



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

Supermicro SuperServer F627R3-R72B+  
(X9DRFR, Intel Xeon E5-2697 v2)

SPECfp<sup>®</sup>\_rate2006 = 687

SPECfp\_rate\_base2006 = 669

CPU2006 license: 001176

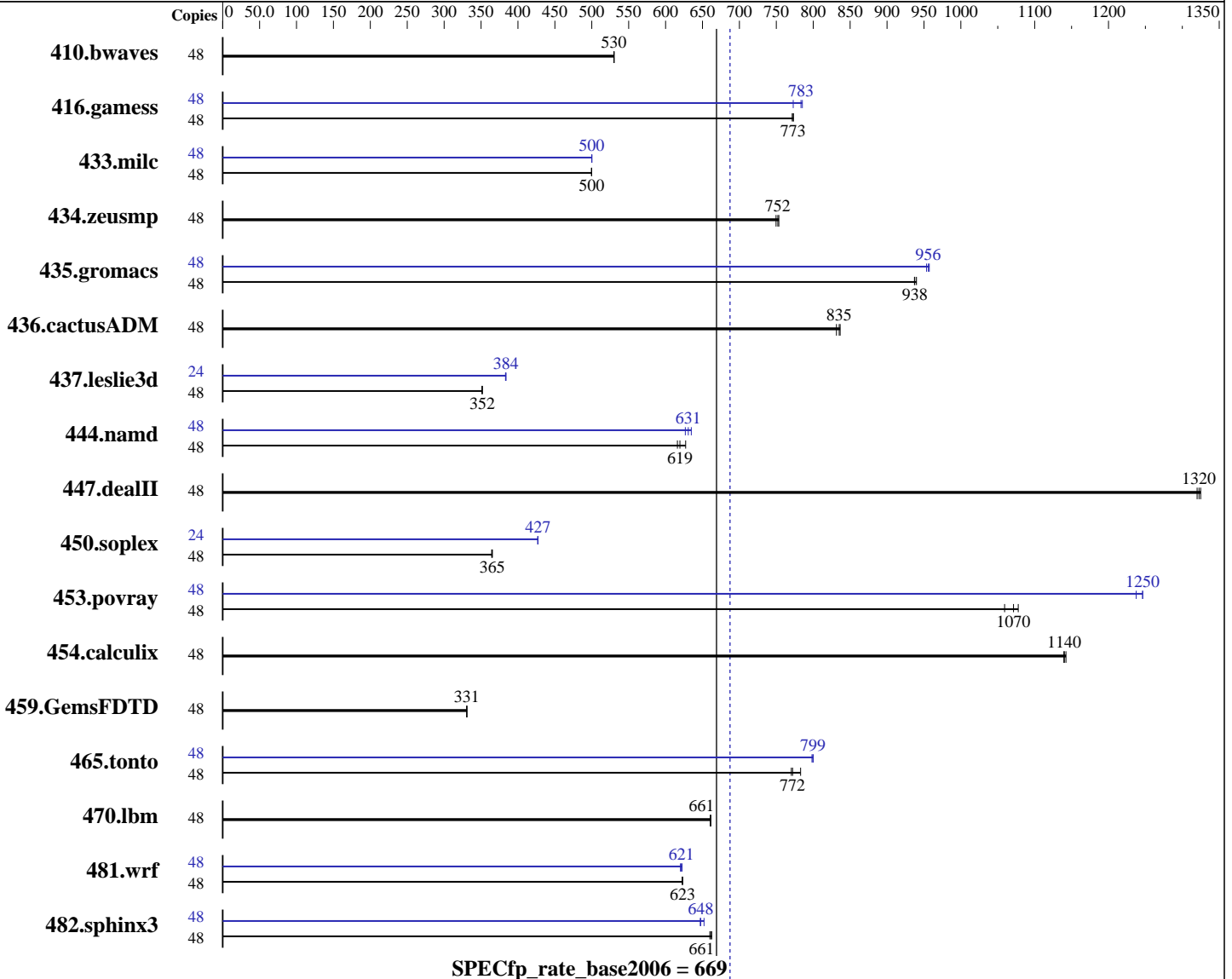
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2013

Hardware Availability: Sep-2013

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2697 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 2700  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 2 chips, 12 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, Kernel 2.6.32-358.18.1.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: No  
 File System: ext4  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

Supermicro SuperServer F627R3-R72B+  
(X9DRFR, Intel Xeon E5-2697 v2)

SPECfp\_rate2006 = **687**

SPECfp\_rate\_base2006 = **669**

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2013

Hardware Availability: Sep-2013

Software Availability: Sep-2013

L3 Cache: 30 MB I+D on chip per chip  
Other Cache: None  
Memory: 128 GB (16 x 8 GB 2Rx8 PC3-14900R-13, ECC)  
Disk Subsystem: 1 x 500 GB SATA II, 7200 RPM  
Other Hardware: None

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	1231	530	1230	530	<u>1231</u>	<u>530</u>	48	1231	530	1230	530	<u>1231</u>	<u>530</u>
416.gamess	48	1218	772	<u>1216</u>	<u>773</u>	1216	773	48	1197	785	1216	773	<u>1200</u>	<u>783</u>
433.milc	48	882	500	881	500	<u>882</u>	<u>500</u>	48	881	500	<u>881</u>	<u>500</u>	881	500
434.zeusmp	48	<u>581</u>	<u>752</u>	580	753	583	750	48	<u>581</u>	<u>752</u>	580	753	583	750
435.gromacs	48	365	940	366	937	<u>366</u>	<u>938</u>	48	358	957	359	954	<u>359</u>	<u>956</u>
436.cactusADM	48	690	831	<u>687</u>	<u>835</u>	686	836	48	690	831	<u>687</u>	<u>835</u>	686	836
437.leslie3d	48	1285	351	<u>1283</u>	<u>352</u>	1283	352	24	588	384	589	383	<u>588</u>	<u>384</u>
444.namd	48	<u>621</u>	<u>619</u>	625	616	614	627	48	606	635	614	627	<u>610</u>	<u>631</u>
447.dealII	48	<u>415</u>	<u>1320</u>	416	1320	414	1320	48	<u>415</u>	<u>1320</u>	416	1320	414	1320
450.soplex	48	1096	365	<u>1096</u>	<u>365</u>	1099	364	24	469	427	<u>469</u>	<u>427</u>	469	427
453.povray	48	237	1080	<u>238</u>	<u>1070</u>	241	1060	48	206	1240	<u>205</u>	<u>1250</u>	205	1250
454.calculix	48	<u>347</u>	<u>1140</u>	347	1140	347	1140	48	<u>347</u>	<u>1140</u>	347	1140	347	1140
459.GemsFDTD	48	1539	331	1540	331	<u>1540</u>	<u>331</u>	48	1539	331	1540	331	<u>1540</u>	<u>331</u>
465.tonto	48	<u>612</u>	<u>772</u>	603	783	613	770	48	590	800	592	798	<u>591</u>	<u>799</u>
470.lbm	48	<u>998</u>	<u>661</u>	998	661	997	661	48	<u>998</u>	<u>661</u>	998	661	997	661
481.wrf	48	860	623	<u>861</u>	<u>623</u>	861	623	48	<u>863</u>	<u>621</u>	865	620	862	622
482.sphinx3	48	<u>1415</u>	<u>661</u>	1412	662	1418	660	48	1446	647	<u>1444</u>	<u>648</u>	1435	652

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

Disable C1E Support, DRAM RAPL Mode, Demand Scrub, Double Refresh.  
Set Package C-state Limit to C0



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

Supermicro SuperServer F627R3-R72B+  
(X9DRFR, Intel Xeon E5-2697 v2)

SPECfp\_rate2006 = 687

SPECfp\_rate\_base2006 = 669

**CPU2006 license:** 001176  
**Test sponsor:** Supermicro  
**Tested by:** Supermicro

**Test date:** Oct-2013  
**Hardware Availability:** Sep-2013  
**Software Availability:** Sep-2013

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/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>

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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

Supermicro SuperServer F627R3-R72B+  
(X9DRFR, Intel Xeon E5-2697 v2)

SPECfp\_rate2006 = 687

SPECfp\_rate\_base2006 = 669

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2013

Hardware Availability: Sep-2013

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

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

Supermicro SuperServer F627R3-R72B+  
(X9DRFR, Intel Xeon E5-2697 v2)

SPECfp\_rate2006 = 687

SPECfp\_rate\_base2006 = 669

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2013

Hardware Availability: Sep-2013

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

## Supermicro

Supermicro SuperServer F627R3-R72B+  
(X9DRFR, Intel Xeon E5-2697 v2)

SPECfp\_rate2006 = 687

SPECfp\_rate\_base2006 = 669

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2013

Hardware Availability: Sep-2013

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-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revD.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/Supermicro-Platform-Settings-V1.2-revD.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 19:55:50 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 25 February 2014.