



SPEC[®] CINT2006 Result

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Huawei
Huawei CH242 v3

SPECint[®]_rate2006 = **NC**
SPECint_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 |
|----------------|--------|
| 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 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: 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: 256 GB (32 x 8 GB 2Rx4 PC3-10600R-09, ECC)
Disk Subsystem: 1 X 300 GB SAS 10000RPM
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.perlbenc	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.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS configuration:
Set VMSE LockStep mode disable
Sysinfo program /spec/config/sysinfo.rev6818

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Platform Notes (Continued)

\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650e4d596a3cee98f191
running on localhost.localdomain Tue Apr 29 11:04:55 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 E7-2820 v2 @ 2.00GHz
 4 "physical id"s (chips)
 64 "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      : 8
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: 64356288 kB
HugePages_Total: 0
HugePages_Sized: 2048 kB
```

```
/usr/bin/ls -l release -d
-rwxr-xr-x. 1 root root 4096 Nov 10 22:19 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:
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 Apr 29 11:03
```

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Platform Notes (Continued)

```
SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext4  265G  99G  153G  40% /

Additional information from dmidecode:
BIOS American Megatrends Inc. BLIS033 02/07/2014
Memory:
32x 8 GB
8x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank
24x Samsung M393B1K70DF0-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:
LD_LIBRARY_PATH = "/usr/lib/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 Page enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo > /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

```
C benchmarks:
icc -m32

C++ benchmarks:
icpc -m32
```



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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 -lsmal

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=alloca

Peak Compiler Invocation

C benchmarks (as noted below):
icc -m32
400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64
C++ benchmarks:
icpc -m32



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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.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: -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
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3
456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -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)
-unroll4 -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)
-unroll2 -ansi-alias

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Peak Optimization Flags (Continued)

C++ benchmarks:

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

473.astar: basepeak = yes

483.xalanbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=alloca

The 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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