



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

SPECfp<sup>®</sup>2006 = **99.1**

PRIMERGY RX2530 M1, Intel Xeon E5-2623 v3, 3.0 GHz

SPECfp\_base2006 = **95.6**

CPU2006 license: 19

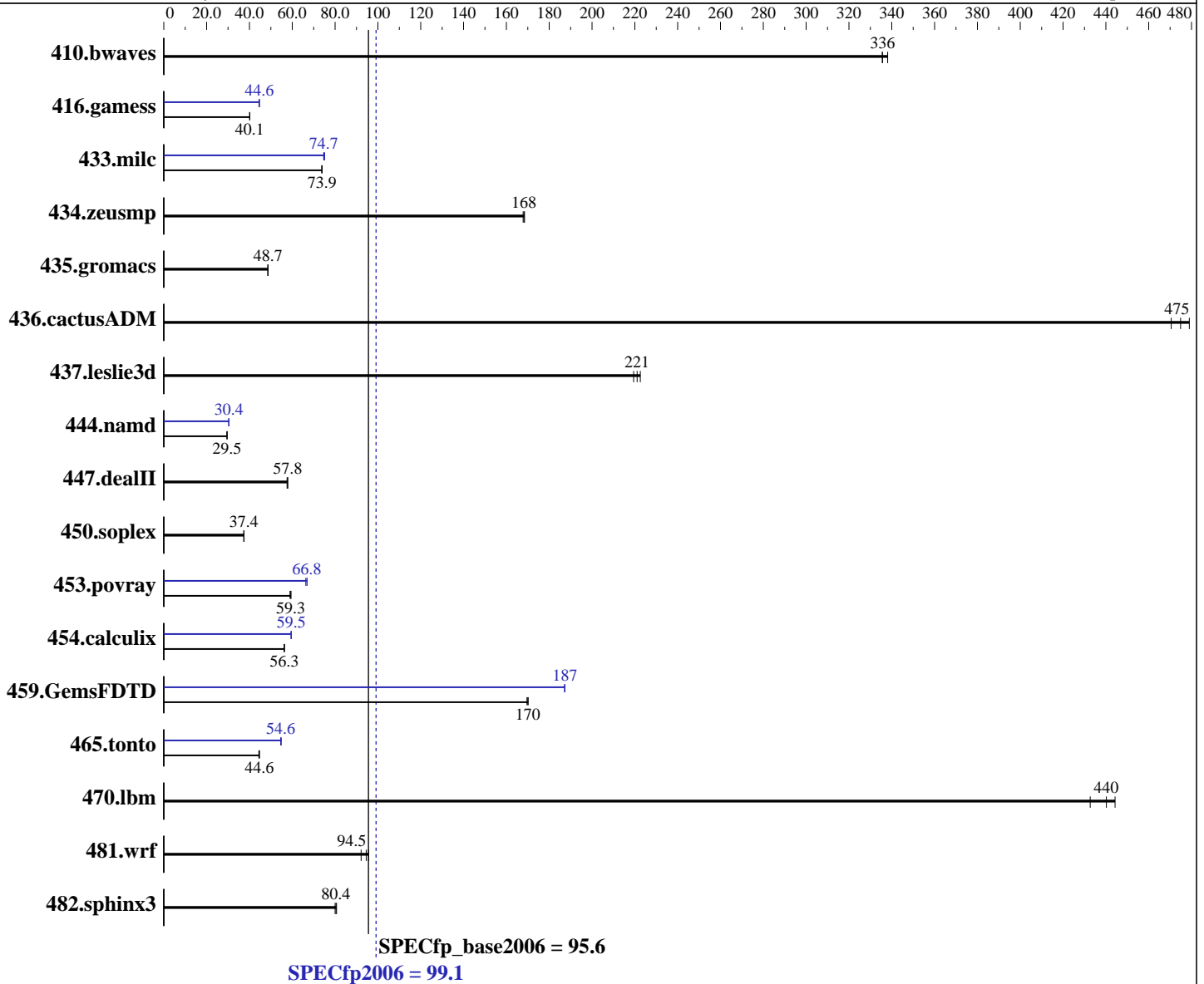
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2015

Hardware Availability: Feb-2015

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Xeon E5-2623 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 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 7.0 (Maipo)  
 Kernel 3.10.0-123.8.1.el7.x86\_64  
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux;  
 Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: xfs

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L3 Cache: 10 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)  
 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	40.5	336	40.2	338	<b>40.5</b>	<b>336</b>	40.5	336	40.2	338	<b>40.5</b>	<b>336</b>
416.gamess	<b>488</b>	<b>40.1</b>	487	40.2	488	40.1	438	44.7	<b>439</b>	<b>44.6</b>	441	44.4
433.milc	124	74.0	<b>124</b>	<b>73.9</b>	124	73.7	123	74.7	<b>123</b>	<b>74.7</b>	122	75.1
434.zeusmp	54.0	168	54.2	168	<b>54.1</b>	<b>168</b>	54.0	168	54.2	168	<b>54.1</b>	<b>168</b>
435.gromacs	147	48.7	<b>147</b>	<b>48.7</b>	147	48.6	147	48.7	<b>147</b>	<b>48.7</b>	147	48.6
436.cactusADM	24.9	479	25.4	471	<b>25.2</b>	<b>475</b>	24.9	479	25.4	471	<b>25.2</b>	<b>475</b>
437.leslie3d	<b>42.5</b>	<b>221</b>	42.2	223	42.8	219	<b>42.5</b>	<b>221</b>	42.2	223	42.8	219
444.namd	271	29.6	<b>272</b>	<b>29.5</b>	272	29.5	<b>264</b>	<b>30.4</b>	264	30.4	264	30.4
447.dealII	199	57.6	198	57.9	<b>198</b>	<b>57.8</b>	199	57.6	198	57.9	<b>198</b>	<b>57.8</b>
450.soplex	<b>223</b>	<b>37.4</b>	223	37.4	223	37.5	<b>223</b>	<b>37.4</b>	223	37.4	223	37.5
453.povray	90.3	58.9	<b>89.7</b>	<b>59.3</b>	89.6	59.4	<b>79.6</b>	<b>66.8</b>	80.2	66.3	79.5	66.9
454.calculix	<b>147</b>	<b>56.3</b>	147	56.3	147	56.2	138	59.6	139	59.4	<b>139</b>	<b>59.5</b>
459.GemsFDTD	62.6	170	62.4	170	<b>62.4</b>	<b>170</b>	56.7	187	<b>56.6</b>	<b>187</b>	56.6	187
465.tonto	220	44.6	<b>220</b>	<b>44.6</b>	222	44.4	180	54.6	179	54.9	<b>180</b>	<b>54.6</b>
470.lbm	<b>31.2</b>	<b>440</b>	31.8	433	30.9	444	<b>31.2</b>	<b>440</b>	31.8	433	30.9	444
481.wrf	<b>118</b>	<b>94.5</b>	121	92.2	117	95.6	<b>118</b>	<b>94.5</b>	121	92.2	117	95.6
482.sphinx3	242	80.7	<b>242</b>	<b>80.4</b>	244	80.0	242	80.7	<b>242</b>	<b>80.4</b>	244	80.0

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:  
 Energy Performance = Performance  
 Utilization Profile = Unbalanced  
 QPI snoop mode: Home Snoop  
 COD Enable = Disabled, Early Snoop = Disabled  
 CPU C1E Support = Disabled



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## General Notes

Environment variables set by runspec before the start of the run:

KMP\_AFFINITY = "granularity=fine,compact,1,0"

LD\_LIBRARY\_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"

OMP\_NUM\_THREADS = "8"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

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:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch  
-ansi-alias

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

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## Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xCORE-AVX2(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: -xCORE-AVX2(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: basepeak = yes

416.gamess: -xCORE-AVX2(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-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -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-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.html>



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

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml>

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

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