



SPEC[®] CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp[®]2006 = **106**

Huawei CH226 V3 (Intel Xeon E5-2670 v3)

SPECfp_base2006 = **102**

CPU2006 license: 3175

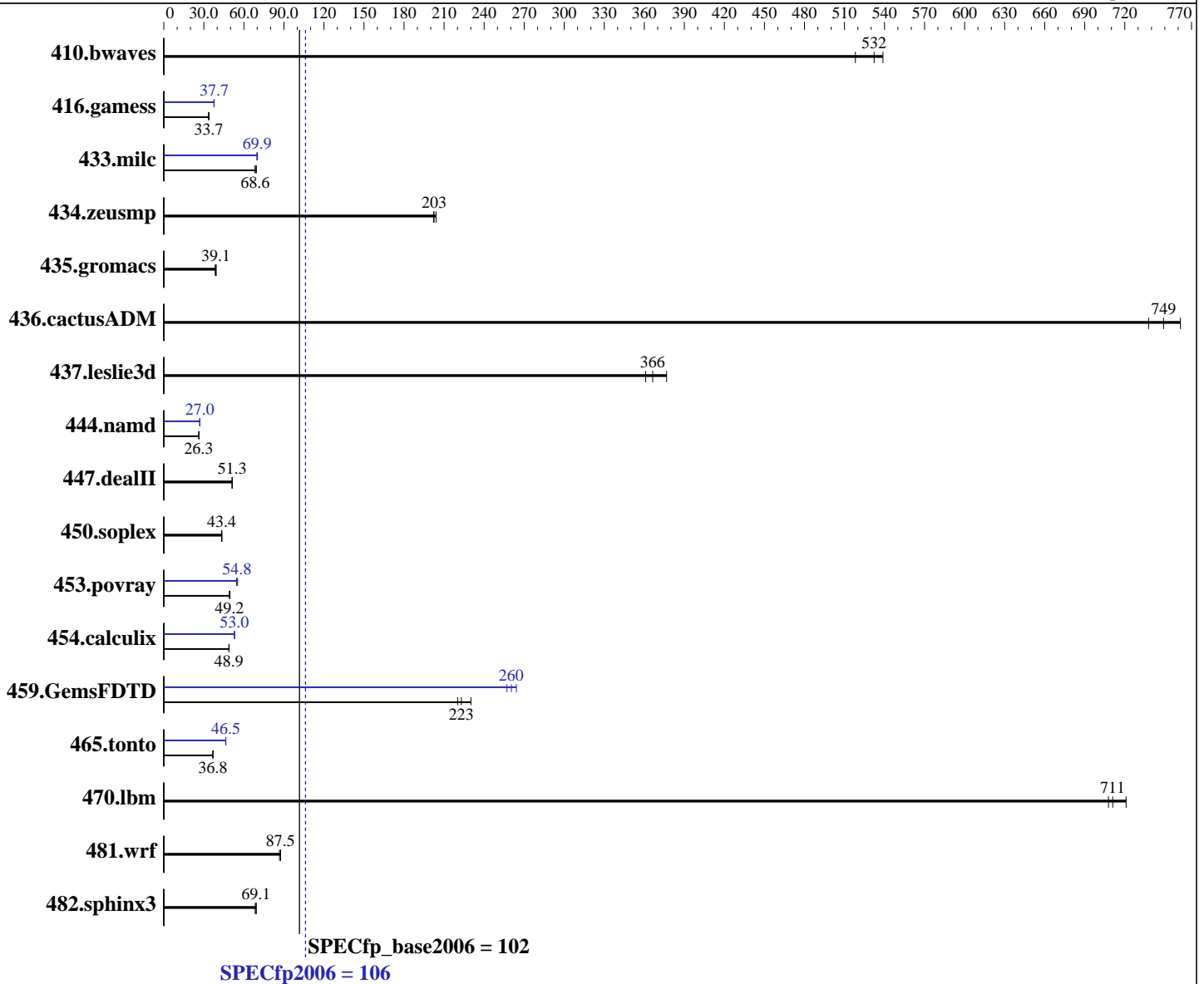
Test date: Sep-2015

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E5-2670 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 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 7.0 (Maipo)
 3.10.0-123.el7.x86_64
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux;
 Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = **106**

Huawei CH226 V3 (Intel Xeon E5-2670 v3)

SPECfp_base2006 = **102**

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

L3 Cache: 30 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 300 GB SAS, 10000 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	26.2	518	25.2	539	<u>25.5</u>	<u>532</u>	26.2	518	25.2	539	<u>25.5</u>	<u>532</u>
416.gamess	<u>581</u>	<u>33.7</u>	581	33.7	582	33.6	521	37.5	<u>519</u>	<u>37.7</u>	519	37.7
433.milc	<u>134</u>	<u>68.6</u>	134	68.4	132	69.4	132	69.8	<u>131</u>	<u>69.9</u>	131	70.2
434.zeusmp	45.0	202	44.6	204	<u>44.9</u>	<u>203</u>	45.0	202	44.6	204	<u>44.9</u>	<u>203</u>
435.gromacs	<u>183</u>	<u>39.1</u>	182	39.1	186	38.5	<u>183</u>	<u>39.1</u>	182	39.1	186	38.5
436.cactusADM	16.2	738	<u>16.0</u>	<u>749</u>	15.7	762	16.2	738	<u>16.0</u>	<u>749</u>	15.7	762
437.leslie3d	26.0	361	<u>25.7</u>	<u>366</u>	25.0	377	26.0	361	<u>25.7</u>	<u>366</u>	25.0	377
444.namd	<u>305</u>	<u>26.3</u>	306	26.2	305	26.3	297	27.0	298	26.9	<u>298</u>	<u>27.0</u>
447.dealII	224	51.1	223	51.3	<u>223</u>	<u>51.3</u>	224	51.1	223	51.3	<u>223</u>	<u>51.3</u>
450.soplex	192	43.4	192	43.5	<u>192</u>	<u>43.4</u>	192	43.4	192	43.5	<u>192</u>	<u>43.4</u>
453.povray	108	49.2	107	49.6	<u>108</u>	<u>49.2</u>	96.3	55.3	<u>97.1</u>	<u>54.8</u>	97.6	54.5
454.calculix	169	48.9	<u>169</u>	<u>48.9</u>	169	48.8	156	53.0	<u>156</u>	<u>53.0</u>	156	53.0
459.GemsFDTD	48.2	220	46.1	230	<u>47.6</u>	<u>223</u>	40.2	264	<u>40.7</u>	<u>260</u>	41.3	257
465.tonto	<u>267</u>	<u>36.8</u>	268	36.8	267	36.9	212	46.5	<u>212</u>	<u>46.5</u>	212	46.5
470.lbm	19.4	708	19.1	721	<u>19.3</u>	<u>711</u>	19.4	708	19.1	721	<u>19.3</u>	<u>711</u>
481.wrf	128	87.5	129	86.7	<u>128</u>	<u>87.5</u>	128	87.5	129	86.7	<u>128</u>	<u>87.5</u>
482.sphinx3	285	68.5	<u>282</u>	<u>69.1</u>	281	69.3	285	68.5	<u>282</u>	<u>69.1</u>	281	69.3

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 mode
 Set Patrol Scrub to Disable
 Set Hyper-Threading to Disable
 Sysinfo program /spec/config/sysinfo.rev6914
 \$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
 running on localhost.localdomain Sun Sep 6 05:10:17 2015

This section contains SUT (System Under Test) info as seen by
Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 106

Huawei CH226 V3 (Intel Xeon E5-2670 v3)

SPECfp_base2006 = 102

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Platform Notes (Continued)

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 E5-2670 v3 @ 2.30GHz
    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 : 12
    siblings  : 12
    physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
    physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
  cache size : 30720 KB

```

```

From /proc/meminfo
MemTotal:      263578440 kB
HugePages_Total:      0
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 Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

```

```

uname -a:
Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57
EDT 2014 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Sep 6 05:09

```

SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal       ext4  443G   98G  323G  24% /

```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Insyde Corp. 1.39 05/06/2015

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 106

Huawei CH226 V3 (Intel Xeon E5-2670 v3)

SPECfp_base2006 = 102

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Platform Notes (Continued)

Memory:

8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz

8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz

8x NO DIMM NO DIMM 3 rank

(End of data from sysinfo program)

General Notes

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

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

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

OMP_NUM_THREADS = "24"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

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

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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 106

Huawei CH226 V3 (Intel Xeon E5-2670 v3)

SPECfp_base2006 = 102

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Base Portability Flags (Continued)

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 -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



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 106

Huawei CH226 V3 (Intel Xeon E5-2670 v3)

SPECfp_base2006 = 102

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

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

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: -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 -opt-prefetch -parallel

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 106

Huawei CH226 V3 (Intel Xeon E5-2670 v3)

SPECfp_base2006 = 102

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Peak Optimization Flags (Continued)

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-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.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 Oct 6 13:12:01 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 6 October 2015.