



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp[®]_rate2006 = 281

Huawei RH1288 V3 (Intel Xeon E5-2603 v3)

SPECfp_rate_base2006 = 276

CPU2006 license: 3175

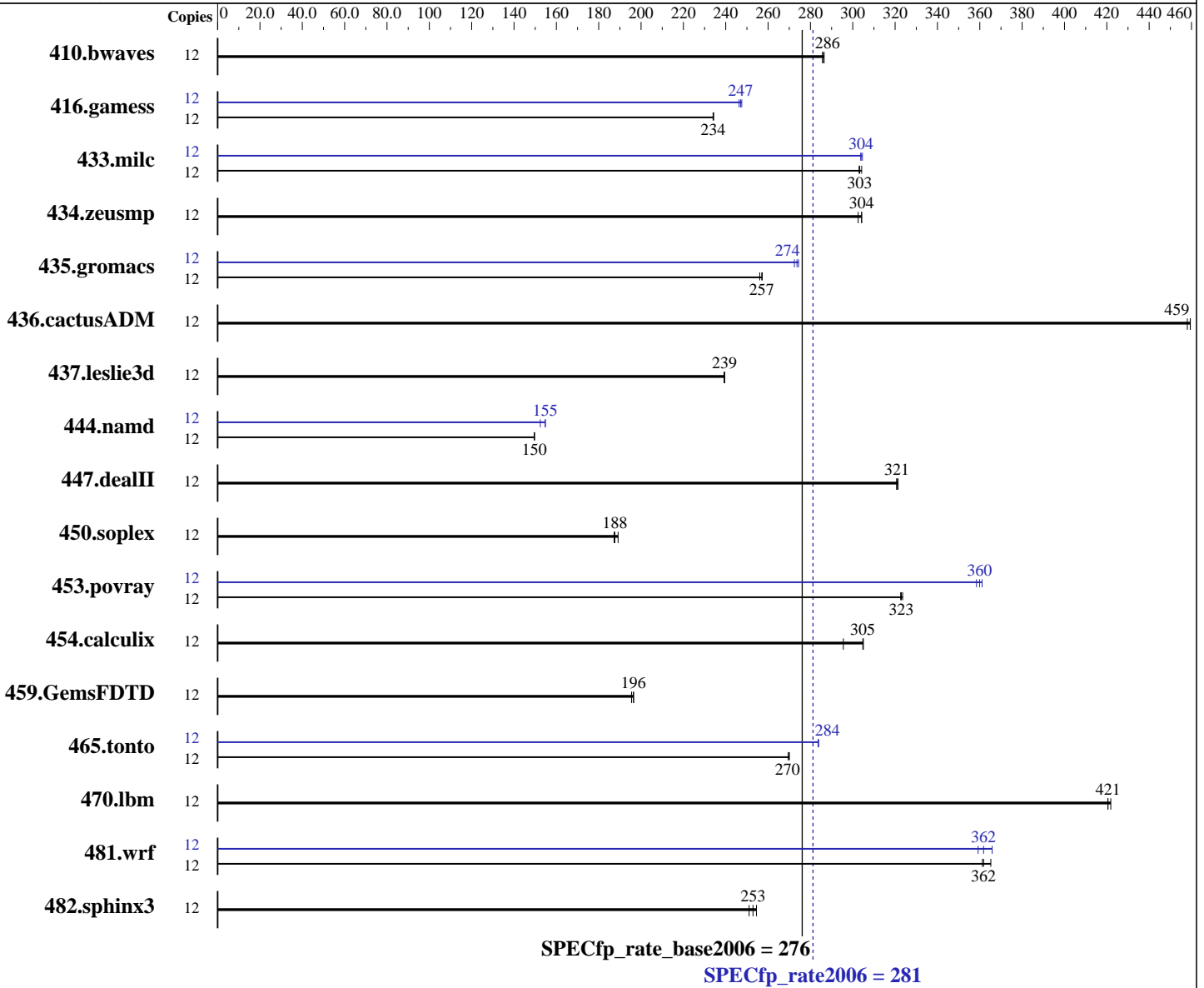
Test sponsor: Huawei

Tested by: Huawei

Test date: Mar-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2603 v3
 CPU Characteristics:
 CPU MHz: 1600
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
 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 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = **281**

Huawei RH1288 V3 (Intel Xeon E5-2603 v3)

SPECfp_rate_base2006 = **276**

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Mar-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
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 | 12 | 569 | 286 | 571 | 286 | 571 | 286 | 12 | 569 | 286 | 571 | 286 | 571 | 286 | | |
| 416.gamess | 12 | 1003 | 234 | 1004 | 234 | 1004 | 234 | 12 | 949 | 248 | 951 | 247 | 954 | 246 | | |
| 433.milc | 12 | 362 | 304 | 363 | 303 | 364 | 303 | 12 | 362 | 305 | 363 | 304 | 363 | 304 | | |
| 434.zeusmp | 12 | 359 | 304 | 359 | 304 | 361 | 303 | 12 | 359 | 304 | 359 | 304 | 361 | 303 | | |
| 435.gromacs | 12 | 335 | 256 | 333 | 257 | 333 | 257 | 12 | 315 | 272 | 312 | 274 | 313 | 274 | | |
| 436.cactusADM | 12 | 313 | 458 | 312 | 459 | 312 | 459 | 12 | 313 | 458 | 312 | 459 | 312 | 459 | | |
| 437.leslie3d | 12 | 471 | 239 | 472 | 239 | 471 | 239 | 12 | 471 | 239 | 472 | 239 | 471 | 239 | | |
| 444.namd | 12 | 643 | 150 | 643 | 150 | 643 | 150 | 12 | 622 | 155 | 622 | 155 | 631 | 152 | | |
| 447.dealII | 12 | 428 | 321 | 428 | 321 | 427 | 321 | 12 | 428 | 321 | 428 | 321 | 427 | 321 | | |
| 450.soplex | 12 | 529 | 189 | 533 | 188 | 534 | 187 | 12 | 529 | 189 | 533 | 188 | 534 | 187 | | |
| 453.povray | 12 | 198 | 323 | 198 | 323 | 197 | 324 | 12 | 177 | 361 | 178 | 358 | 177 | 360 | | |
| 454.calculix | 12 | 325 | 305 | 335 | 296 | 325 | 305 | 12 | 325 | 305 | 335 | 296 | 325 | 305 | | |
| 459.GemsFDTD | 12 | 651 | 196 | 648 | 196 | 648 | 196 | 12 | 651 | 196 | 648 | 196 | 648 | 196 | | |
| 465.tonto | 12 | 438 | 270 | 438 | 270 | 437 | 270 | 12 | 416 | 284 | 416 | 284 | 416 | 284 | | |
| 470.lbm | 12 | 392 | 420 | 392 | 421 | 391 | 422 | 12 | 392 | 420 | 392 | 421 | 391 | 422 | | |
| 481.wrf | 12 | 370 | 362 | 367 | 365 | 371 | 361 | 12 | 373 | 359 | 371 | 362 | 366 | 366 | | |
| 482.sphinx3 | 12 | 925 | 253 | 932 | 251 | 919 | 255 | 12 | 925 | 253 | 932 | 251 | 919 | 255 | | |

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 HS

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 281

Huawei RH1288 V3 (Intel Xeon E5-2603 v3)

SPECfp_rate_base2006 = 276

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Mar-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Platform Notes (Continued)

Set Hyper-Threading to Disabled
 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 huawei Fri Mar 14 03:23:17 2014

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 E5-2603 v3 @ 1.60GHz
 2 "physical id"s (chips)
 12 "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      : 6
  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:      131903376 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 huawei 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 Mar 13 05:20

```
SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal       ext4  433G   20G  392G   5% /
```

```
Additional information from dmidecode:
BIOS Insyde Corp. 1.16 09/02/2014
Memory:
 8x Samsung M393A1G40DB0-CPB 8 GB 1600 MHz 1 rank
 8x Samsung M393A1G40DB0-CPB 8 GB 1600 MHz 2 rank
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 281

Huawei RH1288 V3 (Intel Xeon E5-2603 v3)

SPECfp_rate_base2006 = 276

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

Test date: Mar-2014
Hardware Availability: Sep-2014
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
465.tonto: -DSPEC_CPU_LP64

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 281

Huawei RH1288 V3 (Intel Xeon E5-2603 v3)

SPECfp_rate_base2006 = 276

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Mar-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Base Portability Flags (Continued)

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:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 281

Huawei RH1288 V3 (Intel Xeon E5-2603 v3)

SPECfp_rate_base2006 = 276

CPU2006 license: 3175

Test date: Mar-2014

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Nov-2013

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.dealIII: basepeak = yes

450.soplex: basepeak = yes

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: basepeak = yes

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 281

Huawei RH1288 V3 (Intel Xeon E5-2603 v3)

SPECfp_rate_base2006 = 276

CPU2006 license: 3175

Test date: Mar-2014

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Nov-2013

Peak Optimization Flags (Continued)

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-V1.1.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-V1.1.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.

Tested with SPEC CPU2006 v1.2.

Report generated on Tue Nov 18 16:31:57 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 18 November 2014.