



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp<sup>®</sup>2006 = 73.1

Huawei RH2288E V2 (Intel Xeon E5-2630)

SPECfp\_base2006 = 70.8

CPU2006 license: 3175

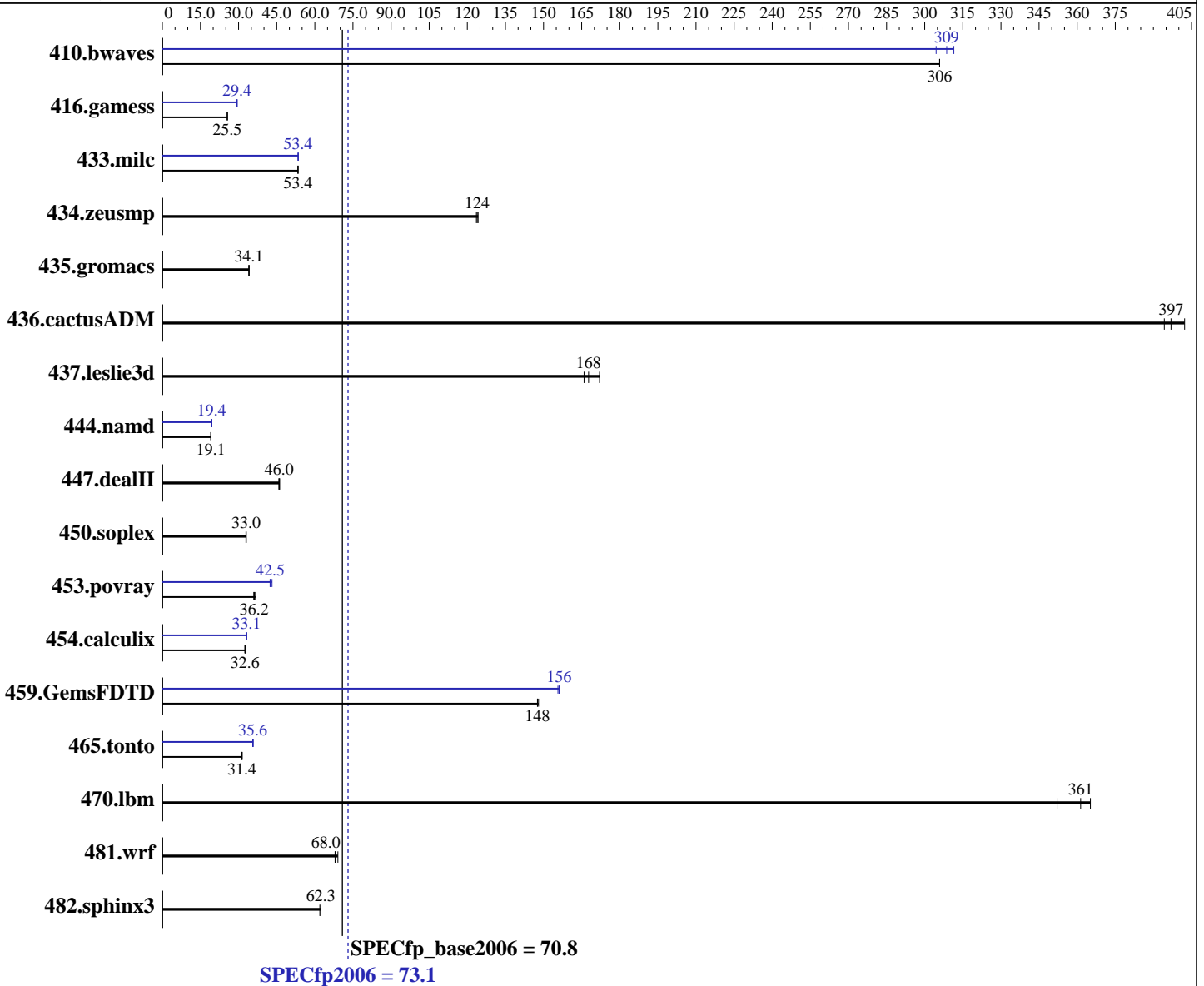
Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Mar-2012

Software Availability: Nov-2013



### Hardware

CPU Name: Intel Xeon E5-2630  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
 CPU MHz: 2300  
 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 = **73.1**

Huawei RH2288E V2 (Intel Xeon E5-2630)

SPECfp\_base2006 = **70.8**

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Mar-2012

Software Availability: Nov-2013

L3 Cache: 15 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC)  
 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	44.4	306	<b>44.4</b>	<b>306</b>	44.4	306	44.6	304	43.6	311	<b>44.0</b>	<b>309</b>
416.gamess	<b>767</b>	<b>25.5</b>	767	25.5	765	25.6	666	29.4	<b>666</b>	<b>29.4</b>	666	29.4
433.milc	172	53.4	172	53.3	<b>172</b>	<b>53.4</b>	<b>172</b>	<b>53.4</b>	172	53.4	172	53.5
434.zeusmp	73.2	124	<b>73.4</b>	<b>124</b>	73.6	124	73.2	124	<b>73.4</b>	<b>124</b>	73.6	124
435.gromacs	209	34.1	<b>209</b>	<b>34.1</b>	210	34.0	209	34.1	<b>209</b>	<b>34.1</b>	210	34.0
436.cactusADM	30.3	394	<b>30.1</b>	<b>397</b>	29.7	402	30.3	394	<b>30.1</b>	<b>397</b>	29.7	402
437.leslie3d	<b>56.0</b>	<b>168</b>	54.6	172	56.6	166	<b>56.0</b>	<b>168</b>	54.6	172	56.6	166
444.namd	<b>420</b>	<b>19.1</b>	420	19.1	420	19.1	413	19.4	<b>413</b>	<b>19.4</b>	413	19.4
447.dealII	250	45.8	<b>249</b>	<b>46.0</b>	248	46.2	250	45.8	<b>249</b>	<b>46.0</b>	248	46.2
450.soplex	<b>253</b>	<b>33.0</b>	254	32.9	253	33.0	<b>253</b>	<b>33.0</b>	254	32.9	253	33.0
453.povray	<b>147</b>	<b>36.2</b>	148	36.0	145	36.6	<b>125</b>	<b>42.5</b>	123	43.2	125	42.4
454.calculix	253	32.6	<b>253</b>	<b>32.6</b>	254	32.5	250	33.0	<b>249</b>	<b>33.1</b>	248	33.2
459.GemsFDTD	71.9	148	<b>71.9</b>	<b>148</b>	71.7	148	<b>68.0</b>	<b>156</b>	68.0	156	68.2	156
465.tonto	315	31.2	314	31.4	<b>314</b>	<b>31.4</b>	275	35.8	<b>276</b>	<b>35.6</b>	277	35.6
470.lbm	<b>38.0</b>	<b>361</b>	39.0	352	37.6	365	<b>38.0</b>	<b>361</b>	39.0	352	37.6	365
481.wrf	162	69.1	164	68.0	<b>164</b>	<b>68.0</b>	162	69.1	164	68.0	<b>164</b>	<b>68.0</b>
482.sphinx3	<b>313</b>	<b>62.3</b>	313	62.4	315	62.0	<b>313</b>	<b>62.3</b>	313	62.4	315	62.0

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 speccputest Tue Sep 9 23:49:45 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 = 73.1

Huawei RH2288E V2 (Intel Xeon E5-2630)

SPECfp\_base2006 = 70.8

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Mar-2012

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 E5-2630 0 @ 2.30GHz
 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:      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 speccputest 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 Sep 9 16:36

SPEC is set to: /spec

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2        ext4  451G   75G  354G  18% /
```

Additional information from dmidecode:

```
Memory:
 16x Hynix HMT42GR7MFR4C-PB 16 GB 1600 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"
OMP_NUM_THREADS = "12"
```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 73.1

Huawei RH2288E V2 (Intel Xeon E5-2630)

SPECfp\_base2006 = 70.8

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Mar-2012

Software Availability: Nov-2013

## General Notes (Continued)

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

Huawei

SPECfp2006 = 73.1

Huawei RH2288E V2 (Intel Xeon E5-2630)

SPECfp\_base2006 = 70.8

CPU2006 license: 3175

Test date: Sep-2014

Test sponsor: Huawei

Hardware Availability: Mar-2012

Tested by: Huawei

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 = 73.1

Huawei RH2288E V2 (Intel Xeon E5-2630)

SPECfp\_base2006 = 70.8

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Mar-2012

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

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 = 73.1

Huawei RH2288E V2 (Intel Xeon E5-2630)

SPECfp\_base2006 = 70.8

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Mar-2012

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 Thu Nov 6 13:48:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 6 November 2014.