SPEC® CINT2006 Result

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spec

Huawei

Huawei RH5885H v3 (Intel Xeon E7-4850 v2)

SPECint®_rate2006 = NC

SPECint_rate_base2006 = NC

CPU2006 license: 3175	**Test date:** Apr-2014
Test sponsor: Huawei	**Hardware Availability:** Feb-2014
Tested by: Huawei	**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

- 400.perlbench
- 401.bzip2
- 403.gcc
- 429.mcf
- 445.gobmk
- 456.hmmer
- 458.sjeng
- 462.libquantum
- 464.h264ref
- 471.omnetpp
- 473.astar
- 483.xalancbmk

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, 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:	24 MB I+D on chip per chip
Other Cache:	None

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
Auto Parallel:	No
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit

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Memory:	512 GB (64 x 8 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	2 x 300 GB SAS, 10K RPM
Other Hardware:	None

Other Software: Microquill SmartHeap V10.0

Results Table

Benchmark	Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
400.perlbench	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
401.bzip2	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
403.gcc	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
429.mcf	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
445.gobmk	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
456.hmmer	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
458.sjeng	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
462.libquantum	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
464.h264ref	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
471.omnetpp	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
473.astar	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC
483.xalancbmk	96	NC	NC	NC	NC	NC	NC	96	NC	NC	NC	NC	NC	NC

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

Submit Notes

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"

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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 $ $Date:: 2012-07-17 #$ e 6d1025 8650a6e4d596a3cee98f191
    running on speccpu Tue Apr  8  9:26:  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)
          96 "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   : 24
          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
                    529101296 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:
```

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Platform Notes (Continued)

```
    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 Apr 8 18:16

  SPEC is set to: /spec
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda2       ext4  259G   13G  233G   6% /

  Additional information from dmidecode:
    BIOS American Megatrends Inc. BLISV019 02/09/2014
    Memory:
      64x    8 GB
      32x NO DIMM NO DIMM
      27x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank
      37x Samsung M393B1K70DH0-CH9 8 GB 1333 MHz 2 rank

  (End of data from sysinfo program)
  Regarding the sysinfo display about the memory installed, the correct amount of
  memory is 512 GB and the dmidecode description should have two lines reading as:
      27x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank
      37x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank
```

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>
```

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Base Compiler Invocation

C benchmarks:
```
icc  -m32
```

C++ benchmarks:
```
icpc -m32
```

Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/sh -lsmartheap
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc  -m32
```

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Peak Compiler Invocation (Continued)

400.perlbench: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:
`icpc -m32`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-auto-ilp32`

401.bzip2: `basepeak = yes`

403.gcc: `basepeak = yes`

429.mcf: `basepeak = yes`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
`-ansi-alias -opt-mem-layout-trans=3`

456.hmmer: `basepeak = yes`

458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-unroll4 -auto-ilp32`

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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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-V1.0-IVB-RevG.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 other inquiries, please contact webmaster@spec.org.

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