



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

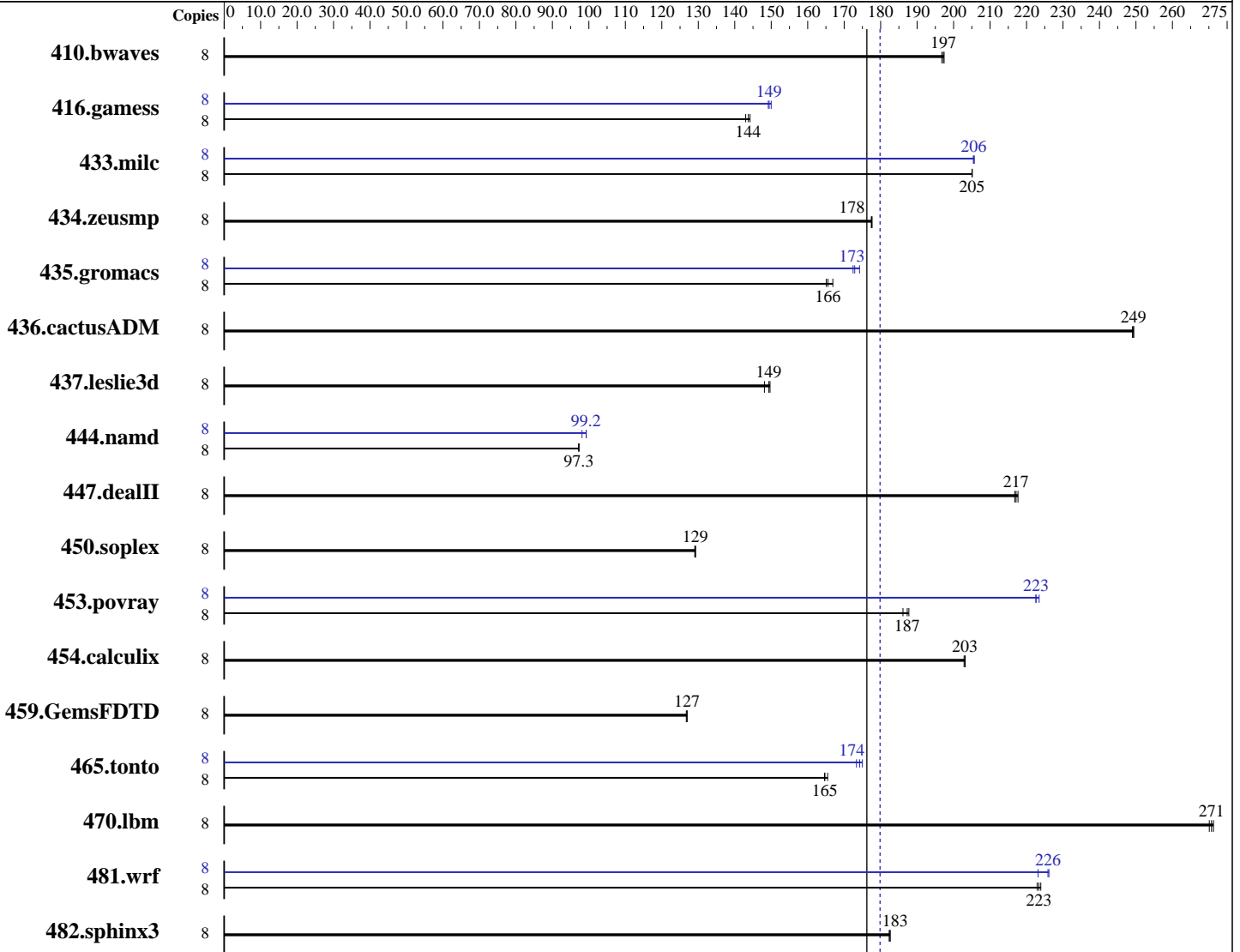
## Huawei Huawei BH621

SPECfp®\_rate2006 = 180

SPECfp\_rate\_base2006 = 176

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

Test date: Mar-2014  
Hardware Availability: May-2012  
Software Availability: Nov-2013



SPECfp\_rate\_base2006 = 176

SPECfp\_rate2006 = 180

### Hardware

CPU Name: Intel Xeon E5-2403  
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  
Huawei BH621

SPECfp\_rate2006 = 180

SPECfp\_rate\_base2006 = 176

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Mar-2014

Hardware Availability: May-2012

Software Availability: Nov-2013

L3 Cache: 10 MB I+D on chip per chip  
Other Cache: None  
Memory: 96 GB (12 x 8 GB 2Rx4 PC3L-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	8	<u>551</u>	<u>197</u>	553	197	551	197	8	<u>551</u>	<u>197</u>	553	197	551	197
416.gamess	8	1086	144	<u>1090</u>	<u>144</u>	1095	143	8	<u>1048</u>	<u>149</u>	1050	149	1044	150
433.milc	8	358	205	<u>358</u>	<u>205</u>	358	205	8	358	205	357	206	<u>357</u>	<u>206</u>
434.zeusmp	8	410	177	<u>410</u>	<u>178</u>	410	178	8	410	177	<u>410</u>	<u>178</u>	410	178
435.gromacs	8	346	165	<u>345</u>	<u>166</u>	342	167	8	328	174	<u>330</u>	<u>173</u>	331	172
436.cactusADM	8	384	249	<u>383</u>	<u>249</u>	383	249	8	384	249	<u>383</u>	<u>249</u>	383	249
437.leslie3d	8	<u>503</u>	<u>149</u>	508	148	502	150	8	<u>503</u>	<u>149</u>	508	148	502	150
444.namd	8	660	97.2	<u>660</u>	<u>97.3</u>	660	97.3	8	646	99.3	<u>646</u>	<u>99.2</u>	654	98.1
447.dealII	8	420	218	<u>422</u>	<u>217</u>	422	217	8	420	218	<u>422</u>	<u>217</u>	422	217
450.soplex	8	<u>516</u>	<u>129</u>	517	129	516	129	8	<u>516</u>	<u>129</u>	517	129	516	129
453.povray	8	229	186	227	188	<u>227</u>	<u>187</u>	8	190	223	<u>191</u>	<u>223</u>	191	223
454.calculix	8	325	203	325	203	<u>325</u>	<u>203</u>	8	325	203	325	203	<u>325</u>	<u>203</u>
459.GemsFDTD	8	<u>669</u>	<u>127</u>	669	127	670	127	8	<u>669</u>	<u>127</u>	669	127	670	127
465.tonto	8	476	165	478	165	<u>478</u>	<u>165</u>	8	450	175	454	173	<u>452</u>	<u>174</u>
470.lbm	8	405	271	407	270	<u>406</u>	<u>271</u>	8	405	271	407	270	<u>406</u>	<u>271</u>
481.wrf	8	399	224	<u>400</u>	<u>223</u>	401	223	8	<u>396</u>	<u>226</u>	395	226	400	223
482.sphinx3	8	854	183	855	182	<u>854</u>	<u>183</u>	8	854	183	855	182	<u>854</u>	<u>183</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

Sysinfo program /spec/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
running on spec Sat Mar 8 09:15:09 2014

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei  
Huawei BH621

SPECfp\_rate2006 = 180

SPECfp\_rate\_base2006 = 176

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

Test date: Mar-2014  
Hardware Availability: May-2012  
Software Availability: Nov-2013

## Platform Notes (Continued)

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 E5-2403 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:      99010156 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 spec 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 7 17:45
```

```
SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal       ext4  289G   27G  248G  10% /
```

```
Additional information from dmidecode:
BIOS Insyde Corp. RMIBV372 12/21/2013
Memory:
 12x Samsung M393B1K70QB0-YK0 8 GB 1066 MHz 2 rank
```

(End of data from sysinfo program)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei  
Huawei BH621

SPECfp\_rate2006 = 180

SPECfp\_rate\_base2006 = 176

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

Test date: Mar-2014  
Hardware Availability: May-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  
Huawei BH621

SPECfp\_rate2006 = 180

SPECfp\_rate\_base2006 = 176

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

Test date: Mar-2014  
Hardware Availability: May-2012  
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  
Huawei BH621

SPECfp\_rate2006 = 180

SPECfp\_rate\_base2006 = 176

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

Test date: Mar-2014  
Hardware Availability: May-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  
Huawei BH621

SPECfp\_rate2006 = 180

SPECfp\_rate\_base2006 = 176

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

**Test date:** Mar-2014  
**Hardware Availability:** May-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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 22:22:50 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 6 May 2014.