



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp[®]2006 = 98.7

Huawei CH221 (Intel Xeon E5-2650 v2)

SPECfp_base2006 = 94.6

CPU2006 license: 3175

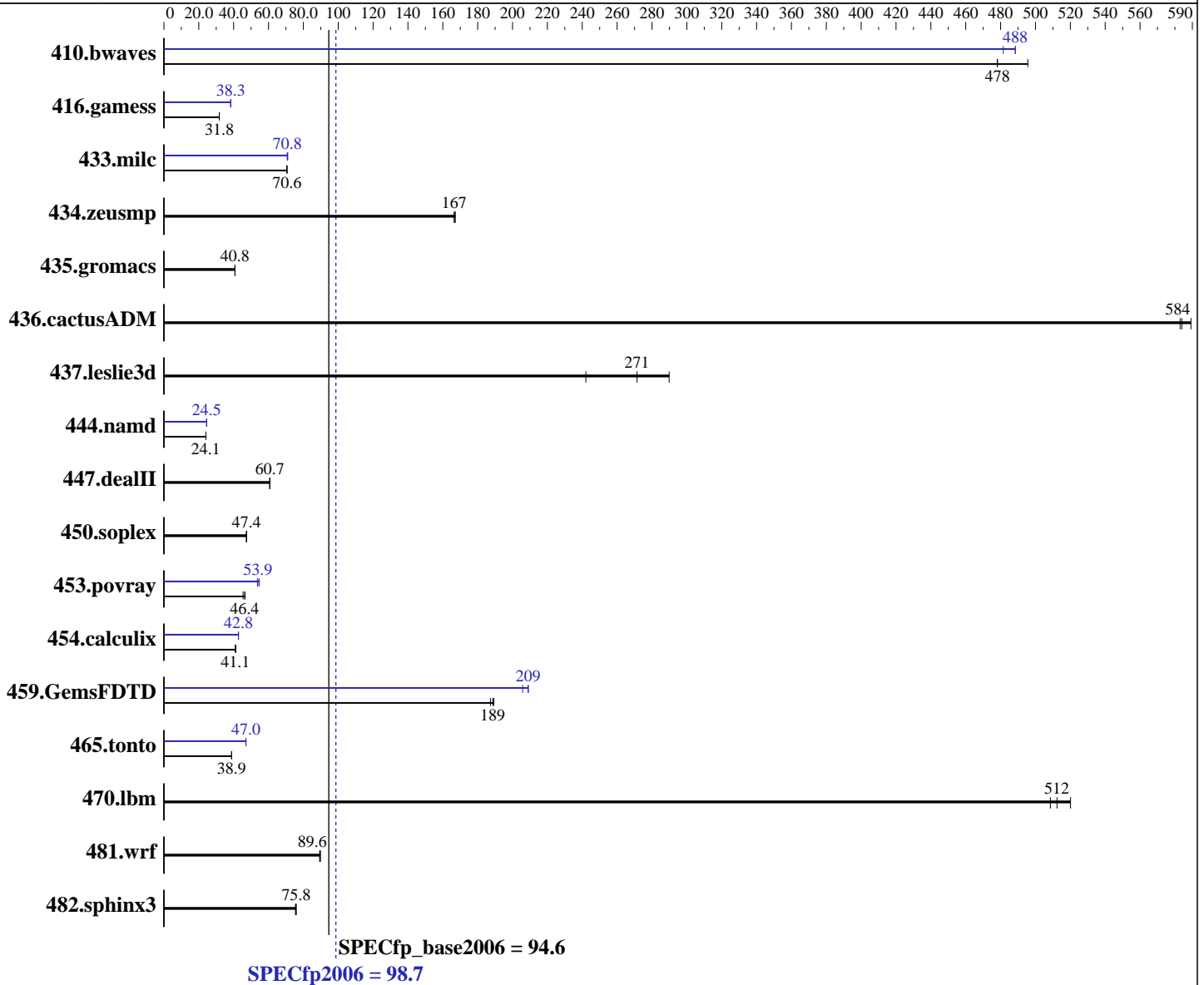
Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2650 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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 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: ext4

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = **98.7**

Huawei CH221 (Intel Xeon E5-2650 v2)

SPECfp_base2006 = **94.6**

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

L3 Cache: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)
 Disk Subsystem: 1 x 300 GB SATA, 7200RPM
 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	27.4	496	28.4	478	<u>28.4</u>	<u>478</u>	27.8	488	<u>27.8</u>	<u>488</u>	28.2	482
416.gamess	<u>616</u>	<u>31.8</u>	617	31.8	616	31.8	511	38.3	511	38.3	<u>511</u>	<u>38.3</u>
433.milc	130	70.5	<u>130</u>	<u>70.6</u>	130	70.6	129	71.1	<u>130</u>	<u>70.8</u>	130	70.8
434.zeusmp	54.4	167	<u>54.6</u>	<u>167</u>	54.6	167	54.4	167	<u>54.6</u>	<u>167</u>	54.6	167
435.gromacs	175	40.8	<u>175</u>	<u>40.8</u>	175	40.8	175	40.8	<u>175</u>	<u>40.8</u>	175	40.8
436.cactusADM	<u>20.5</u>	<u>584</u>	20.5	583	20.3	589	<u>20.5</u>	<u>584</u>	20.5	583	20.3	589
437.leslie3d	38.8	242	32.4	290	<u>34.6</u>	<u>271</u>	38.8	242	32.4	290	<u>34.6</u>	<u>271</u>
444.namd	333	24.1	333	24.1	<u>333</u>	<u>24.1</u>	327	24.5	327	24.5	<u>327</u>	<u>24.5</u>
447.dealII	<u>188</u>	<u>60.7</u>	188	60.8	188	60.7	<u>188</u>	<u>60.7</u>	188	60.8	188	60.7
450.soplex	<u>176</u>	<u>47.4</u>	176	47.5	176	47.3	<u>176</u>	<u>47.4</u>	176	47.5	176	47.3
453.povray	<u>115</u>	<u>46.4</u>	117	45.4	114	46.6	<u>98.7</u>	<u>53.9</u>	97.1	54.8	99.1	53.7
454.calculix	<u>201</u>	<u>41.1</u>	201	41.1	201	41.1	193	42.8	193	42.8	<u>193</u>	<u>42.8</u>
459.GemsFDTD	<u>56.2</u>	<u>189</u>	56.6	187	56.1	189	51.6	206	<u>50.8</u>	<u>209</u>	50.8	209
465.tonto	253	38.9	254	38.8	<u>253</u>	<u>38.9</u>	209	47.1	<u>209</u>	<u>47.0</u>	209	47.0
470.lbm	27.0	509	<u>26.8</u>	<u>512</u>	26.4	520	27.0	509	<u>26.8</u>	<u>512</u>	26.4	520
481.wrf	125	89.3	<u>125</u>	<u>89.6</u>	124	89.8	125	89.3	<u>125</u>	<u>89.6</u>	124	89.8
482.sphinx3	257	75.9	<u>257</u>	<u>75.8</u>	258	75.5	257	75.9	<u>257</u>	<u>75.8</u>	258	75.5

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"

Platform Notes

Sysinfo program /spec/config/sysinfo.rev6800
 \$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
 running on localhost.localdomain Thu Sep 11 03:09:50 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 E5-2650 v2 @ 2.60GHz
 Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 98.7

Huawei CH221 (Intel Xeon E5-2650 v2)

SPECfp_base2006 = 94.6

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

Platform Notes (Continued)

```

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:      264480104 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 localhost.localdomain 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 Sep 10 11:13

SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext4  265G   21G  231G   9% /

Additional information from dmidecode:
Memory:
16x Micron 36JSF2G72PZ-1G9E1 16 GB 1866 MHz 2 rank

(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 = "/spec/libs/32:/spec/libs/64"
OMP_NUM_THREADS = "16"

```

Binaries compiled on a system with 2 x Xeon X5645 CPU + 16GB memory using RHEL 6.1

Transparent Huge Pages enabled with:

```
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei	SPECfp2006 =	98.7
Huawei CH221 (Intel Xeon E5-2650 v2)	SPECfp_base2006 =	94.6

CPU2006 license: 3175	Test date: Sep-2014
Test sponsor: Huawei	Hardware Availability: Sep-2013
Tested by: Huawei	Software Availability: Nov-2013

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.lelie3d: -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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 98.7

Huawei CH221 (Intel Xeon E5-2650 v2)

SPECfp_base2006 = 94.6

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

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: basepeak = yes

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: 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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECfp2006 = 98.7

Huawei CH221 (Intel Xeon E5-2650 v2)

SPECfp_base2006 = 94.6

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

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-V1.0-IVB-RevG.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-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 Fri Oct 17 18:22:27 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 17 October 2014.