



SPEC® CINT2006 Result

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Huawei

SPECint®_rate2006 = 972

Huawei RH2288H v2 (Intel Xeon E5-2697 v2)

SPECint_rate_base2006 = 941

CPU2006 license: 3175

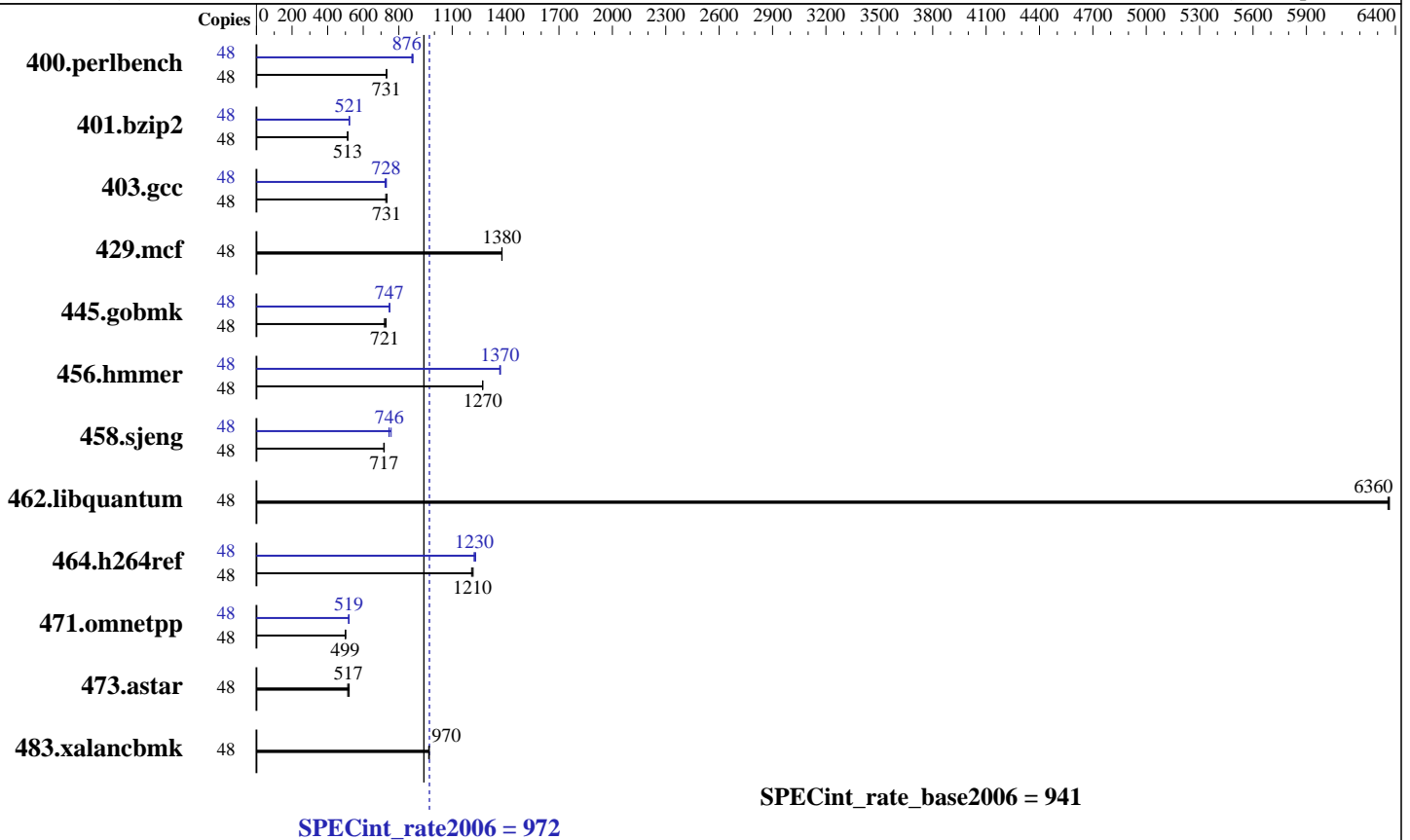
Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2013

Hardware Availability: Sep-2013

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2697 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2700
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 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: 30 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)
 Disk Subsystem: 1 x 300 GB SAS, 10K RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 2.6.32-358.14.1.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
 Other Software: Microquill SmartHeap V10.0



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Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	643	730	<u>642</u>	<u>731</u>	641	732	48	537	874	533	880	<u>535</u>	<u>876</u>
401.bzip2	48	903	513	<u>903</u>	<u>513</u>	904	512	48	890	521	885	523	<u>888</u>	<u>521</u>
403.gcc	48	<u>528</u>	<u>731</u>	527	733	532	726	48	529	730	535	723	<u>531</u>	<u>728</u>
429.mcf	48	<u>317</u>	<u>1380</u>	318	1380	317	1380	48	<u>317</u>	<u>1380</u>	318	1380	317	1380
445.gobmk	48	<u>698</u>	<u>721</u>	691	728	700	720	48	672	749	674	747	<u>674</u>	<u>747</u>
456.hammer	48	<u>352</u>	<u>1270</u>	353	1270	352	1270	48	328	1370	<u>327</u>	<u>1370</u>	327	1370
458.sjeng	48	<u>810</u>	<u>717</u>	812	715	809	718	48	<u>778</u>	<u>746</u>	767	757	780	744
462.libquantum	48	<u>156</u>	<u>6360</u>	156	6360	156	6370	48	<u>156</u>	<u>6360</u>	156	6360	156	6370
464.h264ref	48	879	1210	872	1220	<u>876</u>	<u>1210</u>	48	868	1220	862	1230	<u>867</u>	<u>1230</u>
471.omnetpp	48	598	502	<u>601</u>	<u>499</u>	601	499	48	579	518	577	520	<u>578</u>	<u>519</u>
473.astar	48	647	521	657	513	<u>652</u>	<u>517</u>	48	647	521	657	513	<u>652</u>	<u>517</u>
483.xalancbmk	48	342	968	341	971	<u>341</u>	<u>970</u>	48	342	968	341	971	<u>341</u>	<u>970</u>

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

Submit Notes

The 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"

Platform Notes

BIOS Configurations:

VT Support set to Disabled

Memory Power Saving set to Disabled

ISOCH set to Disabled

Sysinfo program /spec14/config/sysinfo.rev6818

\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191

running on RH64-spec Wed Sep 4 23:43:07 2013

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 E5-2697 v2 @ 2.70GHz

2 "physical id"s (chips)

48 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The

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Platform Notes (Continued)

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
cache size : 30720 KB
```

From /proc/meminfo

```
MemTotal:      132103952 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

/usr/bin/lsb_release -d

```
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

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

```
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

uname -a:

```
Linux RH64-spec 2.6.32-358.14.1.el6.x86_64 #1 SMP Tue Jul 16 23:51:20 UTC
2013 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Sep 4 23:40

SPEC is set to: /spec14

```
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda2        ext4      289G   40G  234G  15% /
```

Additional information from dmidecode:

```
BIOS Insyde Corp. RMIBV109 08/29/2013
```

Memory:

```
8x NO DIMM NO DIMM
6x Samsung M393B1K70CH0-CH9 8 GB 1867 MHz 2 rank
10x Samsung M393B1K70DH0-CH9 8 GB 1867 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 = "/spec14/libs/32:/spec14/libs/64:/spec14/sh"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL 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
```

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General Notes (Continued)

runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

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

400.perlbench: icc -m64

401.bzip2: icc -m64

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Peak Compiler Invocation (Continued)

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.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: -xSSE4.2 -ipo -O3 -no-prec-div

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) -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 -lsmartheap

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/Huawei-Platform-Settings-revG.20131009.html>

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revG.20131009.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

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

Tested with SPEC CPU2006 v1.2.

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