



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Huawei

SPECfp<sup>®</sup>2006 = **Not Run**

Huawei RH5885H V3 (Intel Xeon E7-8891 v4)

SPECfp\_base2006 = **115**

CPU2006 license: 3175

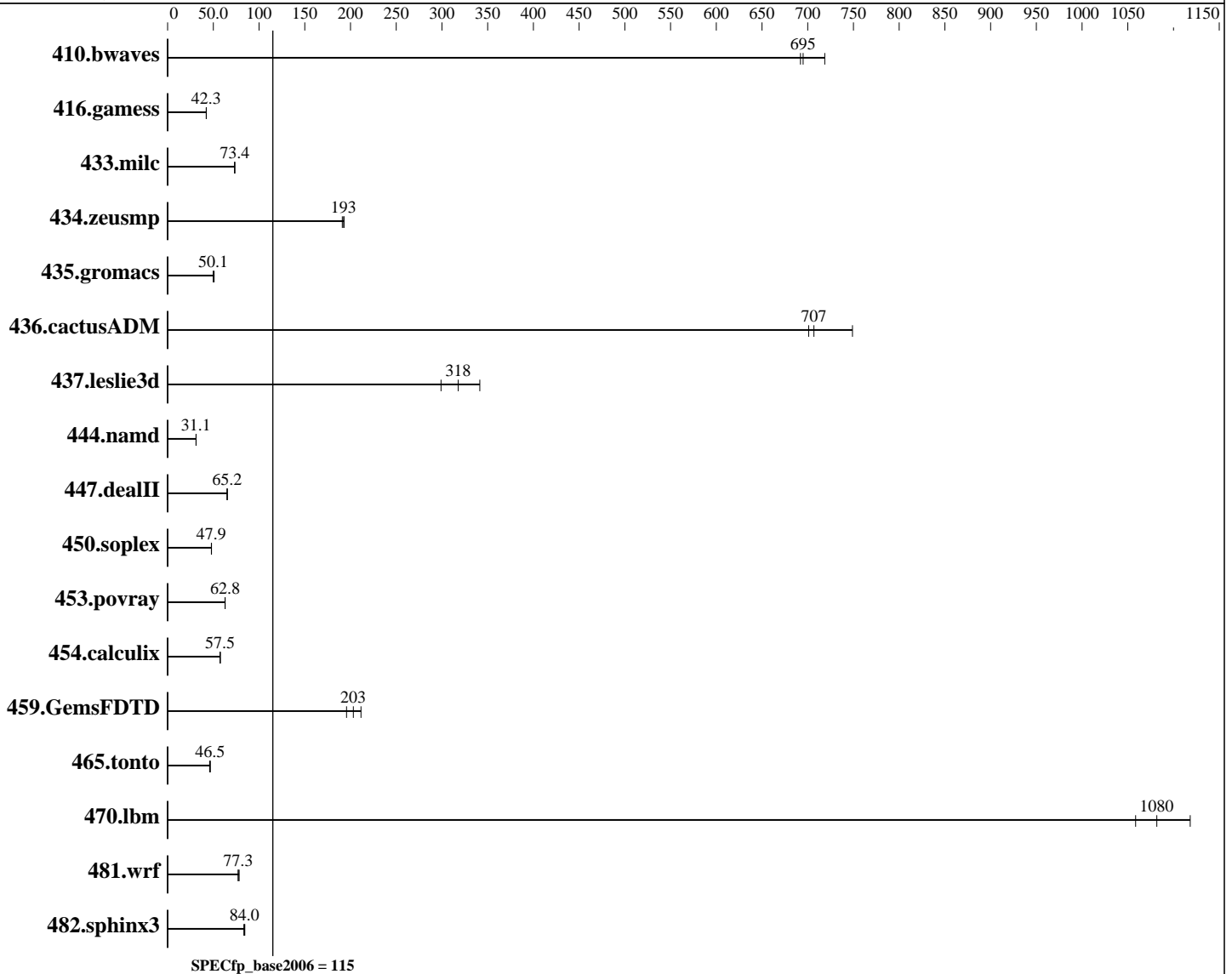
Test sponsor: Huawei

Tested by: Huawei

Test date: May-2016

Hardware Availability: Jun-2016

Software Availability: Oct-2015



### Hardware

CPU Name: Intel Xeon E7-8891 v4  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 40 cores, 4 chips, 10 cores/chip  
 CPU(s) orderable: 2,4 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 7.2 (Maipo)  
 3.10.0-327.el7.x86\_64  
 Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux;  
 Fortran: Version 16.0.0.101 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: tmpfs

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Huawei

SPECfp2006 = **Not Run**

Huawei RH5885H V3 (Intel Xeon E7-8891 v4)

SPECfp\_base2006 = **115**

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2016

Hardware Availability: Jun-2016

Software Availability: Oct-2015

L3 Cache: 60 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 512 GB (32 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)  
 Disk Subsystem: 2 x 600GB SAS, 10K 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	18.9	719	<b><u>19.6</u></b>	<b><u>695</u></b>	19.6	692						
416.gamess	463	42.3	<b><u>463</u></b>	<b><u>42.3</u></b>	463	42.3						
433.milc	<b><u>125</u></b>	<b><u>73.4</u></b>	125	73.4	125	73.3						
434.zeusmp	<b><u>47.3</u></b>	<b><u>193</u></b>	47.2	193	47.6	191						
435.gromacs	<b><u>143</u></b>	<b><u>50.1</u></b>	143	50.0	140	50.9						
436.cactusADM	17.0	701	16.0	749	<b><u>16.9</u></b>	<b><u>707</u></b>						
437.leslie3d	<b><u>29.6</u></b>	<b><u>318</u></b>	27.5	341	31.4	299						
444.namd	<b><u>258</u></b>	<b><u>31.1</u></b>	258	31.1	258	31.1						
447.dealII	175	65.2	<b><u>175</u></b>	<b><u>65.2</u></b>	176	65.0						
450.soplex	174	48.0	<b><u>174</u></b>	<b><u>47.9</u></b>	174	47.9						
453.povray	84.5	62.9	84.7	62.8	<b><u>84.7</u></b>	<b><u>62.8</u></b>						
454.calculix	143	57.5	<b><u>143</u></b>	<b><u>57.5</u></b>	144	57.4						
459.GemsFDTD	50.2	211	54.2	196	<b><u>52.2</u></b>	<b><u>203</u></b>						
465.tonto	211	46.6	<b><u>211</u></b>	<b><u>46.5</u></b>	214	45.9						
470.lbm	12.3	1120	<b><u>12.7</u></b>	<b><u>1080</u></b>	13.0	1060						
481.wrf	145	77.2	<b><u>145</u></b>	<b><u>77.3</u></b>	143	78.2						
482.sphinx3	<b><u>232</u></b>	<b><u>84.0</u></b>	234	83.4	231	84.4						

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"  
 Turbo mode set with:  
 cpupower -c all frequency-set -g performance  
 Tmpfs filesystem can be set with:  
 mkdir /home/shm  
 mount -t tmpfs -o size=100g,rw tmpfs /home/shm

## Platform Notes

BIOS configuration:  
 Set Power Efficiency Mode to Custom  
 Set Lock\_step to disabled  
 Baseboard Management Controller used to adjust the fan speed to 100%

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = Not Run

Huawei RH5885H V3 (Intel Xeon E7-8891 v4)

SPECfp\_base2006 = 115

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2016

Hardware Availability: Jun-2016

Software Availability: Oct-2015

## Platform Notes (Continued)

```
Set C-State to C6(Retention)
Set Hyper-Threading to disabled
Sysinfo program /home/shm/spec/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Tue May 17 07:54:58 2016
```

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 E7-8891 v4 @ 2.80GHz
 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 5 9 10 11 13 18 24 26 28 29
  physical 1: cores 5 9 10 11 13 18 24 26 28 29
  physical 2: cores 5 9 10 11 13 18 24 26 28 29
  physical 3: cores 5 9 10 11 13 18 24 26 28 29
cache size : 61440 KB
```

```
From /proc/meminfo
MemTotal: 528282080 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.2 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.2"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.2 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.2:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.2:ga:server
```

```
uname -a:
Linux localhost.localdomain 3.10.0-327.el7.x86_64 #1 SMP Thu Oct 29 17:29:29
EDT 2015 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 May 17 04:01

```
SPEC is set to: /home/shm/spec
Filesystem      Type      Size      Used Avail Use% Mounted on
Continued on next page
```



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = Not Run

Huawei RH5885H V3 (Intel Xeon E7-8891 v4)

SPECfp\_base2006 = 115

CPU2006 license: 3175

Test date: May-2016

Test sponsor: Huawei

Hardware Availability: Jun-2016

Tested by: Huawei

Software Availability: Oct-2015

## Platform Notes (Continued)

tmpfs tmpfs 100G 5.3G 95G 6% /home/shm  
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 American Megatrends Inc. 5.11 02/05/2016

Memory:

64x NO DIMM NO DIMM

32x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1600 MHz

(End of data from sysinfo program)

Regarding the sysinfo display about the memory installed, the correct amount of memory is 512 GB and the dmidecode description should have two lines reading as:

64x NO DIMM NO DIMM

32x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1600 MHz

## General Notes

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

KMP\_AFFINITY = "granularity=fine,compact,1,0"

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

OMP\_NUM\_THREADS = "40"

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/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



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = Not Run

Huawei RH5885H V3 (Intel Xeon E7-8891 v4)

SPECfp\_base2006 = 115

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2016

Hardware Availability: Jun-2016

Software Availability: Oct-2015

## 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:

```

-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

```

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.2-HSW-RevG.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.2-HSW-RevG.xml>



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = Not Run

Huawei RH5885H V3 (Intel Xeon E7-8891 v4)

SPECfp\_base2006 = 115

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2016

Hardware Availability: Jun-2016

Software Availability: Oct-2015

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 Thu Jun 30 13:53:37 2016 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 6 June 2016.