SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

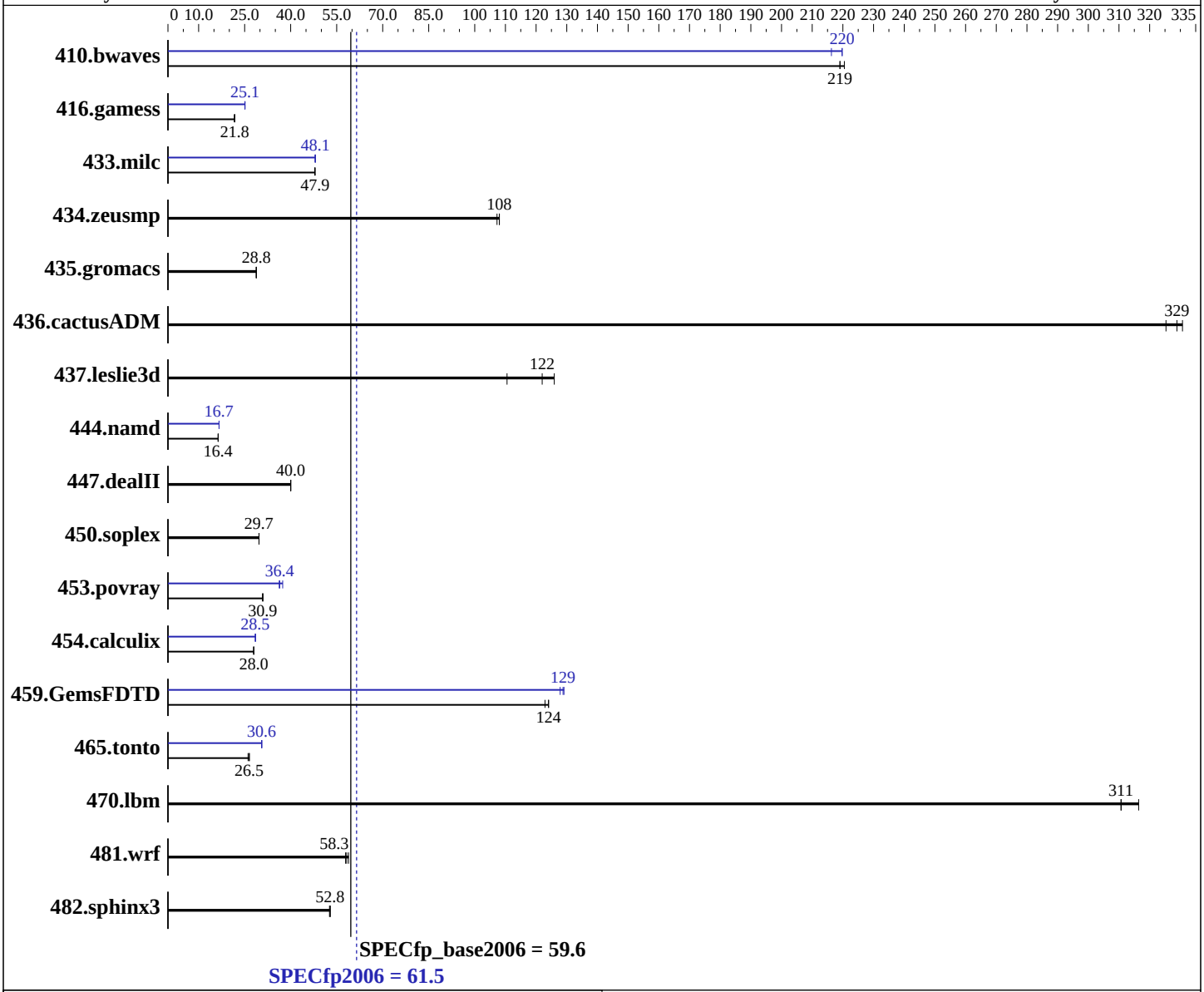
Huawei RH2285H V2 (Intel Xeon E5-2420)

SPECfp®2006 = 61.5

SPECfp_base2006 = 59.6

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

Test date: May-2013
Hardware Availability: Jun-2013
Software Availability: Jun-2012



Hardware

CPU Name:	Intel Xeon E5-2420
CPU Characteristics:	Intel Turbo Boost Technology up to 2.40 GHz
CPU MHz:	1900
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

Continued on next page

Software

Operating System:	Red Hat Enterprise Linux Server release 6.3 (Santiago) 2.6.32-279.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

Huawei RH2285H V2 (Intel Xeon E5-2420)

SPECfp2006 = 61.5

SPECfp_base2006 = 59.6

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

Test date: May-2013
Hardware Availability: Jun-2013
Software Availability: Jun-2012

L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 96 GB (12 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	61.6	220	**62.0**	**219**	62.0	219	**61.8**	**220**	61.8	220	62.8	216
416.gamess	898	21.8	906	21.6	**899**	**21.8**	781	25.1	779	25.1	**780**	**25.1**
433.milc	191	48.0	192	47.8	**192**	**47.9**	191	48.1	192	47.9	**191**	**48.1**
434.zeusmp	**84.2**	**108**	84.8	107	84.2	108	**84.2**	**108**	84.8	107	84.2	108
435.gromacs	247	28.9	248	28.7	**248**	**28.8**	247	28.9	248	28.7	**248**	**28.8**
436.cactusADM	**36.3**	**329**	36.1	331	36.7	325	**36.3**	**329**	36.1	331	36.7	325
437.leslie3d	**77.1**	**122**	85.0	111	74.7	126	**77.1**	**122**	85.0	111	74.7	126
444.namd	**490**	**16.4**	490	16.4	490	16.4	481	16.7	482	16.7	**481**	**16.7**
447.dealII	**286**	**40.0**	286	40.0	286	40.0	**286**	**40.0**	286	40.0	286	40.0
450.soplex	281	29.7	281	29.7	**281**	**29.7**	281	29.7	281	29.7	**281**	**29.7**
453.povray	172	31.0	173	30.8	**172**	**30.9**	**146**	**36.4**	142	37.4	147	36.3
454.calculix	295	28.0	295	27.9	**295**	**28.0**	**289**	**28.5**	289	28.6	290	28.4
459.GemsFDTD	85.5	124	**85.5**	**124**	86.3	123	82.2	129	83.0	128	**82.4**	**129**
465.tonto	377	26.1	**371**	**26.5**	371	26.5	**322**	**30.6**	322	30.6	322	30.5
470.lbm	43.4	316	44.2	311	**44.2**	**311**	43.4	316	44.2	311	**44.2**	**311**
481.wrf	193	57.9	**192**	**58.3**	190	58.9	193	57.9	**192**	**58.3**	190	58.9
482.sphinx3	370	52.7	368	52.9	**369**	**52.8**	370	52.7	368	52.9	**369**	**52.8**

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 speccpu Tue May 14 19:11:32 2013

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 E5-2420 0 @ 1.90GHz
```

Continued on next page

Platform Notes (Continued)

```
        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:       99024400 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  /usr/bin/lsb_release -d
     Red Hat Enterprise Linux Server release 6.3 (Santiago)

  From /etc/*release* /etc/*version*
     redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
     system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
     system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

  uname -a:
     Linux speccpu 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36 EDT 2012
     x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 May 14 19:07

  SPEC is set to: /spec
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/mapper/ddf1_4c53492020202020201000005b19e5d204471147119c2abcd4p1
                    ext4     97G   12G   80G  14% /

  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 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
```

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

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

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 file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.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 Thu Jul 24 16:23:44 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 July 2013.