



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp®2006 = 97.3

### Huawei CH121 V1 (Intel Xeon E5-2690)

SPECfp\_base2006 = 92.7

CPU2006 license: 3175

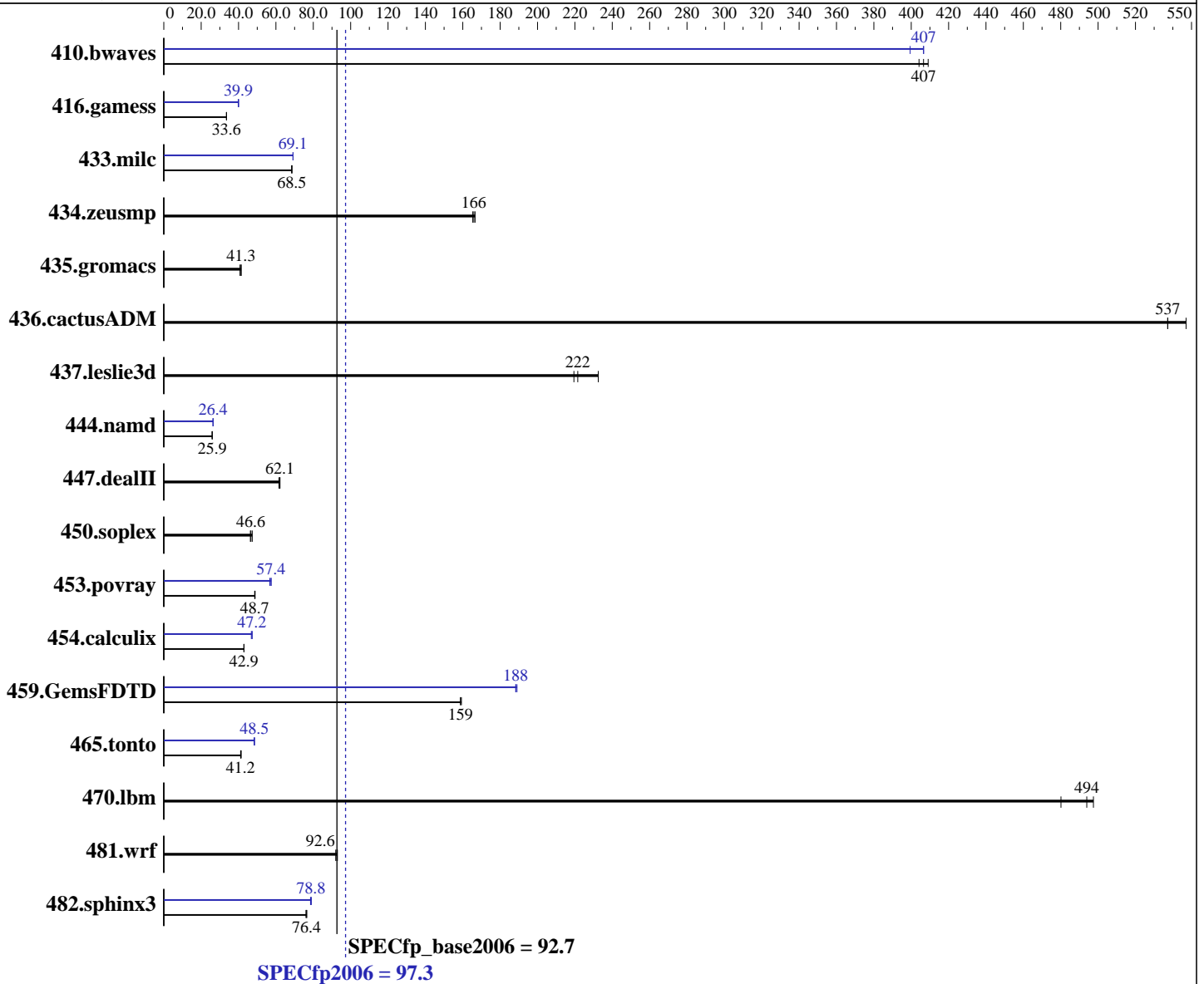
Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: Aug-2012

Software Availability: Dec-2011



#### Hardware

CPU Name: Intel Xeon E5-2690  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
 CPU MHz: 2900  
 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

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 12.1.4 of Intel C++ Studio XE for Linux;  
 Fortran: Version 12.1.4 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext3

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECfp2006 = **97.3**

## Huawei CH121 V1 (Intel Xeon E5-2690)

SPECfp\_base2006 = **92.7**

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: Aug-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: 2 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: Microquill SmartHeap V9.01

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	33.6	404	33.2	409	<b><u>33.4</u></b>	<b><u>407</u></b>	34.0	399	<b><u>33.4</u></b>	<b><u>407</u></b>	33.4	407
416.gamess	583	33.6	<b><u>583</u></b>	<b><u>33.6</u></b>	584	33.5	491	39.9	489	40.0	<b><u>490</u></b>	<b><u>39.9</u></b>
433.milc	134	68.5	134	68.5	<b><u>134</u></b>	<b><u>68.5</u></b>	133	69.1	<b><u>133</u></b>	<b><u>69.1</u></b>	133	69.2
434.zeusmp	55.0	165	54.6	167	<b><u>54.8</u></b>	<b><u>166</u></b>	55.0	165	54.6	167	<b><u>54.8</u></b>	<b><u>166</u></b>
435.gromacs	<b><u>173</u></b>	<b><u>41.3</u></b>	173	41.4	175	40.8	<b><u>173</u></b>	<b><u>41.3</u></b>	173	41.4	175	40.8
436.cactusADM	<b><u>22.2</u></b>	<b><u>537</u></b>	22.2	537	21.8	547	<b><u>22.2</u></b>	<b><u>537</u></b>	22.2	537	21.8	547
437.leslie3d	40.4	233	<b><u>42.4</u></b>	<b><u>222</u></b>	42.8	219	40.4	233	<b><u>42.4</u></b>	<b><u>222</u></b>	42.8	219
444.namd	309	25.9	310	25.9	<b><u>310</u></b>	<b><u>25.9</u></b>	<b><u>304</u></b>	<b><u>26.4</u></b>	304	26.4	304	26.4
447.dealII	186	61.6	<b><u>184</u></b>	<b><u>62.1</u></b>	184	62.1	186	61.6	<b><u>184</u></b>	<b><u>62.1</u></b>	184	62.1
450.soplex	176	47.3	180	46.3	<b><u>179</u></b>	<b><u>46.6</u></b>	176	47.3	180	46.3	<b><u>179</u></b>	<b><u>46.6</u></b>
453.povray	109	48.9	<b><u>109</u></b>	<b><u>48.7</u></b>	109	48.6	92.6	57.4	93.8	56.7	<b><u>92.7</u></b>	<b><u>57.4</u></b>
454.calculix	192	43.0	<b><u>192</u></b>	<b><u>42.9</u></b>	193	42.8	175	47.3	176	46.8	<b><u>175</u></b>	<b><u>47.2</u></b>
459.GemsFDTD	66.8	159	<b><u>66.8</u></b>	<b><u>159</u></b>	66.6	159	<b><u>56.3</u></b>	<b><u>188</u></b>	56.1	189	56.3	188
465.tonto	<b><u>239</u></b>	<b><u>41.2</u></b>	238	41.4	239	41.1	<b><u>203</u></b>	<b><u>48.5</u></b>	203	48.4	203	48.5
470.lbm	28.6	480	27.6	498	<b><u>27.8</u></b>	<b><u>494</u></b>	28.6	480	27.6	498	<b><u>27.8</u></b>	<b><u>494</u></b>
481.wrf	<b><u>121</u></b>	<b><u>92.6</u></b>	120	92.9	121	92.0	<b><u>121</u></b>	<b><u>92.6</u></b>	120	92.9	121	92.0
482.sphinx3	256	76.1	<b><u>255</u></b>	<b><u>76.4</u></b>	255	76.5	247	79.0	<b><u>247</u></b>	<b><u>78.8</u></b>	248	78.5

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"  
 Transparent Huge Pages enabled with:  
 echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled  
 Select only test related files when installing the operating system

## Platform Notes

BIOS configuration:  
 Intel Hyper-Threading set to Disabled  
 Set Power Efficiency Mode to Performance  
 Baseboard Management Controller used to adjust the fan speed to 100%  
 Sysinfo program /opt/spec2006/config/sysinfo.rev6800  
 \$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
 running on rhel62x64spec1.huawei.com Fri Aug 31 14:55:20 2012

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 97.3

Huawei CH121 V1 (Intel Xeon E5-2690)

SPECfp\_base2006 = 92.7

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: Aug-2012

Software Availability: Dec-2011

## 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 E5-2690 0 @ 2.90GHz
 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:      132120564 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

```

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.2 (Santiago)

```

```

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 rhel62x64spec1.huawei.com 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 14:50

```

SPEC is set to: /opt/spec2006
Filesystem      Type      Size      Used Avail Use% Mounted on
/dev/sdb1       ext3      276G      24G  238G   9% /opt

```

Additional information from dmidecode:

(End of data from sysinfo program)

## General Notes

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

```

KMP_AFFINITY = "granularity=fine,compact,0,1"
LD_LIBRARY_PATH = "/opt/spec2006/libs/32:/opt/spec2006/libs/64"
OMP_NUM_THREADS = "16"

```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 97.3

Huawei CH121 V1 (Intel Xeon E5-2690)

SPECfp\_base2006 = 92.7

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

Test date: Aug-2012  
Hardware Availability: Aug-2012  
Software Availability: Dec-2011

## General Notes (Continued)

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL6.2

## 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 97.3

Huawei CH121 V1 (Intel Xeon E5-2690)

SPECfp\_base2006 = 92.7

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: Aug-2012

Software Availability: Dec-2011

## Base Optimization Flags (Continued)

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`

## 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`

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 97.3

Huawei CH121 V1 (Intel Xeon E5-2690)

SPECfp\_base2006 = 92.7

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: Aug-2012

Software Availability: Dec-2011

## Peak Optimization Flags (Continued)

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

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-revE.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.xml>



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 97.3

Huawei CH121 V1 (Intel Xeon E5-2690)

SPECfp\_base2006 = 92.7

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: Aug-2012

Software Availability: Dec-2011

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 09:16:14 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 25 September 2012.