



SPEC[®] CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 210 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECfp[®]_rate2006 = 886

SPECfp_rate_base2006 = 859

CPU2006 license: 9008

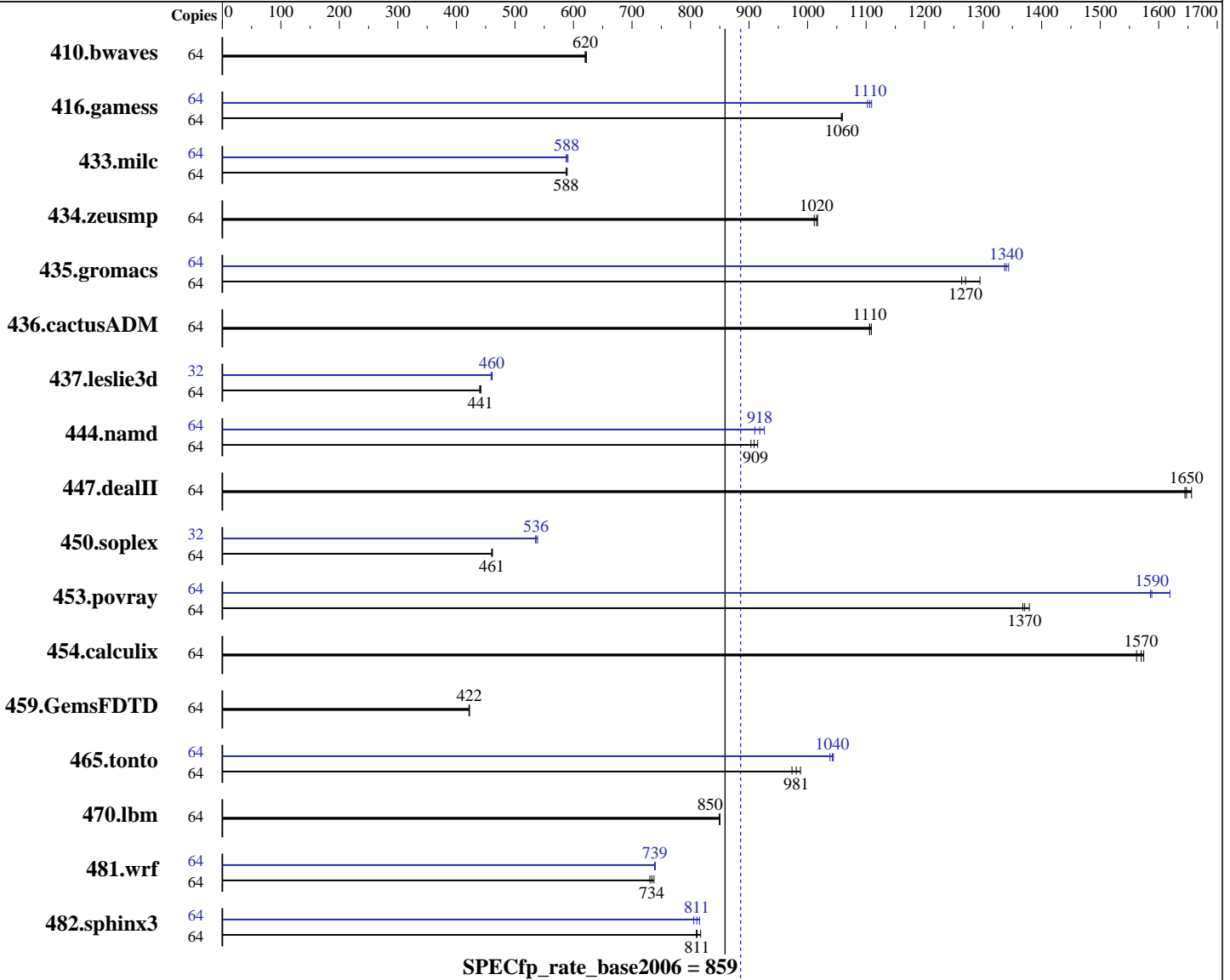
Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Nov-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015



Hardware

CPU Name: Intel Xeon E5-2698 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 32 cores, 2 chips, 16 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 210 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECfp_rate2006 = 886

SPECfp_rate_base2006 = 859

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Nov-2015

Hardware Availability: Sep-2014

Software Availability: Aug-2015

L3 Cache: 40 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	64	1398	622	1402	620	1403	620	64	1398	622	1402	620	1403	620
416.gamess	64	1184	1060	1185	1060	1183	1060	64	1137	1100	1129	1110	1133	1110
433.milc	64	997	589	1000	588	1000	588	64	995	591	998	588	1000	588
434.zeusmp	64	574	1020	573	1020	576	1010	64	574	1020	573	1020	576	1010
435.gromacs	64	360	1270	362	1260	353	1290	64	342	1340	341	1340	340	1340
436.cactusADM	64	692	1110	690	1110	691	1110	64	692	1110	690	1110	691	1110
437.leslie3d	64	1368	440	1362	442	1364	441	32	652	461	654	460	655	459
444.namd	64	561	915	565	909	568	903	64	559	918	554	926	564	910
447.dealII	64	442	1660	444	1650	445	1640	64	442	1660	444	1650	445	1640
450.soplex	64	1156	462	1160	460	1159	461	32	495	539	498	536	498	535
453.povray	64	249	1370	248	1370	247	1380	64	210	1620	215	1590	214	1590
454.calculix	64	335	1570	338	1560	336	1570	64	335	1570	338	1560	336	1570
459.GemsFDTD	64	1609	422	1608	422	1611	421	64	1609	422	1608	422	1611	421
465.tonto	64	642	981	647	973	637	988	64	606	1040	604	1040	603	1040
470.lbm	64	1035	850	1035	849	1034	850	64	1035	850	1035	849	1034	850
481.wrf	64	974	734	979	731	969	738	64	966	740	967	739	968	739
482.sphinx3	64	1526	817	1540	810	1538	811	64	1530	815	1538	811	1549	806

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 210 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECfp_rate2006 = 886

SPECfp_rate_base2006 = 859

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Nov-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 Tue Nov 17 22:14:53 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 E5-2698 v3 @ 2.30GHz
 2 "physical id"s (chips)
 64 "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     : 16
  siblings      : 32
  physical 0:   cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  physical 1:   cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size      : 20480 KB
```

```
From /proc/meminfo
MemTotal:        263872952 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 210 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECfp_rate2006 = 886

SPECfp_rate_base2006 = 859

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Nov-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 Nov 17 10:07
```

```
SPEC is set to: /cpu2006.1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda1       ext4  212G   37G  165G  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 210 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECfp_rate2006 = 886

SPECfp_rate_base2006 = 859

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Nov-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 210 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECfp_rate2006 = 886

SPECfp_rate_base2006 = 859

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Nov-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 210 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECfp_rate2006 = 886

SPECfp_rate_base2006 = 859

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Nov-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 210 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECfp_rate2006 = 886

SPECfp_rate_base2006 = 859

CPU2006 license: 9008

Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Nov-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 Dec 15 16:46:28 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 December 2015.