



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

SPECfp<sup>®</sup>2006 = **68.8**

PRIMERGY CX270 S1, Intel Xeon E5-2637, 3.0 GHz

SPECfp\_base2006 = **66.4**

CPU2006 license: 19

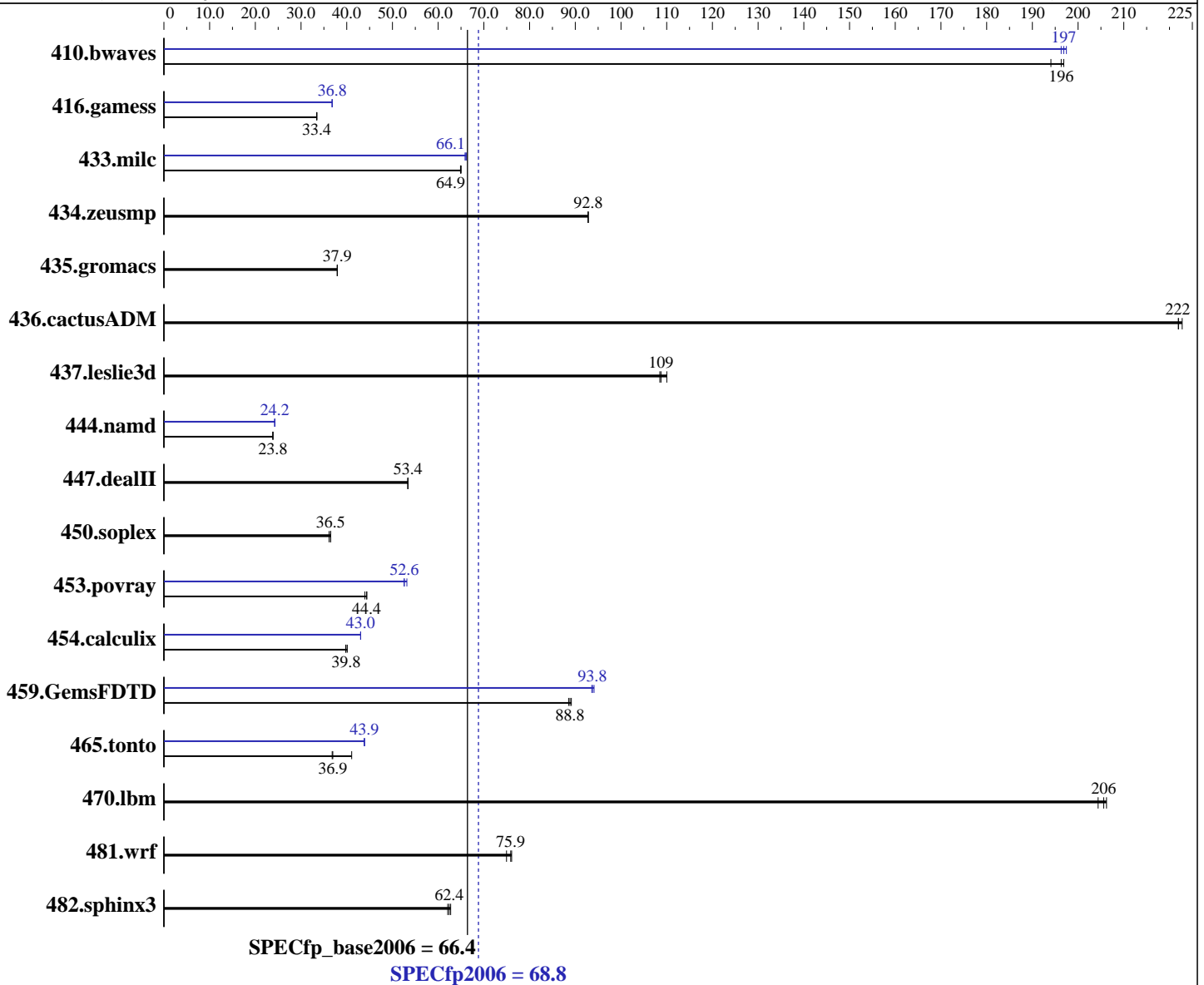
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Feb-2012

Hardware Availability: Jun-2012

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-2637  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 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: 5 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	70.0	194	<b>69.2</b>	<b>196</b>	69.0	197	69.2	196	<b>69.0</b>	<b>197</b>	68.8	197
416.gamess	585	33.5	<b>585</b>	<b>33.4</b>	586	33.4	<b>532</b>	<b>36.8</b>	532	36.8	532	36.8
433.milc	<b>141</b>	<b>64.9</b>	141	64.9	141	65.0	139	66.1	139	65.9	<b>139</b>	<b>66.1</b>
434.zeusmp	<b>98.0</b>	<b>92.8</b>	98.0	92.8	98.0	92.8	<b>98.0</b>	<b>92.8</b>	98.0	92.8	98.0	92.8
435.gromacs	<b>188</b>	<b>37.9</b>	188	37.9	188	38.0	<b>188</b>	<b>37.9</b>	188	37.9	188	38.0
436.cactusADM	53.6	223	<b>53.8</b>	<b>222</b>	53.8	222	53.6	223	<b>53.8</b>	<b>222</b>	53.8	222
437.leslie3d	85.4	110	86.6	108	<b>86.4</b>	<b>109</b>	85.4	110	86.6	108	<b>86.4</b>	<b>109</b>
444.namd	336	23.8	<b>336</b>	<b>23.8</b>	336	23.8	<b>331</b>	<b>24.2</b>	331	24.2	331	24.3
447.dealII	214	53.4	214	53.4	<b>214</b>	<b>53.4</b>	214	53.4	214	53.4	<b>214</b>	<b>53.4</b>
450.soplex	231	36.1	229	36.5	<b>229</b>	<b>36.5</b>	231	36.1	229	36.5	<b>229</b>	<b>36.5</b>
453.povray	121	44.0	<b>120</b>	<b>44.4</b>	120	44.4	101	52.6	<b>101</b>	<b>52.6</b>	100	53.2
454.calculix	207	39.8	206	40.1	<b>207</b>	<b>39.8</b>	192	43.0	<b>192</b>	<b>43.0</b>	192	43.0
459.GemsFDTD	<b>119</b>	<b>88.8</b>	120	88.5	119	89.1	113	93.6	113	94.1	<b>113</b>	<b>93.8</b>
465.tonto	<b>266</b>	<b>36.9</b>	240	41.1	267	36.8	225	43.8	224	43.9	<b>224</b>	<b>43.9</b>
470.lbm	66.6	206	67.2	204	<b>66.8</b>	<b>206</b>	66.6	206	67.2	204	<b>66.8</b>	<b>206</b>
481.wrf	147	76.1	<b>147</b>	<b>75.9</b>	149	75.0	147	76.1	<b>147</b>	<b>75.9</b>	149	75.0
482.sphinx3	<b>312</b>	<b>62.4</b>	311	62.7	314	62.1	<b>312</b>	<b>62.4</b>	311	62.7	314	62.1

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 = "4"
```

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: `basepeak = yes`

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

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