



SPEC® CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp®_rate2006 = 817

Huawei RH2288H V3 (Intel Xeon E5-2680 v3)

SPECfp_rate_base2006 = 793

CPU2006 license: 3175

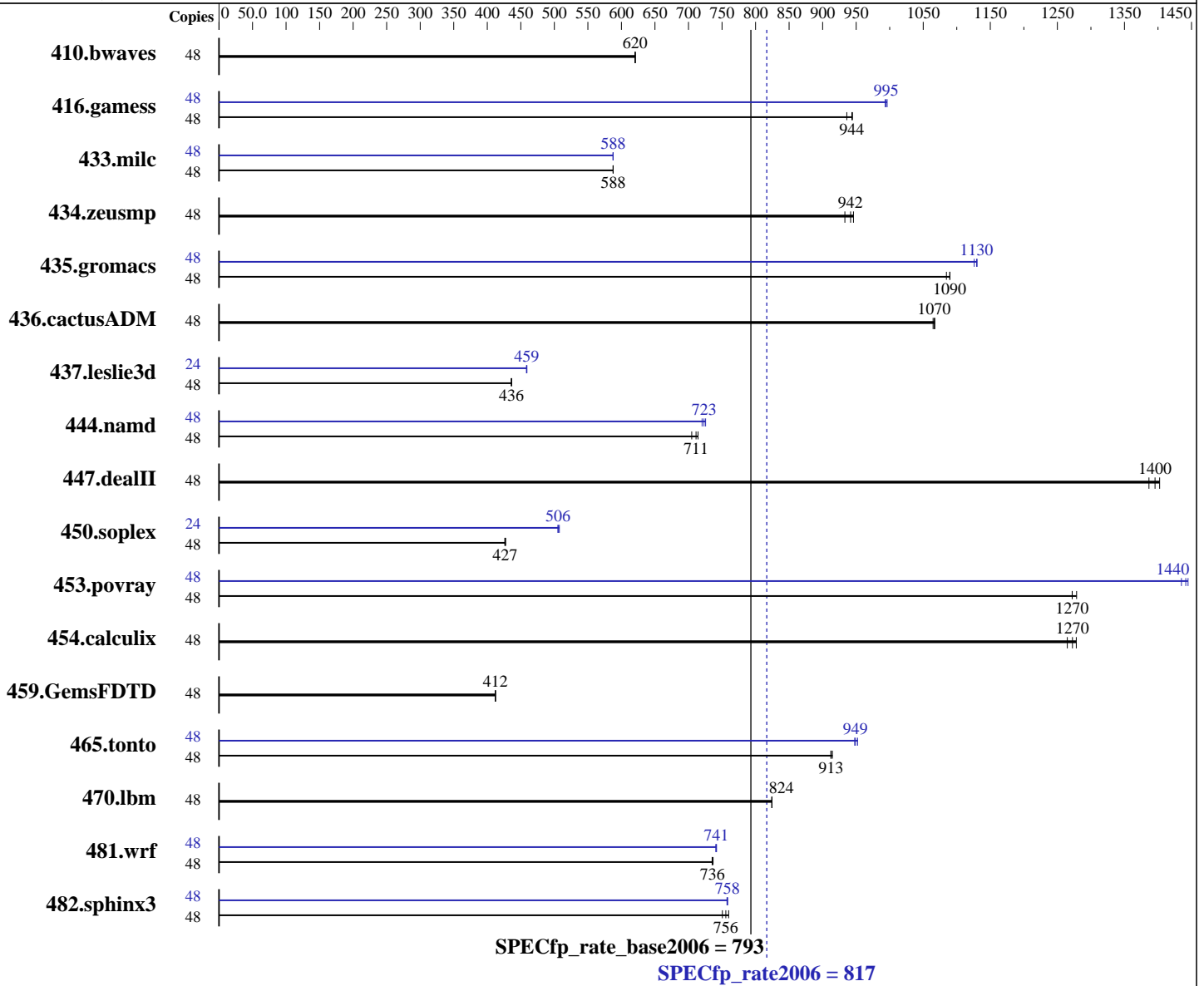
Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2680 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 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 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 817

Huawei RH2288H V3 (Intel Xeon E5-2680 v3)

SPECfp_rate_base2006 = 793

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Nov-2013

L3 Cache: 30 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x 500 GB SATA, 7200 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	48	1051	621	<u>1051</u>	<u>620</u>	1052	620	48	1051	621	<u>1051</u>	<u>620</u>	1052	620
416.gamess	48	995	944	1004	936	<u>996</u>	<u>944</u>	48	<u>945</u>	<u>995</u>	943	996	946	993
433.milc	48	750	588	<u>750</u>	<u>588</u>	750	588	48	750	587	<u>750</u>	<u>588</u>	750	588
434.zeusmp	48	468	933	462	946	<u>464</u>	<u>942</u>	48	468	933	462	946	<u>464</u>	<u>942</u>
435.gromacs	48	<u>315</u>	<u>1090</u>	314	1090	316	1080	48	304	1130	<u>303</u>	<u>1130</u>	303	1130
436.cactusADM	48	537	1070	539	1060	<u>538</u>	<u>1070</u>	48	537	1070	539	1060	<u>538</u>	<u>1070</u>
437.leslie3d	48	1034	436	1036	436	<u>1034</u>	<u>436</u>	24	<u>492</u>	<u>459</u>	492	458	491	459
444.namd	48	<u>541</u>	<u>711</u>	539	714	546	705	48	534	720	<u>532</u>	<u>723</u>	531	726
447.dealII	48	<u>393</u>	<u>1400</u>	392	1400	396	1390	48	<u>393</u>	<u>1400</u>	392	1400	396	1390
450.soplex	48	937	427	<u>938</u>	<u>427</u>	939	426	24	396	505	394	507	<u>396</u>	<u>506</u>
453.povray	48	200	1280	201	1270	<u>201</u>	<u>1270</u>	48	178	1430	177	1440	<u>177</u>	<u>1440</u>
454.calculix	48	310	1280	<u>311</u>	<u>1270</u>	313	1260	48	310	1280	<u>311</u>	<u>1270</u>	313	1260
459.GemsFDTD	48	1235	412	1236	412	<u>1236</u>	<u>412</u>	48	1235	412	1236	412	<u>1236</u>	<u>412</u>
465.tonto	48	<u>517</u>	<u>913</u>	518	912	516	915	48	498	948	496	952	<u>498</u>	<u>949</u>
470.lbm	48	<u>800</u>	<u>824</u>	800	824	800	824	48	<u>800</u>	<u>824</u>	800	824	800	824
481.wrf	48	728	737	<u>729</u>	<u>736</u>	729	735	48	723	742	724	741	<u>723</u>	<u>741</u>
482.sphinx3	48	1231	760	<u>1238</u>	<u>756</u>	1247	750	48	1233	758	1235	757	<u>1234</u>	<u>758</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

BIOS configuration:
Set Power Efficiency Mode to Custom
Set Snoop Mode to COD

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 817

Huawei RH2288H V3 (Intel Xeon E5-2680 v3)

SPECfp_rate_base2006 = 793

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Platform Notes (Continued)

```
Set Patrol Scrub to Disable
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Fri Jan 23 19:02:45 2015
```

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 E5-2680 v3 @ 2.50GHz
 2 "physical id"s (chips)
 48 "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 : 12
  siblings  : 24
  physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
  physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 15360 KB
```

```
From /proc/meminfo
MemTotal:      264272692 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 Jan 22 01:31

```
SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal       ext4  268G  138G  117G  55% /
```

```
Additional information from dmidecode:
BIOS Insyde Corp. 1.13 08/12/2014
Memory:
 8x NO DIMM NO DIMM      3 rank
 8x Samsung M393A2G40DB0-CPB 16 GB 2133 MHz 1 rank
 8x Samsung M393A2G40DB0-CPB 16 GB 2133 MHz 2 rank
Continued on next page
```



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 817

Huawei RH2288H V3 (Intel Xeon E5-2680 v3)

SPECfp_rate_base2006 = 793

CPU2006 license: 3175

Test date: Jan-2015

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Nov-2013

Platform Notes (Continued)

(End of data from sysinfo program)

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>

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 817

Huawei RH2288H V3 (Intel Xeon E5-2680 v3)

SPECfp_rate_base2006 = 793

CPU2006 license: 3175

Test date: Jan-2015

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Nov-2013

Base 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

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 817

Huawei RH2288H V3 (Intel Xeon E5-2680 v3)

SPECfp_rate_base2006 = 793

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Peak Portability Flags (Continued)

```

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
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

```

Peak Optimization Flags

C benchmarks:

```

433.milc: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
            -unroll2

```

C++ benchmarks:

```

444.namd: -xCORE-AVX2(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.dealII: basepeak = yes

450.soplex: -xCORE-AVX2(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: -xCORE-AVX2(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

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 817

Huawei RH2288H V3 (Intel Xeon E5-2680 v3)

SPECfp_rate_base2006 = 793

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(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-

434.zeusmp: basepeak = yes

437.leslie3d: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -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-HASWELL-V1.4.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-HASWELL-V1.4.xml>



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 817

Huawei RH2288H V3 (Intel Xeon E5-2680 v3)

SPECfp_rate_base2006 = 793

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

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.

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Feb 10 18:35:14 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 February 2015.