



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint®_rate2006 = 277

Huawei RH2288 V3 (Intel Xeon E5-2603 v3)

SPECint_rate_base2006 = 269

CPU2006 license: 3175

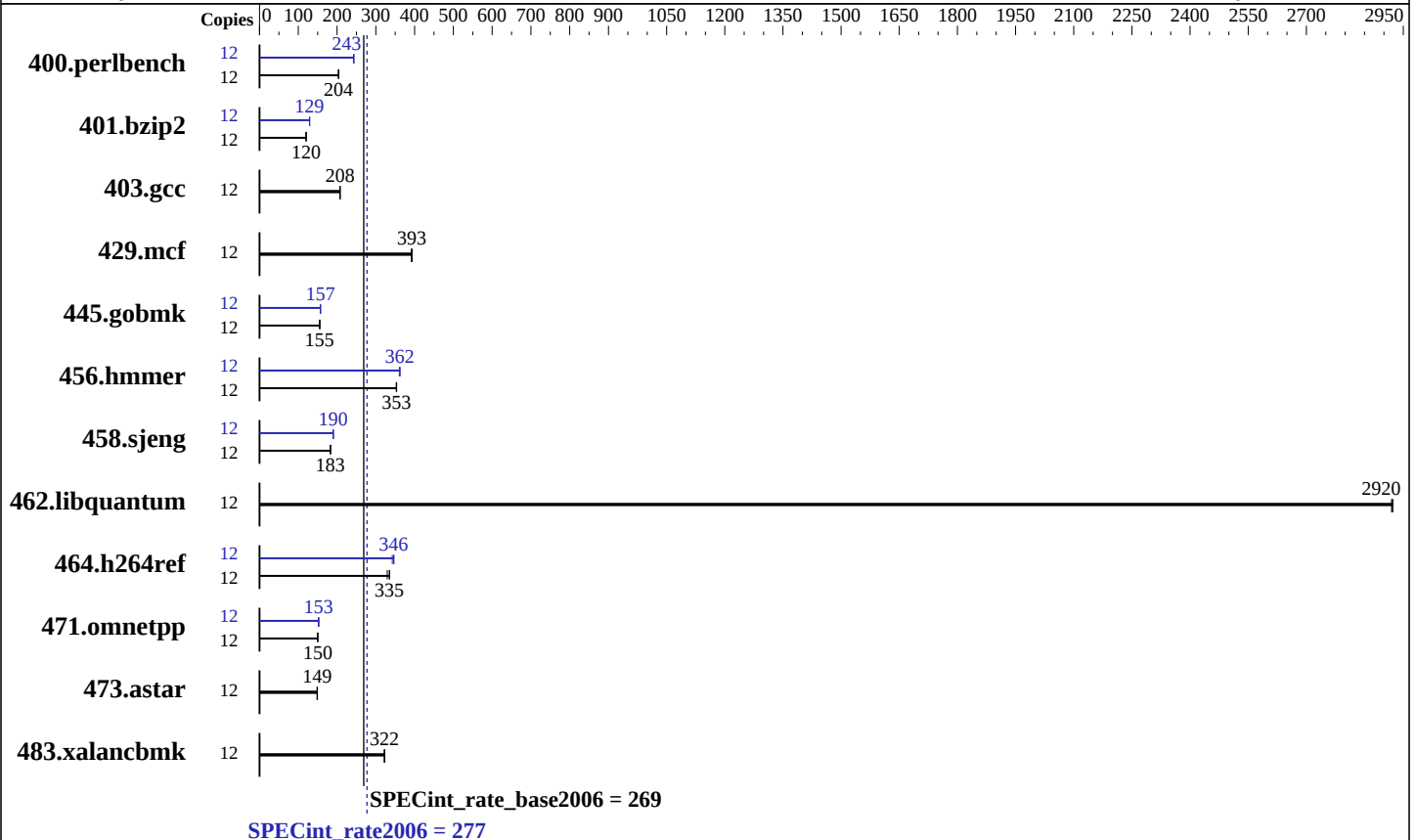
Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014



Hardware

CPU Name: Intel Xeon E5-2603 v3
CPU Characteristics:
CPU MHz: 1600
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
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: 15 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo)
3.10.0-123.el7.x86_64
Compiler: C/C++: Version 15.0.0.090 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



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 277

Huawei RH2288 V3 (Intel Xeon E5-2603 v3)

SPECint_rate_base2006 = 269

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	12	575	204	<u>575</u>	<u>204</u>	575	204	12	<u>483</u>	<u>243</u>	481	244	484	242
401.bzip2	12	961	120	<u>963</u>	<u>120</u>	965	120	12	897	129	<u>897</u>	<u>129</u>	896	129
403.gcc	12	<u>465</u>	<u>208</u>	465	208	466	207	12	<u>465</u>	<u>208</u>	465	208	466	207
429.mcf	12	278	393	<u>279</u>	<u>393</u>	279	392	12	278	393	<u>279</u>	<u>393</u>	279	392
445.gobmk	12	810	155	<u>810</u>	<u>155</u>	810	155	12	<u>801</u>	<u>157</u>	801	157	801	157
456.hammer	12	317	354	<u>317</u>	<u>353</u>	317	353	12	<u>309</u>	<u>362</u>	309	362	310	361
458.sjeng	12	793	183	<u>793</u>	<u>183</u>	794	183	12	<u>764</u>	<u>190</u>	764	190	763	190
462.libquantum	12	85.1	2920	<u>85.1</u>	<u>2920</u>	85.2	2920	12	85.1	2920	<u>85.1</u>	<u>2920</u>	85.2	2920
464.h264ref	12	806	329	<u>793</u>	<u>335</u>	792	336	12	766	347	<u>767</u>	<u>346</u>	775	342
471.omnetpp	12	<u>499</u>	<u>150</u>	502	150	498	150	12	490	153	494	152	<u>491</u>	<u>153</u>
473.astar	12	564	149	568	148	<u>565</u>	<u>149</u>	12	564	149	568	148	<u>565</u>	<u>149</u>
483.xalancbmk	12	<u>257</u>	<u>322</u>	257	323	257	322	12	<u>257</u>	<u>322</u>	257	323	257	322

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 configuration:
 Set Power Efficiency Mode to Custom
 Set Snoop Mode to ES
 Set Patrol Scrub to Disable
 Baseboard Management Controller used to adjust the fan speed to 100%
 Sysinfo program /spec15/config/sysinfo.rev6914
 \$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
 running on localhost.localdomain Sun Jan 4 17:53:12 2015

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 E5-2603 v3 @ 1.60GHz
 2 "physical id"s (chips)
 12 "processors"

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 277

Huawei RH2288 V3 (Intel Xeon E5-2603 v3)

SPECint_rate_base2006 = 269

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Platform Notes (Continued)

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 : 6
siblings  : 6
physical 0: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
cache size : 15360 KB
```

From /proc/meminfo

```
MemTotal:      263721952 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

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

```
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server
```

uname -a:

```
Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57
EDT 2014 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Jan 4 17:15

SPEC is set to: /spec15

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-root ext4  241G  115G  114G   51% /
```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Insyde Corp. 1.18 09/17/2014

Memory:

```
8x Samsung M393A2G40DB0-CPB 16 GB 1 rank 2133 MHz, configured at 1600 MHz
8x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1600 MHz
```

(End of data from sysinfo program)



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 277

Huawei RH2288 V3 (Intel Xeon E5-2603 v3)

SPECint_rate_base2006 = 269

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/spec15/libs/32:/spec15/libs/64:/spec15/sh"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/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>

Base Compiler Invocation

C benchmarks:

icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks:

icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

462.libquantum: -DSPEC_CPU_LINUX

483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX2 -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



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 277

Huawei RH2288 V3 (Intel Xeon E5-2603 v3)

SPECint_rate_base2006 = 269

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

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: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 277

Huawei RH2288 V3 (Intel Xeon E5-2603 v3)

SPECint_rate_base2006 = 269

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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/Intel-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.2.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.2.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.

Report generated on Tue Jan 27 13:29:14 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 27 January 2015.

Standard Performance Evaluation Corporation

info@spec.org
<http://www.spec.org/>

Page 6