



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## ACTION S.A.

**SPECfp<sup>®</sup>\_rate2006 = 187**

ACTINA SOLAR 222 S5 (Intel Xeon E5-2609)

**SPECfp\_rate\_base2006 = 216**

CPU2006 license: 9008

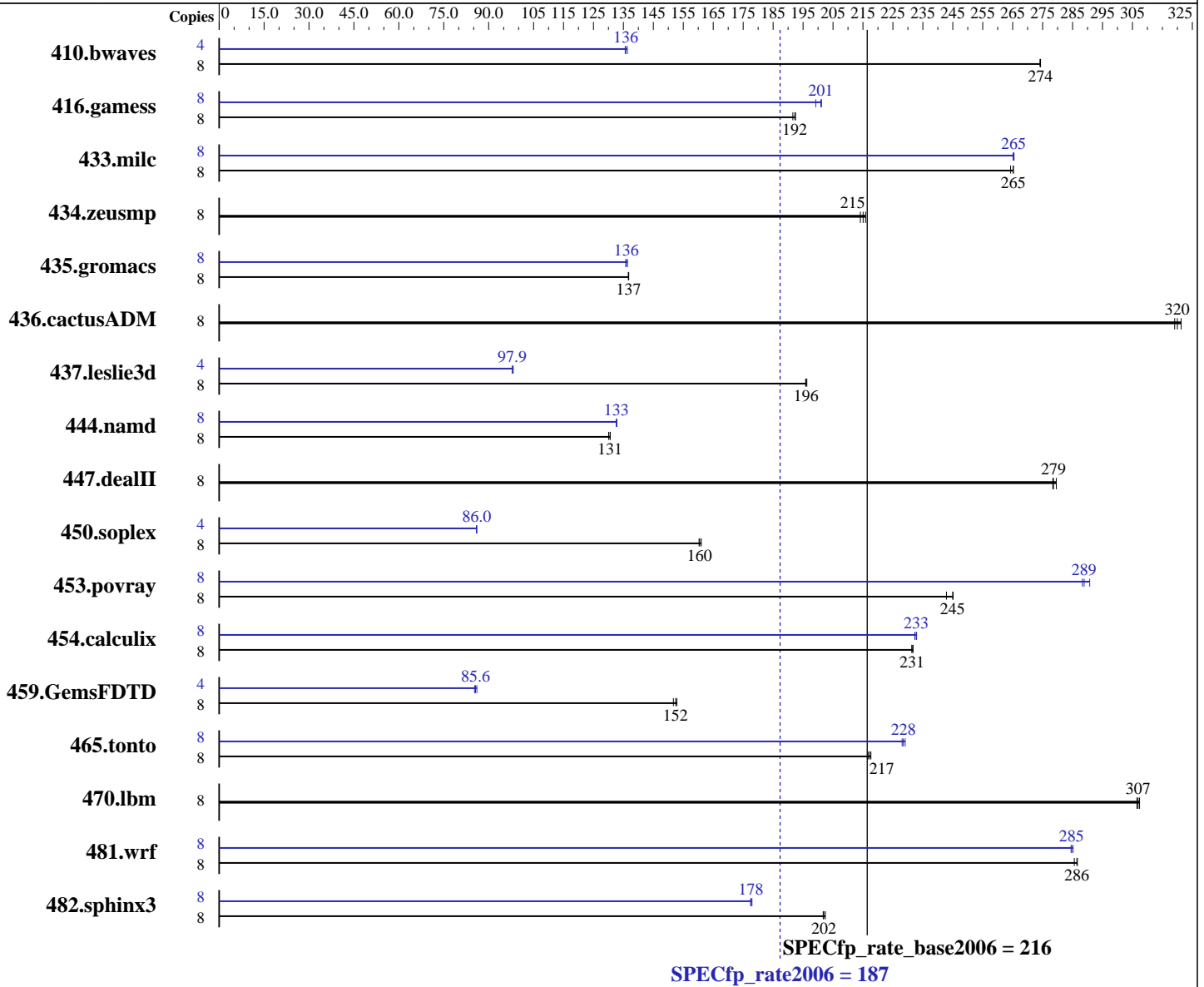
Test date: Jan-2013

Test sponsor: ACTION S.A.

Hardware Availability: Mar-2012

Tested by: ACTION S.A.

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E5-2609  
 CPU Characteristics:  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 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: SUSE Linux Enterprise Server 11 SP2 (x86\_64) 3.0.13-0.27-default  
 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: ext3  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## ACTION S.A.

SPECfp\_rate2006 = 187

ACTINA SOLAR 222 S5 (Intel Xeon E5-2609)

SPECfp\_rate\_base2006 = 216

CPU2006 license: 9008

Test date: Jan-2013

Test sponsor: ACTION S.A.

Hardware Availability: Mar-2012

Tested by: ACTION S.A.

Software Availability: Feb-2012

L3 Cache: 10 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz and CL7)  
 Disk Subsystem: 1 x 2 TB SATA, 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	8	396	274	397	274	<b>396</b>	<b>274</b>	4	399	136	401	136	<b>400</b>	<b>136</b>
416.gamess	8	<b>815</b>	<b>192</b>	818	192	814	192	8	786	199	779	201	<b>780</b>	<b>201</b>
433.milc	8	<b>277</b>	<b>265</b>	277	265	278	264	8	277	265	<b>277</b>	<b>265</b>	277	265
434.zeusmp	8	340	214	<b>339</b>	<b>215</b>	337	216	8	340	214	<b>339</b>	<b>215</b>	337	216
435.gromacs	8	<b>418</b>	<b>137</b>	418	137	418	137	8	421	136	<b>420</b>	<b>136</b>	419	136
436.cactusADM	8	298	321	300	319	<b>299</b>	<b>320</b>	8	298	321	300	319	<b>299</b>	<b>320</b>
437.leslie3d	8	<b>384</b>	<b>196</b>	383	196	384	196	4	384	97.9	<b>384</b>	<b>97.9</b>	383	98.2
444.namd	8	<b>491</b>	<b>131</b>	491	131	493	130	8	484	133	483	133	<b>483</b>	<b>133</b>
447.dealII	8	<b>328</b>	<b>279</b>	329	278	327	280	8	<b>328</b>	<b>279</b>	329	278	327	280
450.soplex	8	416	160	414	161	<b>416</b>	<b>160</b>	4	388	86.0	388	86.0	<b>388</b>	<b>86.0</b>
453.povray	8	174	245	<b>174</b>	<b>245</b>	175	243	8	146	291	148	288	<b>147</b>	<b>289</b>
454.calculix	8	285	232	<b>285</b>	<b>231</b>	285	231	8	<b>284</b>	<b>233</b>	284	232	283	233
459.GemsFDTD	8	<b>557</b>	<b>152</b>	560	152	555	153	4	<b>496</b>	<b>85.6</b>	498	85.3	493	86.1
465.tonto	8	363	217	<b>362</b>	<b>217</b>	362	218	8	345	228	<b>345</b>	<b>228</b>	344	229
470.lbm	8	359	306	<b>358</b>	<b>307</b>	358	307	8	359	306	<b>358</b>	<b>307</b>	358	307
481.wrf	8	312	287	<b>312</b>	<b>286</b>	313	286	8	<b>314</b>	<b>285</b>	313	285	314	285
482.sphinx3	8	<b>772</b>	<b>202</b>	773	202	770	202	8	878	177	<b>878</b>	<b>178</b>	876	178

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"



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ACTION S.A.**

**SPECfp\_rate2006 = 187**

**ACTINA SOLAR 222 S5 (Intel Xeon E5-2609)**

**SPECfp\_rate\_base2006 = 216**

**CPU2006 license:** 9008

**Test date:** Jan-2013

**Test sponsor:** ACTION S.A.

**Hardware Availability:** Mar-2012

**Tested by:** ACTION S.A.

**Software Availability:** Feb-2012

## Platform Notes

Sysinfo program /cpu2006.1.2/config/sysinfo.rev6800  
\$Rev: 6800 \$ \$Date:: 2011-10-11 # \$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on SUT Thu Jan 24 16:12:03 2013

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 E5-2609 0 @ 2.40GHz
 2 "physical id"s (chips)
 8 "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 : 4
  siblings  : 4
  physical 0: cores 0 1 2 3
  physical 1: cores 0 1 2 3
cache size : 10240 KB
```

```
From /proc/meminfo
MemTotal:      264499616 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

```
/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 11 (x86_64)
```

```
From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 11 (x86_64)
VERSION = 11
PATCHLEVEL = 2
```

```
uname -a:
Linux SUT 3.0.13-0.27-default #1 SMP Wed Feb 15 13:33:49 UTC 2012 (d73692b)
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Jan 16 10:05 last=S
```

```
SPEC is set to: /cpu2006.1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext3  1.8T   86G  1.8T   5% /
```

Additional information from dmidecode:

(End of data from sysinfo program)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ACTION S.A.**

**SPECfp\_rate2006 = 187**

**ACTINA SOLAR 222 S5 (Intel Xeon E5-2609)**

**SPECfp\_rate\_base2006 = 216**

**CPU2006 license:** 9008

**Test date:** Jan-2013

**Test sponsor:** ACTION S.A.

**Hardware Availability:** Mar-2012

**Tested by:** ACTION S.A.

**Software Availability:** Feb-2012

## 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"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/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

**ACTION S.A.**

**SPECfp\_rate2006 = 187**

**ACTINA SOLAR 222 S5 (Intel Xeon E5-2609)**

**SPECfp\_rate\_base2006 = 216**

**CPU2006 license:** 9008

**Test date:** Jan-2013

**Test sponsor:** ACTION S.A.

**Hardware Availability:** Mar-2012

**Tested by:** ACTION S.A.

**Software Availability:** Feb-2012

## Base Optimization Flags

C benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3`

C++ benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3`

Fortran benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch`

Benchmarks using both Fortran and C:

`-xAVX -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

Standard Performance Evaluation Corporation

[info@spec.org](mailto:info@spec.org)

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

Page 5



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ACTION S.A.**

**SPECfp\_rate2006 = 187**

**ACTINA SOLAR 222 S5 (Intel Xeon E5-2609)**

**SPECfp\_rate\_base2006 = 216**

**CPU2006 license:** 9008

**Test date:** Jan-2013

**Test sponsor:** ACTION S.A.

**Hardware Availability:** Mar-2012

**Tested by:** ACTION S.A.

**Software Availability:** Feb-2012

## Peak Portability Flags (Continued)

454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
 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) -prof-use(pass 2) -static -auto-ilp32  
 -opt-mem-layout-trans=3

470.lbm: basepeak = yes

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

### 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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(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) -prof-use(pass 2) -unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -prof-use(pass 2) -static

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- -static

434.zeusmp: basepeak = yes

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

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ACTION S.A.**

**SPECfp\_rate2006 = 187**

**ACTINA SOLAR 222 S5 (Intel Xeon E5-2609)**

**SPECfp\_rate\_base2006 = 216**

**CPU2006 license:** 9008

**Test date:** Jan-2013

**Test sponsor:** ACTION S.A.

**Hardware Availability:** Mar-2012

**Tested by:** ACTION S.A.

**Software Availability:** Feb-2012

## Peak Optimization Flags (Continued)

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) -prof-use(pass 2) -opt-prefetch  
-static -auto-ilp32 -opt-mem-layout-trans=3

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32  
-opt-mem-layout-trans=3

481.wrf: Same as 454.calculix

The flags file that was used to format this result can be browsed at

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

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.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 15:07:30 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 12 February 2013.