



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp®\_rate2006 = 508

### Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 495

CPU2006 license: 3175

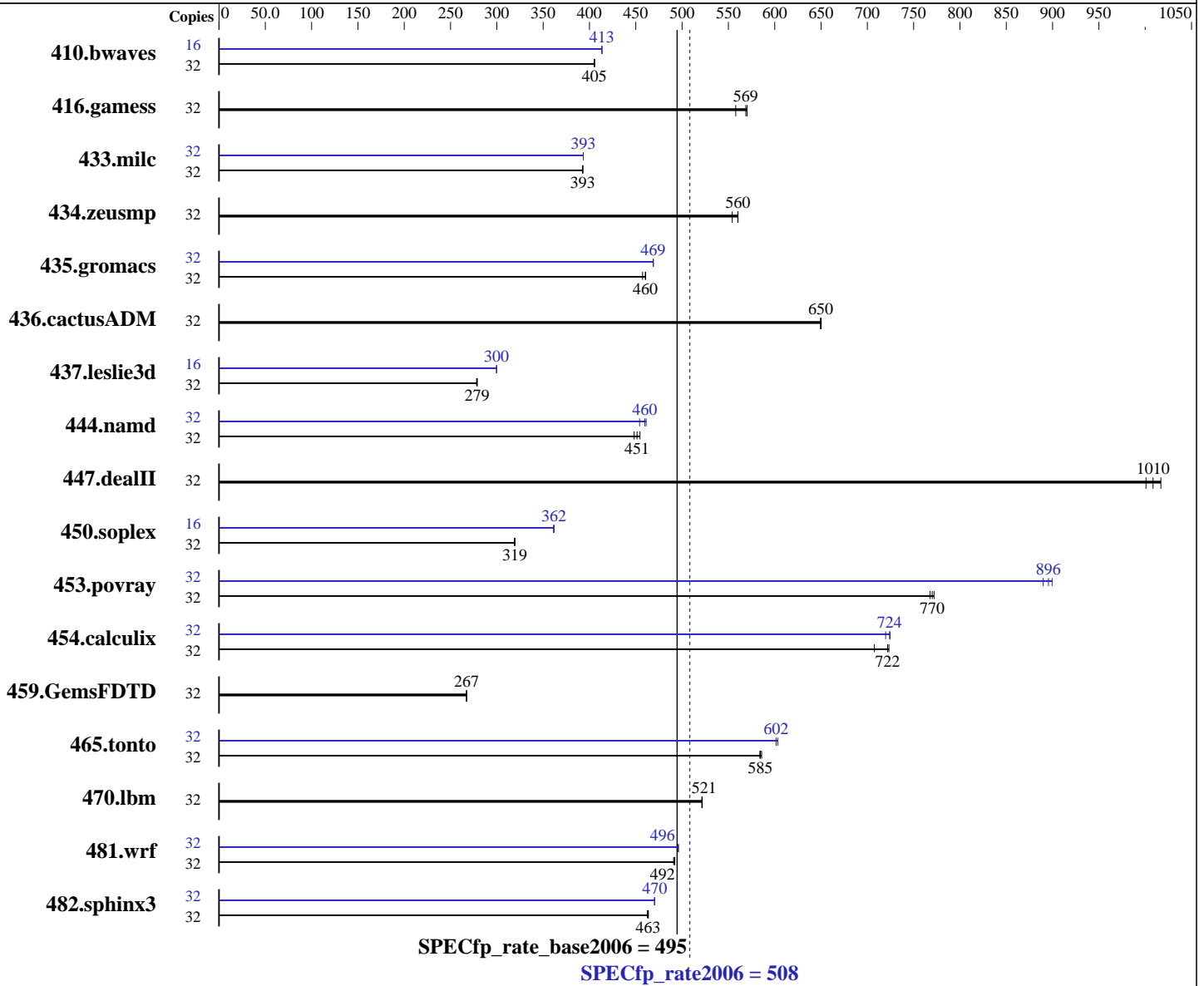
Test sponsor: Huawei

Tested by: Huawei

Test date: May-2012

Hardware Availability: Mar-2012

Software Availability: Dec-2011



#### Hardware

CPU Name: Intel Xeon E5-2690  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
 CPU MHz: 2900  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 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 6.2 (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 = 508

## Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 495

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2012

Hardware Availability: Mar-2012

Software Availability: Dec-2011

L3 Cache: 20 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)  
 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	32	1073	405	<b>1073</b>	<b>405</b>	1073	405	16	<b>526</b>	<b>413</b>	526	413	526	413
416.gamess	32	1099	570	1123	558	<b>1102</b>	<b>569</b>	32	1099	570	1123	558	<b>1102</b>	<b>569</b>
433.milc	32	748	393	748	393	<b>748</b>	<b>393</b>	32	<b>747</b>	<b>393</b>	747	393	747	393
434.zeusmp	32	<b>520</b>	<b>560</b>	520	560	526	554	32	<b>520</b>	<b>560</b>	520	560	526	554
435.gromacs	32	496	461	<b>496</b>	<b>460</b>	500	457	32	<b>487</b>	<b>469</b>	487	469	487	469
436.cactusADM	32	<b>588</b>	<b>650</b>	588	650	589	649	32	<b>588</b>	<b>650</b>	588	650	589	649
437.leslie3d	32	1082	278	1079	279	<b>1080</b>	<b>279</b>	16	502	300	502	300	<b>502</b>	<b>300</b>
444.namd	32	565	455	573	448	<b>569</b>	<b>451</b>	32	<b>558</b>	<b>460</b>	565	454	556	461
447.dealII	32	<b>363</b>	<b>1010</b>	360	1020	366	1000	32	<b>363</b>	<b>1010</b>	360	1020	366	1000
450.soplex	32	<b>835</b>	<b>319</b>	835	320	837	319	16	369	362	369	361	<b>369</b>	<b>362</b>
453.povray	32	<b>221</b>	<b>770</b>	221	772	222	768	32	189	900	<b>190</b>	<b>896</b>	191	890
454.calculix	32	365	723	<b>366</b>	<b>722</b>	373	708	32	367	720	<b>365</b>	<b>724</b>	364	725
459.GemsFDTD	32	1270	267	<b>1270</b>	<b>267</b>	1271	267	32	1270	267	<b>1270</b>	<b>267</b>	1271	267
465.tonto	32	539	584	<b>539</b>	<b>585</b>	537	586	32	524	601	<b>523</b>	<b>602</b>	522	603
470.lbm	32	<b>843</b>	<b>521</b>	843	521	843	522	32	<b>843</b>	<b>521</b>	843	521	843	522
481.wrf	32	<b>727</b>	<b>492</b>	728	491	726	492	32	721	496	721	496	<b>721</b>	<b>496</b>
482.sphinx3	32	<b>1346</b>	<b>463</b>	1345	464	1348	463	32	<b>1326</b>	<b>470</b>	1327	470	1326	470

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

## Submit Notes

The config file option 'submit' was used.  
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>
Select only test related files when installing the operating system
```



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 508

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 495

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2012

Hardware Availability: Mar-2012

Software Availability: Dec-2011

## Platform Notes

BIOS configuration:

Set Power Efficiency Mode to Performance

Adjust the fan speed to 100%

Sysinfo program /spec/config/sysinfo.rev6800

\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3

running on RH2288-rebuild Tue May 29 22:25:57 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 E5-2690 0 @ 2.90GHz

2 "physical id"s (chips)

32 "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 : 8

siblings : 16

physical 0: cores 0 1 2 3 4 5 6 7

physical 1: cores 0 1 2 3 4 5 6 7

cache size : 20480 KB

From /proc/meminfo

MemTotal: 132124032 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 RH2288-rebuild 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 May 29 11:24

SPEC is set to: /spec

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sdal	ext4	289G	59G	216G	22%	/

Additional information from dmidecode:

Memory:

16x Samsung M393B1K70DH0-CK0 8 GB 1600 MHz 2 rank



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 508

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 495

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2012

Hardware Availability: Mar-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 X5650 CPU + 16GB memory  
using RHEL 6.2

## 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

## Base Optimization Flags

C benchmarks:

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 508

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 495

CPU2006 license: 3175

Test date: May-2012

Test sponsor: Huawei

Hardware Availability: Mar-2012

Tested by: Huawei

Software Availability: Dec-2011

## Base Optimization Flags (Continued)

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 (except as noted below):

icc -m64

482.sphinx3: icc -m32

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  
465.tonto: -DSPEC\_CPU\_LP64  
470.lbm: -DSPEC\_CPU\_LP64

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 508

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 495

CPU2006 license: 3175

Test date: May-2012

Test sponsor: Huawei

Hardware Availability: Mar-2012

Tested by: Huawei

Software Availability: Dec-2011

## Peak Portability Flags (Continued)

481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX

## 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: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -static  
-unroll2

### 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.dealII: 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: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xAVX -ipo -O3 -no-prec-div -static -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 = 508

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 495

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2012

Hardware Availability: Mar-2012

Software Availability: Dec-2011

## Peak Optimization Flags (Continued)

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.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.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 08:00:54 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 26 June 2012.

Standard Performance Evaluation Corporation

[info@spec.org](mailto:info@spec.org)

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

Page 7