



SPEC[®] CINT2006 Result

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Huawei

SPECint[®]2006 = **NC**

Huawei RH5885H v3 (Intel Xeon E7-4850 v2)

SPECint_base2006 = **NC**

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-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.

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
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 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel: Yes
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32/64-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: Mellanox SmartHeap V9.01

Results Table

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

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

Operating System Notes

Set to unlimited using "ulimit -s unlimited"

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%
Set Intel Hyper Threading to disabled
Sysinfo program /spec/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Mon May 12 16:27:51 2014

```

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Platform Notes (Continued)

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: 29107272 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

/usr/bin/lshw release -d

Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*-release* /etc/*version*

base: 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 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 12 16:26

SPEC is set to: /spec

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	ext4	154G	30G	117G	21%	/

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Platform Notes (Continued)

Additional information from dmidecode:

Memory:

10x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank

54x 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:

10x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank

54x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank

General Notes

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity:line,compact,0,1"

LD_LIBRARY_PATH = "/usr/lib/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

icc -m64

C++ benchmarks:

icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

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Base Portability Flags (Continued)

```

401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmr: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

```

Base Optimization Flags

```

C benchmarks:
-xSSE4.2 -ipo -Os -fcommon -fno-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xSSE4.2 -ipo -Os -fcommon -fno-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/$LIB -lsmartheap -lsmartheap64

```

Base Other Flags

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

```

C benchmarks (except as noted below):
icc -m64

400.perlbench: icc -m32

```

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Peak Compiler Invocation (Continued)

445.gobmk: `icc -m32`

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m32`

473.astar: `icpc -m64`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
473.astar: `-DSPEC_CPU_LP64`
483.xalanbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

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)`
`-opt-prefetch -ansi-alias`
401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32`
`-opt-prefetch -ansi-alias`
403.gcc: `-xAVX -ipo -O3 -no-prec-div -inline-calloc`
`-opt-malloc-options=3 -auto-ilp32`

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Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias

458.sjeng: basepeak = yes

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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalanrmbk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



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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>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-IVB-RevG.html>

You can also download the XML flags source files using 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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