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<th>Tested by:</th>
<th>Huawei</th>
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<td>May-2014</td>
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<td>Hardware Availability:</td>
<td>Jan-2014</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Nov-2013</td>
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### Hardware
- **CPU Name:** Intel Xeon E7-4850 v2
- **CPU Characteristics:** Intel Turbo Boost Technology up to 2.80 GHz
- **CPU MHz:** 2300
- **FPU:** Integrated
- **CPU(s) enabled:** 48 cores, 4 chips, 12 cores/chip
- **CPU(s) orderable:** 2, 4 chip
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 256 KB I+D on chip per core
- **L3 Cache:** 24 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 256 GB (32 x 8 GB 2Rx4, C23-10600R-09, ECC)
- **Disk Subsystem:** 1 X 300 GB SAS 15,000RPM
- **Other Hardware:** None

### Software
- **Operating System:** Red Hat Enterprise Linux Server release 6.5 (Santiago)
- **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
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** None
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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 VMSE LockStep mode disable
- Set Intel HT Technology Disable

Sysinfo program /spec/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdffe5032aaa42e583f96b07f99d3

Continued on next page
SPEC CFP2006 Result

Huawei
Huawei CH242 v3

SPECfp2006 = NC
SPECfp_base2006 = NC

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

CPU2006 license: 3175
Test date: May-2014
Hardware Availability: Jan-2014
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Platform Notes (Continued)

running on localhost.localdomain Tue May 13 22:39:42 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 E7-4850 v2 @ 2.30GHz
- 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 : 12
  - siblings : 12
  - physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
  - physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
  - physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13
  - physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13
- cache size : 24576 KB

From /proc/meminfo

- MemTotal: 264358272 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)

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 May 13 11:31

SPEC is set to: /spec

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**SPEC CFP2006 Result**

Huawei
Huawei CH242 v3

SPECfp2006 = NC
SPECfp_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
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Platform Notes (Continued)

Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda2      ext4  265G  230G   22G  92% /

Additional information from dmidecode:
Memory:
8x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank
24x Samsung M393B1K70DH0-CH9 8 GB 1333 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 = "48"

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

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
SPEC CFP2006 Result

Huawei
Huawei CH242 v3

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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
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64 -nofor_main
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64 -nofor_main
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 -03 -no-prec-div -static -parallel -opt-prefetch -ansi-alias

C++ benchmarks:
-xAVX -ipo -03 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:
-xAVX -ipo -03 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xAVX -ipo -03 -no-prec-div -static -parallel -opt-prefetch -ansi-alias
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.

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:
  43.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -spec-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
  447.dealII: basepeak = yes

Non-Compliant
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Peak Optimization Flags (Continued)

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) -toll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel
-static

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 -alar_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
Huawei
Huawei CH242 v3

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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

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.

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