



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4809 v2, 1.90 GHz

SPECfp<sup>®</sup>\_rate2006 = 595

SPECfp\_rate\_base2006 = 582

CPU2006 license: 19

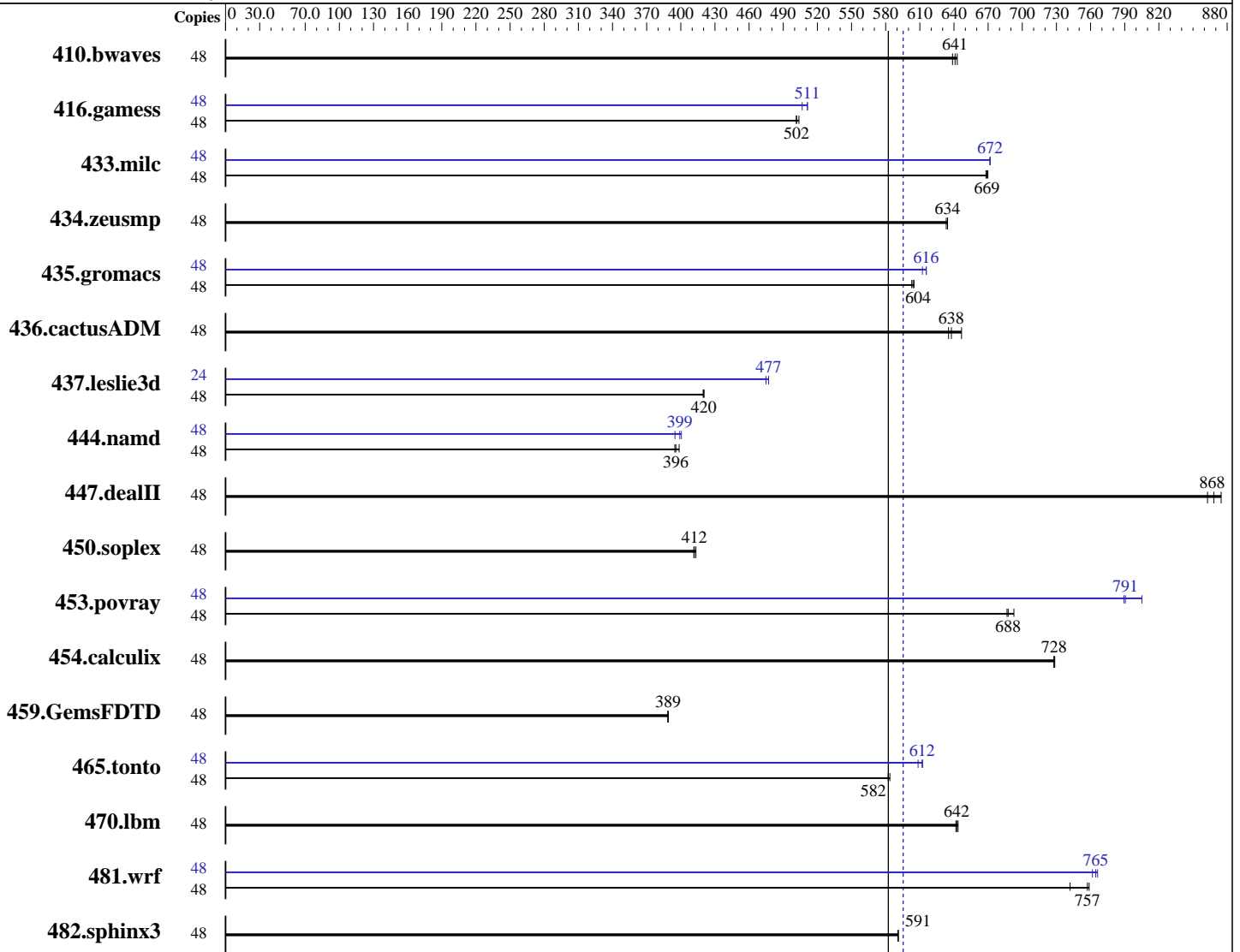
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2015

Hardware Availability: Jun-2014

Software Availability: Jan-2015



SPECfp\_rate\_base2006 = 582

SPECfp\_rate2006 = 595

### Hardware

CPU Name: Intel Xeon E7-4809 v2  
 CPU Characteristics:  
 CPU MHz: 1900  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 4 chips, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 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 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4809 v2, 1.90 GHz

SPECfp\_rate2006 = **595**

SPECfp\_rate\_base2006 = **582**

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

Test date: Mar-2015  
Hardware Availability: Jun-2014  
Software Availability: Jan-2015

L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 1 TB (64 x 16 GB 2Rx4 PC3L-12800R-11, ECC, running at 1066 MHz)  
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	48	<b>1018</b>	<b>641</b>	1015	643	1021	639	48	<b>1018</b>	<b>641</b>	1015	643	1021	639		
416.gamess	48	1866	504	<b>1873</b>	<b>502</b>	1874	501	48	1855	507	1838	511	<b>1838</b>	<b>511</b>		
433.milc	48	660	668	658	670	<b>659</b>	<b>669</b>	48	<b>656</b>	<b>672</b>	656	672	656	672		
434.zeusmp	48	689	634	690	633	<b>689</b>	<b>634</b>	48	689	634	690	633	<b>689</b>	<b>634</b>		
435.gromacs	48	<b>567</b>	<b>604</b>	568	603	567	605	48	560	612	557	616	<b>557</b>	<b>616</b>		
436.cactusADM	48	903	635	887	647	<b>899</b>	<b>638</b>	48	903	635	887	647	<b>899</b>	<b>638</b>		
437.leslie3d	48	1075	420	<b>1074</b>	<b>420</b>	1073	420	24	475	475	473	477	<b>473</b>	<b>477</b>		
444.namd	48	966	399	<b>973</b>	<b>396</b>	975	395	48	961	401	<b>965</b>	<b>399</b>	975	395		
447.dealII	48	636	863	<b>632</b>	<b>868</b>	628	875	48	636	863	<b>632</b>	<b>868</b>	628	875		
450.soplex	48	<b>972</b>	<b>412</b>	973	411	969	413	48	<b>972</b>	<b>412</b>	973	411	969	413		
453.povray	48	369	693	<b>371</b>	<b>688</b>	372	687	48	324	789	317	805	<b>323</b>	<b>791</b>		
454.calculix	48	544	729	544	728	<b>544</b>	<b>728</b>	48	544	729	544	728	<b>544</b>	<b>728</b>		
459.GemsFDTD	48	<b>1310</b>	<b>389</b>	1310	389	1309	389	48	<b>1310</b>	<b>389</b>	1310	389	1309	389		
465.tonto	48	809	584	<b>811</b>	<b>582</b>	811	582	48	<b>772</b>	<b>612</b>	776	608	771	612		
470.lbm	48	1025	644	<b>1027</b>	<b>642</b>	1028	642	48	1025	644	<b>1027</b>	<b>642</b>	1028	642		
481.wrf	48	<b>708</b>	<b>757</b>	707	759	723	742	48	704	762	700	766	<b>701</b>	<b>765</b>		
482.sphinx3	48	1583	591	1584	591	<b>1583</b>	<b>591</b>	48	1583	591	1584	591	<b>1583</b>	<b>591</b>		

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"



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4809 v2, 1.90 GHz

SPECfp\_rate2006 = 595

SPECfp\_rate\_base2006 = 582

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

Test date: Mar-2015  
Hardware Availability: Jun-2014  
Software Availability: Jan-2015

### Platform Notes

BIOS configuration:  
Energy Performance = Performance

### 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 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY RX4770 M1, Intel Xeon E7-4809 v2, 1.90 GHz

**SPECfp\_rate2006 = 595**

**SPECfp\_rate\_base2006 = 582**

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

**Test date:** Mar-2015  
**Hardware Availability:** Jun-2014  
**Software Availability:** Jan-2015

## Base 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  
482.sphinx3: -DSPEC\_CPU\_LP64

## 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:  
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



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4809 v2, 1.90 GHz

SPECfp\_rate2006 = 595

SPECfp\_rate\_base2006 = 582

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

Test date: Mar-2015  
Hardware Availability: Jun-2014  
Software Availability: Jan-2015

## 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: basepeak = yes

### 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.dealII: 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) -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

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4809 v2, 1.90 GHz

SPECfp\_rate2006 = 595

SPECfp\_rate\_base2006 = 582

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

Test date: Mar-2015  
Hardware Availability: Jun-2014  
Software Availability: Jan-2015

## Peak Optimization Flags (Continued)

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-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-ic14.0-official-linux64-revB.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 Mar 24 17:18:22 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 24 March 2015.