



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp®\_rate2006 = 503

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

SPECfp\_rate\_base2006 = 487

CPU2006 license: 3175

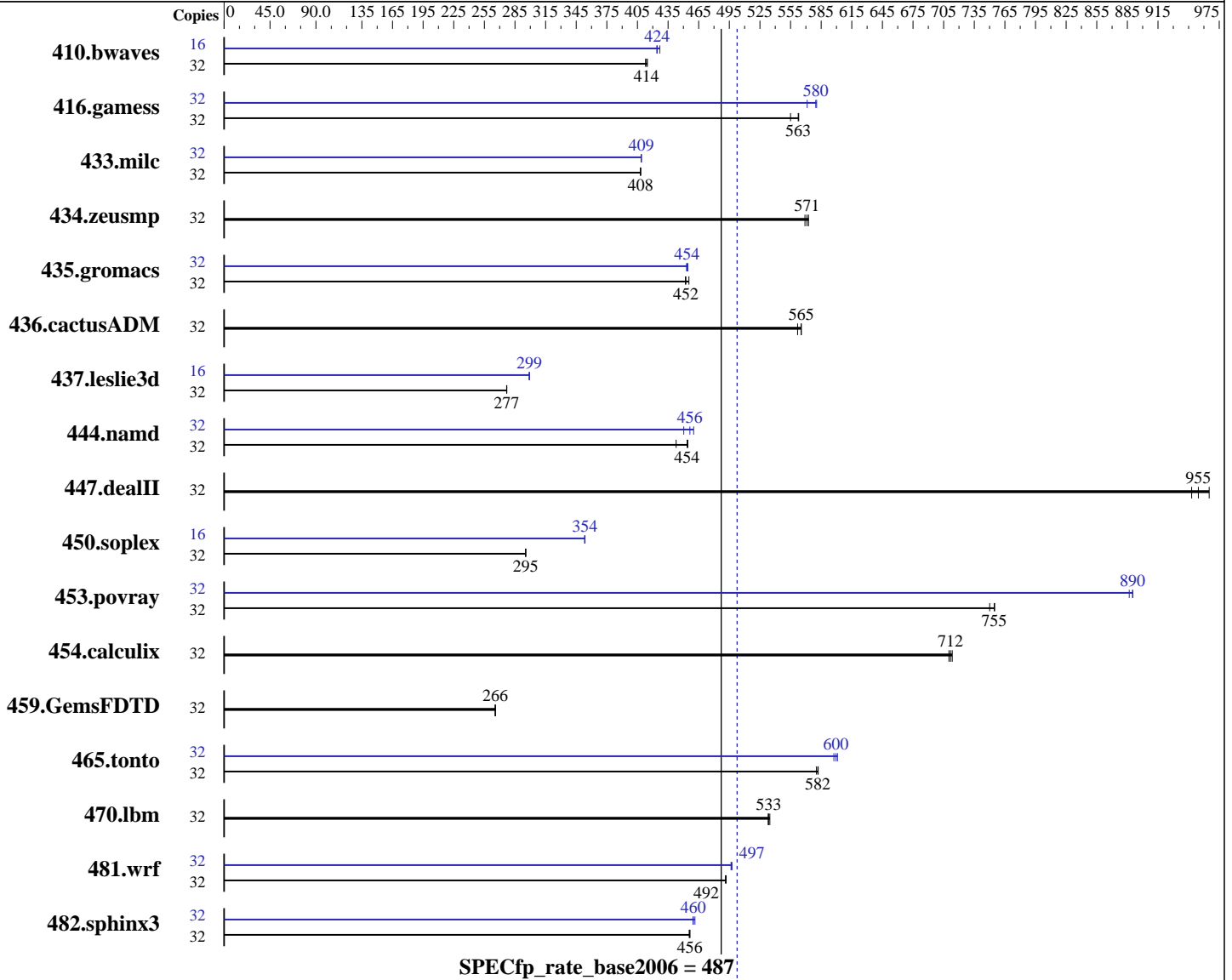
Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2012

Hardware Availability: Mar-2012

Software Availability: Oct-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 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 6.1 (Santiago)  
 2.6.32-131.0.15.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: ext3

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp\_rate2006 = 503

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

SPECfp\_rate\_base2006 = 487

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2012

Hardware Availability: Mar-2012

Software Availability: Oct-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	1049	415	<u>1051</u>	<u>414</u>	1053	413	16	513	424	509	427	<u>512</u>	<u>424</u>
416.gamess	32	1113	563	<u>1114</u>	<u>563</u>	1129	555	32	1079	581	<u>1081</u>	<u>580</u>	1097	571
433.milc	32	720	408	<u>720</u>	<u>408</u>	720	408	32	<u>719</u>	<u>409</u>	719	409	719	409
434.zeusmp	32	<u>510</u>	<u>571</u>	509	573	512	569	32	<u>510</u>	<u>571</u>	509	573	512	569
435.gromacs	32	502	455	506	452	<u>505</u>	<u>452</u>	32	<u>504</u>	<u>454</u>	504	453	503	454
436.cactusADM	32	<u>676</u>	<u>565</u>	676	565	681	562	32	<u>676</u>	<u>565</u>	676	565	681	562
437.leslie3d	32	<u>1086</u>	<u>277</u>	1087	277	1086	277	16	503	299	<u>503</u>	<u>299</u>	503	299
444.namd	32	579	443	<u>566</u>	<u>454</u>	565	454	32	558	460	570	450	<u>562</u>	<u>456</u>
447.dealII	32	379	965	386	948	<u>384</u>	<u>955</u>	32	379	965	386	948	<u>384</u>	<u>955</u>
450.soplex	32	<u>903</u>	<u>295</u>	903	295	903	296	16	<u>377</u>	<u>354</u>	378	353	377	354
453.povray	32	<u>226</u>	<u>755</u>	227	750	225	755	32	192	887	191	890	<u>191</u>	<u>890</u>
454.calculix	32	370	713	<u>371</u>	<u>712</u>	372	710	32	370	713	<u>371</u>	<u>712</u>	372	710
459.GemsFDTD	32	1278	266	<u>1278</u>	<u>266</u>	1278	266	32	1278	266	<u>1278</u>	<u>266</u>	1278	266
465.tonto	32	541	582	543	580	<u>541</u>	<u>582</u>	32	527	597	524	601	<u>525</u>	<u>600</u>
470.lbm	32	822	535	<u>824</u>	<u>533</u>	825	533	32	822	535	<u>824</u>	<u>533</u>	825	533
481.wrf	32	728	491	<u>727</u>	<u>492</u>	727	492	32	718	498	<u>719</u>	<u>497</u>	720	497
482.sphinx3	32	1367	456	1369	456	<u>1367</u>	<u>456</u>	32	1352	461	1357	460	<u>1357</u>	<u>460</u>

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 /speccpu/config/sysinfo.rev6800  
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on localhost.localdomain Thu Feb 9 11:08:34 2012

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 503

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 487

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2012

Hardware Availability: Mar-2012

Software Availability: Oct-2011

## 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 E5-2690 @ 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:      132133108 kB
HugePages_Total:    0
Hugepagesize:    2048 kB

```

```

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.1 (Santiago)

```

```

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

```

uname -a:
Linux localhost.localdomain 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10
15:42:40 EDT 2011 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Feb 9 00:08

```

SPEC is set to: /speccpu
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sdal        ext3      193G  100G   84G  55% /

```

Additional information from dmidecode:

(End of data from sysinfo program)

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/speccpu/libs/32:/speccpu/libs/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 503

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 487

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

Test date: Feb-2012  
Hardware Availability: Mar-2012  
Software Availability: Oct-2011

## General Notes (Continued)

memory using RHEL5.5  
Transparent Huge Pages disabled with:  
echo never > /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>

## 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 -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 = 503

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 487

CPU2006 license: 3175

Test date: Feb-2012

Test sponsor: Huawei

Hardware Availability: Mar-2012

Tested by: Huawei

Software Availability: Oct-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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp\_rate2006 = 503

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 487

CPU2006 license: 3175

Test date: Feb-2012

Test sponsor: Huawei

Hardware Availability: Mar-2012

Tested by: Huawei

Software Availability: Oct-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

## 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: -xAVX -ipo -O3 -no-prec-div -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.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) -unroll4 -ansi-alias

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

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 = 503

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECfp\_rate\_base2006 = 487

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2012

Hardware Availability: Mar-2012

Software Availability: Oct-2011

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

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revD.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revD.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 03:27:18 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 6 March 2012.