



SPEC® CINT2006 Result

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Huawei

SPECint®_rate2006 = NC

Huawei RH5885H v3 (Intel Xeon E7-4820 v2)

SPECint_rate_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.

	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	

Non-Compliant

Hardware

CPU Name: Intel Xeon E7-4820 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 32 cores, 4 chips, 8 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: 16 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: Mellanox SmartHeap V10.0

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
400.perlbench	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
401.bzip2	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
403.gcc	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
429.mcf	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
445.gobmk	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
456.hmmer	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
458.sjeng	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
462.libquantum	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
464.h264ref	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
471.omnetpp	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
473.astar	64	NC	NC	NC	NC	NC	NC	64	NC	NC	NC	NC	NC	NC		
483.xalanbmk	64	NC	NC	NC	NC	NC	NC	64	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

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"



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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_rev02

\$Rev: 6818 \$ \$Date:: 2012-07-17 # \$ e6d10252650a6e4d596a3cee98f191

running on localhost.localdomain Wed May 7 12:07:03 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 E7-4820 v2 @ 2.00GHz

4 "physical id"s (chips)

64 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpt from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 64

siblings : 16

physical 0: cores 0 1 2 3 4 5 6 7

physical 1: cores 0 1 2 3 4 5 6 7

physical 2: cores 0 1 2 3 4 5 6 7

physical 3: cores 0 1 2 3 4 5 6 7

cache size : 16384 KB

From /proc/meminfo

MemTotal: 529105288 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

/usr/bin/ds_b_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 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 7 11:58
```

```
SPEC is set to: /spec
```

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2        ext4  154G  23G  131G  16% /
```

```
Additional information from dmidecode:
```

```
BIOS American Megatrends, Inc. BLISV09 02/09/2014
```

```
Memory:
```

```
64x 8 GB
```

```
32x NO DIMM NO DIMM
```

```
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 M393B1K70DH0-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.xalanbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

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

C++ benchmarks:
-xSSE4.2 -ipo -fcommon -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -Wl,-z,relro -Wl,-z,now -Wl,-z,defs -Wl,-z,now -Wl,-z,relro -Wl,-z,now -Wl,-z,defs

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

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

401.bzip2: -DSPEC_CPU_LP64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LINUX

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbenc: -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: -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 -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes

429.mcf: basepeak = yes

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Peak Optimization Flags (Continued)

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

456.hmmr: -xSSE4.2 -ipo -O3 -no-prec-div -unroll12 -auto-ilp32

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)
-unroll14 -auto-ilp32

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)
-unroll12 -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)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-l/sh -lmartheap

473.astar: basepeak = yes

485.xalanbmk: basepeak = yes

Peak Other Flags

C benchmarks:

473.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>



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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-V1.0.0-RevG.xml>

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

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