SPEC® CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

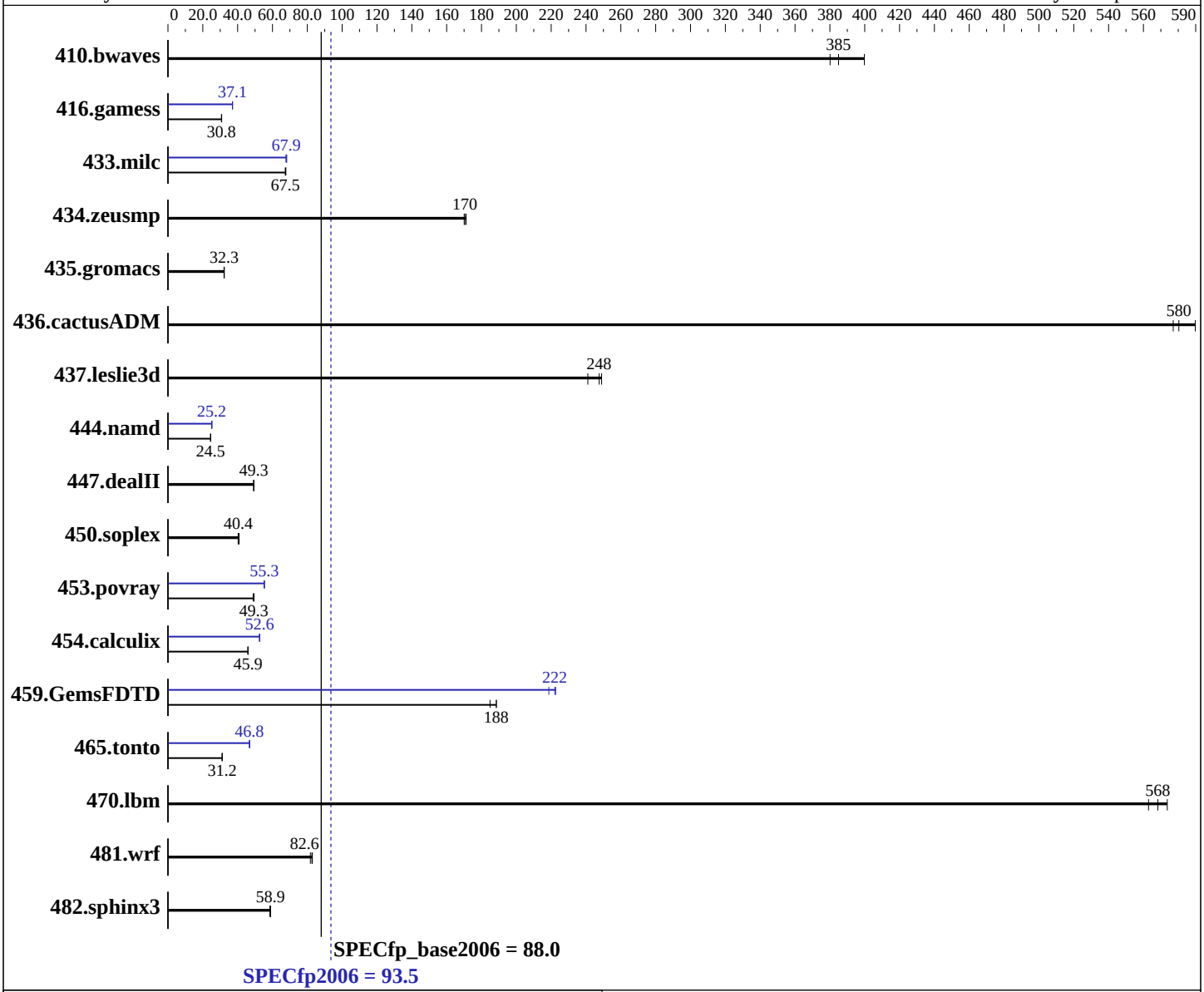
Huawei 5288 V3 (Intel Xeon E5-2630L v3)

SPECfp®2006 = 93.5

SPECfp_base2006 = 88.0

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

Test date: Aug-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014



Hardware

CPU Name:	Intel Xeon E5-2630L v3
CPU Characteristics:	Intel Turbo Boost Technology up to 2.90 GHz
CPU MHz:	1800
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 7.0 (Maipo) 3.10.0-123.el7.x86_64
Compiler:	C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux; Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

Huawei 5288 V3 (Intel Xeon E5-2630L v3)

SPECfp2006 = 93.5

SPECfp_base2006 = 88.0

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

Test date: Aug-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

L3 Cache: 20 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)
Disk Subsystem: 1 x 500 GB SATA, 7200 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	35.8	380	**35.3**	**385**	34.0	400	35.8	380	**35.3**	**385**	34.0	400
416.gamess	638	30.7	635	30.8	**637**	**30.8**	529	37.0	**528**	**37.1**	528	37.1
433.milc	136	67.4	**136**	**67.5**	136	67.7	135	67.8	**135**	**67.9**	135	68.2
434.zeusmp	53.5	170	53.2	171	**53.4**	**170**	53.5	170	53.2	171	**53.4**	**170**
435.gromacs	**221**	**32.3**	222	32.2	221	32.3	**221**	**32.3**	222	32.2	221	32.3
436.cactusADM	**20.6**	**580**	20.3	590	20.7	577	**20.6**	**580**	20.3	590	20.7	577
437.leslie3d	37.8	249	39.0	241	**38.0**	**248**	37.8	249	39.0	241	**38.0**	**248**
444.namd	327	24.5	327	24.5	**327**	**24.5**	319	25.2	318	25.2	**319**	**25.2**
447.dealII	233	49.2	232	49.3	**232**	**49.3**	233	49.2	232	49.3	**232**	**49.3**
450.soplex	**206**	**40.4**	207	40.3	204	40.9	**206**	**40.4**	207	40.3	204	40.9
453.povray	108	49.4	109	48.9	**108**	**49.3**	96.4	55.2	**96.1**	**55.3**	96.1	55.4
454.calculix	**180**	**45.9**	180	45.9	179	46.0	157	52.6	157	52.6	**157**	**52.6**
459.GemsFDTD	56.3	189	57.4	185	**56.3**	**188**	48.5	219	47.7	223	**47.8**	**222**
465.tonto	316	31.2	**316**	**31.2**	317	31.1	210	46.9	210	46.8	**210**	**46.8**
470.lbm	24.4	563	**24.2**	**568**	24.0	574	24.4	563	**24.2**	**568**	24.0	574
481.wrf	**135**	**82.6**	137	81.8	135	82.9	**135**	**82.6**	137	81.8	135	82.9
482.sphinx3	331	58.9	333	58.5	**331**	**58.9**	331	58.9	333	58.5	**331**	**58.9**

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:
Set Power Efficiency Mode to Custom
Set Snoop Mode to HS mode
Set Patrol Scrub to Disable
Set Intel Hyper-Threading to Disable
Sysinfo program /spec15/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Wed Aug  5 13:44:28 2015
```

Continued on next page

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 E5-2630L v3 @ 1.80GHz
      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:       263579376 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux Server"
      VERSION="7.0 (Maipo)"
      ID="rhel"
      ID_LIKE="fedora"
      VERSION_ID="7.0"
      PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
      ANSI_COLOR="0;31"
      CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
   redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
   system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

uname -a:
   Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57
   EDT 2014 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Aug 5 13:28

SPEC is set to: /spec15
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/sda1      ext4  433G   95G  317G  24% /
Additional information from dmidecode:

   Warning: Use caution when you interpret this section. The 'dmidecode' program
   reads system data which is "intended to allow hardware to be accurately
   determined", but the intent may not be met, as there are frequent changes to
   hardware, firmware, and the "DMTF SMBIOS" standard.
```

Continued on next page

Platform Notes (Continued)

```
    BIOS Insyde Corp. 1.50 05/26/2015
    Memory:
     8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz, configured at 1867 MHz
     8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1867 MHz

  (End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/spec15/libs/32:/spec15/libs/64:/spec15/sh"
OMP_NUM_THREADS = "16"

 Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
 memory using RedHat EL 7.0
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/transparent_hugepage/enabled
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

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

Continued on next page

Base Portability Flags (Continued)

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:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xCORE-AVX2(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: -xCORE-AVX2(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: basepeak = yes

416.gamess: -xCORE-AVX2(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-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xCORE-AVX2(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: -xCORE-AVX2(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

Continued on next page

Peak Optimization Flags (Continued)

454.calculix: `-xCORE-AVX2 -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-ic15.0-official-linux64.html`
`http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml`
`http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.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 Tue Aug 25 17:53:20 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 25 August 2015.