



# SPEC® CFP2006 Result

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## Fujitsu

SPECfp®2006 = **85.4**

PRIMERGY RX300 S7, Intel Xeon E5-2667, 2.90 GHz

SPECfp\_base2006 = **81.0**

CPU2006 license: 19

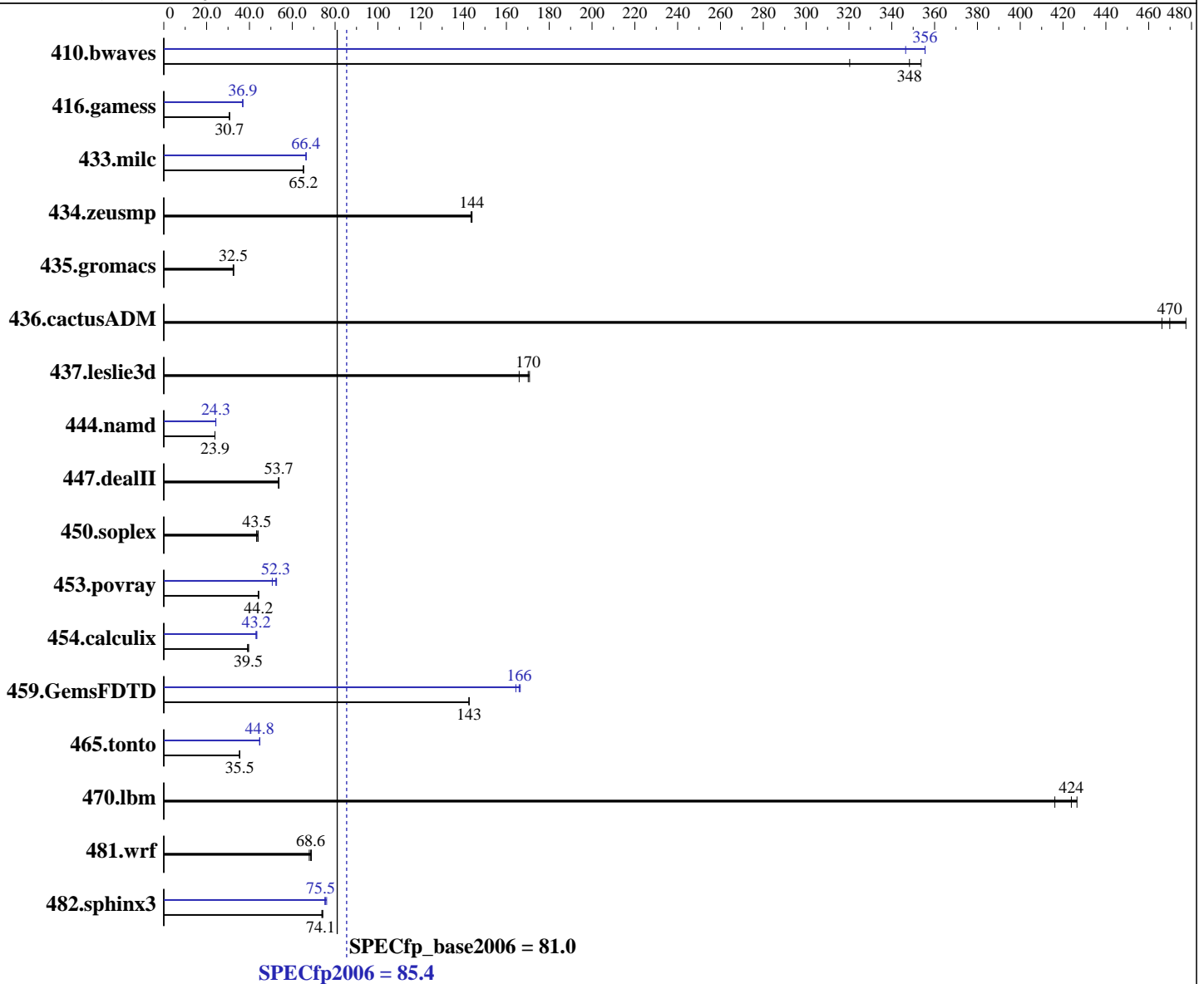
Test date: Mar-2012

Test sponsor: Fujitsu

Hardware Availability: Mar-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: 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: 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	42.4	320	38.4	354	<b>39.0</b>	<b>348</b>	39.2	346	38.2	356	<b>38.2</b>	<b>356</b>
416.gamess	<b>638</b>	<b>30.7</b>	637	30.7	640	30.6	531	36.9	531	36.9	<b>531</b>	<b>36.9</b>
433.milc	<b>141</b>	<b>65.2</b>	141	65.3	141	65.2	<b>138</b>	<b>66.4</b>	138	66.5	138	66.4
434.zeusmp	63.4	143	<b>63.2</b>	<b>144</b>	63.2	144	63.4	143	<b>63.2</b>	<b>144</b>	63.2	144
435.gromacs	<b>220</b>	<b>32.5</b>	218	32.7	221	32.4	<b>220</b>	<b>32.5</b>	218	32.7	221	32.4
436.cactusADM	25.0	477	<b>25.4</b>	<b>470</b>	25.6	466	25.0	477	<b>25.4</b>	<b>470</b>	25.6	466
437.leslie3d	55.0	171	56.6	166	<b>55.2</b>	<b>170</b>	55.0	171	56.6	166	<b>55.2</b>	<b>170</b>
444.namd	336	23.9	336	23.9	<b>336</b>	<b>23.9</b>	330	24.3	330	24.3	<b>330</b>	<b>24.3</b>
447.dealII	<b>213</b>	<b>53.7</b>	213	53.8	214	53.5	<b>213</b>	<b>53.7</b>	213	53.8	214	53.5
450.soplex	192	43.3	<b>192</b>	<b>43.5</b>	189	44.1	192	43.3	<b>192</b>	<b>43.5</b>	189	44.1
453.povray	121	44.1	120	44.3	<b>120</b>	<b>44.2</b>	105	50.7	101	52.7	<b>102</b>	<b>52.3</b>
454.calculix	208	39.6	211	39.1	<b>209</b>	<b>39.5</b>	190	43.5	<b>191</b>	<b>43.2</b>	192	43.1
459.GemsFDTD	74.4	143	74.4	143	<b>74.4</b>	<b>143</b>	63.7	166	<b>63.9</b>	<b>166</b>	64.5	164
465.tonto	279	35.3	<b>277</b>	<b>35.5</b>	277	35.5	<b>220</b>	<b>44.8</b>	219	44.9	220	44.7
470.lbm	32.2	427	33.0	416	<b>32.4</b>	<b>424</b>	32.2	427	33.0	416	<b>32.4</b>	<b>424</b>
481.wrf	<b>163</b>	<b>68.6</b>	162	68.9	164	67.9	<b>163</b>	<b>68.6</b>	162	68.9	164	67.9
482.sphinx3	264	73.8	<b>263</b>	<b>74.1</b>	262	74.3	256	76.1	<b>258</b>	<b>75.5</b>	259	75.2

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  
 Frequency Floor Override = Enable

## 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"

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## General Notes (Continued)

OMP\_NUM\_THREADS = "12"

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

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: -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.dealIII: 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/Fujitsu-Platform.20120320.html>

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