Huawei RH5885H v3 (Intel Xeon E7-4809 v2)

SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

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

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

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Huawei or Intel.

Copies

- 410.bwaves
- 416.gamess
- 433.milc
- 434.zeusmp
- 435.gromacs
- 436.cactusADM
- 437.leslie3d
- 444.namd
- 447.dealII
- 450.soplex
- 453.povray
- 454.calculix
- 459.GemsFDTD
- 465.tonto
- 470.lbm
- 481.wrf
- 482.sphinx3

Non-Compliant
SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Huawei or Intel.

### Hardware

- **CPU Name:** Intel Xeon E7-4809 v2
- **CPU Characteristics:** 1900 MHz
- **FPU:** Integrated
- **CPU(s) enabled:** 24 cores, 4 chips, 6 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
- **L3 Cache:** 12 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 512 GB (64 x 8 GB 2Rx4 PC3-10600R-9, ECC)
- **Disk Subsystem:** 2 x 300 GB SAS, 10K RPM
- **Other Hardware:** None

### 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
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 32/64-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** None
SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Huawei or Intel.

Results Table:

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</table>

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"
Huawei RH5885H v3 (Intel Xeon E7-4809 v2)

SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
Test date: Apr-2014
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Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Performance
Set Lock_step to disabled
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17#$ e86d102572650a6e4d596a3cee98f191
running on speccpu Sat Apr 12 19:32:50 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 E7-4809 v2 @ 1.90GHz
4 "physical id"s (chips)
48 "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
siblings : 12
physical 1: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
physical 3: cores 0 1 2 3 4 5
cache size : 12288 KB

From /proc/meminfo
MemTotal: 529107256 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /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)

uname -a:

Continued on next page

Non-Compliant
Huawei RH5885H v3 (Intel Xeon E7-4809 v2)

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Platform Notes (Continued)

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64:/spec/sh"

Specially 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>
SPEC CFP2006 Result

Huawei

Huawei RH5885H v3 (Intel Xeon E7-4809 v2)

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### 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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flag</th>
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</thead>
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<tr>
<td>410.bwaves</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>416.gamess</td>
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<td>-DSPEC_CPU_LP64</td>
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<td>-DSPEC_CPU_LP64 -nofor_main</td>
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<td>459.GemsFDTD</td>
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<td>465.tonto</td>
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<tr>
<td>482.sphinx3</td>
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### Base Optimization Flags

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

Continued on next page
SPEC CFP2006 Result

Huawei

Huawei RH5885H v3 (Intel Xeon E7-4809 v2)

SPECfp_rate2006 = NC
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Base Optimization Flags (Continued)

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

Peak Compiler Invocation

C benchmarks:
icc  -m64

C++ benchmarks:
icpc  -m64

Fortran benchmarks:
ifort  -m64

Benchmarks using both Fortran and C:
ifort  -m64

Peak Portability Flags

Same as Base Portability Flags

Non-Compliant
## SPEC CFP2006 Result

### Huawei

**Huawei RH5885H v3 (Intel Xeon E7-4809 v2)**

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**CPU2006 license:** 3175  
**Test date:** Apr-2014  
**Test sponsor:** Huawei  
**Tested by:** Huawei  
**Hardware Availability:** Feb-2014  
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### 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) -opt-mem-layout-trans=3 (pass 2) -prof-use (pass 2) -auto-ilp32
- 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) -opt-mem-layout-trans=3 (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) -opt-mem-layout-trans=3 (pass 2) -prof-use (pass 2) -unroll14 -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) -unroll12 -inline-level=0 -scalar-rep-
- 434.zesmp: basepeak = yes
- 437.leslie3d: -xAVX -ipo -O3 -no-prec-div -opt-prefetch
- 459.GemsFDTD: basepeak = yes
- 465.tonto: -xAVX (pass 2) -prof-gen (pass 1) -ipo (pass 2) -O3 (pass 2) -no-prec-div (pass 2) -prof-use (pass 2) -unroll14 -auto -inline-callcc -opt-malloc-options=3

Continued on next page

Non-Compliant
SPEC CFP2006 Result

Huawei

Huawei RH5885H v3 (Intel Xeon E7-4809 v2)

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -xAVX(pass 2) -prof-gen(pass 2) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-rep-layout-trans=3(pass 2)
-prof-use(pass 2) -prof-check -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xAVX -ipo -O3 -no-prec-div -auto-ilp32

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

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-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.
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