



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp®\_rate2006 = 383

Huawei RH2285H v2 (Intel Xeon E5-2430 v2)

SPECfp\_rate\_base2006 = 374

CPU2006 license: 3175

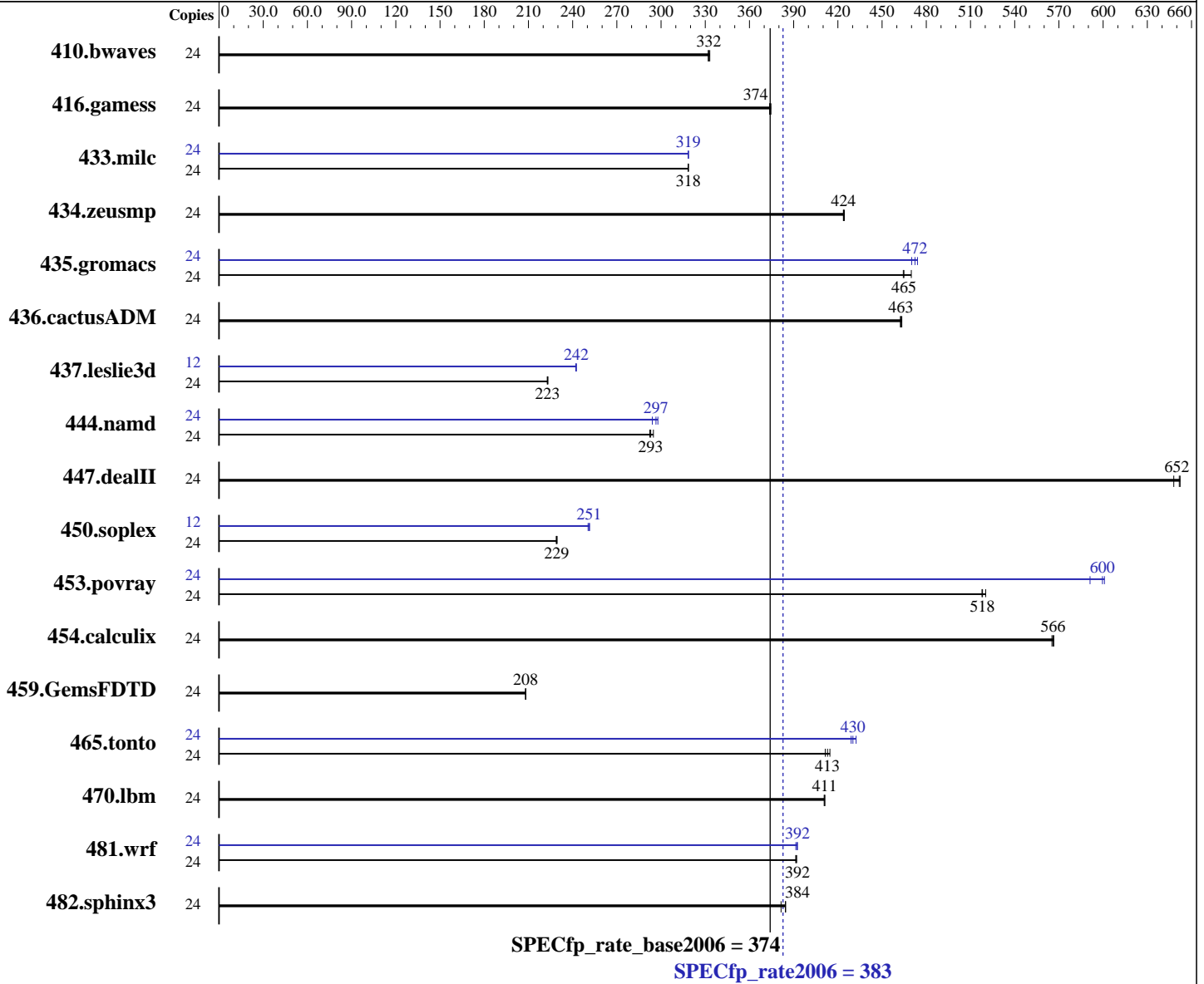
Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2014

Hardware Availability: Mar-2014

Software Availability: Nov-2013



### Hardware

CPU Name: Intel Xeon E5-2430 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz  
 CPU MHz: 2500  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core  
 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: No  
 File System: ext4

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp\_rate2006 = 383

Huawei RH2285H v2 (Intel Xeon E5-2430 v2)

SPECfp\_rate\_base2006 = 374

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2014

Hardware Availability: Mar-2014

Software Availability: Nov-2013

L3 Cache: 15 MB I+D on chip per chip  
Other Cache: None  
Memory: 96 GB (12 x 8 GB 2Rx4 PC3-12800R-11, ECC)  
Disk Subsystem: 1 x 300 GB SAS, 10000 RPM  
Other Hardware: None

System State: Run level 3 (multi-user)  
Base Pointers: 32/64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	979	333	982	332	<b>981</b>	<b>332</b>	24	979	333	982	332	<b>981</b>	<b>332</b>
416.gamess	24	<b>1257</b>	<b>374</b>	1254	375	1258	374	24	<b>1257</b>	<b>374</b>	1254	375	1258	374
433.milc	24	<b>692</b>	<b>318</b>	692	319	692	318	24	<b>692</b>	<b>319</b>	692	319	692	319
434.zeusmp	24	515	424	<b>515</b>	<b>424</b>	515	424	24	515	424	<b>515</b>	<b>424</b>	515	424
435.gromacs	24	<b>369</b>	<b>465</b>	369	464	365	470	24	361	474	365	470	<b>363</b>	<b>472</b>
436.cactusADM	24	620	462	<b>620</b>	<b>463</b>	619	463	24	620	462	<b>620</b>	<b>463</b>	619	463
437.leslie3d	24	<b>1012</b>	<b>223</b>	1011	223	1013	223	12	465	242	466	242	<b>465</b>	<b>242</b>
444.namd	24	658	292	653	295	<b>657</b>	<b>293</b>	24	<b>649</b>	<b>297</b>	646	298	655	294
447.dealII	24	421	652	<b>421</b>	<b>652</b>	424	648	24	421	652	<b>421</b>	<b>652</b>	424	648
450.soplex	24	872	229	<b>873</b>	<b>229</b>	875	229	12	<b>399</b>	<b>251</b>	398	252	400	250
453.povray	24	247	518	<b>246</b>	<b>518</b>	245	520	24	216	591	<b>213</b>	<b>600</b>	212	601
454.calculix	24	350	565	349	567	<b>350</b>	<b>566</b>	24	350	565	349	567	<b>350</b>	<b>566</b>
459.GemsFDTD	24	1224	208	1223	208	<b>1223</b>	<b>208</b>	24	1224	208	1223	208	<b>1223</b>	<b>208</b>
465.tonto	24	570	415	<b>572</b>	<b>413</b>	574	411	24	550	429	546	432	<b>549</b>	<b>430</b>
470.lbm	24	802	411	<b>802</b>	<b>411</b>	803	411	24	802	411	<b>802</b>	<b>411</b>	803	411
481.wrf	24	<b>685</b>	<b>392</b>	685	391	684	392	24	685	391	683	393	<b>683</b>	<b>392</b>
482.sphinx3	24	<b>1217</b>	<b>384</b>	1226	381	1216	385	24	<b>1217</b>	<b>384</b>	1226	381	1216	385

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

Sysinfo program /spec/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
running on localhost.localdomain Mon Jun 23 21:24:51 2014

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 383

Huawei RH2285H v2 (Intel Xeon E5-2430 v2)

SPECfp\_rate\_base2006 = 374

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2014

Hardware Availability: Mar-2014

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 E5-2430 v2 @ 2.50GHz
 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 : 6
siblings  : 12
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:      99010156 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 localhost.localdomain 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 Jun 23 09:20

SPEC is set to: /spec

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2        ext4  540G  41G  473G   8% /
```

Additional information from dmidecode:

```
BIOS Insyde Corp. RMIBV379 03/19/2014
```

Memory:

```
12x Micron 36JSF1G72PZ-1G6K1 8 GB 1600 MHz 2 rank
```

(End of data from sysinfo program)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 383

Huawei RH2285H v2 (Intel Xeon E5-2430 v2)

SPECfp\_rate\_base2006 = 374

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

Test date: Jun-2014  
Hardware Availability: Mar-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"

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

Filesystem page cache cleared with:

echo 1> /proc/sys/vm/drop\_caches

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

The Huawei RH2285H v2 and Huawei RH2285 v2 models are electronically equivalent. The results have been measured on a Huawei RH2285H v2 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

SPECfp\_rate2006 = 383

Huawei RH2285H v2 (Intel Xeon E5-2430 v2)

SPECfp\_rate\_base2006 = 374

CPU2006 license: 3175

Test date: Jun-2014

Test sponsor: Huawei

Hardware Availability: Mar-2014

Tested by: Huawei

Software Availability: Nov-2013

## Base Optimization Flags

C benchmarks:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias  
-opt-mem-layout-trans=3

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias  
-opt-mem-layout-trans=3

Fortran benchmarks:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch

Benchmarks using both Fortran and C:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias  
-opt-mem-layout-trans=3

## Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak 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  
453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 383

Huawei RH2285H v2 (Intel Xeon E5-2430 v2)

SPECfp\_rate\_base2006 = 374

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2014

Hardware Availability: Mar-2014

Software Availability: Nov-2013

## Peak Portability Flags (Continued)

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

## 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) -opt-mem-layout-trans=3(pass 2)  
 -prof-use(pass 2) -auto-ilp32

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) -opt-mem-layout-trans=3(pass 2)  
 -prof-use(pass 2) -fno-alias -auto-ilp32

447.dealIII: basepeak = yes

450.soplex: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)  
 -prof-use(pass 2) -opt-malloc-options=3

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)  
 -prof-use(pass 2) -unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xAVX -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto  
 -inline-calloc -opt-malloc-options=3

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 383

Huawei RH2285H v2 (Intel Xeon E5-2430 v2)

SPECfp\_rate\_base2006 = 374

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2014

Hardware Availability: Mar-2014

Software Availability: Nov-2013

## Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)  
-prof-use(pass 2) -opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xAVX -ipo -O3 -no-prec-div -auto-ilp32

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 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 Fri Jul 25 00:50:37 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 15 July 2014.