



# SPEC® CFP2006 Result

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## Huawei

SPECfp®2006 = **82.6**

### Huawei BH622 V2 (Intel Xeon E5-2665)

SPECfp\_base2006 = **78.0**

CPU2006 license: 3175

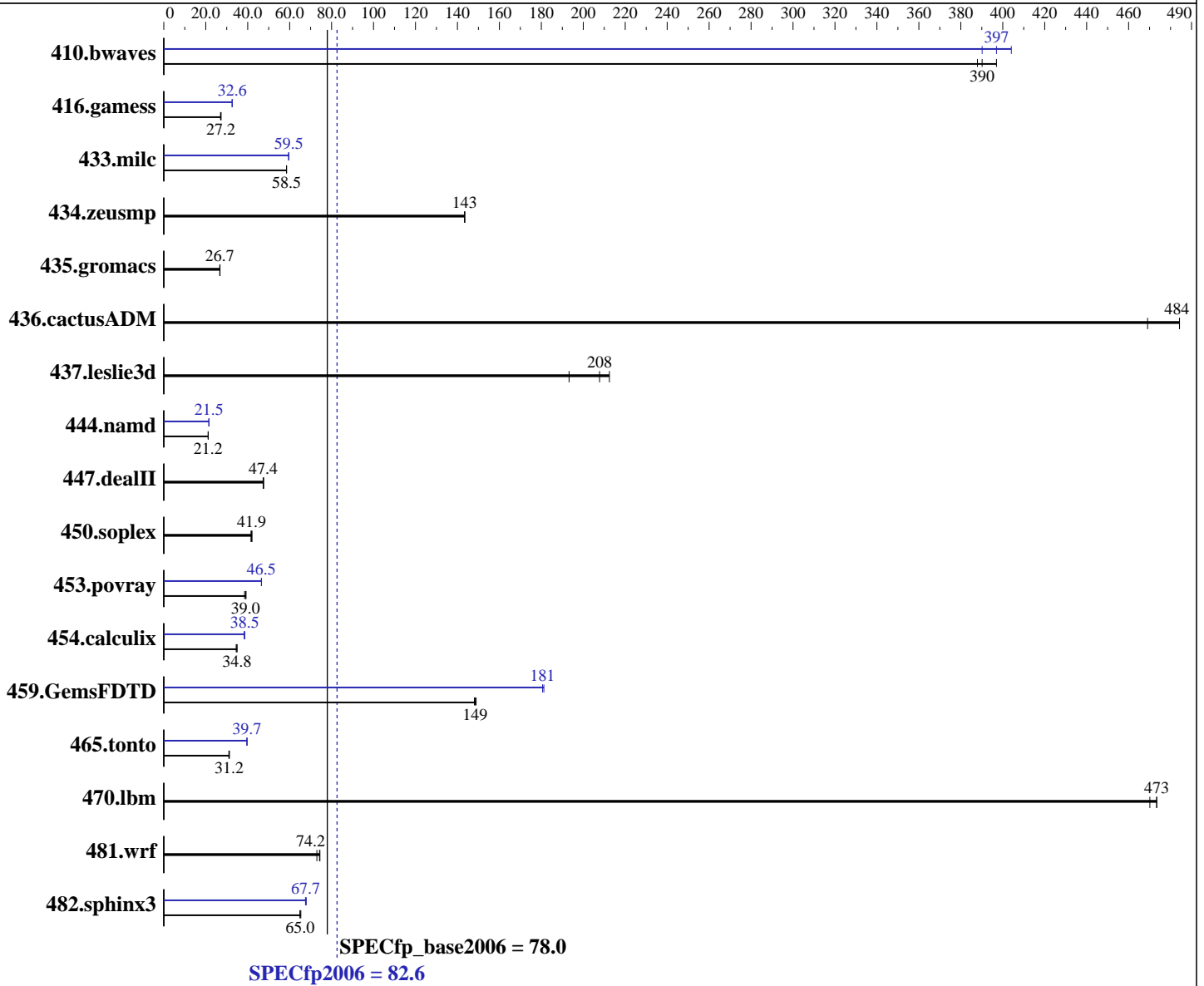
Test sponsor: Huawei

Tested by: Huawei

Test date: Apr-2012

Hardware Availability: Mar-2012

Software Availability: Oct-2011



Hardware	
CPU Name:	Intel Xeon E5-2665
CPU Characteristics:	Intel Turbo Boost Technology up to 3.10 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software	
Operating System:	Red Hat Enterprise Linux Server release 6.1 (Santiago)
	2.6.32-131.0.15.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:	Yes
File System:	ext3

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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: 64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	35.0	388	<b>34.8</b>	<b>390</b>	34.2	397	33.6	404	<b>34.2</b>	<b>397</b>	34.8	390
416.gamess	<b>719</b>	<b>27.2</b>	724	27.0	718	27.3	600	32.6	<b>600</b>	<b>32.6</b>	601	32.6
433.milc	157	58.5	157	58.6	<b>157</b>	<b>58.5</b>	154	59.5	<b>154</b>	<b>59.5</b>	154	59.7
434.zeusmp	63.4	143	<b>63.4</b>	<b>143</b>	63.4	143	63.4	143	<b>63.4</b>	<b>143</b>	63.4	143
435.gromacs	268	26.7	<b>267</b>	<b>26.7</b>	266	26.8	268	26.7	<b>267</b>	<b>26.7</b>	266	26.8
436.cactusADM	25.5	469	24.7	484	<b>24.7</b>	<b>484</b>	25.5	469	24.7	484	<b>24.7</b>	<b>484</b>
437.leslie3d	<b>45.2</b>	<b>208</b>	44.2	212	48.6	193	<b>45.2</b>	<b>208</b>	44.2	212	48.6	193
444.namd	379	21.2	<b>379</b>	<b>21.2</b>	379	21.2	373	21.5	372	21.5	<b>373</b>	<b>21.5</b>
447.dealII	242	47.4	<b>241</b>	<b>47.4</b>	240	47.6	242	47.4	<b>241</b>	<b>47.4</b>	240	47.6
450.soplex	198	42.1	201	41.6	<b>199</b>	<b>41.9</b>	198	42.1	201	41.6	<b>199</b>	<b>41.9</b>
453.povray	136	39.2	<b>136</b>	<b>39.0</b>	138	38.5	<b>114</b>	<b>46.5</b>	114	46.6	114	46.5
454.calculix	236	34.9	<b>237</b>	<b>34.8</b>	239	34.5	215	38.3	214	38.6	<b>214</b>	<b>38.5</b>
459.GemsFDTD	<b>71.4</b>	<b>149</b>	71.6	148	71.3	149	58.5	181	<b>58.7</b>	<b>181</b>	58.7	181
465.tonto	317	31.0	<b>315</b>	<b>31.2</b>	315	31.2	248	39.6	248	39.7	<b>248</b>	<b>39.7</b>
470.lbm	29.2	470	29.0	473	<b>29.0</b>	<b>473</b>	29.2	470	29.0	473	<b>29.0</b>	<b>473</b>
481.wrf	153	73.0	150	74.4	<b>150</b>	<b>74.2</b>	153	73.0	150	74.4	<b>150</b>	<b>74.2</b>
482.sphinx3	300	64.9	298	65.3	<b>300</b>	<b>65.0</b>	<b>288</b>	<b>67.7</b>	287	67.9	288	67.6

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

BIOS configuration:  
 Intel Hyper-Threading set to Disabled  
 Sysinfo program /spec/config/sysinfo.rev6800  
 \$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
 running on BH622-SPEC Mon Jan 10 12:04:28 2011

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>

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## Platform Notes (Continued)

```

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2665 0 @ 2.40GHz
 2 "physical id"s (chips)
16 "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  : 8
  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:      132133092 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

```

uname -a:
Linux BH622-SPEC 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10 15:42:40 EDT
2011 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Jan 10 01:37

```

SPEC is set to: /spec
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sdal       ext3     197G   13G  175G   7% /

```

Additional information from dmidecode:

```

Memory:
16x Samsung M393B1K70DH0-CK0 8 GB 1600 MHz 2 rank

```

## General Notes

Environment variables set by runspec before the start of the run:

```

KMP_AFFINITY = "granularity=fine,compact,0,1"
LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64"
OMP_NUM_THREADS = "16"

```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB  
memory using RHEL5.5

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled



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## 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  
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 -parallel -opt-prefetch  
-ansi-alias

C++ benchmarks:  
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:  
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:  
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias



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## 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) -prof-use(pass 2) -static -auto-ilp32  
-ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias  
-parallel

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.dealIII: 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) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel  
-static

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## Peak Optimization Flags (Continued)

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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc  
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

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-revD.20120509.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-revD.20120509.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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