



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

PRIMERGY RX100 S7p, Intel Xeon E3-1270 v2, 3.50 GHz

SPECfp<sup>®</sup>2006 = **71.6**

SPECfp\_base2006 = **69.6**

CPU2006 license: 19

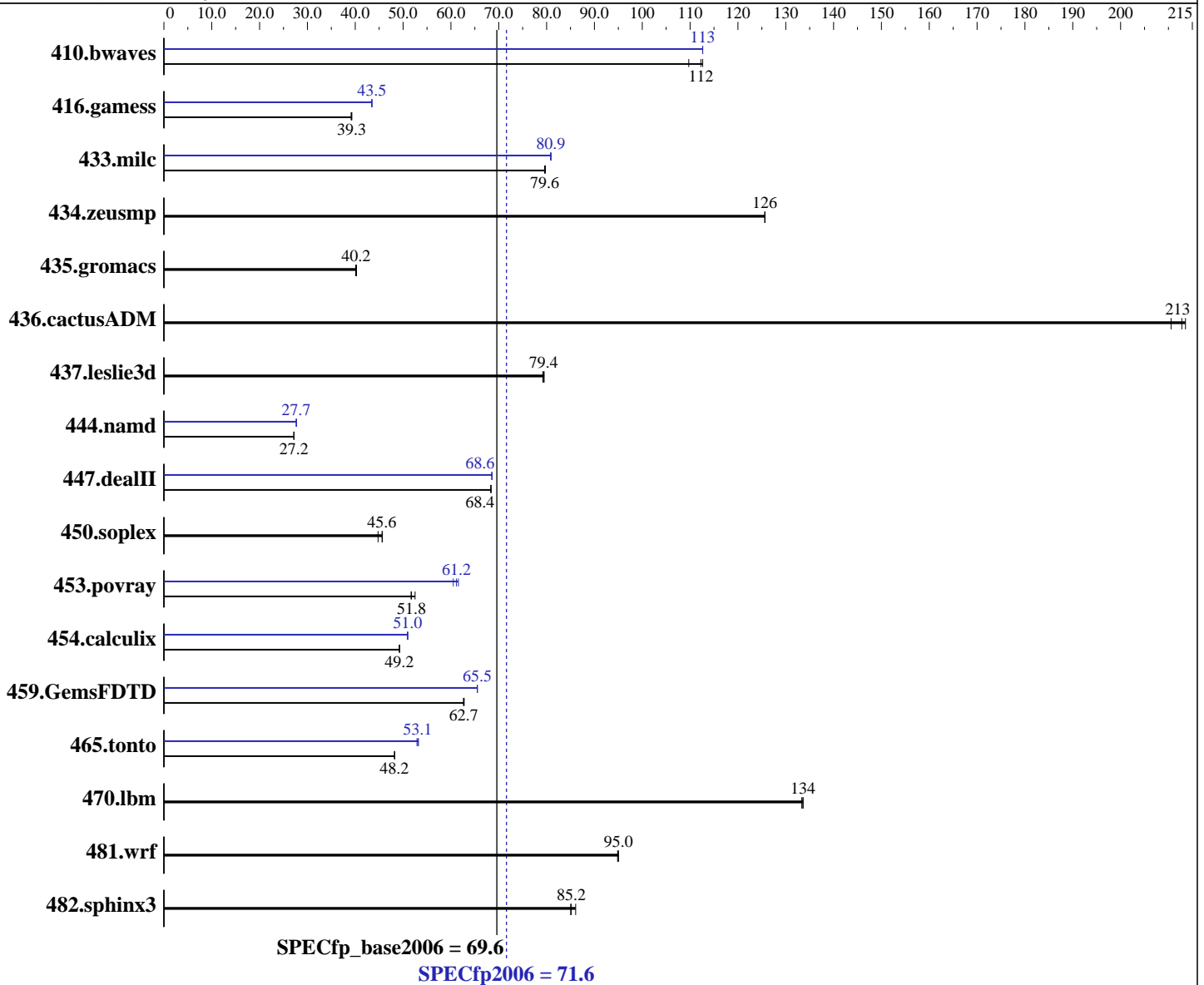
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2012

Hardware Availability: May-2012

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E3-1270 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.9 GHz  
 CPU MHz: 3500  
 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	124	110	<u>121</u>	<u>112</u>	121	113	121	113	121	113	<u>121</u>	<u>113</u>
416.gamess	<u>499</u>	<u>39.3</u>	499	39.3	500	39.1	450	43.5	450	43.5	<u>450</u>	<u>43.5</u>
433.milc	<u>115</u>	<u>79.6</u>	115	79.8	115	79.6	113	80.9	114	80.8	<u>113</u>	<u>80.9</u>
434.zeusmp	<u>72.4</u>	<u>126</u>	72.4	126	72.4	126	<u>72.4</u>	<u>126</u>	72.4	126	72.4	126
435.gromacs	178	40.1	177	40.3	<u>178</u>	<u>40.2</u>	178	40.1	177	40.3	<u>178</u>	<u>40.2</u>
436.cactusADM	<u>56.2</u>	<u>213</u>	56.0	214	56.8	211	<u>56.2</u>	<u>213</u>	56.0	214	56.8	211
437.leslie3d	118	79.5	<u>118</u>	<u>79.4</u>	119	79.2	118	79.5	<u>118</u>	<u>79.4</u>	119	79.2
444.namd	295	27.2	295	27.2	<u>295</u>	<u>27.2</u>	290	27.7	290	27.7	<u>290</u>	<u>27.7</u>
447.dealII	167	68.3	<u>167</u>	<u>68.4</u>	167	68.4	<u>167</u>	<u>68.6</u>	167	68.6	167	68.5
450.soplex	183	45.7	186	44.8	<u>183</u>	<u>45.6</u>	183	45.7	186	44.8	<u>183</u>	<u>45.6</u>
453.povray	101	52.5	<u>103</u>	<u>51.8</u>	103	51.7	<u>87.0</u>	<u>61.2</u>	86.4	61.6	87.9	60.5
454.calculix	167	49.3	<u>168</u>	<u>49.2</u>	168	49.2	162	51.0	<u>162</u>	<u>51.0</u>	162	50.9
459.GemsFDTD	169	62.8	<u>169</u>	<u>62.7</u>	169	62.6	162	65.5	<u>162</u>	<u>65.5</u>	162	65.5
465.tonto	204	48.3	204	48.2	<u>204</u>	<u>48.2</u>	<u>185</u>	<u>53.1</u>	185	53.2	186	52.9
470.lbm	<u>103</u>	<u>134</u>	103	134	103	133	<u>103</u>	<u>134</u>	103	134	103	133
481.wrf	<u>118</u>	<u>95.0</u>	118	94.8	118	95.0	<u>118</u>	<u>95.0</u>	118	94.8	118	95.0
482.sphinx3	226	86.1	229	85.0	<u>229</u>	<u>85.2</u>	226	86.1	229	85.0	<u>229</u>	<u>85.2</u>

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

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