



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2027GR-TRF
(X9DRG-HF , Intel Xeon E5-2697 v2)

SPECfp®2006 = 103

SPECfp_base2006 = 98.2

CPU2006 license: 001176

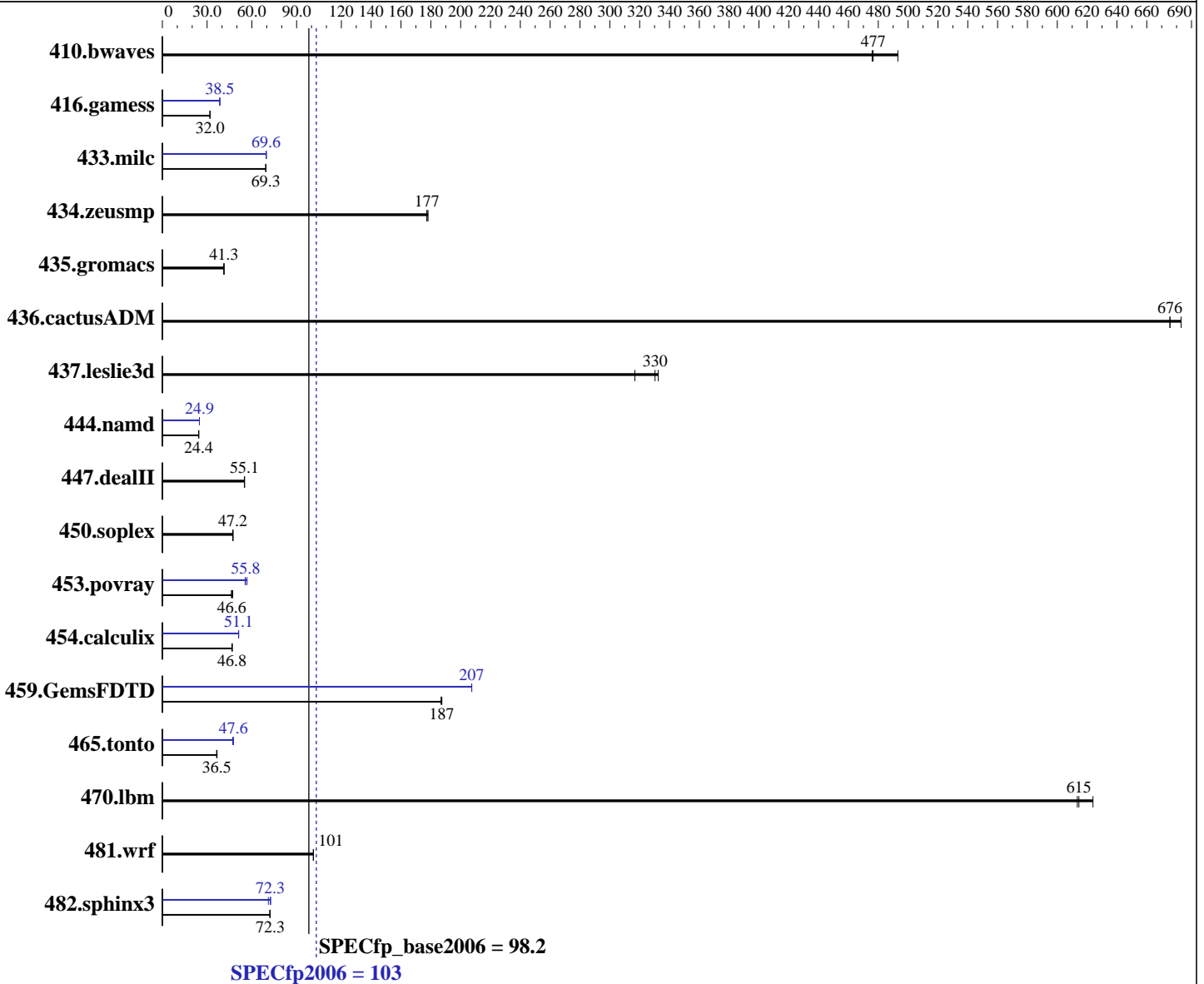
Test sponsor: Supermicro

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
 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: Yes
 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

SuperServer 2027GR-TRF
(X9DRG-HF, Intel Xeon E5-2697 v2)

SPECfp2006 = 103

SPECfp_base2006 = 98.2

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: 64 GB (8 x 8 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem: 1 x 400 GB SAS II, SSD
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	27.6	493	28.6	476	<u>28.5</u>	<u>477</u>	27.6	493	28.6	476	<u>28.5</u>	<u>477</u>
416.gamess	612	32.0	614	31.9	<u>612</u>	<u>32.0</u>	508	38.5	<u>509</u>	<u>38.5</u>	509	38.5
433.milc	132	69.3	132	69.5	<u>132</u>	<u>69.3</u>	132	69.7	<u>132</u>	<u>69.6</u>	132	69.6
434.zeusmp	51.3	177	51.1	178	<u>51.3</u>	<u>177</u>	51.3	177	51.1	178	<u>51.3</u>	<u>177</u>
435.gromacs	173	41.3	<u>173</u>	<u>41.3</u>	173	41.3	173	41.3	<u>173</u>	<u>41.3</u>	173	41.3
436.cactusADM	17.5	683	<u>17.7</u>	<u>676</u>	17.7	676	17.5	683	<u>17.7</u>	<u>676</u>	17.7	676
437.leslie3d	28.3	332	29.7	317	<u>28.5</u>	<u>330</u>	28.3	332	29.7	317	<u>28.5</u>	<u>330</u>
444.namd	<u>329</u>	<u>24.4</u>	329	24.4	329	24.4	323	24.9	323	24.8	<u>323</u>	<u>24.9</u>
447.dealII	208	55.0	<u>208</u>	<u>55.1</u>	208	55.1	208	55.0	<u>208</u>	<u>55.1</u>	208	55.1
450.soplex	177	47.2	176	47.4	<u>177</u>	<u>47.2</u>	177	47.2	176	47.4	<u>177</u>	<u>47.2</u>
453.povray	115	46.3	<u>114</u>	<u>46.6</u>	113	47.2	<u>95.4</u>	<u>55.8</u>	95.8	55.5	93.6	56.8
454.calculix	177	46.7	<u>176</u>	<u>46.8</u>	176	46.8	161	51.1	161	51.1	<u>161</u>	<u>51.1</u>
459.GemsFDTD	<u>56.6</u>	<u>187</u>	56.6	187	56.8	187	51.1	207	51.2	207	<u>51.2</u>	<u>207</u>
465.tonto	268	36.7	<u>270</u>	<u>36.5</u>	270	36.4	<u>207</u>	<u>47.6</u>	209	47.2	207	47.6
470.lbm	22.4	613	<u>22.4</u>	<u>615</u>	22.0	624	22.4	613	<u>22.4</u>	<u>615</u>	22.0	624
481.wrf	<u>110</u>	<u>101</u>	110	101	110	101	<u>110</u>	<u>101</u>	110	101	110	101
482.sphinx3	271	71.9	<u>270</u>	<u>72.3</u>	270	72.3	<u>269</u>	<u>72.3</u>	268	72.6	274	71.1

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

Operating System Notes

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

Platform Notes

BIOS Configuration:

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

General Notes

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity=fine,compact,0,1"

LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 2



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2027GR-TRF
(X9DRG-HF , Intel Xeon E5-2697 v2)

SPECfp2006 = 103

SPECfp_base2006 = 98.2

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

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

General Notes (Continued)

OMP_NUM_THREADS = "24"

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
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.lelie3d: -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

SuperServer 2027GR-TRF
(X9DRG-HF , Intel Xeon E5-2697 v2)

SPECfp2006 = 103

SPECfp_base2006 = 98.2

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 -parallel -opt-prefetch -ansi-alias

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias

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

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) -prof-use(pass 2) -auto-ilp32
-ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2027GR-TRF
(X9DRG-HF , Intel Xeon E5-2697 v2)

SPECfp2006 = 103

SPECfp_base2006 = 98.2

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)

C++ benchmarks:

444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
-auto-ilp32

447.dealIII: 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) -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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

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-revB.20130719.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-revB.20130719.xml>

Standard Performance Evaluation Corporation

info@spec.org

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

Page 5



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2027GR-TRF
(X9DRG-HF , Intel Xeon E5-2697 v2)

SPECfp2006 = 103

SPECfp_base2006 = 98.2

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2013

Hardware Availability: Sep-2013

Software Availability: Sep-2013

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.

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 19:28:21 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 5 November 2013.