



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp[®]2006 = 60.4

Tecal RH5885 V2 (Intel Xeon E7-4860)

SPECfp_base2006 = 58.1

CPU2006 license: 3175

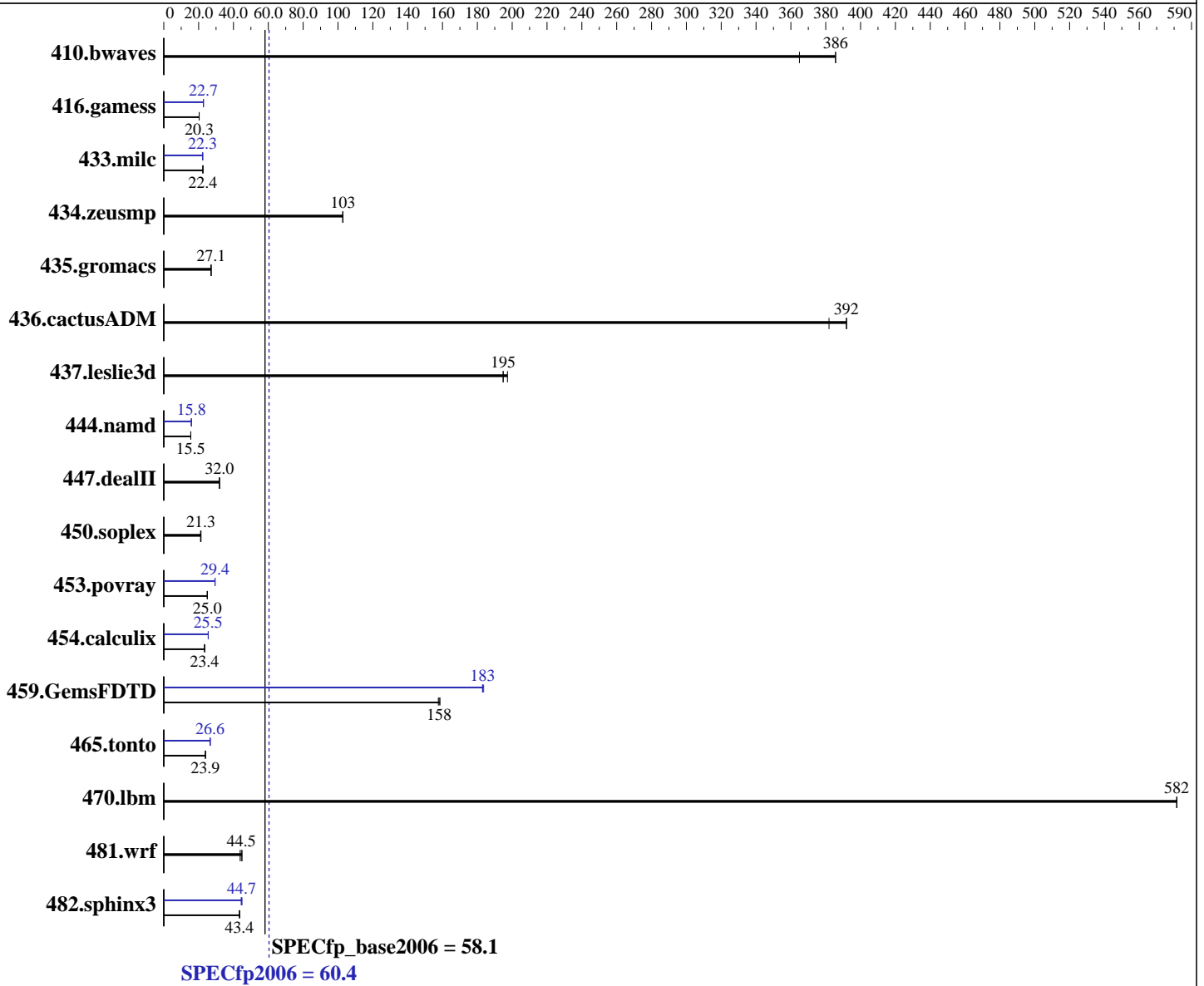
Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2013

Hardware Availability: Oct-2012

Software Availability: Oct-2012



Hardware

CPU Name: Intel Xeon E7-4860
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz
 CPU MHz: 2267
 FPU: Integrated
 CPU(s) enabled: 40 cores, 4 chips, 10 cores/chip
 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: Red Hat Enterprise Linux Server release 6.2 (Santiago)
 2.6.32-220.el6.x86_64
 Compiler: C/C++: Version 13.0.0.079 of Intel C++ Studio XE for Linux;
 Fortran: Version 13.0.0.079 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 60.4

Tecal RH5885 V2 (Intel Xeon E7-4860)

SPECfp_base2006 = 58.1

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2013

Hardware Availability: Oct-2012

Software Availability: Oct-2012

L3 Cache: 24 MB I+D on chip per chip
Other Cache: None
Memory: 1 TB (64 x 16 GB 4Rx4 PC3-10600R-9, ECC, running at 1066 MHz)
Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 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	37.2	365	35.2	386	<u>35.2</u>	<u>386</u>	37.2	365	35.2	386	<u>35.2</u>	<u>386</u>
416.gamess	964	20.3	965	20.3	<u>965</u>	<u>20.3</u>	861	22.7	860	22.8	<u>861</u>	<u>22.7</u>
433.milc	408	22.5	409	22.4	<u>409</u>	<u>22.4</u>	411	22.3	<u>411</u>	<u>22.3</u>	411	22.3
434.zeusmp	<u>88.5</u>	<u>103</u>	88.5	103	88.7	103	<u>88.5</u>	<u>103</u>	88.5	103	88.7	103
435.gromacs	263	27.1	263	27.2	<u>263</u>	<u>27.1</u>	263	27.1	263	27.2	<u>263</u>	<u>27.1</u>
436.cactusADM	30.5	392	<u>30.5</u>	<u>392</u>	31.3	382	30.5	392	<u>30.5</u>	<u>392</u>	31.3	382
437.leslie3d	<u>48.2</u>	<u>195</u>	47.6	197	48.2	195	<u>48.2</u>	<u>195</u>	47.6	197	48.2	195
444.namd	518	15.5	<u>518</u>	<u>15.5</u>	517	15.5	<u>506</u>	<u>15.8</u>	506	15.8	506	15.8
447.dealII	358	32.0	358	31.9	<u>358</u>	<u>32.0</u>	358	32.0	358	31.9	<u>358</u>	<u>32.0</u>
450.soplex	<u>392</u>	<u>21.3</u>	395	21.1	391	21.3	<u>392</u>	<u>21.3</u>	395	21.1	391	21.3
453.povray	213	25.0	<u>213</u>	<u>25.0</u>	213	24.9	181	29.4	<u>181</u>	<u>29.4</u>	180	29.5
454.calculix	351	23.5	<u>352</u>	<u>23.4</u>	353	23.4	323	25.5	<u>323</u>	<u>25.5</u>	324	25.5
459.GemsFDTD	<u>67.1</u>	<u>158</u>	66.9	159	67.3	158	<u>58.0</u>	<u>183</u>	58.0	183	57.8	184
465.tonto	412	23.9	<u>412</u>	<u>23.9</u>	411	23.9	<u>370</u>	<u>26.6</u>	369	26.6	370	26.6
470.lbm	23.6	582	<u>23.6</u>	<u>582</u>	23.6	582	23.6	582	<u>23.6</u>	<u>582</u>	23.6	582
481.wrf	255	43.8	249	44.9	<u>251</u>	<u>44.5</u>	255	43.8	249	44.9	<u>251</u>	<u>44.5</u>
482.sphinx3	447	43.6	<u>449</u>	<u>43.4</u>	449	43.4	434	44.9	<u>436</u>	<u>44.7</u>	439	44.4

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

BIOS configuration:
Intel Hyper-Threading set to Disabled
Power Technology set to Custom, Performance/Watt set to Traditional
Sysinfo program /home/cpu2006/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 # \$ 5569a0425e2ad530534e4c79a46e4d28
running on RH5885-24 Fri Feb 1 19:53:41 2013

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 60.4

Tecal RH5885 V2 (Intel Xeon E7-4860)

SPECfp_base2006 = 58.1

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2013

Hardware Availability: Oct-2012

Software Availability: Oct-2012

Platform Notes (Continued)

<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

From /proc/cpuinfo

model name : Intel(R) Xeon(R) CPU E7- 4860 @ 2.27GHz

4 "physical id"s (chips)

40 "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 : 10

siblings : 10

physical 0: cores 0 1 2 8 9 16 17 18 24 25

physical 1: cores 0 1 2 8 9 16 17 18 24 25

physical 2: cores 0 1 2 8 9 16 17 18 24 25

physical 3: cores 0 1 2 8 9 16 17 18 24 25

cache size : 24576 KB

From /proc/meminfo

MemTotal: 1058808572 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

/usr/bin/lsb_release -d

Red Hat Enterprise Linux Server release 6.2 (Santiago)

From /etc/*release* /etc/*version*

redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)

system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)

system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:

Linux RH5885-24 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011

x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 1 11:08

SPEC is set to: /home/cpu2006

Filesystem Type Size Used Avail Use% Mounted on

/dev/mapper/vg_rh588524-lv_home

ext4 409G 16G 373G 4% /home

Additional information from dmidecode:

BIOS American Megatrends Inc. RGPUC-BIOS-V023 12/17/2012

Memory:

64x 16 GB

64x Hyundai HMT42GR7BMR4C-H9 16 GB 1067 MHz 4 rank

(End of data from sysinfo program)

Descriptions about memory generated by sysinfo are not correct, only 64 DIMMs are installed not 128, see descriptions below.

Memory:

64x Hyundai HMT42GR7BMR4C-H9 16 GB 1067 MHz 4 rank



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 60.4

Tecal RH5885 V2 (Intel Xeon E7-4860)

SPECfp_base2006 = 58.1

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2013

Hardware Availability: Oct-2012

Software Availability: Oct-2012

General Notes

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

KMP_AFFINITY = "granularity=fine,compact,1,0"

LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"

OMP_NUM_THREADS = "40"

Binaries compiled on a system with 4x Xeon E7-8870 CPU + 1024GB memory using RHEL6.2

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

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

Huawei

SPECfp2006 = 60.4

Tecal RH5885 V2 (Intel Xeon E7-4860)

SPECfp_base2006 = 58.1

CPU2006 license: 3175

Test date: Feb-2013

Test sponsor: Huawei

Hardware Availability: Oct-2012

Tested by: Huawei

Software Availability: Oct-2012

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

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 60.4

Tecal RH5885 V2 (Intel Xeon E7-4860)

SPECfp_base2006 = 58.1

CPU2006 license: 3175

Test date: Feb-2013

Test sponsor: Huawei

Hardware Availability: Oct-2012

Tested by: Huawei

Software Availability: Oct-2012

Peak Optimization Flags (Continued)

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

447.dealIII: 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 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/Huawei-Platform-Settings-revG.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/Huawei-Platform-Settings-revG.xml>

Standard Performance Evaluation Corporation

info@spec.org

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

Page 6



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei	SPECfp2006 =	60.4
Tecal RH5885 V2 (Intel Xeon E7-4860)	SPECfp_base2006 =	58.1

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Feb-2013
Hardware Availability: Oct-2012
Software Availability: Oct-2012

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 15:11:00 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 February 2013.