



SPEC® CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp®_rate2006 = 824

Huawei RH2288 V3 (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 803

CPU2006 license: 3175

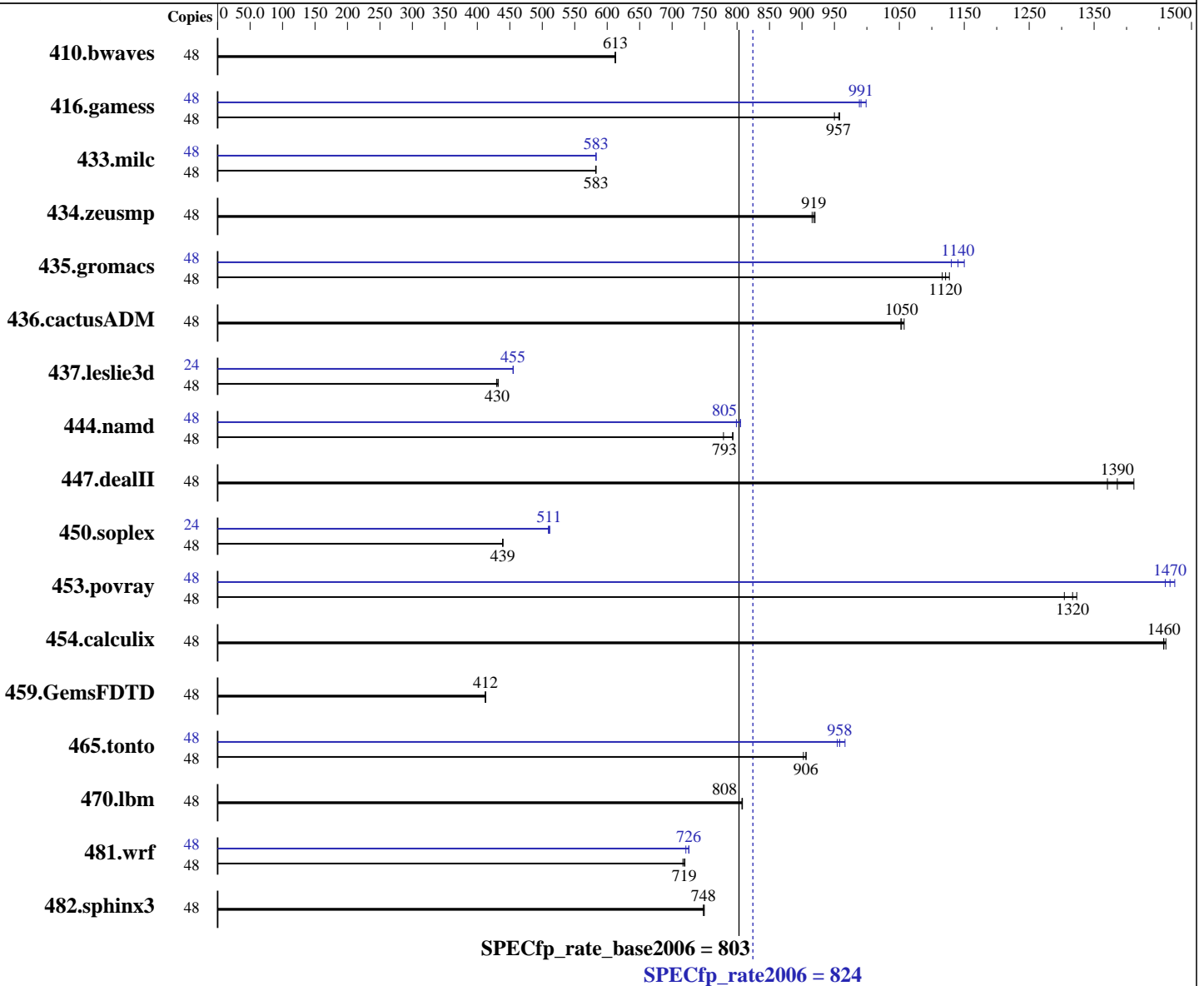
Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014



Hardware

CPU Name: Intel Xeon E5-2690 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2600
 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 7.0 (Maipo)
 3.10.0-123.el7.x86_64
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux;
 Fortran: Version 15.0.0.090 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 = **824**

Huawei RH2288 V3 (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = **803**

CPU2006 license: 3175

Test date: Aug-2015

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Jun-2014

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	1064	613	<u>1065</u>	<u>613</u>	1066	612	48	1064	613	<u>1065</u>	<u>613</u>	1066	612
416.gamess	48	989	950	981	958	<u>983</u>	<u>957</u>	48	941	999	951	988	<u>948</u>	<u>991</u>
433.milc	48	<u>756</u>	<u>583</u>	756	583	757	582	48	<u>756</u>	<u>583</u>	756	583	756	583
434.zeusmp	48	<u>476</u>	<u>919</u>	475	920	477	916	48	<u>476</u>	<u>919</u>	475	920	477	916
435.gromacs	48	304	1130	<u>306</u>	<u>1120</u>	307	1120	48	298	1150	303	1130	<u>301</u>	<u>1140</u>
436.cactusADM	48	<u>545</u>	<u>1050</u>	542	1060	545	1050	48	<u>545</u>	<u>1050</u>	542	1060	545	1050
437.leslie3d	48	1044	432	<u>1048</u>	<u>430</u>	1050	430	24	496	455	<u>496</u>	<u>455</u>	495	455
444.namd	48	485	794	494	779	<u>485</u>	<u>793</u>	48	482	799	<u>478</u>	<u>805</u>	478	805
447.dealII	48	<u>396</u>	<u>1390</u>	389	1410	401	1370	48	<u>396</u>	<u>1390</u>	389	1410	401	1370
450.soplex	48	<u>912</u>	<u>439</u>	911	440	912	439	24	391	512	<u>392</u>	<u>511</u>	393	509
453.povray	48	<u>194</u>	<u>1320</u>	196	1300	193	1320	48	<u>174</u>	<u>1470</u>	173	1470	175	1460
454.calculix	48	272	1460	271	1460	<u>272</u>	<u>1460</u>	48	272	1460	271	1460	<u>272</u>	<u>1460</u>
459.GemsFDTD	48	1234	413	1235	412	<u>1235</u>	<u>412</u>	48	1234	413	1235	412	<u>1235</u>	<u>412</u>
465.tonto	48	521	906	<u>521</u>	<u>906</u>	524	902	48	489	966	<u>493</u>	<u>958</u>	495	954
470.lbm	48	817	808	<u>816</u>	<u>808</u>	816	808	48	817	808	<u>816</u>	<u>808</u>	816	808
481.wrf	48	<u>746</u>	<u>719</u>	745	720	748	717	48	<u>739</u>	<u>726</u>	743	721	739	726
482.sphinx3	48	<u>1250</u>	<u>748</u>	1248	750	1250	748	48	<u>1250</u>	<u>748</u>	1248	750	1250	748

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 = 824

Huawei RH2288 V3 (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 803

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Platform Notes (Continued)

```

Set Patrol Scrub to Disable
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec15/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Fri Aug 14 22:23:16 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 E5-2690 v3 @ 2.60GHz
 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 : 6
  siblings  : 12
  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:      263575156 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

```

```

uname -a:
Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57
EDT 2014 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Aug 13 04:56

```

SPEC is set to: /spec15
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext4  448G  178G  248G  42% /

```

Additional information from dmidecode:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 824

Huawei RH2288 V3 (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 803

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Platform Notes (Continued)

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Insyde Corp. 1.26 12/22/2014

Memory:

8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz

8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/spec15/libs/32:/spec15/libs/64:/spec15/sh"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 824

Huawei RH2288 V3 (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 803

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Base Portability Flags (Continued)

```

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:

```

-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:

```

icc -m64

```

C++ benchmarks (except as noted below):

```

icpc -m64

```

```

450.soplex: icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

```

Fortran benchmarks:

```

ifort -m64

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 824

Huawei RH2288 V3 (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 803

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Peak Compiler Invocation (Continued)

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
 481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
 482.sphinx3: -DSPEC_CPU_LP64

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: basepeak = yes

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)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 824

Huawei RH2288 V3 (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 803

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Peak Optimization Flags (Continued)

450.soplex (continued):

-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

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-ic15.0-official-linux64.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-ic15.0-official-linux64.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 = 824

Huawei RH2288 V3 (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 803

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

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 Sep 8 22:41:04 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 8 September 2015.