



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

PRIMERGY RX100 S7p, Intel Xeon E3-1230 v2, 3.30 GHz

SPECfp<sup>®</sup>2006 = 69.2

SPECfp\_base2006 = 67.3

CPU2006 license: 19

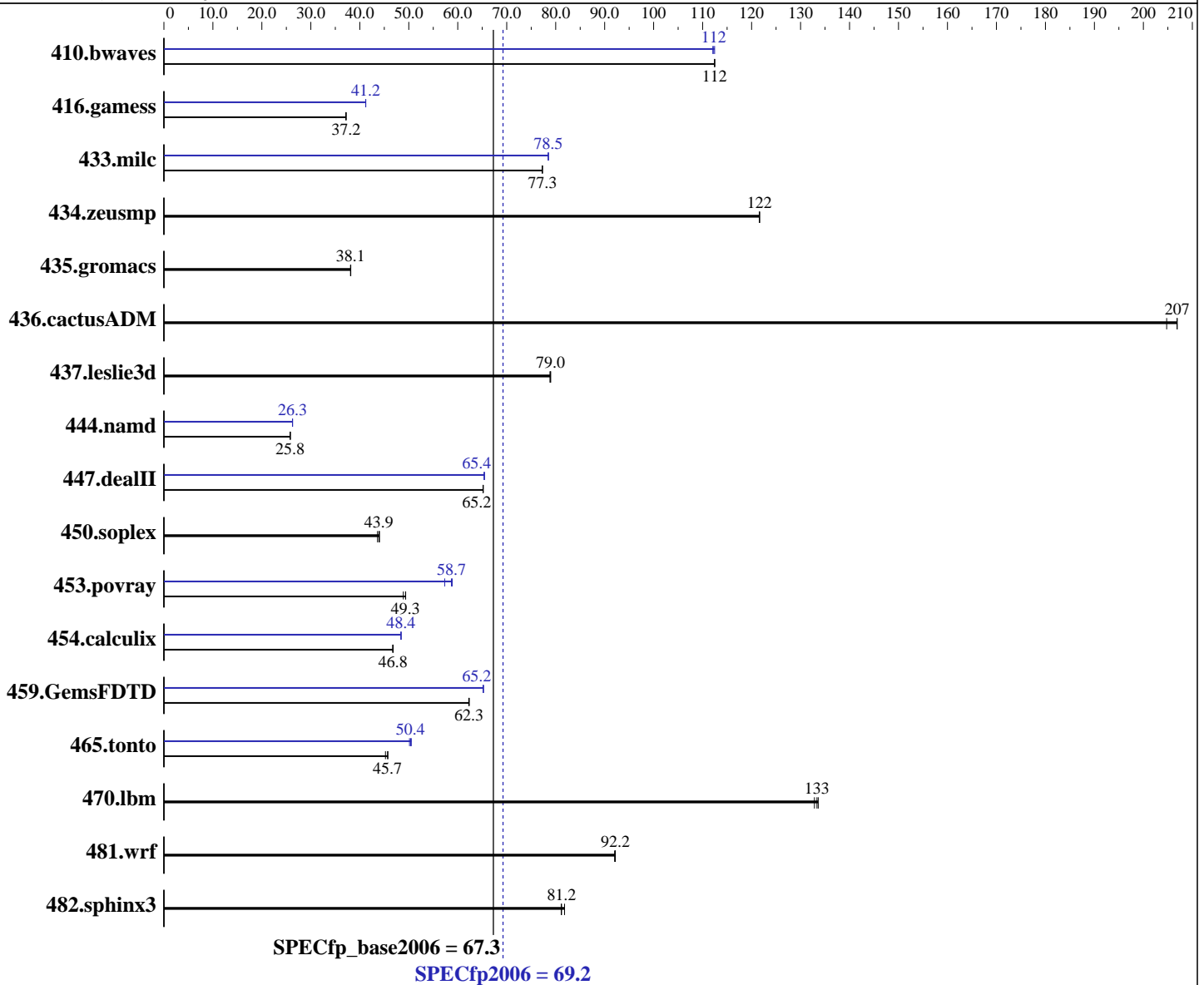
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E3-1230 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.7 GHz  
 CPU MHz: 3300  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 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: Red Hat Enterprise Linux Server release 6.2 (Santiago)  
 2.6.32-220.el6.x86\_64  
 Compiler: C/C++: Version 12.1.0.293 of Intel C++ Studio XE for Linux;  
 Fortran: Version 12.1.0.293 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4

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L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC)  
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
Other Hardware: None

System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<b><u>121</u></b>	<b><u>112</u></b>	121	112	121	112	121	112	121	112	<b><u>121</u></b>	<b><u>112</u></b>
416.gamess	526	37.2	527	37.2	<b><u>527</u></b>	<b><u>37.2</u></b>	475	41.2	475	41.2	<b><u>475</u></b>	<b><u>41.2</u></b>
433.milc	119	77.2	119	77.3	<b><u>119</u></b>	<b><u>77.3</u></b>	117	78.5	<b><u>117</u></b>	<b><u>78.5</u></b>	117	78.5
434.zeusmp	74.8	122	<b><u>74.8</u></b>	<b><u>122</u></b>	74.8	122	74.8	122	<b><u>74.8</u></b>	<b><u>122</u></b>	74.8	122
435.gromacs	187	38.1	<b><u>187</u></b>	<b><u>38.1</u></b>	187	38.2	187	38.1	<b><u>187</u></b>	<b><u>38.1</u></b>	187	38.2
436.cactusADM	57.8	207	<b><u>57.8</u></b>	<b><u>207</u></b>	58.4	205	57.8	207	<b><u>57.8</u></b>	<b><u>207</u></b>	58.4	205
437.leslie3d	<b><u>119</u></b>	<b><u>79.0</u></b>	119	78.8	119	79.0	<b><u>119</u></b>	<b><u>79.0</u></b>	119	78.8	119	79.0
444.namd	311	25.8	<b><u>311</u></b>	<b><u>25.8</u></b>	311	25.8	<b><u>305</u></b>	<b><u>26.3</u></b>	305	26.3	306	26.2
447.dealII	<b><u>175</u></b>	<b><u>65.2</u></b>	175	65.2	176	65.2	175	65.4	175	65.4	<b><u>175</u></b>	<b><u>65.4</u></b>
450.soplex	<b><u>190</u></b>	<b><u>43.9</u></b>	189	44.0	191	43.6	<b><u>190</u></b>	<b><u>43.9</u></b>	189	44.0	191	43.6
453.povray	108	49.4	<b><u>108</u></b>	<b><u>49.3</u></b>	109	48.9	<b><u>90.6</u></b>	<b><u>58.7</u></b>	92.8	57.3	90.4	58.9
454.calculix	<b><u>176</u></b>	<b><u>46.8</u></b>	176	46.8	177	46.7	170	48.4	<b><u>170</u></b>	<b><u>48.4</u></b>	170	48.4
459.GemsFDTD	<b><u>170</u></b>	<b><u>62.3</u></b>	170	62.3	170	62.2	163	65.3	163	65.2	<b><u>163</u></b>	<b><u>65.2</u></b>
465.tonto	<b><u>216</u></b>	<b><u>45.7</u></b>	218	45.2	215	45.7	196	50.1	195	50.5	<b><u>195</u></b>	<b><u>50.4</u></b>
470.lbm	103	133	103	134	<b><u>103</u></b>	<b><u>133</u></b>	103	133	103	134	<b><u>103</u></b>	<b><u>133</u></b>
481.wrf	121	92.2	121	92.0	<b><u>121</u></b>	<b><u>92.2</u></b>	121	92.2	121	92.0	<b><u>121</u></b>	<b><u>92.2</u></b>
482.sphinx3	240	81.1	<b><u>240</u></b>	<b><u>81.2</u></b>	238	81.8	240	81.1	<b><u>240</u></b>	<b><u>81.2</u></b>	238	81.8

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

BIOS configuration:  
Intel HT Technology = Disable

## General Notes

Environment variables set by runspec before the start of the run:  
KMP\_AFFINITY = "granularity=fine,scatter"  
LD\_LIBRARY\_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64"  
OMP\_NUM\_THREADS = "4"

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## General Notes (Continued)

Binaries compiled on a system with 1x E3-1270V2 CPU + 32 GB memory using RHEL6.2  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled  
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:  
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias

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## Base Optimization Flags (Continued)

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias

## Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32  
-ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xAVX(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

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## Peak Optimization Flags (Continued)

447.deallI: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
-ansi-alias

450.soplex: basepeak = yes

453.povray: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel  
-static

416.gamess: -xAVX(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: -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 -opt-prefetch -parallel

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc  
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

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