



SPEC[®] CFP2006 Result

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Huawei

SPECfp[®]2006 = 88.6

Huawei RH2288 V2 (Intel Xeon E5-2667)

SPECfp_base2006 = 84.8

CPU2006 license: 3175

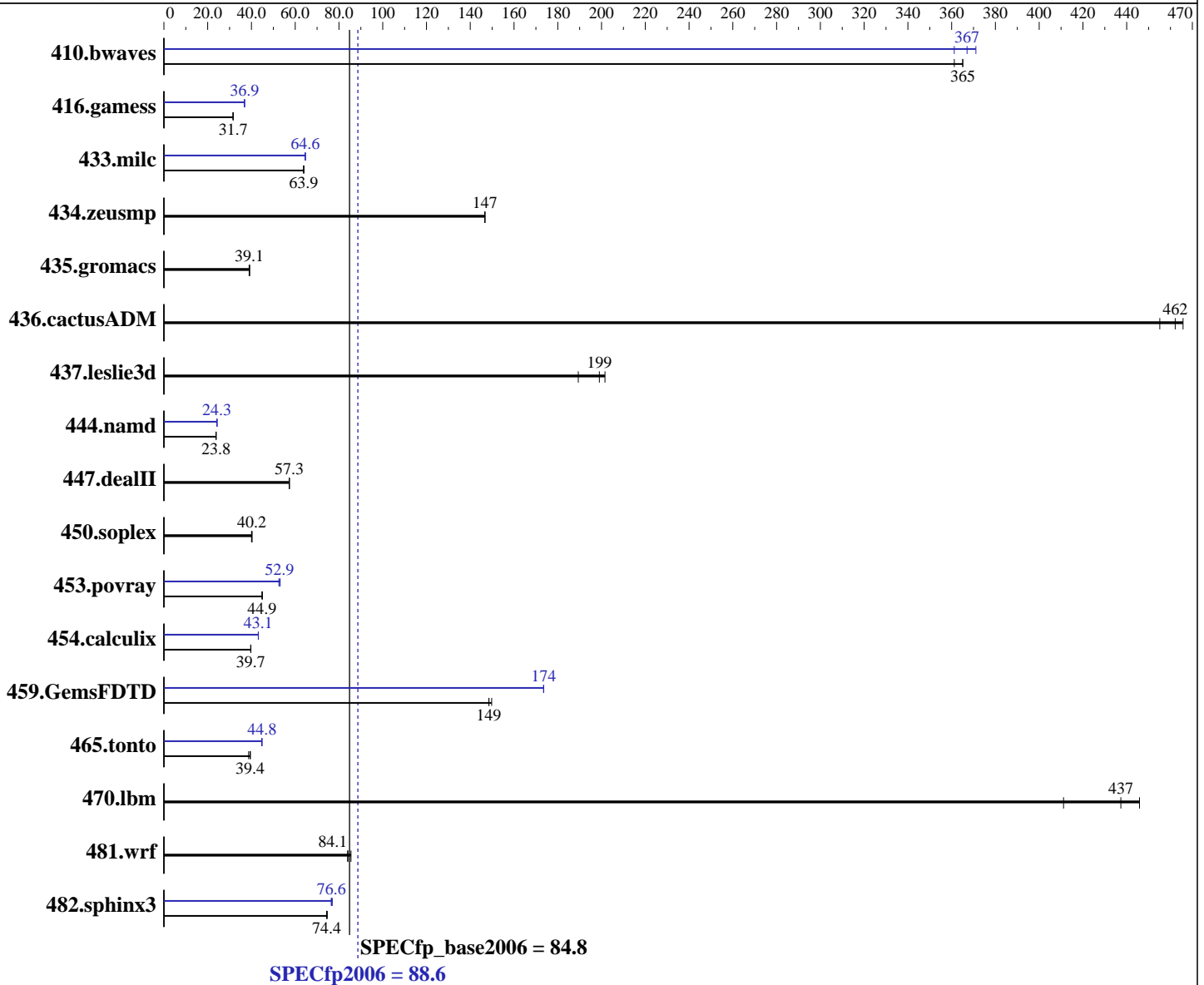
Test date: Jul-2012

Test sponsor: Huawei

Hardware Availability: Mar-2012

Tested by: Huawei

Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E5-2667
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2900
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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 6.2 (Santiago)
 2.6.32-220.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

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L3 Cache: 15 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	37.6	361	37.2	365	<u>37.2</u>	<u>365</u>	37.6	361	36.6	371	<u>37.0</u>	<u>367</u>
416.gamess	618	31.7	621	31.5	<u>618</u>	<u>31.7</u>	<u>531</u>	<u>36.9</u>	531	36.9	532	36.8
433.milc	<u>144</u>	<u>63.9</u>	144	63.9	144	63.9	<u>142</u>	<u>64.6</u>	142	64.5	142	64.7
434.zeusmp	62.0	147	62.0	147	<u>62.0</u>	<u>147</u>	62.0	147	62.0	147	<u>62.0</u>	<u>147</u>
435.gromacs	183	38.9	182	39.2	<u>183</u>	<u>39.1</u>	183	38.9	182	39.2	<u>183</u>	<u>39.1</u>
436.cactusADM	25.7	466	26.3	455	<u>25.9</u>	<u>462</u>	25.7	466	26.3	455	<u>25.9</u>	<u>462</u>
437.leslie3d	49.6	189	46.6	202	<u>47.2</u>	<u>199</u>	49.6	189	46.6	202	<u>47.2</u>	<u>199</u>
444.namd	<u>336</u>	<u>23.8</u>	336	23.8	337	23.8	331	24.3	330	24.3	<u>331</u>	<u>24.3</u>
447.dealII	<u>200</u>	<u>57.3</u>	200	57.3	200	57.3	<u>200</u>	<u>57.3</u>	200	57.3	200	57.3
450.soplex	208	40.0	207	40.3	<u>207</u>	<u>40.2</u>	208	40.0	207	40.3	<u>207</u>	<u>40.2</u>
453.povray	118	45.0	119	44.8	<u>118</u>	<u>44.9</u>	<u>101</u>	<u>52.9</u>	100	53.1	101	52.5
454.calculix	207	39.8	208	39.7	<u>208</u>	<u>39.7</u>	191	43.2	<u>191</u>	<u>43.1</u>	191	43.1
459.GemsFDTD	71.4	149	<u>71.4</u>	<u>149</u>	70.8	150	61.1	174	<u>61.1</u>	<u>174</u>	61.1	174
465.tonto	254	38.7	249	39.5	<u>250</u>	<u>39.4</u>	220	44.7	<u>220</u>	<u>44.8</u>	219	44.8
470.lbm	33.4	411	30.8	446	<u>31.4</u>	<u>437</u>	33.4	411	30.8	446	<u>31.4</u>	<u>437</u>
481.wrf	<u>133</u>	<u>84.1</u>	131	85.5	133	84.0	<u>133</u>	<u>84.1</u>	131	85.5	133	84.0
482.sphinx3	<u>262</u>	<u>74.4</u>	262	74.3	261	74.7	255	76.5	253	77.0	<u>254</u>	<u>76.6</u>

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
 Sysinfo program /spec/config/sysinfo.rev6800
 \$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
 running on RH62-rebuild Wed Aug 1 16:30:11 2012

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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 E5-2667 0 @ 2.90GHz
 2 "physical id"s (chips)
 12 "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    : 6
  siblings     : 6
  physical 0   : cores 0 1 2 3 4 5
  physical 1   : cores 0 1 2 3 4 5
cache size    : 15360 KB

```

```

From /proc/meminfo
MemTotal:      132124032 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

```

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 RH62-rebuild 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 Jul 31 09:17

```

SPEC is set to: /spec
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sdal       ext4      289G  99G  176G  36% /

```

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 = "/spec/libs/32:/spec/libs/64"
OMP_NUM_THREADS = "12"

```

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



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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-revE.20120703.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.20120703.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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