



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint®_rate2006 = 463

Sugon I620-G20 (Intel Xeon E5-2637 v3)

SPECint_rate_base2006 = 448

CPU2006 license: 9046

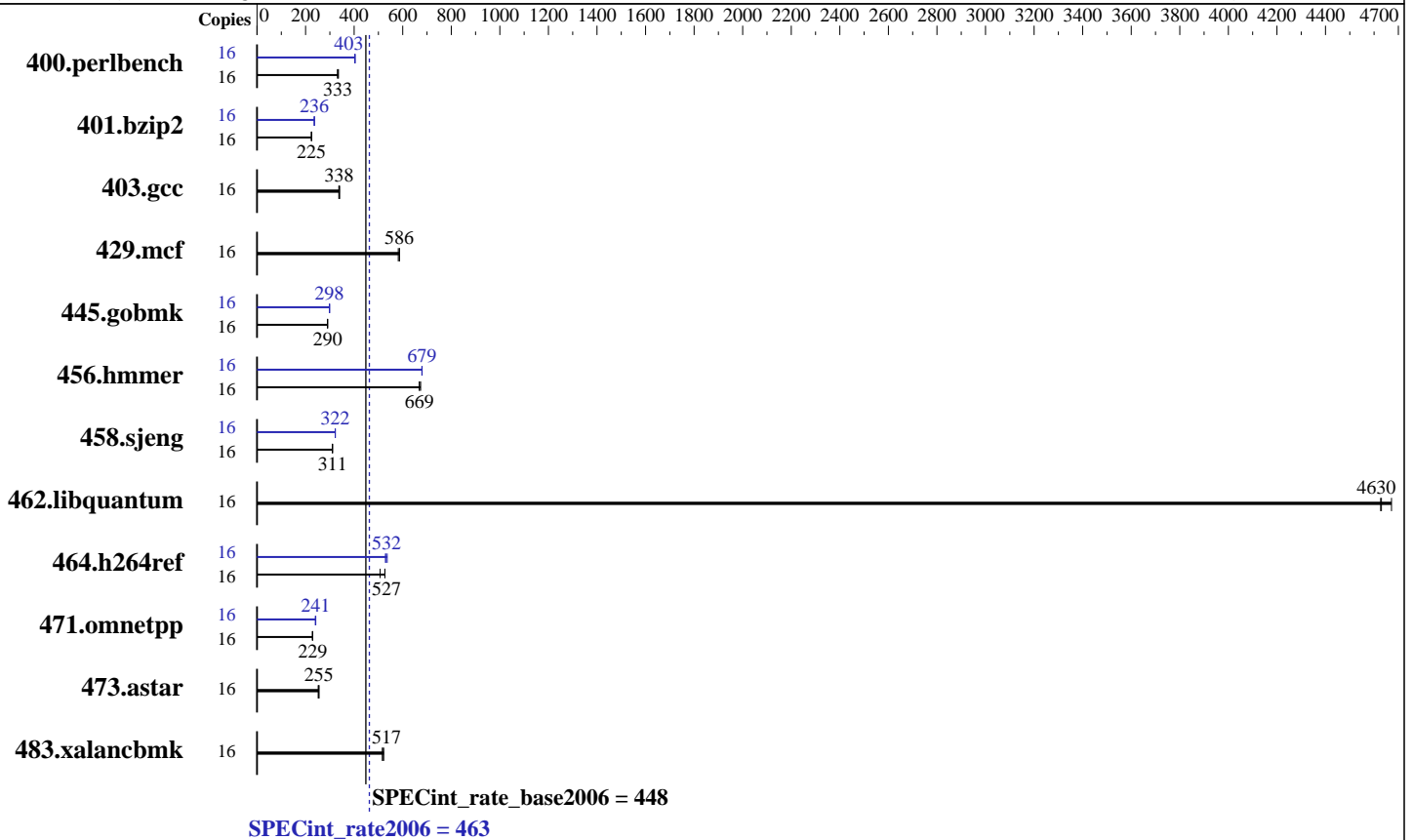
Test date: Oct-2014

Test sponsor: Sugon

Hardware Availability: Sep-2014

Tested by: Sugon

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2637 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
 CPU MHz: 3500
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 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: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
 Disk Subsystem: 1 x 2.0 TB SATA 7200 RPM
 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 14.0.0.080 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 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint_rate2006 = 463

Sugon I620-G20 (Intel Xeon E5-2637 v3)

SPECint_rate_base2006 = 448

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	466	335	472	331	<u>469</u>	<u>333</u>	16	<u>388</u>	<u>403</u>	387	404	388	403
401.bzip2	16	687	225	<u>687</u>	<u>225</u>	690	224	16	653	236	655	236	<u>654</u>	<u>236</u>
403.gcc	16	382	337	378	340	<u>381</u>	<u>338</u>	16	382	337	378	340	<u>381</u>	<u>338</u>
429.mcf	16	251	582	<u>249</u>	<u>586</u>	249	587	16	251	582	<u>249</u>	<u>586</u>	249	587
445.gobmk	16	578	291	578	290	<u>578</u>	<u>290</u>	16	563	298	<u>562</u>	<u>298</u>	561	299
456.hammer	16	<u>223</u>	<u>669</u>	223	668	222	674	16	<u>220</u>	<u>679</u>	220	679	220	680
458.sjeng	16	623	311	<u>623</u>	<u>311</u>	623	311	16	<u>601</u>	<u>322</u>	600	323	601	322
462.libquantum	16	<u>71.6</u>	<u>4630</u>	71.6	4630	71.0	4670	16	<u>71.6</u>	<u>4630</u>	71.6	4630	71.0	4670
464.h264ref	16	<u>672</u>	<u>527</u>	672	527	699	507	16	670	529	660	536	<u>666</u>	<u>532</u>
471.omnetpp	16	<u>437</u>	<u>229</u>	439	228	436	229	16	416	240	<u>414</u>	<u>241</u>	413	242
473.astar	16	<u>441</u>	<u>255</u>	441	255	446	252	16	<u>441</u>	<u>255</u>	441	255	446	252
483.xalancbmk	16	212	522	<u>214</u>	<u>517</u>	214	517	16	212	522	<u>214</u>	<u>517</u>	214	517

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

```

Enforce POR set to disabled
DDR Speed set to 2133
Early Snoop set to disabled
COD set to enable
Power Technology set to performance
Sysinfo program /home/cpu2006/config/sysinfo.rev6874
$Rev: 6874 $ $Date:: 2013-11-20 #$ 654bd3fcf53b06faef0efe54ed011998
running on localhost Sat Oct 11 03:36:53 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 E5-2637 v3 @ 3.50GHz
2 "physical id"s (chips)
16 "processors"

```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint_rate2006 = 463

Sugon I620-G20 (Intel Xeon E5-2637 v3)

SPECint_rate_base2006 = 448

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

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 : 4
siblings  : 8
physical 0: cores 0 1 4 5
physical 1: cores 0 1 4 5
cache size : 15360 KB
```

From /proc/meminfo

```
MemTotal:      264481468 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 Oct 11 02:10

SPEC is set to: /home/cpu2006

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3        ext4  1.8T  459G  1.3T  27% /
```

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 American Megatrends Inc. 068 08/15/2014

Memory:

```
16x Hynix Semiconductor HMA42GR7MFR4N-TFTD 16 GB 2 rank 2133 MHz
8x NO DIMM NO DIMM
```

(End of data from sysinfo program)

General Notes

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

```
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint_rate2006 = 463

Sugon I620-G20 (Intel Xeon E5-2637 v3)

SPECint_rate_base2006 = 448

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

General Notes (Continued)

```

memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_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>

```

```

Submitted_by: Tian Yuwan <tianyw@sugon.com>
Submitted: Fri Nov 7 01:25:14 EST 2014
Submission: cpu2006-20141107-32775.sub

```

```

Submitted_by: Tian Yuwan <tianyw@sugon.com>
Submitted: Wed Nov 26 05:11:52 EST 2014
Submission: cpu2006-20141107-32775.sub

```

```

Submitted_by: Tian Yuwan <tianyw@sugon.com>
Submitted: Thu Nov 27 00:57:34 EST 2014
Submission: cpu2006-20141107-32775.sub

```

Base Compiler Invocation

```

C benchmarks:
  icc -m32

C++ benchmarks:
  icpc -m32

```

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

```



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint_rate2006 = 463

Sugon I620-G20 (Intel Xeon E5-2637 v3)

SPECint_rate_base2006 = 448

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint_rate2006 = 463

Sugon I620-G20 (Intel Xeon E5-2637 v3)

SPECint_rate_base2006 = 448

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

Peak Optimization Flags (Continued)

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

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-ic14.0-official-linux64-revC.html>

<http://www.spec.org/cpu2006/flags/Sugon-Platform-Settings-V1.2-HSW-revA.20141203.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.xml>

<http://www.spec.org/cpu2006/flags/Sugon-Platform-Settings-V1.2-HSW-revA.20141203.xml>



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint_rate2006 = 463

Sugon I620-G20 (Intel Xeon E5-2637 v3)

SPECint_rate_base2006 = 448

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

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 Wed Dec 3 10:28:50 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 December 2014.