



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint®_rate2006 = 3820

Huawei RH8100 V3 (Intel Xeon E7-8891 v3)

SPECint_rate_base2006 = 3650

CPU2006 license: 3175

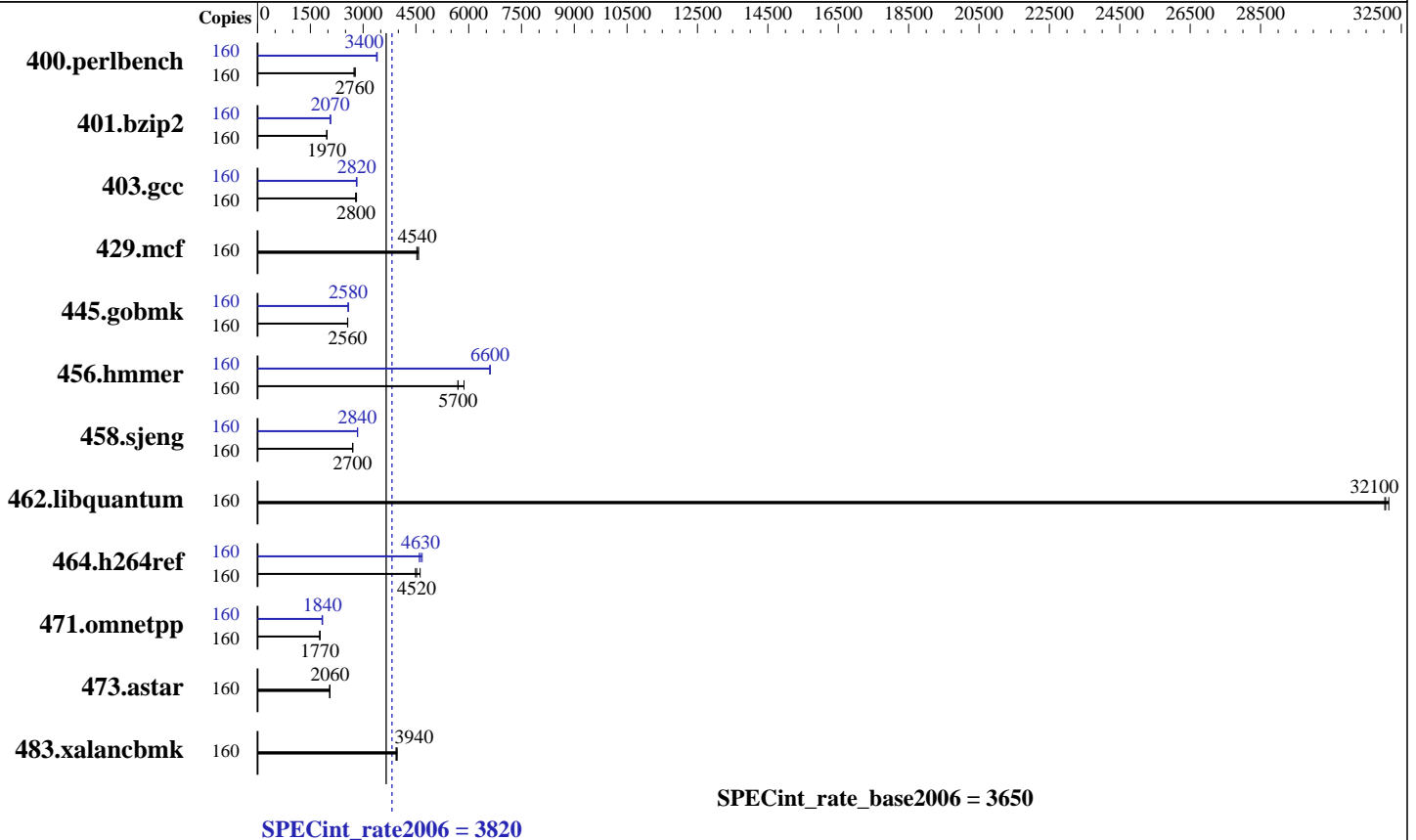
Test date: May-2015

Test sponsor: Huawei

Hardware Availability: May-2015

Tested by: Huawei

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E7-8891 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 80 cores, 8 chips, 10 cores/chip, 2 threads/core
 CPU(s) orderable: 4,6,8 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 45 MB I+D on chip per chip
 Other Cache: None
 Memory: 2 TB (128 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
 Disk Subsystem: 3 x 300 GB SAS, 10K 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 = 3820

Huawei RH8100 V3 (Intel Xeon E7-8891 v3)

SPECint_rate_base2006 = 3650

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

Test date: May-2015
Hardware Availability: May-2015
Software Availability: Sep-2014

Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	160	565	2760	563	2770	571	2740	160	462	3380	460	3400	460	3400
401.bzip2	160	784	1970	784	1970	784	1970	160	746	2070	745	2070	745	2070
403.gcc	160	462	2790	461	2800	458	2810	160	459	2810	458	2820	456	2820
429.mcf	160	322	4530	321	4540	319	4580	160	322	4530	321	4540	319	4580
445.gobmk	160	656	2560	656	2560	655	2560	160	652	2570	651	2580	651	2580
456.hammer	160	262	5690	254	5870	262	5700	160	226	6600	226	6620	226	6600
458.sjeng	160	716	2700	716	2700	716	2710	160	681	2840	682	2840	681	2840
462.libquantum	160	104	32000	103	32100	103	32100	160	104	32000	103	32100	103	32100
464.h264ref	160	789	4490	783	4520	766	4620	160	764	4630	770	4600	757	4680
471.omnetpp	160	565	1770	566	1770	564	1770	160	543	1840	542	1850	546	1830
473.astar	160	546	2060	547	2060	549	2050	160	546	2060	547	2060	549	2050
483.xalancbmk	160	278	3970	280	3940	280	3940	160	278	3970	280	3940	280	3940

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"
Turbo mode set with:
cpupower -c all frequency-set -g performance

Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Performance
Set Lock_step to disabled
Baseboard Management Controller used to adjust the fan speed to 100%
Set DRAM Maintenance to Manual
Set DRAM Maintenance Mode to pTRR
Set Patrol Scrub to Enabled
Set Memory Power Saving to disabled
Sysinfo program /spec/config/sysinfo.rev6914
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
running on RH8100V3 Fri May 15 07:46:44 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>

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 3820

Huawei RH8100 V3 (Intel Xeon E7-8891 v3)

SPECint_rate_base2006 = 3650

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

Test date: May-2015
Hardware Availability: May-2015
Software Availability: Sep-2014

Platform Notes (Continued)

```

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E7-8891 v3 @ 2.80GHz
 8 "physical id"s (chips)
160 "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 : 10
  siblings  : 20
  physical 0: cores 0 1 2 4 6 8 17 19 20 23
  physical 1: cores 0 1 2 4 6 8 17 19 20 23
  physical 2: cores 0 1 2 4 6 8 17 19 20 23
  physical 3: cores 0 1 2 4 6 8 17 19 20 23
  physical 4: cores 0 1 2 4 6 8 17 19 20 23
  physical 5: cores 0 1 2 4 6 8 17 19 20 23
  physical 6: cores 0 1 2 4 6 8 17 19 20 23
  physical 7: cores 0 1 2 4 6 8 17 19 20 23
cache size : 46080 KB

```

```

From /proc/meminfo
MemTotal:      2113357636 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 RH8100V3 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 May 15 07:23

```

SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext4  452G  4.8G  425G   2% /spec

```

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 3820

Huawei RH8100 V3 (Intel Xeon E7-8891 v3)

SPECint_rate_base2006 = 3650

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

Test date: May-2015
Hardware Availability: May-2015
Software Availability: Sep-2014

Platform Notes (Continued)

determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS American Megatrends Inc. BLISV705 03/30/2015

Memory:

64x NO DIMM NO DIMM

128x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1600 MHz

(End of data from sysinfo program)

memory is 2 TB and the dmi decode description should have two lines reading as:

64x NO DIMM NO DIMM

128x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1600 MHz

General Notes

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

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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 3820

Huawei RH8100 V3 (Intel Xeon E7-8891 v3)

SPECint_rate_base2006 = 3650

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2015

Hardware Availability: May-2015

Software Availability: Sep-2014

Base Optimization Flags (Continued)

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

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:

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 5



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 3820

Huawei RH8100 V3 (Intel Xeon E7-8891 v3)

SPECint_rate_base2006 = 3650

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2015

Hardware Availability: May-2015

Software Availability: Sep-2014

Peak Optimization Flags (Continued)

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.hmmmer: -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

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-V1.0-HSW-RevG.html>



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 3820

Huawei RH8100 V3 (Intel Xeon E7-8891 v3)

SPECint_rate_base2006 = 3650

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2015

Hardware Availability: May-2015

Software Availability: Sep-2014

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-V1.0-HSW-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 Tue Jun 2 13:48:32 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 June 2015.