



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

### SPECfp<sup>®</sup>\_rate2006 = 589

PRIMERGY RX2560 M1, Intel Xeon E5-2643 v3, 3.4 GHz

### SPECfp\_rate\_base2006 = 573

CPU2006 license: 19

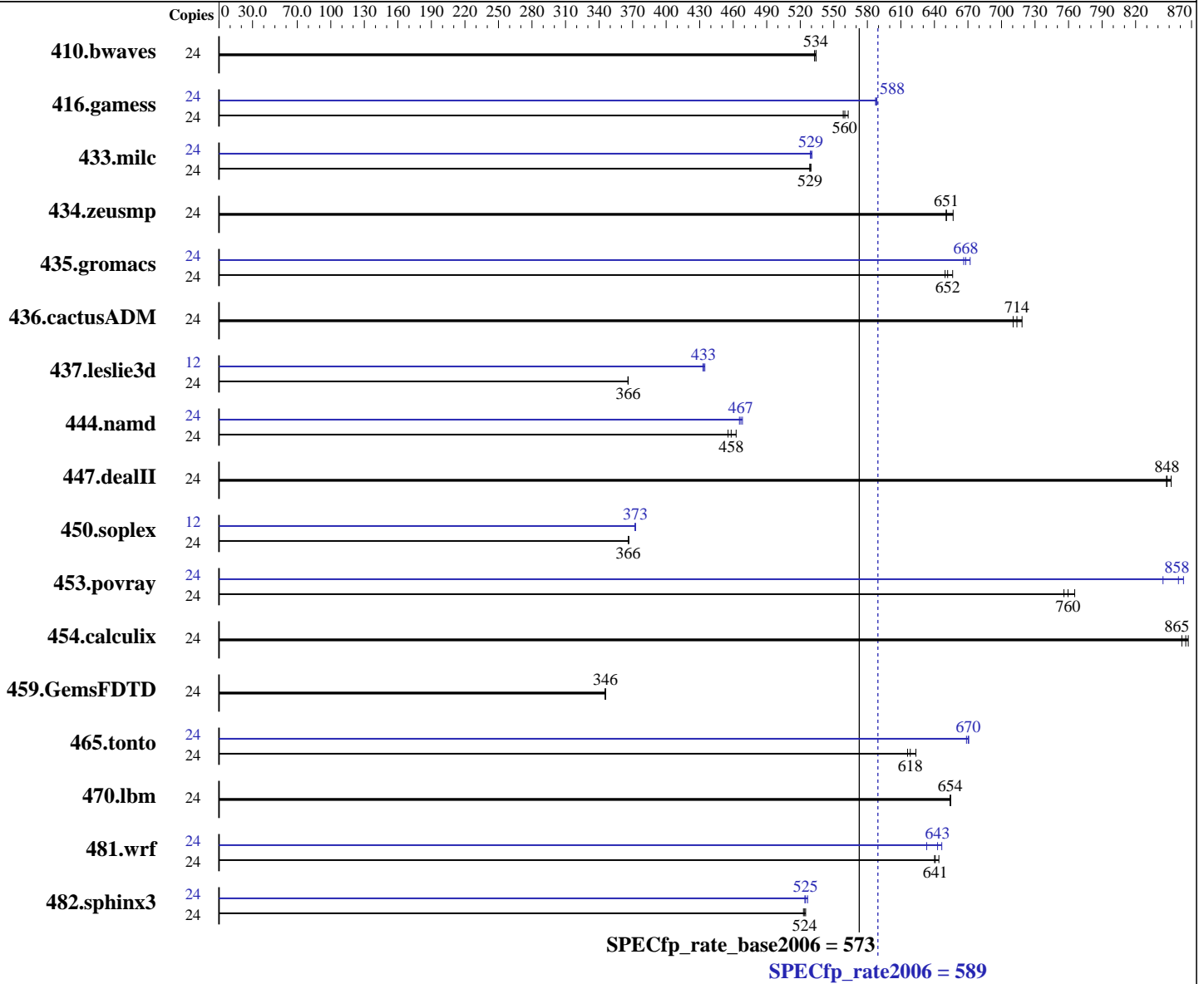
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2015

Hardware Availability: Apr-2015

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Xeon E5-2643 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 3400  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 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 = **589**

PRIMERGY RX2560 M1, Intel Xeon E5-2643 v3, 3.4 GHz

SPECfp\_rate\_base2006 = **573**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2015

Hardware Availability: Apr-2015

Software Availability: Sep-2014

L3 Cache: 20 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	24	<b>611</b>	<b>534</b>	612	533	611	534	24	<b>611</b>	<b>534</b>	612	533	611	534
416.gamess	24	835	563	<b>839</b>	<b>560</b>	842	558	24	798	589	800	587	<b>799</b>	<b>588</b>
433.milc	24	416	530	<b>417</b>	<b>529</b>	417	528	24	415	530	<b>416</b>	<b>529</b>	417	529
434.zeusmp	24	333	657	336	650	<b>336</b>	<b>651</b>	24	333	657	336	650	<b>336</b>	<b>651</b>
435.gromacs	24	261	656	264	650	<b>263</b>	<b>652</b>	24	<b>257</b>	<b>668</b>	257	666	255	672
436.cactusADM	24	399	718	<b>402</b>	<b>714</b>	404	710	24	399	718	<b>402</b>	<b>714</b>	404	710
437.leslie3d	24	<b>616</b>	<b>366</b>	617	366	616	366	12	261	433	260	435	<b>260</b>	<b>433</b>
444.namd	24	416	463	423	455	<b>420</b>	<b>458</b>	24	<b>412</b>	<b>467</b>	413	466	411	468
447.dealII	24	324	848	<b>324</b>	<b>848</b>	322	852	24	324	848	<b>324</b>	<b>848</b>	322	852
450.soplex	24	546	367	<b>547</b>	<b>366</b>	547	366	12	269	372	269	373	<b>269</b>	<b>373</b>
453.povray	24	<b>168</b>	<b>760</b>	167	766	169	756	24	<b>149</b>	<b>858</b>	148	863	151	845
454.calculix	24	<b>229</b>	<b>865</b>	228	867	230	861	24	<b>229</b>	<b>865</b>	228	867	230	861
459.GemsFDTD	24	736	346	737	345	<b>737</b>	<b>346</b>	24	736	346	737	345	<b>737</b>	<b>346</b>
465.tonto	24	379	623	<b>382</b>	<b>618</b>	383	616	24	352	671	<b>352</b>	<b>670</b>	353	669
470.lbm	24	504	655	<b>504</b>	<b>654</b>	504	654	24	504	655	<b>504</b>	<b>654</b>	504	654
481.wrf	24	<b>418</b>	<b>641</b>	416	644	419	640	24	423	633	415	647	<b>417</b>	<b>643</b>
482.sphinx3	24	895	523	<b>893</b>	<b>524</b>	891	525	24	<b>891</b>	<b>525</b>	892	524	888	527

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 = 589

PRIMERGY RX2560 M1, Intel Xeon E5-2643 v3, 3.4 GHz

SPECfp\_rate\_base2006 = 573

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-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

Standard Performance Evaluation Corporation

[info@spec.org](mailto:info@spec.org)

<http://www.spec.org/>

Page 3



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp\_rate2006 = 589**

PRIMERGY RX2560 M1, Intel Xeon E5-2643 v3, 3.4 GHz

**SPECfp\_rate\_base2006 = 573**

**CPU2006 license:** 19

**Test date:** Apr-2015

**Test sponsor:** Fujitsu

**Hardware Availability:** Apr-2015

**Tested by:** Fujitsu

**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 (except as noted below):

```

icpc -m64

```

```

450.soplex: icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

```

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 = 589**

PRIMERGY RX2560 M1, Intel Xeon E5-2643 v3, 3.4 GHz

**SPECfp\_rate\_base2006 = 573**

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** Apr-2015

**Hardware Availability:** Apr-2015

**Software Availability:** Sep-2014

## Peak 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
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

```

## 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.dealII: basepeak = yes

450.soplex: -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-malloc-options=3

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

```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp\_rate2006 = 589**

PRIMERGY RX2560 M1, Intel Xeon E5-2643 v3, 3.4 GHz

**SPECfp\_rate\_base2006 = 573**

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** Apr-2015

**Hardware Availability:** Apr-2015

**Software Availability:** Sep-2014

## Peak Optimization Flags (Continued)

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

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 CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Fujitsu

SPECfp\_rate2006 = 589

PRIMERGY RX2560 M1, Intel Xeon E5-2643 v3, 3.4 GHz

SPECfp\_rate\_base2006 = 573

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2015

Hardware Availability: Apr-2015

Software Availability: Sep-2014

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 May 19 18:16:44 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 19 May 2015.