



SPEC® CFP2006 Result

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ACTION S.A.

SPECfp®2006 = 51.6

ACTINA SOLAR 205 S5 (Intel Xeon E5-2420)

SPECfp_base2006 = 49.1

CPU2006 license: 9008

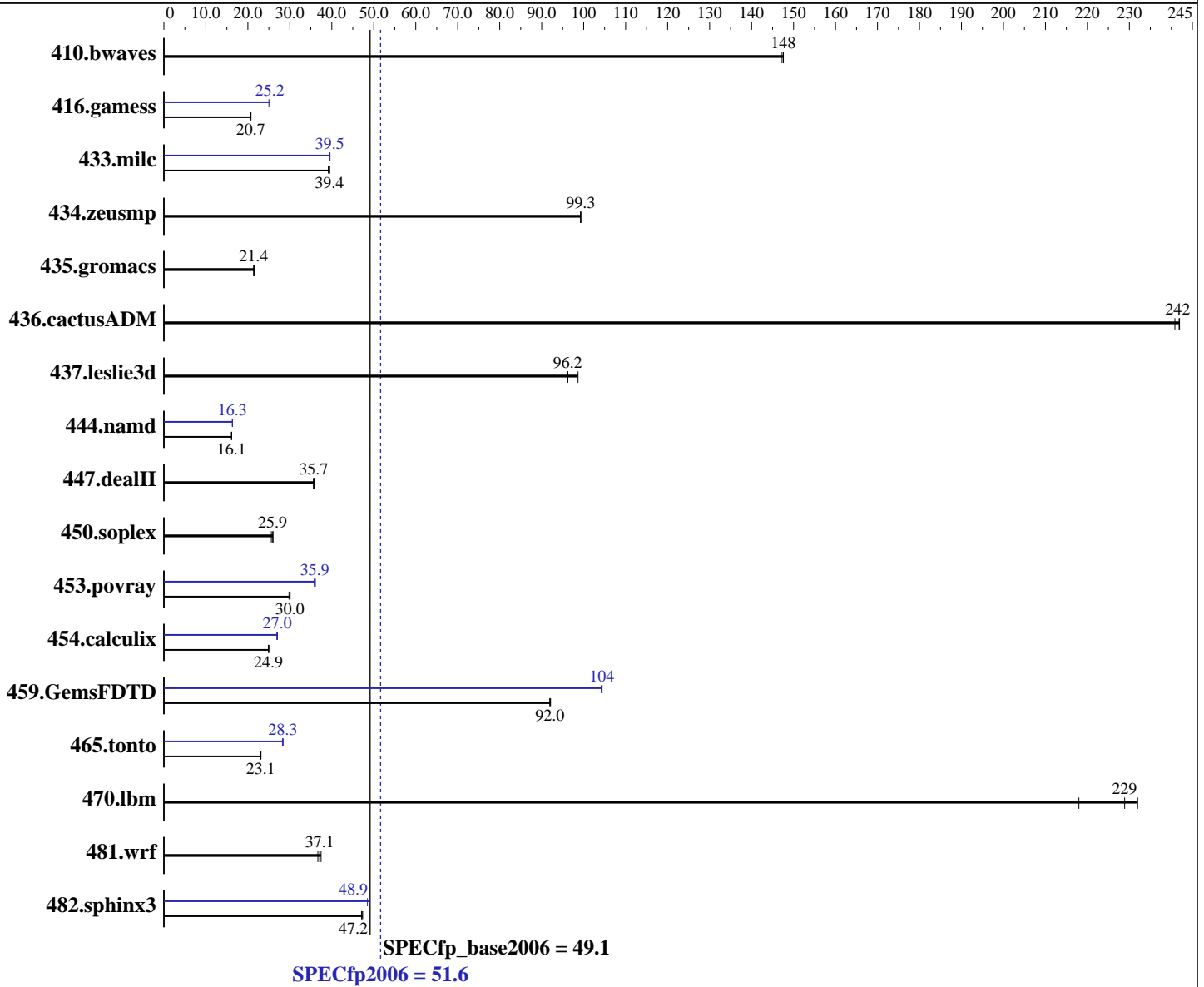
Test date: Oct-2012

Test sponsor: ACTION S.A.

Hardware Availability: May-2012

Tested by: ACTION S.A.

Software Availability: Feb-2012



Hardware

CPU Name: Intel Xeon E5-2420
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 1900
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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

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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: Yes
 File System: ext3
 System State: Run level 3 (multi-user)

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L3 Cache: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 96 GB (6 x 16 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz)
 Disk Subsystem: 1 x SSD OCZ DENEVA II, 240 GB SATA III, MLC
 Other Hardware: None

Base Pointers: 32/64-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	<u>92.1</u>	<u>148</u>	92.3	147	92.1	148	<u>92.1</u>	<u>148</u>	92.3	147	92.1	148
416.gamess	944	20.7	948	20.6	<u>947</u>	<u>20.7</u>	<u>776</u>	<u>25.2</u>	775	25.3	783	25.0
433.milc	<u>233</u>	<u>39.4</u>	233	39.5	234	39.2	232	39.6	232	39.5	<u>232</u>	<u>39.5</u>
434.zeusmp	91.7	99.3	<u>91.7</u>	<u>99.3</u>	91.7	99.3	91.7	99.3	<u>91.7</u>	<u>99.3</u>	91.7	99.3
435.gromacs	334	21.4	<u>334</u>	<u>21.4</u>	332	21.5	334	21.4	<u>334</u>	<u>21.4</u>	332	21.5
436.cactusADM	49.6	241	<u>49.4</u>	<u>242</u>	49.4	242	49.6	241	<u>49.4</u>	<u>242</u>	49.4	242
437.leslie3d	95.3	98.7	97.7	96.2	<u>97.7</u>	<u>96.2</u>	95.3	98.7	97.7	96.2	<u>97.7</u>	<u>96.2</u>
444.namd	497	16.1	<u>498</u>	<u>16.1</u>	498	16.1	491	16.3	492	16.3	<u>491</u>	<u>16.3</u>
447.dealII	320	35.8	321	35.6	<u>320</u>	<u>35.7</u>	320	35.8	321	35.6	<u>320</u>	<u>35.7</u>
450.soplex	321	26.0	<u>322</u>	<u>25.9</u>	326	25.6	321	26.0	<u>322</u>	<u>25.9</u>	326	25.6
453.povray	177	30.1	<u>177</u>	<u>30.0</u>	179	29.8	<u>148</u>	<u>35.9</u>	149	35.8	147	36.1
454.calculix	<u>331</u>	<u>24.9</u>	330	25.0	331	24.9	307	26.9	<u>306</u>	<u>27.0</u>	305	27.1
459.GemsFDTD	115	92.0	<u>115</u>	<u>92.0</u>	115	92.1	102	104	102	104	<u>102</u>	<u>104</u>
465.tonto	425	23.1	<u>426</u>	<u>23.1</u>	426	23.1	<u>347</u>	<u>28.3</u>	347	28.4	348	28.3
470.lbm	59.2	232	63.0	218	<u>60.0</u>	<u>229</u>	59.2	232	63.0	218	<u>60.0</u>	<u>229</u>
481.wrf	298	37.4	<u>301</u>	<u>37.1</u>	305	36.7	298	37.4	<u>301</u>	<u>37.1</u>	305	36.7
482.sphinx3	412	47.3	<u>413</u>	<u>47.2</u>	414	47.1	398	48.9	402	48.5	<u>398</u>	<u>48.9</u>

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

Sysinfo program /cpu2006.1.2/config/sysinfo.rev6800
 \$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
 running on linux Wed Oct 31 07:33:58 2012

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

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Platform Notes (Continued)

model name : Intel(R) Xeon(R) CPU E5-2420 0 @ 1.90GHz

2 "physical id"s (chips)

24 "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 : 6

siblings : 12

physical 0: cores 0 1 2 3 4 5

physical 1: cores 0 1 2 3 4 5

cache size : 15360 KB

From /proc/meminfo

MemTotal: 98985444 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 linux 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 Oct 31 07:27 last=S

SPEC is set to: /cpu2006.1.2

Filesystem Type Size Used Avail Use% Mounted on

/dev/sda2 ext3 211G 86G 115G 43% /

Additional information from dmidecode:

(End of data from sysinfo program)

General Notes

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

KMP_AFFINITY = "granularity=fine,scatter"

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

OMP_NUM_THREADS = "12"

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/redhat_transparent_hugepage/enabled

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General Notes (Continued)

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.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:

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

C++ benchmarks:

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

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Base Optimization Flags (Continued)

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -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: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
-ansi-alias`

470.lbm: `basepeak = yes`

482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel`

C++ benchmarks:

444.namd: `-xSSE4.2(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`

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Peak Optimization Flags (Continued)

447.deallI: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xSSE4.2(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: -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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

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) -inline-calloc
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

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>



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