



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp[®]2006 = 50.4

Huawei CH222 V3 (Intel Xeon E5-2609 v3)

SPECfp_base2006 = 48.3

CPU2006 license: 3175

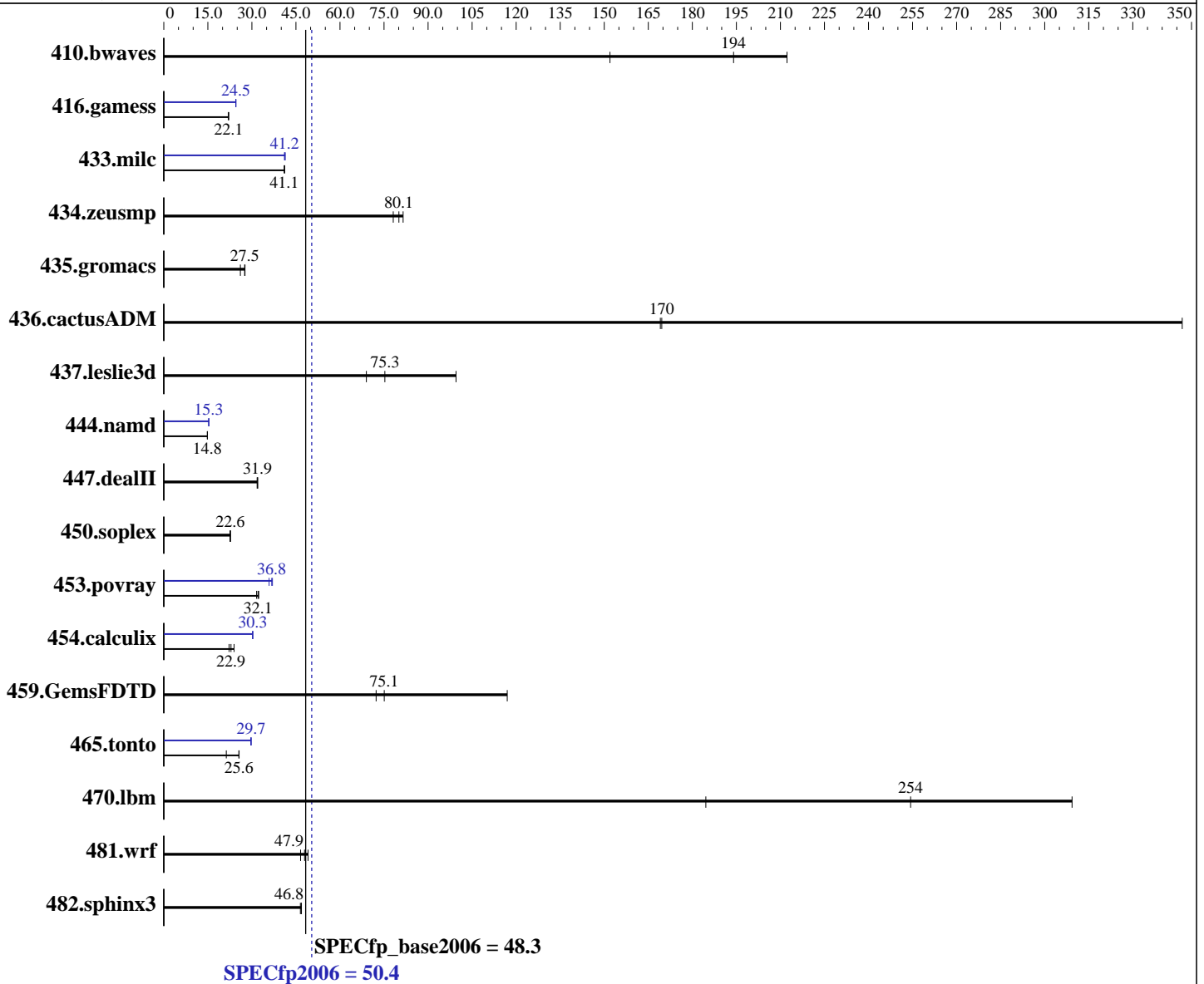
Test sponsor: Huawei

Tested by: Huawei

Test date: Jul-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2609 v3
 CPU Characteristics:
 CPU MHz: 1900
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
 CPU(s) orderable: 1,2 chip
 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 6.5 (Santiago)
 2.6.32-431.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;
 Fortran: Version 14.0.0.080 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 = **50.4**

Huawei CH222 V3 (Intel Xeon E5-2609 v3)

SPECfp_base2006 = **48.3**

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jul-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

L3 Cache: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (16 x 8 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
 Disk Subsystem: 1 x 256 GB SATA, SSD
 Other Hardware: None

System State: Run level 5 (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	89.4	152	<u>70.0</u>	<u>194</u>	64.0	212	89.4	152	<u>70.0</u>	<u>194</u>	64.0	212
416.gamess	<u>888</u>	<u>22.1</u>	888	22.1	889	22.0	797	24.6	<u>798</u>	<u>24.5</u>	799	24.5
433.milc	223	41.2	<u>224</u>	<u>41.1</u>	224	41.0	<u>223</u>	<u>41.2</u>	222	41.4	223	41.1
434.zeusmp	116	78.1	<u>114</u>	<u>80.1</u>	112	81.5	116	78.1	<u>114</u>	<u>80.1</u>	112	81.5
435.gromacs	<u>259</u>	<u>27.5</u>	258	27.7	274	26.1	<u>259</u>	<u>27.5</u>	258	27.7	274	26.1
436.cactusADM	70.7	169	<u>70.5</u>	<u>170</u>	34.5	347	70.7	169	<u>70.5</u>	<u>170</u>	34.5	347
437.leslie3d	<u>125</u>	<u>75.3</u>	136	69.0	94.5	99.5	<u>125</u>	<u>75.3</u>	136	69.0	94.5	99.5
444.namd	540	14.8	<u>540</u>	<u>14.8</u>	540	14.8	524	15.3	523	15.3	<u>523</u>	<u>15.3</u>
447.dealII	358	31.9	<u>358</u>	<u>31.9</u>	360	31.8	358	31.9	<u>358</u>	<u>31.9</u>	360	31.8
450.soplex	<u>369</u>	<u>22.6</u>	367	22.7	369	22.6	<u>369</u>	<u>22.6</u>	367	22.7	369	22.6
453.povray	165	32.3	<u>166</u>	<u>32.1</u>	168	31.6	148	35.9	144	37.0	<u>145</u>	<u>36.8</u>
454.calculix	345	23.9	371	22.2	<u>361</u>	<u>22.9</u>	272	30.3	<u>272</u>	<u>30.3</u>	273	30.2
459.GemsFDTD	<u>141</u>	<u>75.1</u>	90.7	117	147	72.3	<u>141</u>	<u>75.1</u>	90.7	117	147	72.3
465.tonto	462	21.3	384	25.6	<u>385</u>	<u>25.6</u>	331	29.7	331	29.7	<u>331</u>	<u>29.7</u>
470.lbm	<u>54.0</u>	<u>254</u>	74.4	185	44.4	309	<u>54.0</u>	<u>254</u>	74.4	185	44.4	309
481.wrf	<u>233</u>	<u>47.9</u>	227	49.1	240	46.6	<u>233</u>	<u>47.9</u>	227	49.1	240	46.6
482.sphinx3	<u>416</u>	<u>46.8</u>	416	46.9	419	46.5	<u>416</u>	<u>46.8</u>	416	46.9	419	46.5

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:
 Set Power Efficiency Mode to Custom
 Set Snoop Mode to HS
 Set Hyper-Threading to Disabled
 Baseboard Management Controller used to adjust the fan speed to 100%
 Sysinfo program /spec/config/sysinfo.rev6818
 \$Rev: 6818 \$ \$Date:: 2012-07-17 # \$ e86d102572650a6e4d596a3cee98f191
 running on xjt Mon Jul 28 15:03:55 2014

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei	SPECfp2006 =	50.4
Huawei CH222 V3 (Intel Xeon E5-2609 v3)	SPECfp_base2006 =	48.3

CPU2006 license: 3175	Test date: Jul-2014
Test sponsor: Huawei	Hardware Availability: Sep-2014
Tested by: Huawei	Software Availability: Nov-2013

Platform Notes (Continued)

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 v3 @ 1.90GHz
 2 "physical id"s (chips)
 12 "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     : 6
  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:      131928996 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.5 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux xjt 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013 x86_64
x86_64 x86_64 GNU/Linux
```

```
run-level 5 Jul 28 04:49 last=3
```

```
SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal       ext4  222G  44G  167G  21% /
```

```
Additional information from dmidecode:
BIOS Insyde Corp. 8.09 07/14/2014
Memory:
 8x Micron 18ASF1G72PDZ-2G1A1 8 GB 1600 MHz 1 rank
 8x Micron 18ASF1G72PDZ-2G1A1 8 GB 1600 MHz 2 rank
 8x NO DIMM NO DIMM          3 rank
```

(End of data from sysinfo program)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 50.4

Huawei CH222 V3 (Intel Xeon E5-2609 v3)

SPECfp_base2006 = 48.3

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jul-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

General Notes

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

LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64:/spec/sh"

OMP_NUM_THREADS = "12"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

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>

The Huawei CH121 V3 and Huawei CH222 V3 are electronically equivalent.

The results have been measured on a Huawei CH121 V3 model

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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 50.4

Huawei CH222 V3 (Intel Xeon E5-2609 v3)

SPECfp_base2006 = 48.3

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jul-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 50.4

Huawei CH222 V3 (Intel Xeon E5-2609 v3)

SPECfp_base2006 = 48.3

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jul-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xCORE-AVX2(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: -xCORE-AVX2(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: -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: basepeak = yes

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

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -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-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-IVB-RevG.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-IVB-RevG.xml>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 50.4

Huawei CH222 V3 (Intel Xeon E5-2609 v3)

SPECfp_base2006 = 48.3

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jul-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

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 Wed Oct 22 12:20:12 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 October 2014.