



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

SPECfp<sup>®</sup>2006 = **85.0**

PRIMERGY CX270 S1, Intel Xeon E5-2667, 2.90 GHz

SPECfp\_base2006 = **80.4**

CPU2006 license: 19

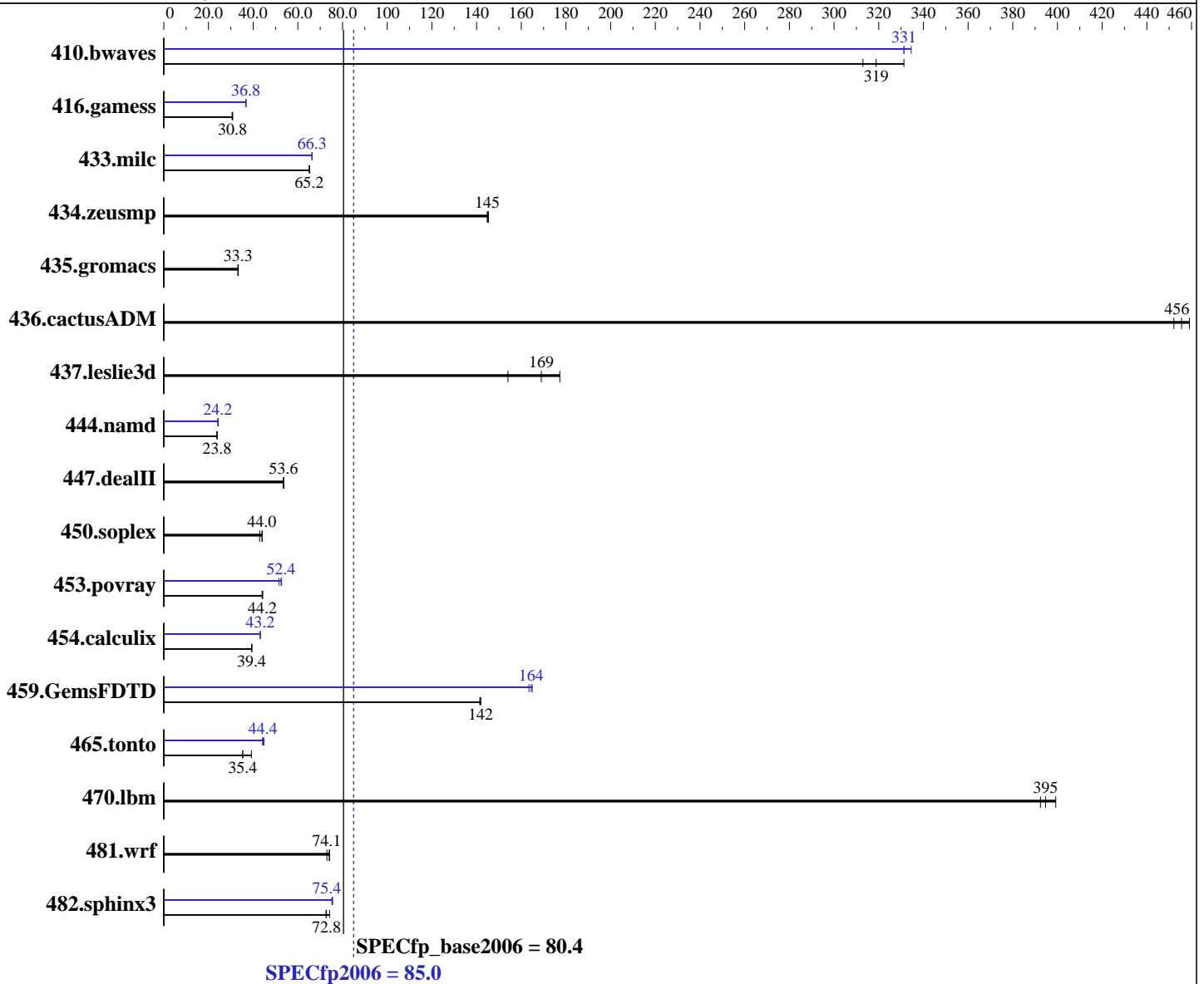
Test date: Mar-2012

Test sponsor: Fujitsu

Hardware Availability: Jun-2012

Tested by: Fujitsu

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-2667  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 2900  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip  
 CPU(s) orderable: 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: Red Hat Enterprise Linux Server release 6.2 (Santiago)  
 2.6.32-220.el6.x86\_64  
 Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;  
 Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4

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L3 Cache: 15 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3L-12800R-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	43.4	313	41.0	331	<b><u>42.6</u></b>	<b><u>319</u></b>	40.6	335	41.0	331	<b><u>41.0</u></b>	<b><u>331</u></b>
416.gamess	641	30.6	<b><u>636</u></b>	<b><u>30.8</u></b>	635	30.8	533	36.8	532	36.8	<b><u>532</u></b>	<b><u>36.8</u></b>
433.milc	141	65.2	<b><u>141</u></b>	<b><u>65.2</u></b>	141	65.2	<b><u>138</u></b>	<b><u>66.3</u></b>	138	66.3	138	66.4
434.zeusmp	<b><u>62.8</u></b>	<b><u>145</u></b>	62.6	145	62.8	145	<b><u>62.8</u></b>	<b><u>145</u></b>	62.6	145	62.8	145
435.gromacs	215	33.2	214	33.3	<b><u>215</u></b>	<b><u>33.3</u></b>	215	33.2	214	33.3	<b><u>215</u></b>	<b><u>33.3</u></b>
436.cactusADM	<b><u>26.2</u></b>	<b><u>456</u></b>	26.4	452	26.0	459	<b><u>26.2</u></b>	<b><u>456</u></b>	26.4	452	26.0	459
437.leslie3d	53.0	177	<b><u>55.6</u></b>	<b><u>169</u></b>	61.0	154	53.0	177	<b><u>55.6</u></b>	<b><u>169</u></b>	61.0	154
444.namd	337	23.8	<b><u>337</u></b>	<b><u>23.8</u></b>	336	23.8	331	24.2	<b><u>331</u></b>	<b><u>24.2</u></b>	331	24.2
447.dealII	<b><u>213</u></b>	<b><u>53.6</u></b>	214	53.5	213	53.7	<b><u>213</u></b>	<b><u>53.6</u></b>	214	53.5	213	53.7
450.soplex	<b><u>190</u></b>	<b><u>44.0</u></b>	189	44.0	194	42.9	<b><u>190</u></b>	<b><u>44.0</u></b>	189	44.0	194	42.9
453.povray	121	44.0	120	44.3	<b><u>120</u></b>	<b><u>44.2</u></b>	<b><u>101</u></b>	<b><u>52.4</u></b>	101	52.8	103	51.5
454.calculix	209	39.4	210	39.3	<b><u>209</u></b>	<b><u>39.4</u></b>	191	43.2	<b><u>191</u></b>	<b><u>43.2</u></b>	191	43.2
459.GemsFDTD	<b><u>74.8</u></b>	<b><u>142</u></b>	74.8	142	75.0	141	64.3	165	<b><u>64.5</u></b>	<b><u>164</u></b>	64.9	163
465.tonto	251	39.2	279	35.3	<b><u>278</u></b>	<b><u>35.4</u></b>	223	44.2	219	44.9	<b><u>221</u></b>	<b><u>44.4</u></b>
470.lbm	35.0	392	34.4	399	<b><u>34.8</u></b>	<b><u>395</u></b>	35.0	392	34.4	399	<b><u>34.8</u></b>	<b><u>395</u></b>
481.wrf	153	73.0	<b><u>151</u></b>	<b><u>74.1</u></b>	151	74.2	153	73.0	<b><u>151</u></b>	<b><u>74.1</u></b>	151	74.2
482.sphinx3	268	72.6	263	74.2	<b><u>268</u></b>	<b><u>72.8</u></b>	<b><u>258</u></b>	<b><u>75.4</u></b>	259	75.2	258	75.6

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"  
 Transparent Huge Pages enabled with:  
 echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

## Platform Notes

BIOS configuration:  
 Intel HT Technology = Disable



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## 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 = "12"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

This result was measured on the PRIMERGY CX250 S1. The PRIMERGY CX250 S1 and the PRIMERGY CX270 S1 are electronically equivalent.

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
```



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## Base Optimization Flags

C benchmarks:

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

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: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias  
-parallel

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## Peak Optimization Flags (Continued)

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

447.dealII: basepeak = yes

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: -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 -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.20120313.01.html>



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

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<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.01.xml>

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