SPEC® CFP2006 Result
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Huawei

$SPECfp^{®}2006 =$ 77.9

Huawei RH2285 v2 (Intel Xeon E5-2430 v2)
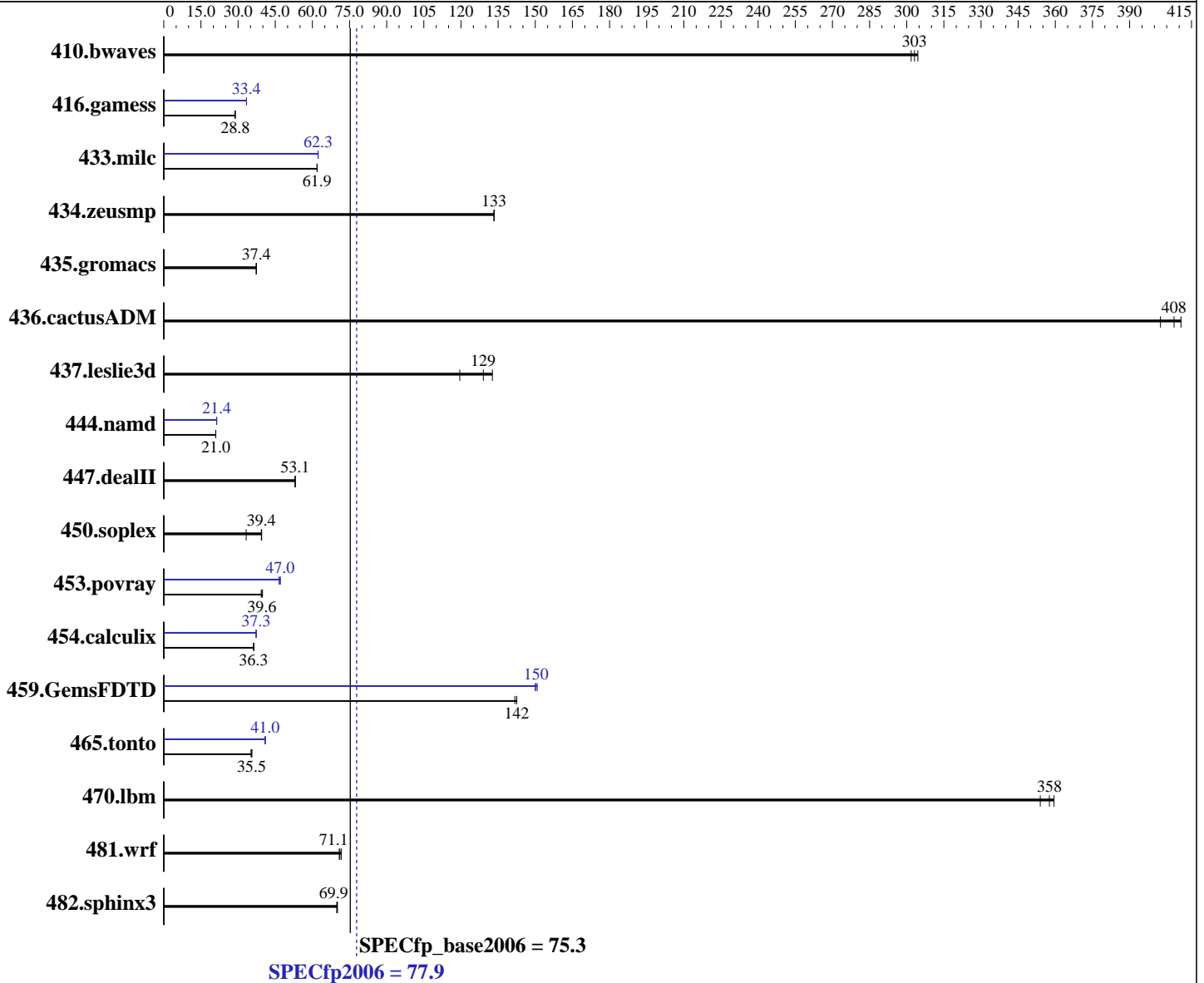
$SPECfp\_base2006 =$ 75.3

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

Results graph (scale 0 to 415):
- 410.bwaves: 303
- 416.gamess: 33.4 / 28.8
- 433.milc: 62.3 / 61.9
- 434.zeusmp: 133
- 435.gromacs: 37.4
- 436.cactusADM: 408
- 437.leslie3d: 129
- 444.namd: 21.4 / 21.0
- 447.dealII: 53.1
- 450.soplex: 39.4
- 453.povray: 47.0 / 39.6
- 454.calculix: 37.3 / 36.3
- 459.GemsFDTD: 150 / 142
- 465.tonto: 41.0 / 35.5
- 470.lbm: 358
- 481.wrf: 71.1
- 482.sphinx3: 69.9

SPECfp_base2006 = 75.3
SPECfp2006 = 77.9

Hardware

CPU Name:	Intel Xeon E5-2430 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.00 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 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

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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, 10000 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 Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	45.0	302	**44.8**	**303**	44.6	304	45.0	302	**44.8**	**303**	44.6	304
416.gamess	**679**	**28.8**	679	28.8	680	28.8	586	33.4	586	33.4	**586**	**33.4**
433.milc	148	61.9	**148**	**61.9**	148	61.9	**147**	**62.3**	147	62.3	147	62.3
434.zeusmp	**68.2**	**133**	68.2	133	68.2	133	**68.2**	**133**	68.2	133	68.2	133
435.gromacs	**191**	**37.4**	191	37.4	191	37.3	**191**	**37.4**	191	37.4	191	37.3
436.cactusADM	**29.3**	**408**	29.1	411	29.7	402	**29.3**	**408**	29.1	411	29.7	402
437.leslie3d	78.6	120	**72.8**	**129**	70.8	133	78.6	120	**72.8**	**129**	70.8	133
444.namd	382	21.0	**382**	**21.0**	382	21.0	376	21.3	376	21.4	**376**	**21.4**
447.dealII	**216**	**53.1**	216	53.0	215	53.1	**216**	**53.1**	216	53.0	215	53.1
450.soplex	251	33.3	**212**	**39.4**	211	39.5	251	33.3	**212**	**39.4**	211	39.5
453.povray	133	39.9	135	39.4	**134**	**39.6**	114	46.5	**113**	**47.0**	113	47.1
454.calculix	227	36.4	**227**	**36.3**	227	36.3	**221**	**37.3**	221	37.3	221	37.3
459.GemsFDTD	74.5	143	74.9	142	**74.5**	**142**	70.4	151	**70.6**	**150**	70.8	150
465.tonto	277	35.5	**277**	**35.5**	279	35.2	241	40.9	240	41.0	**240**	**41.0**
470.lbm	38.8	354	**38.4**	**358**	38.2	359	38.8	354	**38.4**	**358**	38.2	359
481.wrf	**157**	**71.1**	158	70.8	156	71.7	**157**	**71.1**	158	70.8	156	71.7
482.sphinx3	278	70.1	**279**	**69.9**	279	69.9	278	70.1	**279**	**69.9**	279	69.9

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

```
Sysinfo program /spec/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Wed Jun 25 01:36:40 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 E5-2430 v2 @ 2.50GHz
```
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Huawei

Huawei RH2285 v2 (Intel Xeon E5-2430 v2)

$SPECfp2006 =$ 77.9

$SPECfp\_base2006 =$ 75.3

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

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:       99010156 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 Jun 24 18:52

 SPEC is set to: /spec
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda2       ext4  540G   62G  451G  13% /

 Additional information from dmidecode:
   Memory:
    12x Micron 36JSF1G72PZ-1G6K1 8 GB 1600 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 = "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
```

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Tested by: Huawei

Test date: Jun-2014
Hardware Availability: Mar-2014
Software Availability: Nov-2013

General Notes (Continued)

The Huawei RH2285H v2 and Huawei RH2285 v2 models are electronically equivalent.
The results have been measured on a Huawei RH2285H v2 model.

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

Huawei

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Test date: Jun-2014
Hardware Availability: Mar-2014
Software Availability: Nov-2013

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: 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
```

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Software Availability: Nov-2013

Peak Optimization Flags (Continued)

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: basepeak = yes

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

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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

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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 Sep 2 13:39:25 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 September 2014.