



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp®_rate2006 = 494

Huawei XH620 V2 (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 481

CPU2006 license: 3175

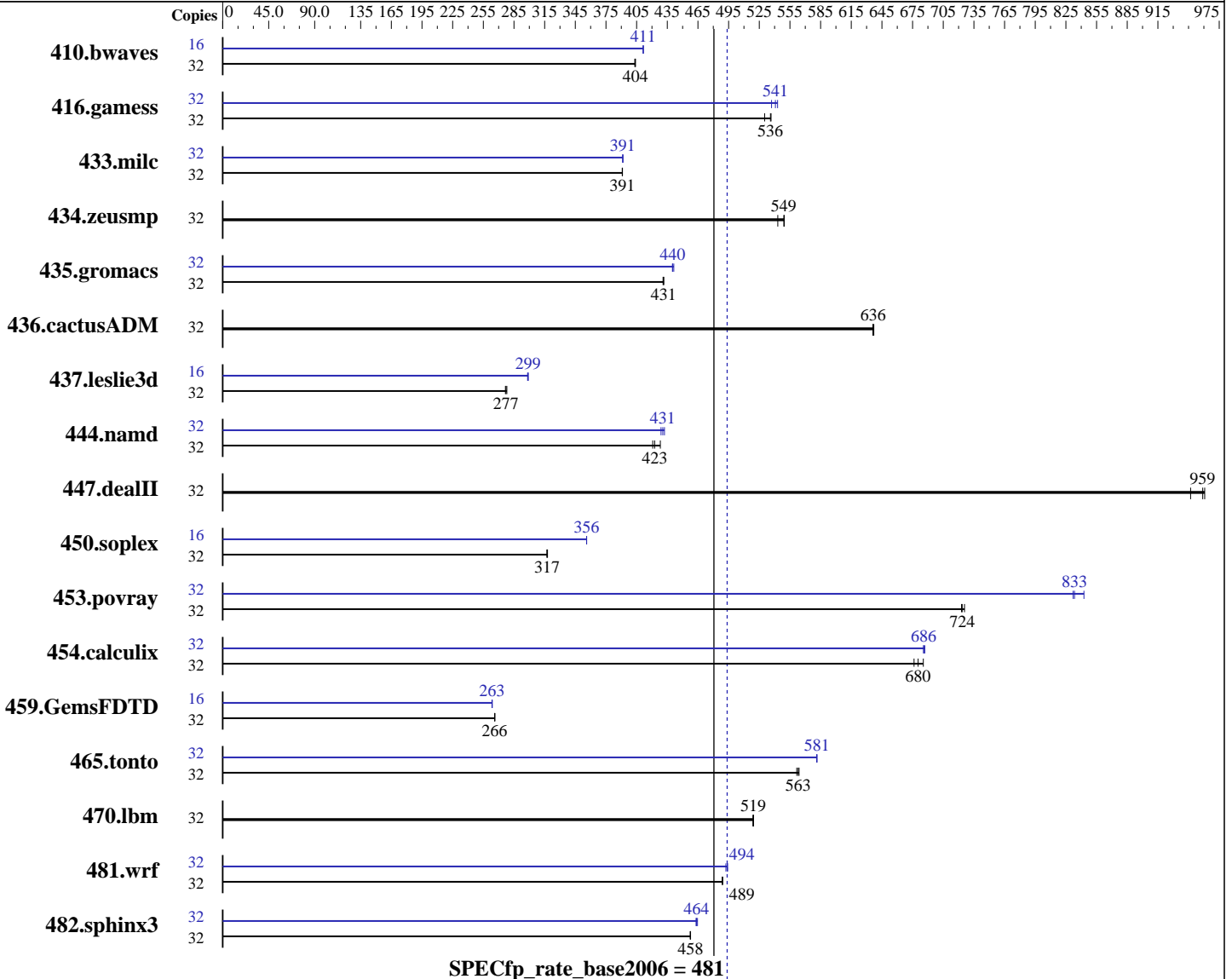
Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: May-2012

Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E5-2680
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2700
 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 = 494

Huawei XH620 V2 (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 481

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: May-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 | 1079 | 403 | <u>1077</u> | <u>404</u> | 1077 | 404 | 16 | 529 | 411 | <u>528</u> | <u>411</u> | 528 | 412 |
| 416.gamess | 32 | 1168 | 537 | 1182 | 530 | <u>1169</u> | <u>536</u> | 32 | 1154 | 543 | <u>1159</u> | <u>541</u> | 1167 | 537 |
| 433.milc | 32 | <u>751</u> | <u>391</u> | 752 | 391 | 751 | 391 | 32 | <u>750</u> | <u>391</u> | 750 | 391 | 751 | 391 |
| 434.zeusmp | 32 | <u>530</u> | <u>549</u> | 536 | 543 | 530 | 549 | 32 | <u>530</u> | <u>549</u> | 536 | 543 | 530 | 549 |
| 435.gromacs | 32 | 530 | 431 | 529 | 432 | <u>530</u> | <u>431</u> | 32 | 519 | 440 | 518 | 441 | <u>519</u> | <u>440</u> |
| 436.cactusADM | 32 | 600 | 637 | <u>601</u> | <u>636</u> | 601 | 636 | 32 | 600 | 637 | <u>601</u> | <u>636</u> | 601 | 636 |
| 437.leslie3d | 32 | 1082 | 278 | <u>1085</u> | <u>277</u> | 1087 | 277 | 16 | <u>503</u> | <u>299</u> | 503 | 299 | 504 | 298 |
| 444.namd | 32 | 599 | 428 | 610 | 421 | <u>607</u> | <u>423</u> | 32 | 598 | 429 | 594 | 432 | <u>596</u> | <u>431</u> |
| 447.dealII | 32 | 381 | 961 | 387 | 947 | <u>382</u> | <u>959</u> | 32 | 381 | 961 | 387 | 947 | <u>382</u> | <u>959</u> |
| 450.soplex | 32 | 840 | 318 | 841 | 317 | <u>841</u> | <u>317</u> | 16 | <u>375</u> | <u>356</u> | 375 | 356 | 375 | 356 |
| 453.povray | 32 | <u>235</u> | <u>724</u> | 235 | 726 | 235 | 723 | 32 | <u>204</u> | <u>833</u> | 202 | 843 | 205 | 832 |
| 454.calculix | 32 | 385 | 685 | <u>388</u> | <u>680</u> | 390 | 676 | 32 | 385 | 686 | 384 | 687 | <u>385</u> | <u>686</u> |
| 459.GemsFDTD | 32 | 1275 | 266 | 1276 | 266 | <u>1276</u> | <u>266</u> | 16 | 644 | 263 | <u>644</u> | <u>263</u> | 644 | 264 |
| 465.tonto | 32 | 561 | 562 | <u>559</u> | <u>563</u> | 558 | 564 | 32 | 542 | 581 | 542 | 581 | <u>542</u> | <u>581</u> |
| 470.lbm | 32 | 847 | 519 | 848 | 519 | <u>847</u> | <u>519</u> | 32 | 847 | 519 | 848 | 519 | <u>847</u> | <u>519</u> |
| 481.wrf | 32 | <u>731</u> | <u>489</u> | 731 | 489 | 731 | 489 | 32 | 724 | 494 | 726 | 492 | <u>724</u> | <u>494</u> |
| 482.sphinx3 | 32 | 1364 | 457 | <u>1363</u> | <u>458</u> | 1362 | 458 | 32 | <u>1345</u> | <u>464</u> | 1343 | 465 | 1347 | 463 |

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"
 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 = 494

Huawei XH620 V2 (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 481

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

Platform Notes

BIOS configuration:

Set Power Efficiency Mode to Performance

Baseboard Management Controller used to adjust the fan speed to 100%

Sysinfo program /spec/config/sysinfo.rev6800

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

running on RH62-rebuild Fri Aug 31 17:06:56 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 : Genuine Intel(R) CPU @ 2.70GHz

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 RH62-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 Aug 31 16:48

SPEC is set to: /spec

| Filesystem | Type | Size | Used | Avail | Use% | Mounted on |
|------------|------|------|------|-------|------|------------|
| /dev/sdal | ext4 | 289G | 212G | 63G | 78% | / |

Additional information from dmidecode:

(End of data from sysinfo program)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 494

Huawei XH620 V2 (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 481

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: May-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 5.5

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 = 494

Huawei XH620 V2 (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 481

CPU2006 license: 3175

Test date: Aug-2012

Test sponsor: Huawei

Hardware Availability: May-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
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 494

Huawei XH620 V2 (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 481

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

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: -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: -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

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

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 494

Huawei XH620 V2 (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 481

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

Peak Optimization Flags (Continued)

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.20120703.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.20120703.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 Thu Jul 24 09:19:25 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 25 September 2012.