



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp[®]_rate2006 = 189

Huawei BH622 V2 (Intel Xeon E5-2603)

SPECfp_rate_base2006 = 185

CPU2006 license: 3175

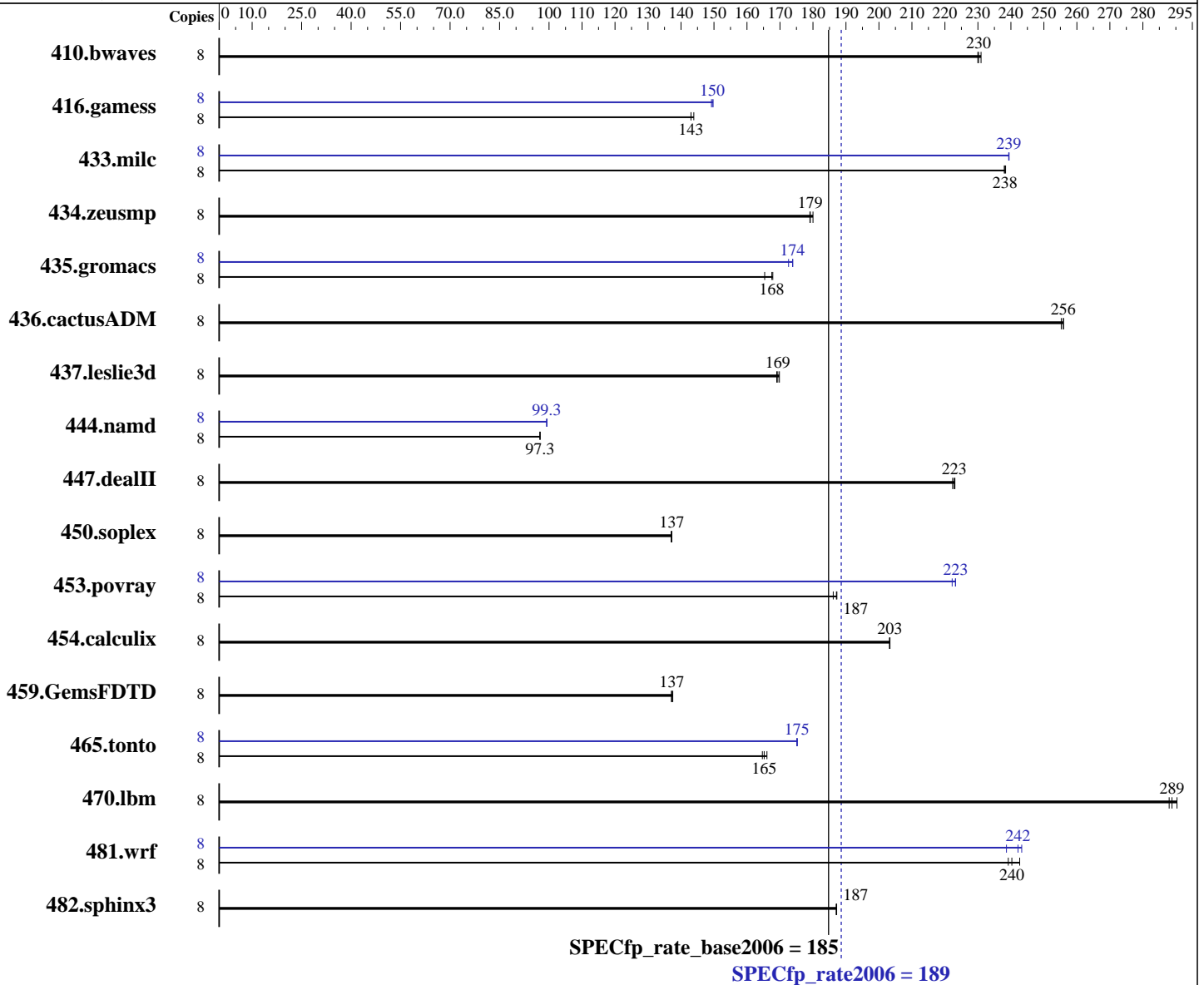
Test sponsor: Huawei

Tested by: Huawei

Test date: Apr-2014

Hardware Availability: Jan-2012

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2603
 CPU Characteristics:
 CPU MHz: 1800
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 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 = 189

Huawei BH622 V2 (Intel Xeon E5-2603)

SPECfp_rate_base2006 = 185

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Apr-2014

Hardware Availability: Jan-2012

Software Availability: Nov-2013

L3 Cache: 10 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-10600R-09, ECC)
 Disk Subsystem: 1 X 300 GB SAS 7200RPM
 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	8	<u>472</u>	<u>230</u>	471	231	473	230	8	<u>472</u>	<u>230</u>	471	231	473	230
416.gamess	8	1089	144	<u>1095</u>	<u>143</u>	1095	143	8	1050	149	1046	150	<u>1048</u>	<u>150</u>
433.milc	8	<u>308</u>	<u>238</u>	308	238	309	238	8	307	239	307	239	<u>307</u>	<u>239</u>
434.zeusmp	8	404	180	407	179	<u>406</u>	<u>179</u>	8	404	180	407	179	<u>406</u>	<u>179</u>
435.gromacs	8	340	168	345	165	<u>341</u>	<u>168</u>	8	<u>329</u>	<u>174</u>	331	173	328	174
436.cactusADM	8	374	256	375	255	<u>374</u>	<u>256</u>	8	374	256	375	255	<u>374</u>	<u>256</u>
437.leslie3d	8	445	169	<u>444</u>	<u>169</u>	443	170	8	445	169	<u>444</u>	<u>169</u>	443	170
444.namd	8	659	97.3	660	97.2	<u>660</u>	<u>97.3</u>	8	<u>646</u>	<u>99.3</u>	646	99.3	646	99.3
447.dealII	8	412	222	<u>411</u>	<u>223</u>	410	223	8	412	222	<u>411</u>	<u>223</u>	410	223
450.soplex	8	486	137	487	137	<u>486</u>	<u>137</u>	8	486	137	487	137	<u>486</u>	<u>137</u>
453.povray	8	<u>227</u>	<u>187</u>	229	186	227	187	8	191	223	<u>191</u>	<u>223</u>	192	222
454.calculix	8	325	203	<u>325</u>	<u>203</u>	325	203	8	325	203	<u>325</u>	<u>203</u>	325	203
459.GemsFDTD	8	617	138	619	137	<u>619</u>	<u>137</u>	8	617	138	619	137	<u>619</u>	<u>137</u>
465.tonto	8	474	166	478	165	<u>476</u>	<u>165</u>	8	<u>449</u>	<u>175</u>	450	175	449	175
470.lbm	8	379	290	<u>381</u>	<u>289</u>	382	288	8	379	290	<u>381</u>	<u>289</u>	382	288
481.wrf	8	368	243	<u>372</u>	<u>240</u>	374	239	8	374	239	<u>369</u>	<u>242</u>	367	243
482.sphinx3	8	833	187	834	187	<u>833</u>	<u>187</u>	8	833	187	834	187	<u>833</u>	<u>187</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 Performance
Sysinfo program /spec/config/sysinfo.rev6818

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 189

Huawei BH622 V2 (Intel Xeon E5-2603)

SPECfp_rate_base2006 = 185

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

Test date: Apr-2014
Hardware Availability: Jan-2012
Software Availability: Nov-2013

Platform Notes (Continued)

\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
running on huawei Wed Apr 16 01:11:33 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 0 @ 1.80GHz
 2 "physical id"s (chips)
 8 "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 : 4
  siblings  : 4
  physical 0: cores 0 1 2 3
  physical 1: cores 0 1 2 3
cache size : 10240 KB
```

```
From /proc/meminfo
MemTotal:      132103760 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 Apr 11 08:44
```

```
SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal       ext4  193G   75G  109G  41% /
```

```
Additional information from dmidecode:
BIOS Insyde Corp. RMIBV372 12/21/2013
Memory:
8x NO DIMM NO DIMM
11x Samsung M393B1K70CH0-CH9 8 GB 1066 MHz 2 rank
5x Samsung M393B1K70DH0-CH9 8 GB 1066 MHz 2 rank
```

(End of data from sysinfo program)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 189

Huawei BH622 V2 (Intel Xeon E5-2603)

SPECfp_rate_base2006 = 185

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Apr-2014

Hardware Availability: Jan-2012

Software Availability: Nov-2013

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.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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 189

Huawei BH622 V2 (Intel Xeon E5-2603)

SPECfp_rate_base2006 = 185

CPU2006 license: 3175

Test date: Apr-2014

Test sponsor: Huawei

Hardware Availability: Jan-2012

Tested by: Huawei

Software Availability: Nov-2013

Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

`-xAVX -ipo -O3 -no-prec-div -opt-prefetch`

Benchmarks using both Fortran and C:

`-xAVX -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

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) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -auto-ilp32`

`470.lbm: basepeak = yes`

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 189

Huawei BH622 V2 (Intel Xeon E5-2603)

SPECfp_rate_base2006 = 185

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Apr-2014

Hardware Availability: Jan-2012

Software Availability: Nov-2013

Peak Optimization Flags (Continued)

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xAVX(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.deallI: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xAVX(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: -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-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

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

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) -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: -xAVX -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-V1.0-IVB-RevG.html>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = 189

Huawei BH622 V2 (Intel Xeon E5-2603)

SPECfp_rate_base2006 = 185

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Apr-2014

Hardware Availability: Jan-2012

Software Availability: Nov-2013

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-V1.0-IVB-RevG.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 Wed Sep 3 18:03:37 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 May 2014.