



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp®2006 = 77.6

PRIMERGY RX350 S8, Intel Xeon E5-2640 v2, 2.00 GHz

SPECfp\_base2006 = 74.7

CPU2006 license: 19

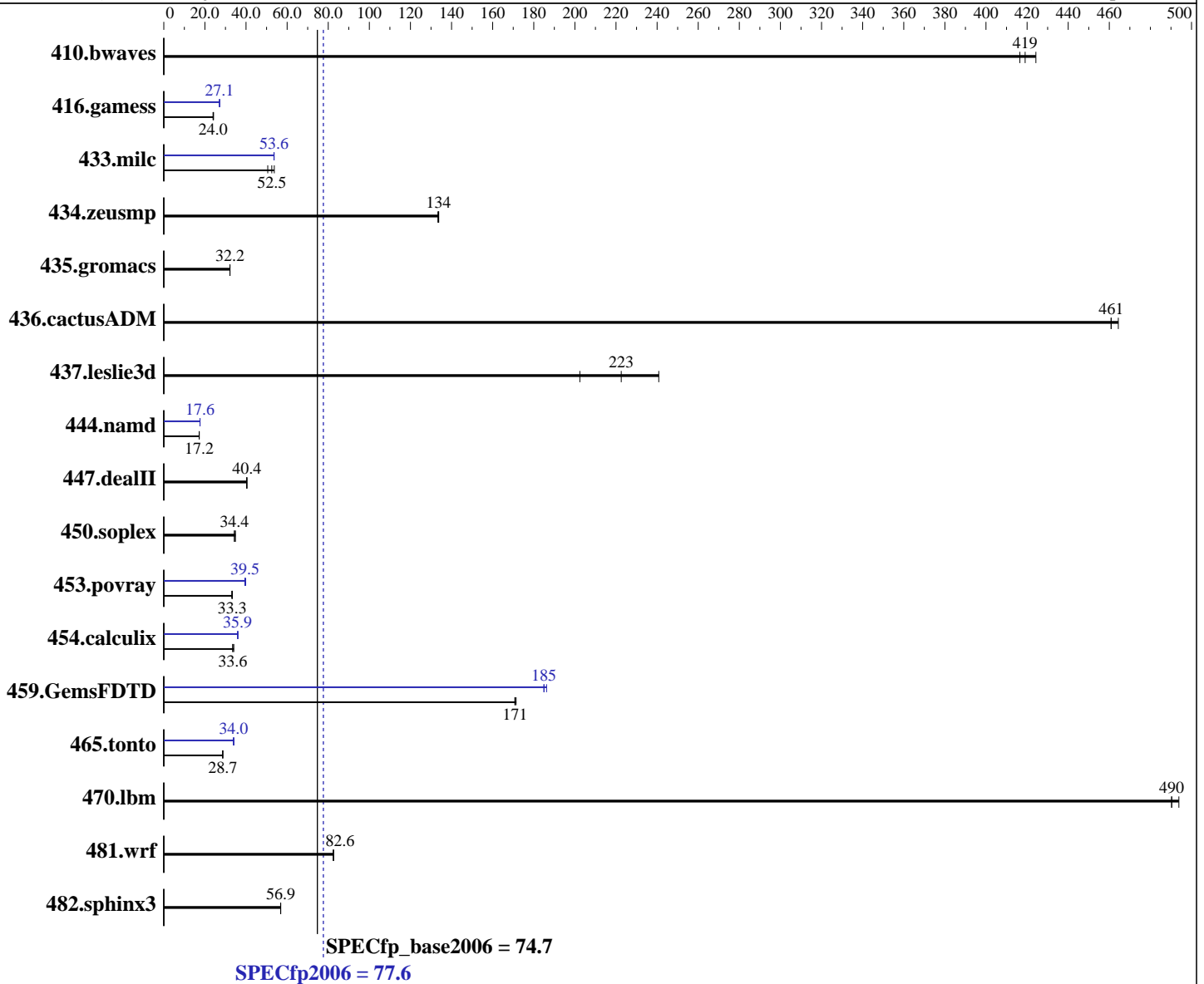
Test date: Sep-2013

Test sponsor: Fujitsu

Hardware Availability: Oct-2013

Tested by: Fujitsu

Software Availability: Sep-2013



**Hardware**

CPU Name: Intel Xeon E5-2640 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
 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

Continued on next page

**Software**

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)  
 2.6.32-358.11.1.el6.x86\_64  
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;  
 Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp2006 = **77.6**

PRIMERGY RX350 S8, Intel Xeon E5-2640 v2, 2.00 GHz

SPECfp\_base2006 = **74.7**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2013

Hardware Availability: Oct-2013

Software Availability: Sep-2013

L3 Cache: 20 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1600 MHz and CL11)  
 Disk Subsystem: 1 x SATA, 450 GB, 15000 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	32.6	416	<b>32.4</b>	<b>419</b>	32.0	424	32.6	416	<b>32.4</b>	<b>419</b>	32.0	424
416.gamess	809	24.2	<b>816</b>	<b>24.0</b>	816	24.0	724	27.0	<b>722</b>	<b>27.1</b>	719	27.2
433.milc	182	50.6	<b>175</b>	<b>52.5</b>	171	53.8	<b>171</b>	<b>53.6</b>	171	53.7	171	53.6
434.zeusmp	68.0	134	<b>68.0</b>	<b>134</b>	68.2	133	68.0	134	<b>68.0</b>	<b>134</b>	68.2	133
435.gromacs	222	32.2	<b>222</b>	<b>32.2</b>	222	32.2	222	32.2	<b>222</b>	<b>32.2</b>	222	32.2
436.cactusADM	25.7	464	<b>25.9</b>	<b>461</b>	25.9	461	25.7	464	<b>25.9</b>	<b>461</b>	25.9	461
437.leslie3d	<b>42.2</b>	<b>223</b>	39.0	241	46.4	202	<b>42.2</b>	<b>223</b>	39.0	241	46.4	202
444.namd	465	17.2	466	17.2	<b>466</b>	<b>17.2</b>	456	17.6	455	17.6	<b>455</b>	<b>17.6</b>
447.dealII	283	40.5	284	40.3	<b>283</b>	<b>40.4</b>	283	40.5	284	40.3	<b>283</b>	<b>40.4</b>
450.soplex	<b>243</b>	<b>34.4</b>	239	34.9	243	34.4	<b>243</b>	<b>34.4</b>	239	34.9	243	34.4
453.povray	<b>160</b>	<b>33.3</b>	159	33.4	161	33.0	<b>135</b>	<b>39.5</b>	135	39.5	134	39.8
454.calculix	<b>246</b>	<b>33.6</b>	242	34.1	246	33.5	<b>230</b>	<b>35.9</b>	228	36.1	230	35.9
459.GemsFDTD	<b>62.1</b>	<b>171</b>	61.9	171	62.1	171	57.0	186	<b>57.4</b>	<b>185</b>	57.4	185
465.tonto	342	28.7	344	28.6	<b>343</b>	<b>28.7</b>	288	34.1	<b>290</b>	<b>34.0</b>	291	33.8
470.lbm	<b>28.0</b>	<b>490</b>	28.0	490	27.8	494	<b>28.0</b>	<b>490</b>	28.0	490	27.8	494
481.wrf	<b>135</b>	<b>82.6</b>	135	82.6	135	82.4	<b>135</b>	<b>82.6</b>	135	82.6	135	82.4
482.sphinx3	343	56.8	343	56.9	<b>343</b>	<b>56.9</b>	343	56.8	343	56.9	<b>343</b>	<b>56.9</b>

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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 77.6**

PRIMERGY RX350 S8, Intel Xeon E5-2640 v2, 2.00 GHz

**SPECfp\_base2006 = 74.7**

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** Sep-2013

**Hardware Availability:** Oct-2013

**Software Availability:** Sep-2013

## General Notes

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

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

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

OMP\_NUM\_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

This result was measured on the PRIMERGY RX350 S8. The PRIMERGY RX350 S8 and the PRIMERGY TX300 S8 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.deallI: -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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 77.6

PRIMERGY RX350 S8, Intel Xeon E5-2640 v2, 2.00 GHz

SPECfp\_base2006 = 74.7

CPU2006 license: 19

Test date: Sep-2013

Test sponsor: Fujitsu

Hardware Availability: Oct-2013

Tested by: Fujitsu

Software Availability: Sep-2013

## Base Portability Flags (Continued)

482.sphinx3: -DSPEC\_CPU\_LP64

## Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xAVX -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: -xAVX(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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 77.6**

PRIMERGY RX350 S8, Intel Xeon E5-2640 v2, 2.00 GHz

**SPECfp\_base2006 = 74.7**

**CPU2006 license:** 19

**Test date:** Sep-2013

**Test sponsor:** Fujitsu

**Hardware Availability:** Oct-2013

**Tested by:** Fujitsu

**Software Availability:** Sep-2013

## Peak Optimization Flags (Continued)

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

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: basepeak = yes

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-

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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

**SPECfp2006 = 77.6**

PRIMERGY RX350 S8, Intel Xeon E5-2640 v2, 2.00 GHz

**SPECfp\_base2006 = 74.7**

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** Sep-2013

**Hardware Availability:** Oct-2013

**Software Availability:** Sep-2013

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20130924.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20130924.xml>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 18:30:43 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 22 October 2013.