</b>	600	107		
447.dealII	8	<b>488</b>	<b>188</b>	481	190	489	187	8	<b>488</b>	<b>188</b>	481	190	489	187		
450.soplex	8	688	97.0	686	97.3	<b>687</b>	<b>97.2</b>	8	652	102	<b>652</b>	<b>102</b>	652	102		
453.povray	8	256	166	254	168	<b>256</b>	<b>166</b>	8	204	209	<b>207</b>	<b>205</b>	208	205		
454.calculix	8	386	171	<b>386</b>	<b>171</b>	386	171	8	386	171	<b>386</b>	<b>171</b>	386	171		
459.GemsFDTD	8	997	85.1	1006	84.4	<b>1004</b>	<b>84.6</b>	8	997	85.1	1006	84.4	<b>1004</b>	<b>84.6</b>		
465.tonto	8	535	147	534	148	<b>534</b>	<b>147</b>	8	527	149	529	149	<b>529</b>	<b>149</b>		
470.lbm	8	953	115	954	115	<b>953</b>	<b>115</b>	8	584	188	<b>585</b>	<b>188</b>	585	188		
481.wrf	8	<b>590</b>	<b>151</b>	591	151	590	151	8	<b>590</b>	<b>151</b>	591	151	590	151		
482.sphinx3	8	1189	131	<b>1190</b>	<b>131</b>	1191	131	8	1154	135	1155	135	<b>1154</b>	<b>135</b>		

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  
Large pages were not enabled for this run

## Platform Notes

BIOS configuration:  
Data Reuse Optimization = Disable  
Performance/Power Setting = Traditional



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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 -ansi-alias

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

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 -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.deallI: `-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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

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 -static -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  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

### Fortran benchmarks:

410.bwaves: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static

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- -static

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) -unroll4 -auto  
-inline-calloc -opt-malloc-options=3  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

### Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

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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-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 questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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