



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp[®]_rate2006 = 536

Sun Server X2-4 (Intel Xeon E7-4820 2.0 GHz)

SPECfp_rate_base2006 = 525

CPU2006 license: 6

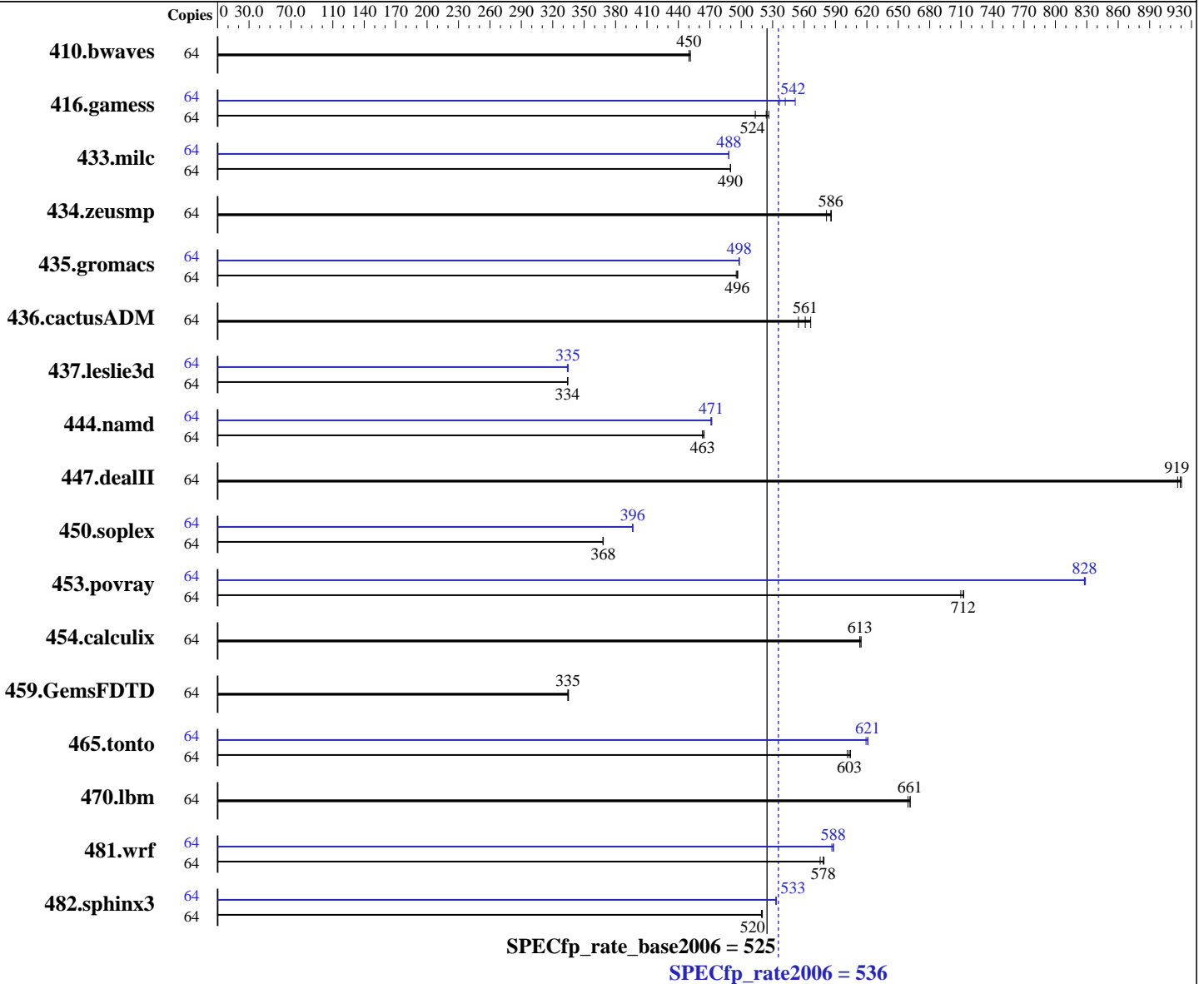
Test sponsor: Oracle Corporation

Tested by: Oracle Corporation

Test date: Dec-2011

Hardware Availability: Jun-2011

Software Availability: Oct-2011



Hardware

CPU Name: Intel Xeon E7-4820
 CPU Characteristics: Intel Turbo Boost Technology up to 2.27 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 32 cores, 4 chips, 8 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: Oracle Linux 6.1
 kernel 2.6.32-100.34.1.el6uek.x86_64
 Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;
 Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux
 Auto Parallel: No
 File System: ext2
 System State: Run level 5 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp_rate2006 = **536**

Sun Server X2-4 (Intel Xeon E7-4820 2.0 GHz)

SPECfp_rate_base2006 = **525**

CPU2006 license: 6

Test date: Dec-2011

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2011

Tested by: Oracle Corporation

Software Availability: Oct-2011

L3 Cache: 18 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (64 x 4 GB 2Rx8 PC3L-10600R-9, ECC)
 Disk Subsystem: 3 x 300 GB, SATA, 7200 RPM, RAID 0
 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	64	1926	451	<u>1932</u>	<u>450</u>	1932	450	64	1926	451	<u>1932</u>	<u>450</u>	1932	450
416.gamess	64	2380	526	<u>2392</u>	<u>524</u>	2441	513	64	<u>2312</u>	<u>542</u>	2272	552	2336	536
433.milc	64	1200	490	1199	490	<u>1200</u>	<u>490</u>	64	1204	488	1203	488	<u>1203</u>	<u>488</u>
434.zeusmp	64	994	586	<u>995</u>	<u>586</u>	1002	581	64	994	586	<u>995</u>	<u>586</u>	1002	581
435.gromacs	64	920	497	<u>921</u>	<u>496</u>	923	495	64	918	498	<u>917</u>	<u>498</u>	917	498
436.cactusADM	64	<u>1363</u>	<u>561</u>	1379	555	1350	566	64	<u>1363</u>	<u>561</u>	1379	555	1350	566
437.leslie3d	64	1799	334	<u>1800</u>	<u>334</u>	1801	334	64	1798	335	1802	334	<u>1798</u>	<u>335</u>
444.namd	64	1109	463	<u>1108</u>	<u>463</u>	1105	465	64	1090	471	<u>1089</u>	<u>471</u>	1088	472
447.dealII	64	795	920	799	917	<u>796</u>	<u>919</u>	64	795	920	799	917	<u>796</u>	<u>919</u>
450.soplex	64	<u>1450</u>	<u>368</u>	1451	368	1449	368	64	<u>1346</u>	<u>396</u>	1346	396	1347	396
453.povray	64	480	710	478	712	<u>478</u>	<u>712</u>	64	411	828	411	829	<u>411</u>	<u>828</u>
454.calculix	64	859	615	<u>861</u>	<u>613</u>	861	613	64	859	615	<u>861</u>	<u>613</u>	861	613
459.GemsFDTD	64	2027	335	<u>2030</u>	<u>335</u>	2030	335	64	2027	335	<u>2030</u>	<u>335</u>	2030	335
465.tonto	64	<u>1044</u>	<u>603</u>	1042	604	1047	601	64	1017	619	1014	621	<u>1015</u>	<u>621</u>
470.lbm	64	1330	661	<u>1330</u>	<u>661</u>	1334	659	64	1330	661	<u>1330</u>	<u>661</u>	1334	659
481.wrf	64	1242	575	1235	579	<u>1236</u>	<u>578</u>	64	1215	588	<u>1216</u>	<u>588</u>	1219	587
482.sphinx3	64	2398	520	<u>2399</u>	<u>520</u>	2402	519	64	<u>2339</u>	<u>533</u>	2340	533	2339	533

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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp_rate2006 = 536

Sun Server X2-4 (Intel Xeon E7-4820 2.0 GHz)

SPECfp_rate_base2006 = 525

CPU2006 license: 6

Test date: Dec-2011

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2011

Tested by: Oracle Corporation

Software Availability: Oct-2011

Platform Notes

Default BIOS Settings were used.

Oracle's Sun Server X2-4 was formerly known as the Sun Fire X4470 M2

General Notes

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

LD_LIBRARY_PATH = "/data1/cpu2006v1.2/libs/32:/data1/cpu2006v1.2/libs/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

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

Oracle Corporation

SPECfp_rate2006 = 536

Sun Server X2-4 (Intel Xeon E7-4820 2.0 GHz)

SPECfp_rate_base2006 = 525

CPU2006 license: 6

Test date: Dec-2011

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2011

Tested by: Oracle Corporation

Software Availability: Oct-2011

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static -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

Oracle Corporation

SPECfp_rate2006 = 536

Sun Server X2-4 (Intel Xeon E7-4820 2.0 GHz)

SPECfp_rate_base2006 = 525

CPU2006 license: 6

Test date: Dec-2011

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2011

Tested by: Oracle Corporation

Software Availability: Oct-2011

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: -xSSE4.2(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) -static -auto-ilp32

470.lbm: basepeak = yes

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
 -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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- -static

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp_rate2006 = 536

Sun Server X2-4 (Intel Xeon E7-4820 2.0 GHz)

SPECfp_rate_base2006 = 525

CPU2006 license: 6

Test date: Dec-2011

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2011

Tested by: Oracle Corporation

Software Availability: Oct-2011

Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(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: -xSSE4.2(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 -static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-RevA.html

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-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.

Tested with SPEC CPU2006 v1.2.

Report generated on Thu Jul 24 11:47:51 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 31 July 2012.