



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp<sup>®</sup>\_rate2006 = 317

### Huawei RH2285 V2 (Intel Xeon E5-2430)

SPECfp\_rate\_base2006 = 310

CPU2006 license: 3175

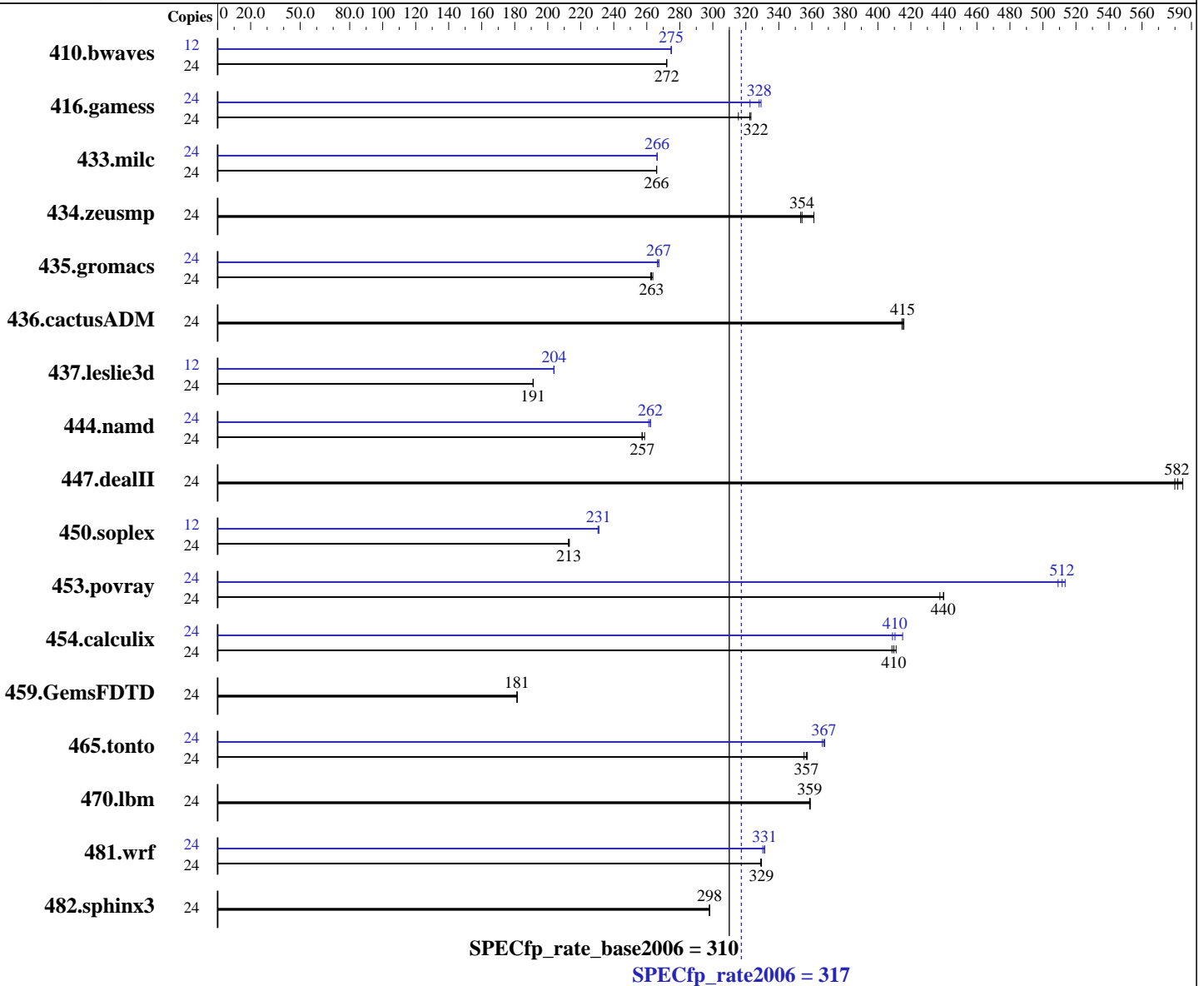
Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2012

Hardware Availability: May-2012

Software Availability: Dec-2011



#### Hardware

CPU Name: Intel Xeon E5-2430  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.70 GHz  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chips  
 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 6.2 (Santiago)  
 2.6.32-220.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: No  
 File System: ext4

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp\_rate2006 = 317

## Huawei RH2285 V2 (Intel Xeon E5-2430)

SPECfp\_rate\_base2006 = 310

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

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, running at 1333 MHz)  
 Disk Subsystem: 1 x 300 GB SAS, 10K 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	1199	272	1199	272	<b>1199</b>	<b>272</b>	12	593	275	<b>593</b>	<b>275</b>	594	275		
416.gamess	24	1489	315	<b>1458</b>	<b>322</b>	1454	323	24	1427	329	<b>1432</b>	<b>328</b>	1457	323		
433.milc	24	<b>828</b>	<b>266</b>	829	266	828	266	24	827	266	828	266	<b>827</b>	<b>266</b>		
434.zeusmp	24	605	361	<b>617</b>	<b>354</b>	618	353	24	605	361	<b>617</b>	<b>354</b>	618	353		
435.gromacs	24	<b>652</b>	<b>263</b>	650	264	653	262	24	<b>641</b>	<b>267</b>	643	266	641	267		
436.cactusADM	24	<b>691</b>	<b>415</b>	692	415	690	416	24	<b>691</b>	<b>415</b>	692	415	690	416		
437.leslie3d	24	<b>1180</b>	<b>191</b>	1180	191	1180	191	12	554	204	553	204	<b>554</b>	<b>204</b>		
444.namd	24	<b>748</b>	<b>257</b>	744	259	749	257	24	737	261	734	262	<b>734</b>	<b>262</b>		
447.dealII	24	473	580	<b>472</b>	<b>582</b>	470	585	24	473	580	<b>472</b>	<b>582</b>	470	585		
450.soplex	24	939	213	942	212	<b>940</b>	<b>213</b>	12	<b>434</b>	<b>231</b>	433	231	434	230		
453.povray	24	290	440	<b>290</b>	<b>440</b>	292	438	24	249	513	251	509	<b>250</b>	<b>512</b>		
454.calculix	24	485	409	482	411	<b>483</b>	<b>410</b>	24	484	409	<b>482</b>	<b>410</b>	477	415		
459.GemsFDTD	24	1404	181	<b>1404</b>	<b>181</b>	1403	181	24	1404	181	<b>1404</b>	<b>181</b>	1403	181		
465.tonto	24	661	357	665	355	<b>662</b>	<b>357</b>	24	645	366	642	368	<b>643</b>	<b>367</b>		
470.lbm	24	919	359	918	359	<b>919</b>	<b>359</b>	24	919	359	918	359	<b>919</b>	<b>359</b>		
481.wrf	24	815	329	814	330	<b>814</b>	<b>329</b>	24	<b>809</b>	<b>331</b>	809	331	812	330		
482.sphinx3	24	1570	298	<b>1570</b>	<b>298</b>	1570	298	24	1570	298	<b>1570</b>	<b>298</b>	1570	298		

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"
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>
```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 317

Huawei RH2285 V2 (Intel Xeon E5-2430)

SPECfp\_rate\_base2006 = 310

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

## Operating System Notes (Continued)

Select only test related files when installing the operating system

## Platform Notes

BIOS configuration:

Set Power Efficiency Mode to Performance

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 DH310-2 Thu Jun 14 12:40:38 2012

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 0 @ 2.20GHz

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: 99030424 kB

HugePages\_Total: 0

Hugepagesize: 2048 kB

From /etc/\*release\* /etc/\*version\*

redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)

system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)

system-release-cpe: cpe:/o:redhat:enterprise\_linux:6server:ga:server

uname -a:

Linux DH310-2 2.6.32-220.el6.x86\_64 #1 SMP Wed Nov 9 08:03:13 EST 2011 x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 Jun 13 22:34

SPEC is set to: /spec

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda1	ext4	289G	65G	210G	24%	/

Additional information from dmidecode:

(End of data from sysinfo program)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 317

Huawei RH2285 V2 (Intel Xeon E5-2430)

SPECfp\_rate\_base2006 = 310

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

## General Notes

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

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

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

The Huawei RH2285 v2 and Huawei RH2285H v2 models are electronically equivalent. The results have been measured on a Huawei RH2285 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.deallI: -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 = 317

Huawei RH2285 V2 (Intel Xeon E5-2430)

SPECfp\_rate\_base2006 = 310

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

## Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

-xAVX -ipo -O3 -no-prec-div -static -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 = 317

Huawei RH2285 V2 (Intel Xeon E5-2430)

SPECfp\_rate\_base2006 = 310

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

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

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

447.dealIII: basepeak = yes

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

### Fortran benchmarks:

410.bwaves: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -prof-use(pass 2) -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: -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch

459.GemsFDTD: basepeak = yes

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 317

Huawei RH2285 V2 (Intel Xeon E5-2430)

SPECfp\_rate\_base2006 = 310

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

## Peak Optimization Flags (Continued)

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

Benchmarks using both Fortran and C:

435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo -O3 -no-prec-div  
-prof-use(pass 2) -xSSE4.2 -opt-prefetch -static  
-auto-ilp32 -opt-mem-layout-trans=3

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32  
-opt-mem-layout-trans=3

481.wrf: Same as 454.calculix

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-revE.20120703.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-revE.20120703.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 Thu Jul 24 10:06:16 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 25 July 2012.