



SPEC[®] CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2683 v3, 2.00 GHz)

SPECfp[®]_rate2006 = 819

SPECfp_rate_base2006 = 795

CPU2006 license: 9008

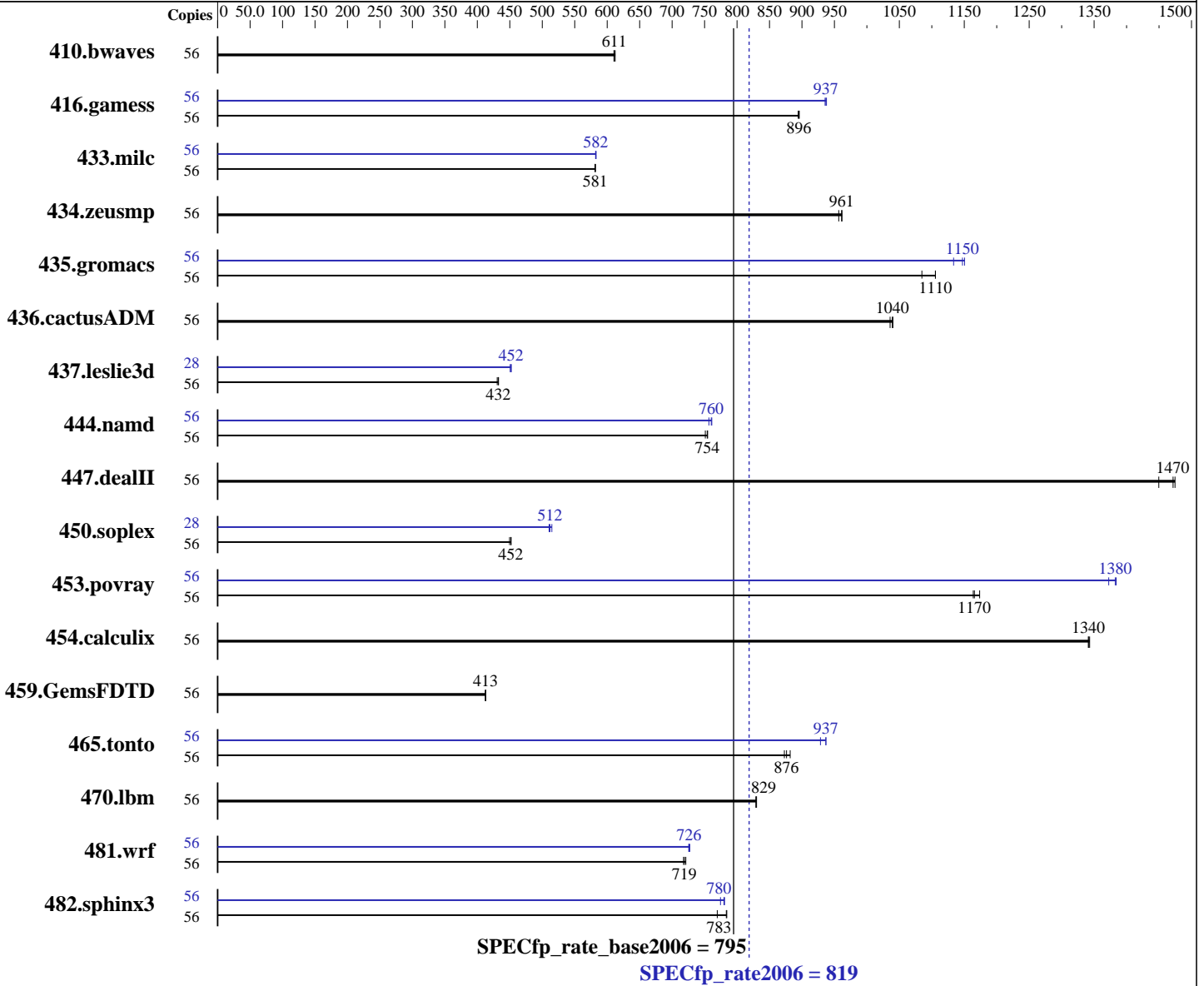
Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Oct-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015



Hardware

CPU Name: Intel Xeon E5-2683 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 28 cores, 2 chips, 14 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 7.1 (Maipo)
 3.10.0-229.11.1.el7.x86_64
 Compiler: C/C++: Version 16.0.0.047 of Intel C++ Studio XE for Linux;
 Fortran: Version 16.0.0.047 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

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2683 v3, 2.00 GHz)

SPECfp_rate2006 = 819

SPECfp_rate_base2006 = 795

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Oct-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015

L3 Cache: 35 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x 240 GB SATA II SSD
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	56	1247	610	<u>1246</u>	<u>611</u>	1243	612	56	1247	610	<u>1246</u>	<u>611</u>	1243	612
416.gamess	56	1226	894	1224	896	<u>1224</u>	<u>896</u>	56	<u>1170</u>	<u>937</u>	1169	938	1172	936
433.milc	56	884	581	883	582	<u>884</u>	<u>581</u>	56	883	582	882	583	<u>883</u>	<u>582</u>
434.zeusmp	56	530	962	533	957	<u>530</u>	<u>961</u>	56	530	962	533	957	<u>530</u>	<u>961</u>
435.gromacs	56	369	1080	<u>362</u>	<u>1110</u>	362	1110	56	353	1130	<u>349</u>	<u>1150</u>	348	1150
436.cactusADM	56	643	1040	<u>644</u>	<u>1040</u>	646	1040	56	643	1040	<u>644</u>	<u>1040</u>	646	1040
437.leslie3d	56	1217	433	<u>1218</u>	<u>432</u>	1223	431	28	<u>582</u>	<u>452</u>	582	452	584	451
444.namd	56	<u>596</u>	<u>754</u>	598	751	595	755	56	594	757	590	761	<u>591</u>	<u>760</u>
447.dealII	56	434	1470	442	1450	<u>435</u>	<u>1470</u>	56	434	1470	442	1450	<u>435</u>	<u>1470</u>
450.soplex	56	<u>1034</u>	<u>452</u>	1033	452	1039	450	28	457	511	<u>456</u>	<u>512</u>	454	515
453.povray	56	254	1170	<u>256</u>	<u>1170</u>	256	1160	56	215	1380	<u>215</u>	<u>1380</u>	217	1370
454.calculix	56	344	1340	344	1340	<u>344</u>	<u>1340</u>	56	344	1340	344	1340	<u>344</u>	<u>1340</u>
459.GemsFDTD	56	1439	413	1441	412	<u>1439</u>	<u>413</u>	56	1439	413	1441	412	<u>1439</u>	<u>413</u>
465.tonto	56	625	882	<u>629</u>	<u>876</u>	631	873	56	588	937	593	928	<u>588</u>	<u>937</u>
470.lbm	56	<u>928</u>	<u>829</u>	928	829	927	830	56	<u>928</u>	<u>829</u>	928	829	927	830
481.wrf	56	<u>870</u>	<u>719</u>	867	721	872	718	56	<u>862</u>	<u>726</u>	862	726	860	727
482.sphinx3	56	1418	770	<u>1393</u>	<u>783</u>	1392	784	56	<u>1400</u>	<u>780</u>	1398	781	1409	775

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 Settings:
Intel(R) Hyper-Threading Tech = Enabled

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2683 v3, 2.00 GHz)

SPECfp_rate2006 = 819

SPECfp_rate_base2006 = 795

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Oct-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015

Platform Notes (Continued)

Power & Performance = Performance
Enforce POR = Disabled
Memory Operating Speed Selection = 2133
Cluster-on-Die = Enabled
Set Fan Profile = Performance
Fan PWM Offset = 0

Sysinfo program /cpu2006.1.2/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 # \$ e86d102572650a6e4d596a3cee98f191
running on SUT Fri Oct 16 22:40:52 2015

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

```
From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2683 v3 @ 2.00GHz
 2 "physical id"s (chips)
 56 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)
  cpu cores : 14
  siblings  : 28
  physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
  physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
cache size : 17920 KB
```

```
From /proc/meminfo
MemTotal:      263866376 kB
HugePages_Total:      1
Hugepagesize:    2048 kB
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
os-release.rpmnew:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.1 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.1"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.1 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.1:GA:server"
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2683 v3, 2.00 GHz)

SPECfp_rate2006 = 819

SPECfp_rate_base2006 = 795

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Oct-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015

Platform Notes (Continued)

```
redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.1:ga:server
```

```
uname -a:
Linux SUT 3.10.0-229.11.1.el7.x86_64 #5 SMP Mon Sep 14 17:11:19 CEST 2015
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Oct 16 10:16
```

```
SPEC is set to: /cpu2006.1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda1       ext4  212G   39G  163G  19% /
```

Additional information from dmidecode:

```
BIOS Intel Corporation SE5C610.86B.01.01.0009.060120151350 06/01/2015
```

Memory:

```
16x 16 GB
16x Micron 36ASF2G72PZ-2G1A2 16 GB 2134 MHz 2 rank
8x NO DIMM NO DIMM
```

(End of data from sysinfo program)

dmidecode does not properly detect memory modules
16 modules of 16 GB were used to run the test (256 GB total)

General Notes

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

```
LD_LIBRARY_PATH = "/cpu2006.1.2/libs/32:/cpu2006.1.2/libs/64:/cpu2006.1.2/sh"
```

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>
```

Binaries compiled on a system with 2x Xeon E5-2650 v3 chips + 256 GB memory
using RedHat EL 7.1

Base Compiler Invocation

C benchmarks:

```
icc -m64
```

C++ benchmarks:

```
icpc -m64
```

Fortran benchmarks:

```
ifort -m64
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2683 v3, 2.00 GHz)

SPECfp_rate2006 = 819

SPECfp_rate_base2006 = 795

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Oct-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015

Base Compiler Invocation (Continued)

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

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

Peak Compiler Invocation

C benchmarks:

icc -m64

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2683 v3, 2.00 GHz)

SPECfp_rate2006 = 819

SPECfp_rate_base2006 = 795

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Oct-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015

Peak Compiler Invocation (Continued)

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32 -L/opt/intel/lib/ia32

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
 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

Peak Optimization Flags

C benchmarks:

433.milc: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
 -unroll2

C++ benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2683 v3, 2.00 GHz)

SPECfp_rate2006 = 819

SPECfp_rate_base2006 = 795

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Oct-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015

Peak Optimization Flags (Continued)

444.namd: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2683 v3, 2.00 GHz)

SPECfp_rate2006 = 819

SPECfp_rate_base2006 = 795

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Oct-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/ACTION.SA-Platform-Flags-RevB-aug-2015-For-Intel-Platform.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/ACTION.SA-Platform-Flags-RevB-aug-2015-For-Intel-Platform.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 Tue Nov 3 11:56:34 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 November 2015.