



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint®2006 = 61.5

Huawei RH2288 V3 (Intel Xeon E5-2640 v3)

SPECint_base2006 = 58.6

CPU2006 license: 3175

Test date: Dec-2014

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Jun-2014



Hardware

CPU Name: Intel Xeon E5-2640 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 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: Yes
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.0



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = **61.5**

Huawei RH2288 V3 (Intel Xeon E5-2640 v3)

SPECint_base2006 = **58.6**

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

Test date: Dec-2014
Hardware Availability: Sep-2014
Software Availability: Jun-2014

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	247	39.6	247	39.5	246	39.7	215	45.5	214	45.7	215	45.4
401.bzip2	391	24.7	392	24.6	393	24.6	388	24.9	388	24.9	388	24.9
403.gcc	237	34.0	238	33.9	237	33.9	233	34.6	232	34.8	232	34.8
429.mcf	149	61.0	147	61.9	146	62.4	146	62.7	145	62.8	146	62.5
445.gobmk	371	28.3	371	28.3	371	28.2	370	28.4	370	28.4	370	28.4
456.hammer	139	67.3	138	67.4	139	67.3	139	67.3	138	67.4	139	67.3
458.sjeng	369	32.8	368	32.8	368	32.9	367	33.0	367	33.0	367	33.0
462.libquantum	4.64	4470	4.14	5010	4.14	5000	4.64	4470	4.14	5010	4.14	5000
464.h264ref	486	45.6	485	45.6	483	45.8	486	45.6	485	45.6	483	45.8
471.omnetpp	231	27.0	235	26.6	234	26.8	159	39.4	166	37.7	159	39.4
473.astar	214	32.7	214	32.7	214	32.8	217	32.4	214	32.8	214	32.8
483.xalancbmk	109	63.4	107	64.4	107	64.2	109	63.4	107	64.4	107	64.2

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

Submit Notes

The config file option 'submit' was used.

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 Hyper-Threading to Disabled
Set Patrol Scrub to Disable
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Mon Dec 1 08:55:18 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 E5-2640 v3 @ 2.60GHz
2 "physical id"s (chips)
16 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The

```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 61.5

Huawei RH2288 V3 (Intel Xeon E5-2640 v3)

SPECint_base2006 = 58.6

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

```
cpu cores : 8
siblings  : 8
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

From /proc/meminfo

```
MemTotal:      263721496 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 Dec 1 08:54

SPEC is set to: /spec

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal        xfs   98G   17G   81G  18% /
```

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. 1.16 09/02/2014

Memory:

```
8x Samsung M393A2G40DB0-CPB 16 GB 1 rank 2133 MHz, configured at 1867 MHz
8x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1867 MHz
```

(End of data from sysinfo program)



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 61.5

Huawei RH2288 V3 (Intel Xeon E5-2640 v3)

SPECint_base2006 = 58.6

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2014

General Notes

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

```
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64:/spec/sh"
OMP_NUM_THREADS = "16"
```

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
```

runspec command invoked through numactl i.e.:

```
numactl --interleave=all runspec <etc>
```

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:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64
```



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 61.5

Huawei RH2288 V3 (Intel Xeon E5-2640 v3)

SPECint_base2006 = 58.6

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2014

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

445.gobmk: icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

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

464.h264ref: -DSPEC_CPU_LP64

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -DSPEC_CPU_LP64 -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)

-opt-prefetch -ansi-alias

401.bzip2: -xCORE-AVX2(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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 61.5

Huawei RH2288 V3 (Intel Xeon E5-2640 v3)

SPECint_base2006 = 58.6

CPU2006 license: 3175

Test date: Dec-2014

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Jun-2014

Peak Optimization Flags (Continued)

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
-opt-prefetch -auto-p32

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias

456.hmmcr: basepeak = yes

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

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

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)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

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 CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 61.5

Huawei RH2288 V3 (Intel Xeon E5-2640 v3)

SPECint_base2006 = 58.6

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2014

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 13:27:52 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 27 January 2015.