



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp<sup>®</sup>\_rate2006 = 438

PRIMERGY RX2560 M1, Intel Xeon E5-2637 v3, 3.5 GHz

SPECfp\_rate\_base2006 = 424

CPU2006 license: 19

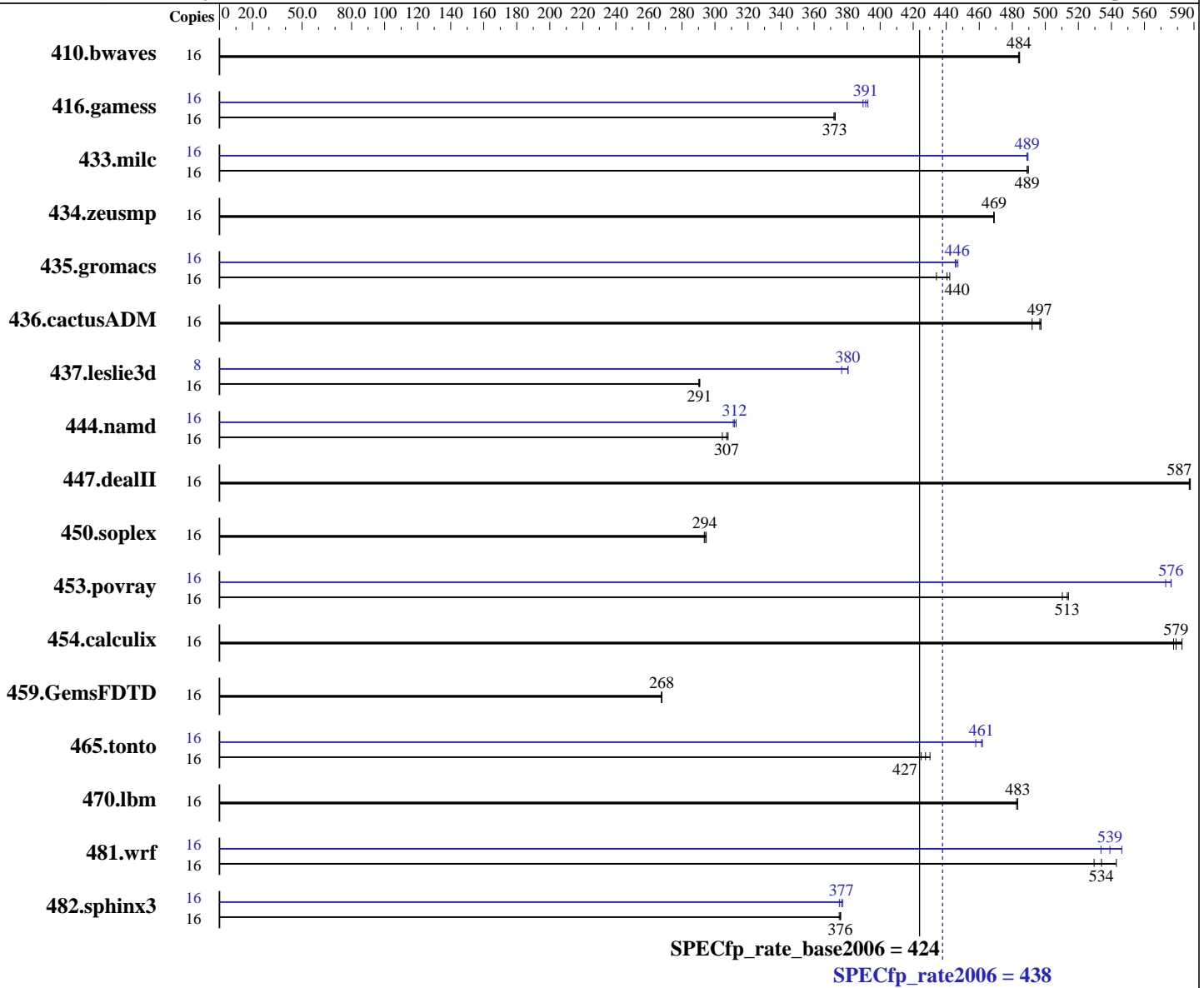
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2015

Hardware Availability: Apr-2015

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Xeon E5-2637 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 3500  
 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

Continued on next page

### Software

Operating System: Red Hat Enterprise Linux Server release 7.1 (Maipo)  
 Kernel 3.10.0-229.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: No  
 File System: xfs

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp\_rate2006 = 438

PRIMERGY RX2560 M1, Intel Xeon E5-2637 v3, 3.5 GHz

SPECfp\_rate\_base2006 = 424

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2015

Hardware Availability: Apr-2015

Software Availability: Sep-2014

L3 Cache: 15 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)  
 Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
 Other Hardware: None

System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: None

## Results Table

| Benchmark     | Base   |            |            |            |            |            |            | Peak   |            |            |            |            |            |            |
|---------------|--------|------------|------------|------------|------------|------------|------------|--------|------------|------------|------------|------------|------------|------------|
|               | Copies | Seconds    | Ratio      | Seconds    | Ratio      | Seconds    | Ratio      | Copies | Seconds    | Ratio      | Seconds    | Ratio      | Seconds    | Ratio      |
| 410.bwaves    | 16     | <b>449</b> | <b>484</b> | 449        | 484        | 449        | 484        | 16     | <b>449</b> | <b>484</b> | 449        | 484        | 449        | 484        |
| 416.gamess    | 16     | 840        | 373        | <b>841</b> | <b>373</b> | 842        | 372        | 16     | 798        | 393        | 804        | 390        | <b>801</b> | <b>391</b> |
| 433.milc      | 16     | 300        | 489        | 300        | 490        | <b>300</b> | <b>489</b> | 16     | 300        | 490        | 300        | 489        | <b>300</b> | <b>489</b> |
| 434.zeusmp    | 16     | 310        | 469        | <b>310</b> | <b>469</b> | 311        | 469        | 16     | 310        | 469        | <b>310</b> | <b>469</b> | 311        | 469        |
| 435.gromacs   | 16     | 258        | 442        | <b>259</b> | <b>440</b> | 263        | 434        | 16     | 256        | 446        | 256        | 447        | <b>256</b> | <b>446</b> |
| 436.cactusADM | 16     | <b>385</b> | <b>497</b> | 384        | 497        | 389        | 492        | 16     | <b>385</b> | <b>497</b> | 384        | 497        | 389        | 492        |
| 437.leslie3d  | 16     | 517        | 291        | <b>517</b> | <b>291</b> | 518        | 290        | 8      | 198        | 381        | <b>198</b> | <b>380</b> | 200        | 377        |
| 444.namd      | 16     | 417        | 308        | <b>418</b> | <b>307</b> | 421        | 304        | 16     | <b>411</b> | <b>312</b> | 410        | 313        | 412        | 311        |
| 447.dealII    | 16     | <b>312</b> | <b>587</b> | 312        | 587        | 311        | 588        | 16     | <b>312</b> | <b>587</b> | 312        | 587        | 311        | 588        |
| 450.soplex    | 16     | 453        | 295        | 455        | 294        | <b>454</b> | <b>294</b> | 16     | 453        | 295        | 455        | 294        | <b>454</b> | <b>294</b> |
| 453.povray    | 16     | 167        | 510        | <b>166</b> | <b>513</b> | 166        | 514        | 16     | <b>148</b> | <b>576</b> | 148        | 576        | 149        | 573        |
| 454.calculix  | 16     | 227        | 583        | <b>228</b> | <b>579</b> | 229        | 578        | 16     | 227        | 583        | <b>228</b> | <b>579</b> | 229        | 578        |
| 459.GemsFDTD  | 16     | 634        | 268        | 634        | 268        | <b>634</b> | <b>268</b> | 16     | 634        | 268        | 634        | 268        | <b>634</b> | <b>268</b> |
| 465.tonto     | 16     | <b>368</b> | <b>427</b> | 366        | 430        | 371        | 425        | 16     | 344        | 458        | 341        | 462        | <b>341</b> | <b>461</b> |
| 470.lbm       | 16     | 455        | 483        | <b>455</b> | <b>483</b> | 456        | 483        | 16     | 455        | 483        | <b>455</b> | <b>483</b> | 456        | 483        |
| 481.wrf       | 16     | 338        | 530        | <b>335</b> | <b>534</b> | 329        | 543        | 16     | <b>332</b> | <b>539</b> | 335        | 534        | 327        | 546        |
| 482.sphinx3   | 16     | <b>830</b> | <b>376</b> | 831        | 375        | 829        | 376        | 16     | <b>828</b> | <b>377</b> | 831        | 375        | 826        | 377        |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

BIOS configuration:  
Energy Performance = Performance  
Utilization Profile = Unbalanced

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp\_rate2006 = 438

PRIMERGY RX2560 M1, Intel Xeon E5-2637 v3, 3.5 GHz

SPECfp\_rate\_base2006 = 424

CPU2006 license: 19  
Test sponsor: Fujitsu  
Tested by: Fujitsu

Test date: May-2015  
Hardware Availability: Apr-2015  
Software Availability: Sep-2014

### Platform Notes (Continued)

QPI snoop mode: Early Snoop  
COD Enable = Disabled, Early Snoop = Enabled  
CPU C1E Support = Disabled

### General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/transparent\_hugepage/enabled  
Filesystem page cache cleared with:  
echo 1> /proc/sys/vm/drop\_caches  
runspec command invoked through numactl i.e.:  
numactl --interleave=all runspec <etc>

This result was measured on the PRIMERGY RX2560 M1. The PRIMERGY RX2560 M1 and the PRIMERGY TX2560 M1 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Fujitsu

SPECfp\_rate2006 = 438

PRIMERGY RX2560 M1, Intel Xeon E5-2637 v3, 3.5 GHz

SPECfp\_rate\_base2006 = 424

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2015

Hardware Availability: Apr-2015

Software Availability: Sep-2014

## Base Portability Flags (Continued)

```

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:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

C++ benchmarks:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

Fortran benchmarks:

```

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

```

Benchmarks using both Fortran and C:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

## 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

```



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp\_rate2006 = 438**

PRIMERGY RX2560 M1, Intel Xeon E5-2637 v3, 3.5 GHz

**SPECfp\_rate\_base2006 = 424**

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** May-2015

**Hardware Availability:** Apr-2015

**Software Availability:** Sep-2014

## 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)  
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)  
-auto-ilp32

470.lbm: basepeak = yes

482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3  
-unroll2

C++ benchmarks:

444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2)  
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2) -fno-alias  
-auto-ilp32

447.dealIII: 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)  
-opt-mem-layout-trans=3(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

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) -unroll4  
-auto -inline-calloc -opt-malloc-options=3

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp\_rate2006 = 438**

PRIMERGY RX2560 M1, Intel Xeon E5-2637 v3, 3.5 GHz

**SPECfp\_rate\_base2006 = 424**

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** May-2015

**Hardware Availability:** Apr-2015

**Software Availability:** Sep-2014

## Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2)  
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32

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>

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>

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 Tue Jun 2 13:47:25 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 2 June 2015.