



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint®2006 = 43.4

Huawei RH2288 v2 (Intel Xeon E5-2620 v2)

SPECint_base2006 = 40.2

CPU2006 license: 3175

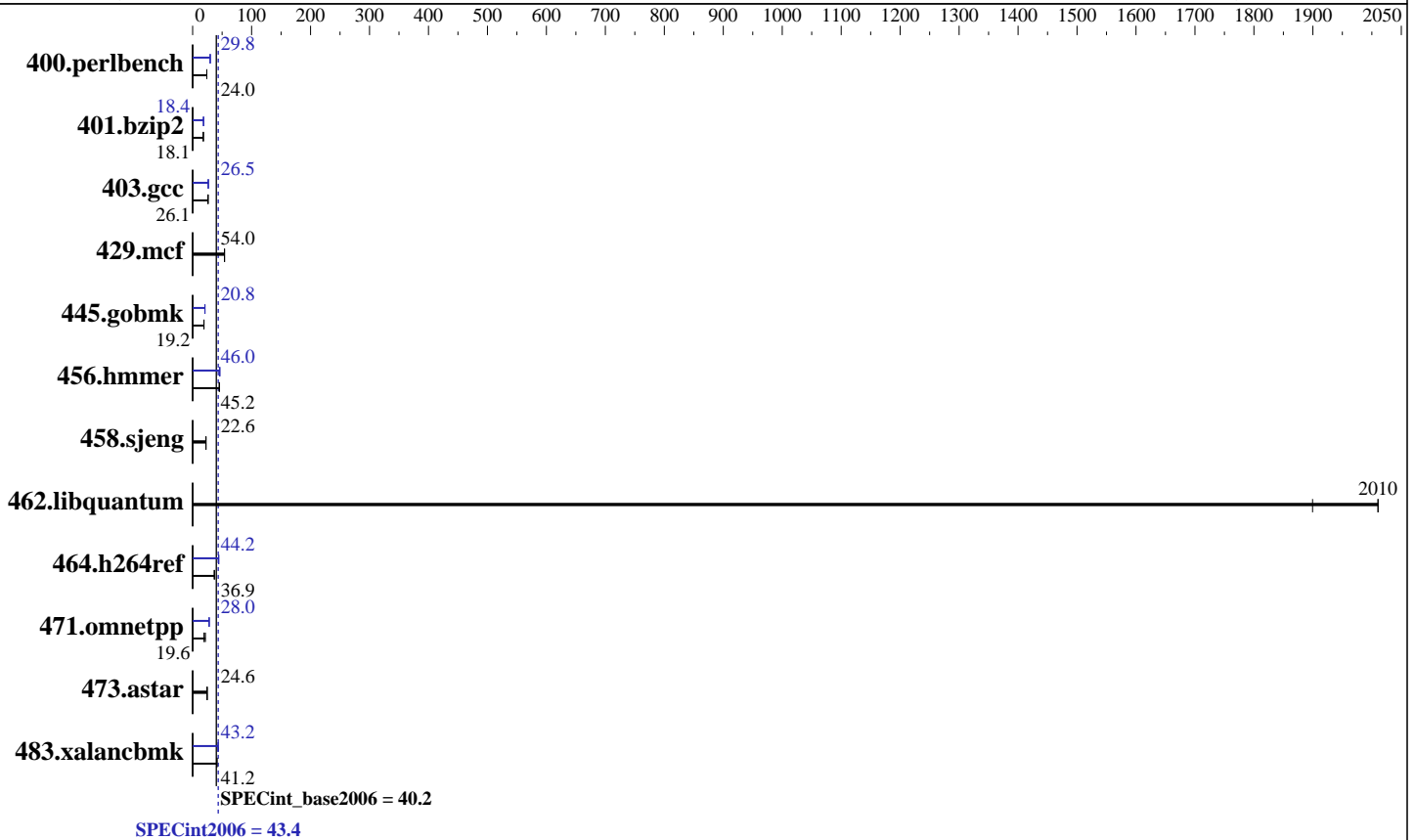
Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2620 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.60 GHz
 CPU MHz: 2100
 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 PC3-14900R-13, ECC)
 Disk Subsystem: 1 x 300 GB SAS, 10000RPM
 Other Hardware: None

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
 Other Software: Microquill SmartHeap V9.01



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 43.4

Huawei RH2288 v2 (Intel Xeon E5-2620 v2)

SPECint_base2006 = 40.2

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Jun-2014
Hardware Availability: Sep-2013
Software Availability: Nov-2013

Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|----------------|-------------|-------------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 407 | 24.0 | 406 | 24.0 | 406 | 24.1 | <u>328</u> | <u>29.8</u> | 328 | 29.8 | 328 | 29.8 |
| 401.bzip2 | 534 | 18.1 | 534 | 18.1 | 534 | 18.1 | <u>523</u> | 18.4 | <u>523</u> | <u>18.4</u> | 523 | 18.4 |
| 403.gcc | 308 | 26.1 | 309 | 26.1 | 308 | 26.2 | 304 | 26.5 | 303 | 26.6 | 304 | 26.5 |
| 429.mcf | 168 | 54.2 | 169 | 54.0 | 169 | 53.9 | 168 | 54.2 | 169 | 54.0 | 169 | 53.9 |
| 445.gobmk | 547 | 19.2 | 547 | 19.2 | 548 | 19.1 | <u>503</u> | <u>20.8</u> | 503 | 20.9 | 503 | 20.8 |
| 456.hammer | 206 | 45.4 | 206 | 45.2 | 206 | 45.2 | 203 | 46.0 | 203 | 45.9 | 203 | 46.0 |
| 458.sjeng | 536 | 22.6 | 536 | 22.6 | 536 | 22.6 | 536 | 22.6 | 536 | 22.6 | 536 | 22.6 |
| 462.libquantum | 10.3 | 2010 | 10.3 | 2010 | 10.9 | 1900 | <u>10.3</u> | <u>2010</u> | 10.3 | 2010 | 10.9 | 1900 |
| 464.h264ref | 599 | 36.9 | 599 | 36.9 | 601 | 36.8 | 501 | 44.2 | 502 | 44.1 | 501 | 44.2 |
| 471.omnetpp | 319 | 19.6 | 320 | 19.5 | 288 | 21.7 | <u>223</u> | <u>28.0</u> | 224 | 27.9 | 223 | 28.1 |
| 473.astar | 286 | 24.6 | 287 | 24.5 | 286 | 24.6 | 286 | 24.6 | 287 | 24.5 | 286 | 24.6 |
| 483.xalancbmk | 168 | 41.2 | 168 | 41.0 | 167 | 41.2 | 159 | 43.3 | 160 | 43.2 | 160 | 43.2 |

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

Operating System Notes

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

Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Custom
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec/config/sysinfo.rev6800
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost Sat Jun 14 17:27:58 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 E5-2620 v2 @ 2.10GHz
 2 "physical id"s (chips)
 12 "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 : 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
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 43.4

Huawei RH2288 v2 (Intel Xeon E5-2620 v2)

SPECint_base2006 = 40.2

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

Platform Notes (Continued)

From /proc/meminfo

MemTotal: 264478184 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

/usr/bin/lsb_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:

Linux localhost 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 Jun 14 17:18

SPEC is set to: /spec

| Filesystem | Type | Size | Used | Avail | Use% | Mounted on |
|------------|------|------|------|-------|------|------------|
| /dev/sda2 | ext4 | 272G | 78G | 180G | 31% | / |

Additional information from dmidecode:

Memory:

13x Hynix HMT42GR7AFR4C-RD 16 GB 1867 MHz 2 rank

3x Samsung M393B2G70DB0-CMA 16 GB 1867 MHz 2 rank

(End of data from sysinfo program)

General Notes

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

KMP_AFFINITY = "granularity=fine,compact,0,1"

LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64"

OMP_NUM_THREADS = "12"

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

The Huawei RH2288H v2 and Huawei RH2288 v2 and

the Huawei RH1288 v2 models are electronically equivalent.

The results have been measured on a Huawei RH2288H v2 model



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 43.4

Huawei RH2288 v2 (Intel Xeon E5-2620 v2)

SPECint_base2006 = 40.2

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Jun-2014
Hardware Availability: Sep-2013
Software Availability: Nov-2013

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -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 -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/smartheap -lsmartheap64

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 43.4

Huawei RH2288 v2 (Intel Xeon E5-2620 v2)

SPECint_base2006 = 40.2

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

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_IA32`

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.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) -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`

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`

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 43.4

Huawei RH2288 v2 (Intel Xeon E5-2620 v2)

SPECint_base2006 = 40.2

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

Peak Optimization Flags (Continued)

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-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -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

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 sources by saving 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>

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 Fri Jul 25 00:52:56 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 July 2014.