



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp<sup>®</sup>2006 = 105

### Huawei CH121 (Intel Xeon E5-2643 v2)

SPECfp\_base2006 = 101

CPU2006 license: 3175

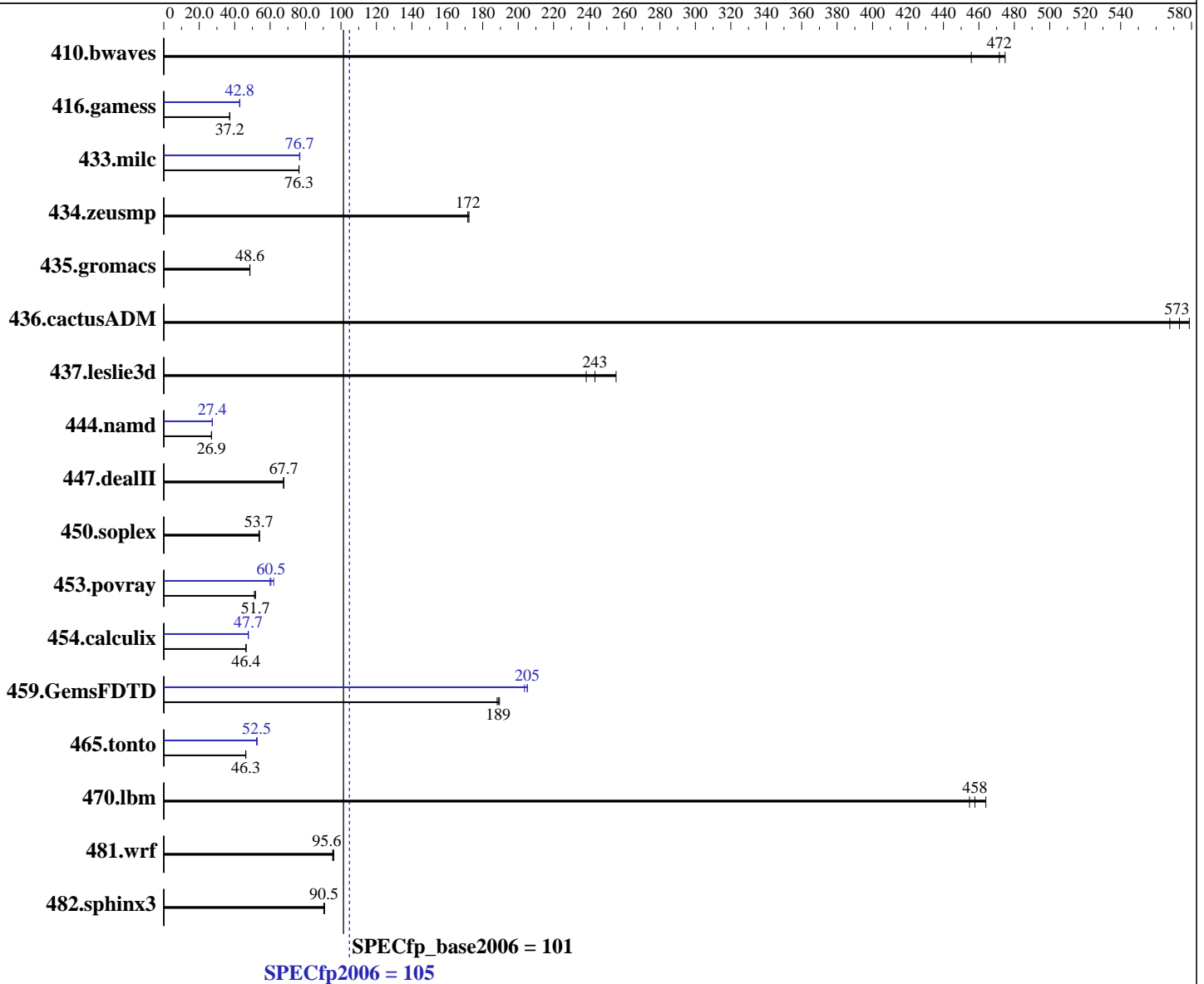
Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013



#### Hardware

CPU Name: Intel Xeon E5-2643 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
 CPU MHz: 3500  
 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 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: ext4

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp2006 = **105**

## Huawei CH121 (Intel Xeon E5-2643 v2)

SPECfp\_base2006 = **101**

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

L3 Cache: 25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)  
 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	29.8	456	<b>28.8</b>	<b>472</b>	28.6	475	29.8	456	<b>28.8</b>	<b>472</b>	28.6	475
416.gamess	<b>526</b>	<b>37.2</b>	526	37.2	526	37.2	457	42.9	<b>457</b>	<b>42.8</b>	457	42.8
433.milc	120	76.3	120	76.3	<b>120</b>	<b>76.3</b>	<b>120</b>	<b>76.7</b>	120	76.7	120	76.8
434.zeusmp	52.8	172	<b>53.0</b>	<b>172</b>	53.0	172	52.8	172	<b>53.0</b>	<b>172</b>	53.0	172
435.gromacs	<b>147</b>	<b>48.6</b>	147	48.6	147	48.5	<b>147</b>	<b>48.6</b>	147	48.6	147	48.5
436.cactusADM	20.6	579	21.0	568	<b>20.8</b>	<b>573</b>	20.6	579	21.0	568	<b>20.8</b>	<b>573</b>
437.leslie3d	<b>38.6</b>	<b>243</b>	36.8	255	39.4	238	<b>38.6</b>	<b>243</b>	36.8	255	39.4	238
444.namd	<b>298</b>	<b>26.9</b>	298	26.9	298	26.9	293	27.4	293	27.4	<b>293</b>	<b>27.4</b>
447.dealII	169	67.6	169	67.7	<b>169</b>	<b>67.7</b>	169	67.6	169	67.7	<b>169</b>	<b>67.7</b>
450.soplex	<b>155</b>	<b>53.7</b>	154	54.1	155	53.7	<b>155</b>	<b>53.7</b>	154	54.1	155	53.7
453.povray	104	51.1	103	51.8	<b>103</b>	<b>51.7</b>	<b>88.0</b>	<b>60.5</b>	88.7	60.0	85.7	62.0
454.calculix	<b>178</b>	<b>46.4</b>	178	46.4	178	46.3	173	47.7	173	47.7	<b>173</b>	<b>47.7</b>
459.GemsFDTD	<b>56.2</b>	<b>189</b>	56.4	188	56.0	189	<b>51.7</b>	<b>205</b>	52.1	204	51.7	205
465.tonto	213	46.3	<b>213</b>	<b>46.3</b>	213	46.3	187	52.7	188	52.4	<b>188</b>	<b>52.5</b>
470.lbm	29.6	464	30.2	455	<b>30.0</b>	<b>458</b>	29.6	464	30.2	455	<b>30.0</b>	<b>458</b>
481.wrf	<b>117</b>	<b>95.6</b>	117	95.3	116	95.9	<b>117</b>	<b>95.6</b>	117	95.3	116	95.9
482.sphinx3	<b>215</b>	<b>90.5</b>	216	90.3	215	90.7	<b>215</b>	<b>90.5</b>	216	90.3	215	90.7

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 Hyper-Threading to Disabled  
 Baseboard Management Controller used to adjust the fan speed to 100%  
 Sysinfo program /spec/config/sysinfo.rev6800  
 \$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
 running on RHEL Fri Aug 8 11:23:47 2014

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 = 105

Huawei CH121 (Intel Xeon E5-2643 v2)

SPECfp\_base2006 = 101

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

## Platform Notes (Continued)

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

From /proc/cpuinfo

model name : Intel(R) Xeon(R) CPU E5-2643 v2 @ 3.50GHz

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 2 3 4 8 9 10

physical 1: cores 2 3 4 8 9 10

cache size : 25600 KB

From /proc/meminfo

MemTotal: 264478184 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 RHEL 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 3 Aug 7 20:44

SPEC is set to: /spec

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	ext4	265G	22G	230G	9%	/

Additional information from dmidecode:

Memory:

2x Hynix HMT42GR7AFR4C-RD 16 GB 1867 MHz 2 rank

8x Samsung M393B2G70DB0-CMA 16 GB 1867 MHz 2 rank

6x Samsung M393B2G70QH0-CMA 16 GB 1867 MHz 2 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,0,1"

LD\_LIBRARY\_PATH = "/spec/libs/32:/spec/libs/64"

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

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

Page 3



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 105

Huawei CH121 (Intel Xeon E5-2643 v2)

SPECfp\_base2006 = 101

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

## General Notes (Continued)

OMP\_NUM\_THREADS = "12"

Binaries compiled on a system with 2 x Xeon X5645 CPU + 16GB memory using RHEL 6.1

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat\_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  
 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:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

<b>Huawei</b>	<b>SPECfp2006 =</b>	<b>105</b>
<b>Huawei CH121 (Intel Xeon E5-2643 v2)</b>	<b>SPECfp_base2006 =</b>	<b>101</b>

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

**Test date:** Aug-2014  
**Hardware Availability:** Sep-2013  
**Software Availability:** Nov-2013

## Base Optimization Flags (Continued)

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

`-xAVX -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: -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  
-ansi-alias`

`470.lbm: basepeak = yes`

`482.sphinx3: basepeak = yes`

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`

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 105

Huawei CH121 (Intel Xeon E5-2643 v2)

SPECfp\_base2006 = 101

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

## Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

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: basepeak = yes

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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

465.tonto: -xAVX(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: -xAVX -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-linux64.20120425.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-ic12.1-official-linux64.20120425.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 = 105

Huawei CH121 (Intel Xeon E5-2643 v2)

SPECfp\_base2006 = 101

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2014

Hardware Availability: Sep-2013

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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Sep 10 16:30:19 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 10 September 2014.