



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint®_rate2006 = 733

Huawei CH220 V3 (Intel Xeon E5-2640 v3)

SPECint_rate_base2006 = 703

CPU2006 license: 3175

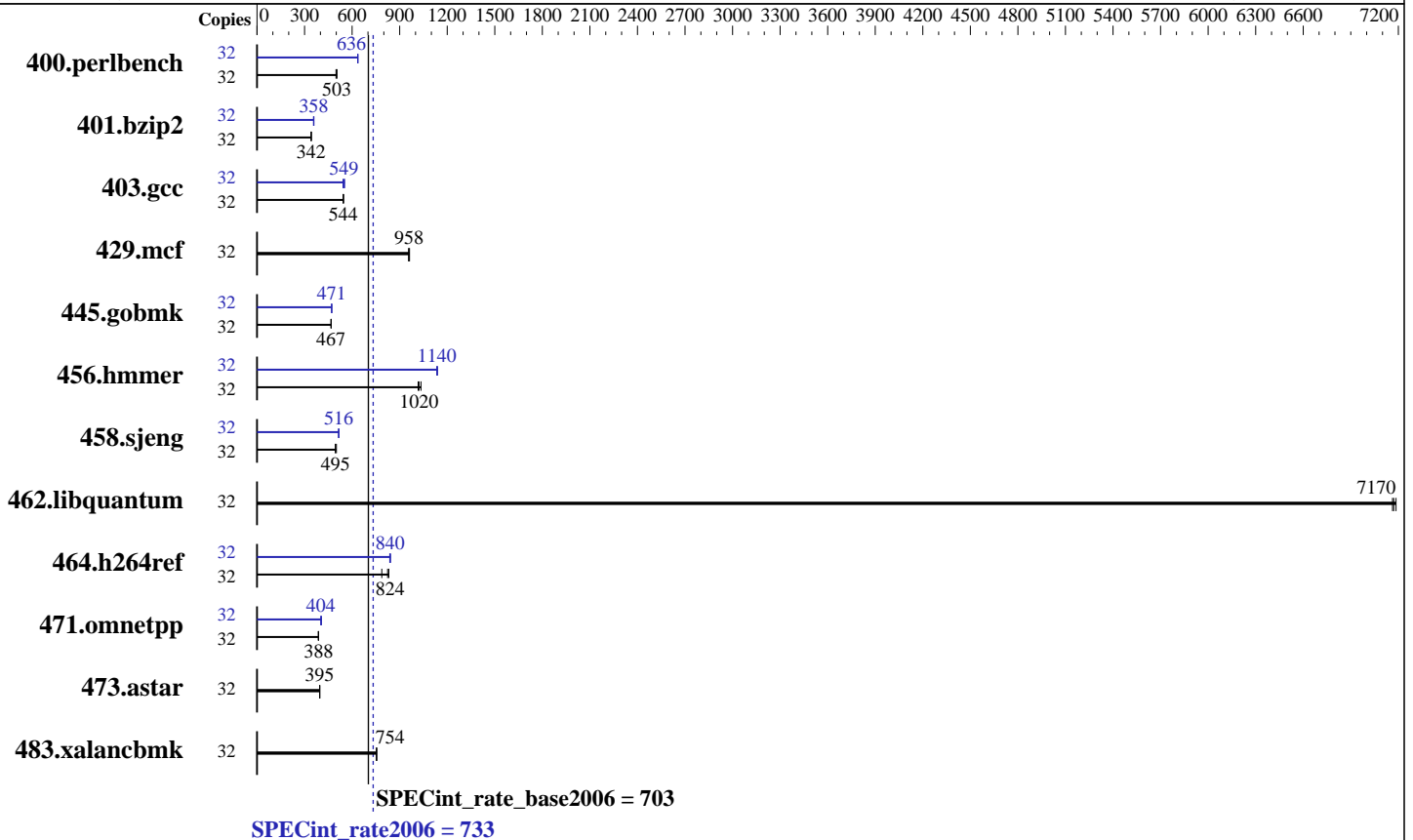
Test sponsor: Huawei

Tested by: Huawei

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Jun-2014



Hardware

CPU Name: Intel Xeon E5-2640 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, 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: 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: 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 = 733

Huawei CH220 V3 (Intel Xeon E5-2640 v3)

SPECint_rate_base2006 = 703

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	32	621	504	<u>622</u>	<u>503</u>	627	498	32	491	637	<u>492</u>	<u>636</u>	492	635
401.bzip2	32	904	342	<u>904</u>	<u>342</u>	902	342	32	<u>862</u>	<u>358</u>	867	356	860	359
403.gcc	32	471	546	474	543	<u>473</u>	<u>544</u>	32	475	543	466	553	<u>469</u>	<u>549</u>
429.mcf	32	<u>305</u>	<u>958</u>	303	962	305	956	32	<u>305</u>	<u>958</u>	303	962	305	956
445.gobmk	32	718	468	<u>718</u>	<u>467</u>	718	467	32	712	471	713	471	<u>713</u>	<u>471</u>
456.hammer	32	294	1020	289	1030	<u>292</u>	<u>1020</u>	32	<u>263</u>	<u>1140</u>	263	1130	262	1140
458.sjeng	32	<u>783</u>	<u>495</u>	783	495	773	501	32	753	514	750	516	<u>751</u>	<u>516</u>
462.libquantum	32	92.3	7190	<u>92.5</u>	<u>7170</u>	92.6	7160	32	92.3	7190	<u>92.5</u>	<u>7170</u>	92.6	7160
464.h264ref	32	<u>860</u>	<u>824</u>	852	832	900	787	32	841	843	846	837	<u>843</u>	<u>840</u>
471.omnetpp	32	515	388	<u>516</u>	<u>388</u>	517	387	32	<u>496</u>	<u>404</u>	497	403	492	406
473.astar	32	<u>568</u>	<u>395</u>	567	396	569	395	32	<u>568</u>	<u>395</u>	567	396	569	395
483.xalancbmk	32	<u>293</u>	<u>754</u>	293	754	292	755	32	<u>293</u>	<u>754</u>	293	754	292	755

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 Thu Jan 8 04:39:47 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 E5-2640 v3 @ 2.60GHz

2 "physical id"s (chips)

32 "processors"

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

SPECint_rate2006 = 733

Huawei CH220 V3 (Intel Xeon E5-2640 v3)

SPECint_rate_base2006 = 703

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 : 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
cache size : 20480 KB
```

From /proc/meminfo

```
MemTotal:      263719632 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 7 06:58

SPEC is set to: /spec15

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdb2        ext4  448G  136G  290G  32% /
```

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:

```
4x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz, configured at 1867 MHz
4x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1867 MHz
4x Samsung M393A2G40DB0-CPB 16 GB 1 rank 2133 MHz, configured at 1867 MHz
4x 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

SPECint_rate2006 = 733

Huawei CH220 V3 (Intel Xeon E5-2640 v3)

SPECint_rate_base2006 = 703

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 = 733

Huawei CH220 V3 (Intel Xeon E5-2640 v3)

SPECint_rate_base2006 = 703

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: -xCORE-AVX2 -ipo -O3 -no-prec-div

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 = 733

Huawei CH220 V3 (Intel Xeon E5-2640 v3)

SPECint_rate_base2006 = 703

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 13:30:52 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 27 January 2015.