SPEC® CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

Huawei RH1288 V3 (Intel Xeon E5-2618L v3)

$SPECfp®\_rate2006 = 566$

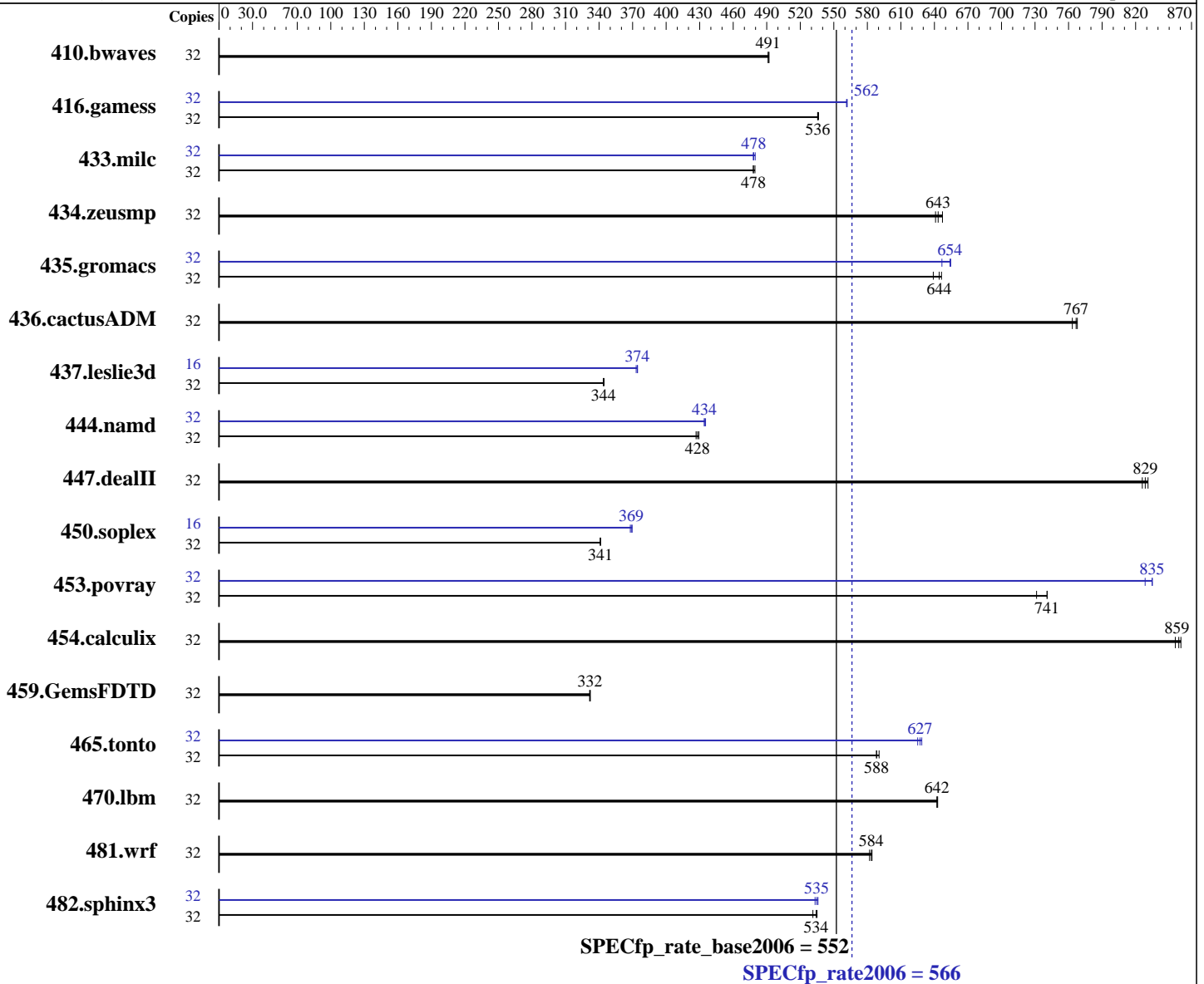$SPECfp\_rate\_base2006 = 552$

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

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

Benchmark	Copies	Result
410.bwaves	32	491
416.gamess	32	562
	32	536
433.milc	32	478
	32	478
434.zeusmp	32	643
435.gromacs	32	654
	32	644
436.cactusADM	32	767
437.leslie3d	16	374
	32	344
444.namd	32	434
	32	428
447.dealII	32	829
450.soplex	16	369
	32	341
453.povray	32	835
	32	741
454.calculix	32	859
459.GemsFDTD	32	332
465.tonto	32	627
	32	588
470.lbm	32	642
481.wrf	32	584
482.sphinx3	32	535
	32	534

SPECfp_rate_base2006 = 552

SPECfp_rate2006 = 566

Hardware

CPU Name: Intel Xeon E5-2618L v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz: 2300
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core
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: No
File System: xfs

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

Huawei RH1288 V3 (Intel Xeon E5-2618L v3)

$SPECfp_rate2006 = $ 566

$SPECfp_rate_base2006 = $ 552

CPU2006 license: 3175	**Test date:** Jan-2015
Test sponsor: Huawei	**Hardware Availability:** Sep-2014
Tested by: Huawei	**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:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

		Base							Peak					
Benchmark	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	32	885	491	**885**	**491**	884	492	32	885	491	**885**	**491**	884	492
416.gamess	32	1170	536	**1170**	**536**	1168	536	32	**1115**	**562**	1116	561	1115	562
433.milc	32	615	478	**615**	**478**	613	479	32	**614**	**478**	612	480	615	478
434.zeusmp	32	450	647	454	641	**453**	**643**	32	450	647	454	641	**453**	**643**
435.gromacs	32	358	639	**355**	**644**	354	646	32	349	655	353	647	**349**	**654**
436.cactusADM	32	501	763	498	768	**499**	**767**	32	501	763	498	768	**499**	**767**
437.leslie3d	32	**874**	**344**	875	344	873	345	16	403	373	402	374	**402**	**374**
444.namd	32	598	429	601	427	**599**	**428**	32	590	435	591	434	**591**	**434**
447.dealII	32	**442**	**829**	440	831	443	826	32	**442**	**829**	440	831	443	826
450.soplex	32	783	341	**782**	**341**	782	341	16	361	370	**362**	**369**	363	368
453.povray	32	233	731	**230**	**741**	230	741	32	**204**	**835**	204	835	205	829
454.calculix	32	309	855	**307**	**859**	307	861	32	309	855	**307**	**859**	307	861
459.GemsFDTD	32	1024	332	**1023**	**332**	1022	332	32	1024	332	**1023**	**332**	1022	332
465.tonto	32	535	588	533	591	**535**	**588**	32	504	625	501	629	**502**	**627**
470.lbm	32	**685**	**642**	685	642	684	643	32	**685**	**642**	685	642	684	643
481.wrf	32	**613**	**584**	612	584	614	582	32	**613**	**584**	612	584	614	582
482.sphinx3	32	**1168**	**534**	1174	531	1166	535	32	1164	536	**1166**	**535**	1170	533

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

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 ES

Continued on next page

Huawei

Huawei RH1288 V3 (Intel Xeon E5-2618L v3)

$SPECfp_rate2006 = $ 566

$SPECfp_rate_base2006 = $ 552

Platform Notes (Continued)

```
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Sat Jan 24 23:57:10 2015

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 E5-2618L v3 @ 2.30GHz
      2 "physical id"s (chips)
      32 "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  : 16
      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:       263577520 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 Jan 22 07:02

SPEC is set to: /spec
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/sda2      xfs   445G  126G  319G  29% /
Additional information from dmidecode:
```

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

Huawei RH1288 V3 (Intel Xeon E5-2618L v3)

SPECfp_rate2006 = 566

SPECfp_rate_base2006 = 552

CPU2006 license: 3175		**Test date:**	Jan-2015
Test sponsor: Huawei		**Hardware Availability:**	Sep-2014
Tested by: Huawei		**Software Availability:**	Sep-2014

Platform Notes (Continued)

```
   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.

   BIOS Insyde Corp. 1.23 11/19/2014
   Memory:
   4x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz, configured at 1867 MHz
   4x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1867 MHz
   4x Samsung M393A2G40DB0-CPB 16 GB 1 rank 2133 MHz, configured at 1867 MHz
   4x Samsung M393A2G40DB0-CPB 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:
LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64:/spec/sh"

 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
 Filesystem page cache cleared with:
 echo 1>       /proc/sys/vm/drop_caches
 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

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

Huawei RH1288 V3 (Intel Xeon E5-2618L v3)

SPECfp_rate2006 = 566

SPECfp_rate_base2006 = 552

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

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

Base Portability Flags (Continued)

```
     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:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

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

Benchmarks using both Fortran and C:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Peak Compiler Invocation

C benchmarks:
```
icc    -m64
```

C++ benchmarks (except as noted below):
```
icpc   -m64

  450.soplex: icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

Fortran benchmarks:
```
ifort -m64
```

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

Huawei RH1288 V3 (Intel Xeon E5-2618L v3)

SPECfp_rate2006 = 566

SPECfp_rate_base2006 = 552

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

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

Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

Peak 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
   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
```

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)
            -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
            -auto-ilp32
```

```
    470.lbm: basepeak = yes
```

```
  482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
            -unroll2
```

C++ benchmarks:

```
   444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2)
            -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2) -fno-alias
            -auto-ilp32
```

```
   447.dealII: basepeak = yes
```

Continued on next page

Huawei

Huawei RH1288 V3 (Intel Xeon E5-2618L v3)

SPECfp_rate2006 = 566

SPECfp_rate_base2006 = 552

CPU2006 license: 3175		**Test date:**	Jan-2015
Test sponsor: Huawei		**Hardware Availability:**	Sep-2014
Tested by: Huawei		**Software Availability:**	Sep-2014

Peak Optimization Flags (Continued)

450.soplex: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2)
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
-opt-malloc-options=3

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2)
-opt-mem-layout-trans=3(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

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) -unroll4
-auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2)
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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 CFP2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

Huawei RH1288 V3 (Intel Xeon E5-2618L v3)

$SPECfp\_rate2006 = \quad 566$

$SPECfp\_rate\_base2006 = \quad 552$

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 Wed Feb 25 11:29:15 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 24 February 2015.