SPEC® CFP2006 Result
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Huawei

Huawei RH5885H v3 (Intel Xeon E7-4890 v2)

$SPECfp^®\_rate2006 =$ Not Run
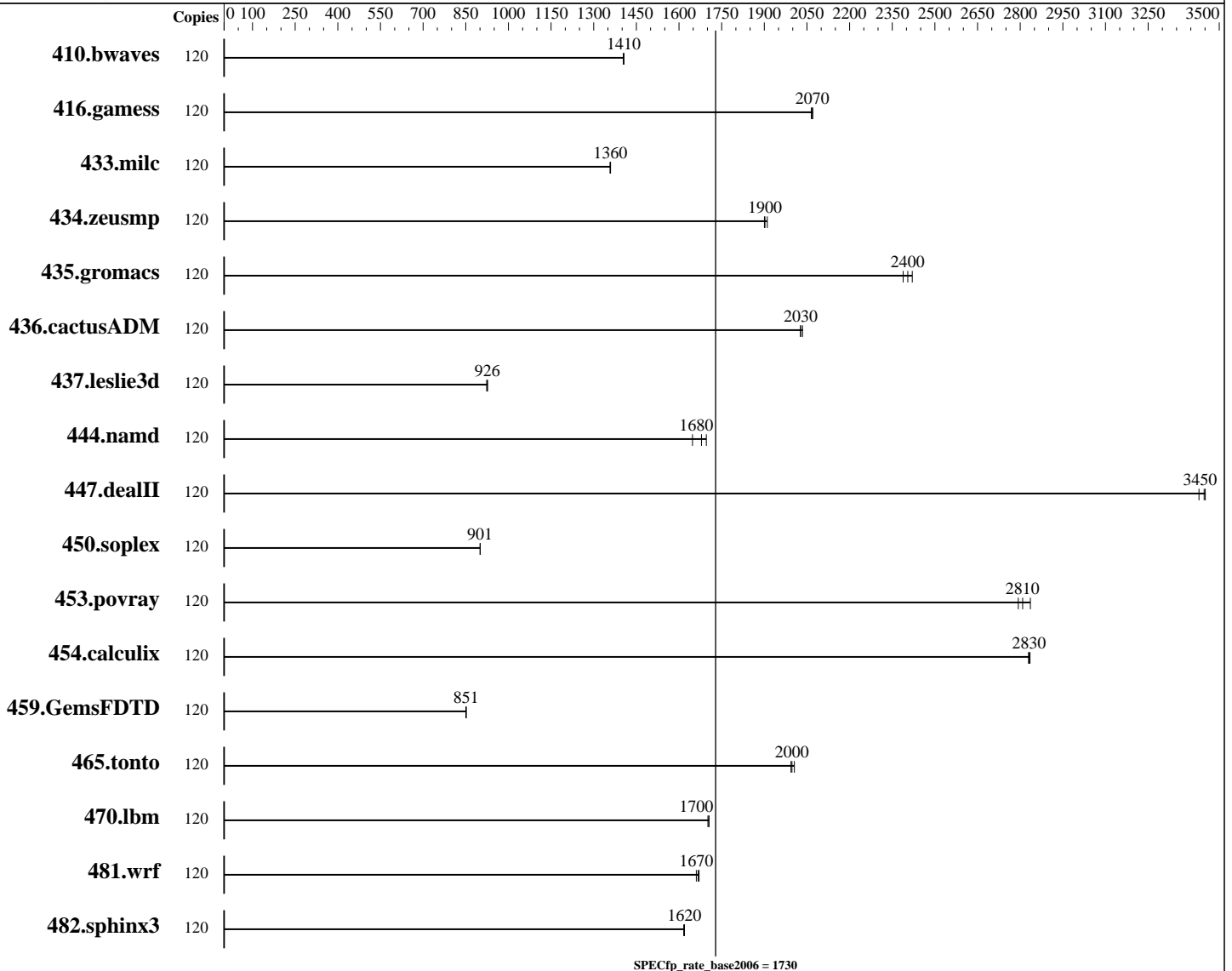
$SPECfp\_rate\_base2006 =$ 1730

CPU2006 license: 13
Test sponsor: Huawei
Tested by: Huawei

Test date: Feb-2014
Hardware Availability: Feb-2014
Software Availability: Nov-2013

Benchmark	Copies	Result
410.bwaves	120	1410
416.gamess	120	2070
433.milc	120	1360
434.zeusmp	120	1900
435.gromacs	120	2400
436.cactusADM	120	2030
437.leslie3d	120	926
444.namd	120	1680
447.dealII	120	3450
450.soplex	120	901
453.povray	120	2810
454.calculix	120	2830
459.GemsFDTD	120	851
465.tonto	120	2000
470.lbm	120	1700
481.wrf	120	1670
482.sphinx3	120	1620

SPECfp_rate_base2006 = 1730

Hardware

CPU Name:	Intel Xeon E7-4890 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	60 cores, 4 chips, 15 cores/chip, 2 threads/core
CPU(s) orderable:	2,4 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 6.5 (Santiago) 2.6.32-431.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
Auto Parallel:	No
File System:	ext4

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L3 Cache: 37.5 MB I+D on chip per chip	System State: Run level 3 (multi-user)
Other Cache: None	Base Pointers: 32/64-bit
Memory: 512 GB (64 x 8 GB 2Rx4 PC3-10600R-9, ECC)	Peak Pointers: 32/64-bit
Disk Subsystem: 1 x 300 GB SAS, 10 K RPM	Other Software: None
Other Hardware: None	

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	120	**1160**	**1410**	1161	1400	1160	1410							
416.gamess	120	1135	2070	1138	2070	**1136**	**2070**							
433.milc	120	810	1360	812	1360	**811**	**1360**							
434.zeusmp	120	572	1910	**574**	**1900**	575	1900							
435.gromacs	120	354	2420	359	2390	**356**	**2400**							
436.cactusADM	120	705	2030	707	2030	**707**	**2030**							
437.leslie3d	120	**1218**	**926**	1221	924	1218	926							
444.namd	120	567	1700	**573**	**1680**	584	1650							
447.dealII	120	398	3450	**398**	**3450**	400	3430							
450.soplex	120	1111	900	1111	901	**1111**	**901**							
453.povray	120	**227**	**2810**	225	2840	229	2790							
454.calculix	120	350	2830	**350**	**2830**	349	2830							
459.GemsFDTD	120	**1496**	**851**	1497	851	1496	851							
465.tonto	120	**591**	**2000**	589	2010	592	1990							
470.lbm	120	969	1700	**967**	**1700**	967	1710							
481.wrf	120	802	1670	**804**	**1670**	807	1660							
482.sphinx3	120	1447	1620	1444	1620	**1445**	**1620**							

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 Performance
Set Lock_step to disabled

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Platform Notes (Continued)

```
Sysinfo program /spec/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on speccpu Mon Feb 10 17:55:52 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 E7-4890 v2 @ 2.80GHz
      4 "physical id"s (chips)
      120 "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 : 15
      siblings  : 30
      physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
      physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
      physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
      physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
   cache size : 38400 KB

From /proc/meminfo
   MemTotal:       529098344 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 speccpu 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 Feb 10 17:43

SPEC is set to: /spec
   Filesystem      Type   Size  Used Avail Use% Mounted on
   /dev/sda1       ext4   241G  8.6G  220G   4% /

Additional information from dmidecode:
  BIOS American Megatrends Inc. BLISV099 02/09/2014
  Memory:
   64x   8 GB
   12x Hynix HMT31GR7AFR4C-H9 8 GB 1333 MHz 2 rank
   52x Hynix HMT31GR7BFR4C-H9 8 GB 1333 MHz 2 rank
```

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Platform Notes (Continued)

```
     32x NO DIMM NO DIMM

  (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 i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_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
       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
```

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Base Portability Flags (Continued)

```
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 -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

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

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

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

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revE.20121120.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revE.20121120.xml

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 20:13:57 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 February 2014.