



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4890 v2, 2.80 GHz

SPECfp®\_rate2006 = 881

SPECfp\_rate\_base2006 = 860

CPU2006 license: 19

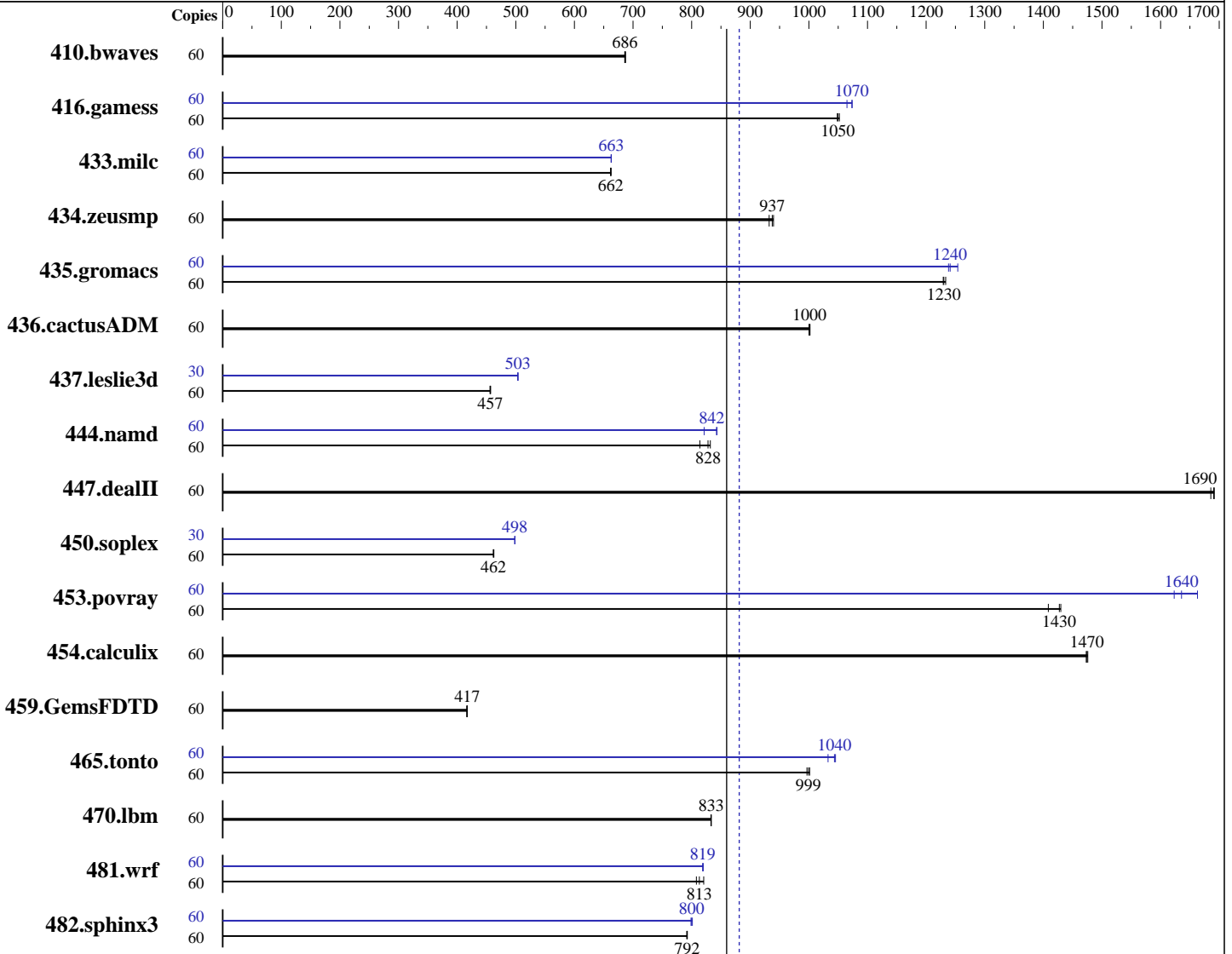
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2014

Hardware Availability: Jun-2014

Software Availability: Sep-2013



SPECfp\_rate\_base2006 = 860

SPECfp\_rate2006 = 881

### Hardware

CPU Name: Intel Xeon E7-4890 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 30 cores, 2 chips, 15 cores/chip, 2 threads/core  
 CPU(s) orderable: 2,4 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 6.5 (Santiago)  
 2.6.32-431.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: No  
 File System: ext4

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4890 v2, 2.80 GHz

SPECfp\_rate2006 = **881**

SPECfp\_rate\_base2006 = **860**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2014

Hardware Availability: Jun-2014

Software Availability: Sep-2013

L3 Cache: 37.5 MB I+D on chip per chip  
Other Cache: None  
Memory: 512 GB (32 x 16 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL9)  
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
Other Hardware: None

System State: Run level 5 (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	60	<b>1188</b>	<b>686</b>	1186	687	1189	686	60	<b>1188</b>	<b>686</b>	1186	687	1189	686		
416.gamess	60	1117	1050	1120	1050	<b>1119</b>	<b>1050</b>	60	1103	1060	<b>1095</b>	<b>1070</b>	1094	1070		
433.milc	60	<b>832</b>	<b>662</b>	832	662	831	663	60	831	663	831	663	<b>831</b>	<b>663</b>		
434.zeusmp	60	586	932	<b>582</b>	<b>937</b>	581	940	60	586	932	<b>582</b>	<b>937</b>	581	940		
435.gromacs	60	347	1230	<b>348</b>	<b>1230</b>	349	1230	60	346	1240	342	1250	<b>345</b>	<b>1240</b>		
436.cactusADM	60	<b>716</b>	<b>1000</b>	717	1000	716	1000	60	<b>716</b>	<b>1000</b>	717	1000	716	1000		
437.leslie3d	60	<b>1235</b>	<b>457</b>	1237	456	1234	457	30	560	503	<b>560</b>	<b>503</b>	560	504		
444.namd	60	578	832	<b>581</b>	<b>828</b>	591	814	60	<b>571</b>	<b>842</b>	571	843	586	821		
447.dealII	60	407	1690	<b>406</b>	<b>1690</b>	406	1690	60	407	1690	<b>406</b>	<b>1690</b>	406	1690		
450.soplex	60	<b>1083</b>	<b>462</b>	1084	462	1082	463	30	<b>502</b>	<b>498</b>	502	499	502	498		
453.povray	60	227	1410	<b>224</b>	<b>1430</b>	223	1430	60	197	1620	<b>195</b>	<b>1640</b>	192	1660		
454.calculix	60	<b>336</b>	<b>1470</b>	335	1480	336	1470	60	<b>336</b>	<b>1470</b>	335	1480	336	1470		
459.GemsFDTD	60	1530	416	<b>1526</b>	<b>417</b>	1525	417	60	1530	416	<b>1526</b>	<b>417</b>	1525	417		
465.tonto	60	590	1000	<b>591</b>	<b>999</b>	592	997	60	572	1030	<b>566</b>	<b>1040</b>	565	1050		
470.lbm	60	989	833	<b>989</b>	<b>833</b>	990	833	60	989	833	<b>989</b>	<b>833</b>	990	833		
481.wrf	60	817	821	<b>824</b>	<b>813</b>	829	808	60	818	820	818	819	<b>818</b>	<b>819</b>		
482.sphinx3	60	1475	793	1477	792	<b>1476</b>	<b>792</b>	60	<b>1462</b>	<b>800</b>	1459	801	1464	799		

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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4890 v2, 2.80 GHz

SPECfp\_rate2006 = 881

SPECfp\_rate\_base2006 = 860

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

Test date: May-2014  
Hardware Availability: Jun-2014  
Software Availability: Sep-2013

## General Notes

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

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  
Filesystem page cache cleared with:  
echo 1> /proc/sys/vm/drop\_caches  
runspec command invoked through numactl i.e.:  
numactl --interleave=all runspec <etc>  
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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4890 v2, 2.80 GHz

SPECfp\_rate2006 = 881

SPECfp\_rate\_base2006 = 860

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

Test date: May-2014  
Hardware Availability: Jun-2014  
Software Availability: Sep-2013

## Base Optimization Flags

### C benchmarks:

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

### C++ benchmarks:

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

### Fortran benchmarks:

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

### Benchmarks using both Fortran and C:

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

## Peak Compiler Invocation

### C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32

### C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

### Fortran benchmarks:

ifort -m64

### Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## 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.deallI: -DSPEC\_CPU\_LP64  
453.povray: -DSPEC\_CPU\_LP64

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY RX4770 M1, Intel Xeon E7-4890 v2, 2.80 GHz

**SPECfp\_rate2006 = 881**

**SPECfp\_rate\_base2006 = 860**

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

**Test date:** May-2014  
**Hardware Availability:** Jun-2014  
**Software Availability:** Sep-2013

## Peak Portability Flags (Continued)

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

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

470.lbm: basepeak = yes

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

C++ benchmarks:

444.namd: -xAVX(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: -xAVX(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: -xAVX(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: -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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY RX4770 M1, Intel Xeon E7-4890 v2, 2.80 GHz

**SPECfp\_rate2006 = 881**

**SPECfp\_rate\_base2006 = 860**

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** May-2014

**Hardware Availability:** Jun-2014

**Software Availability:** Sep-2013

## Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

465.tonto: -xAVX(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: -xAVX(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: -xAVX -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-ic14.0-official-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.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-revB.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.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 23:39:31 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 18 June 2014.