



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Quanta Computer Inc.

SPECint®2006 = 66.0

T21P-4U (Intel Xeon E5-2698 v3)

SPECint_base2006 = 62.8

CPU2006 license: 9050

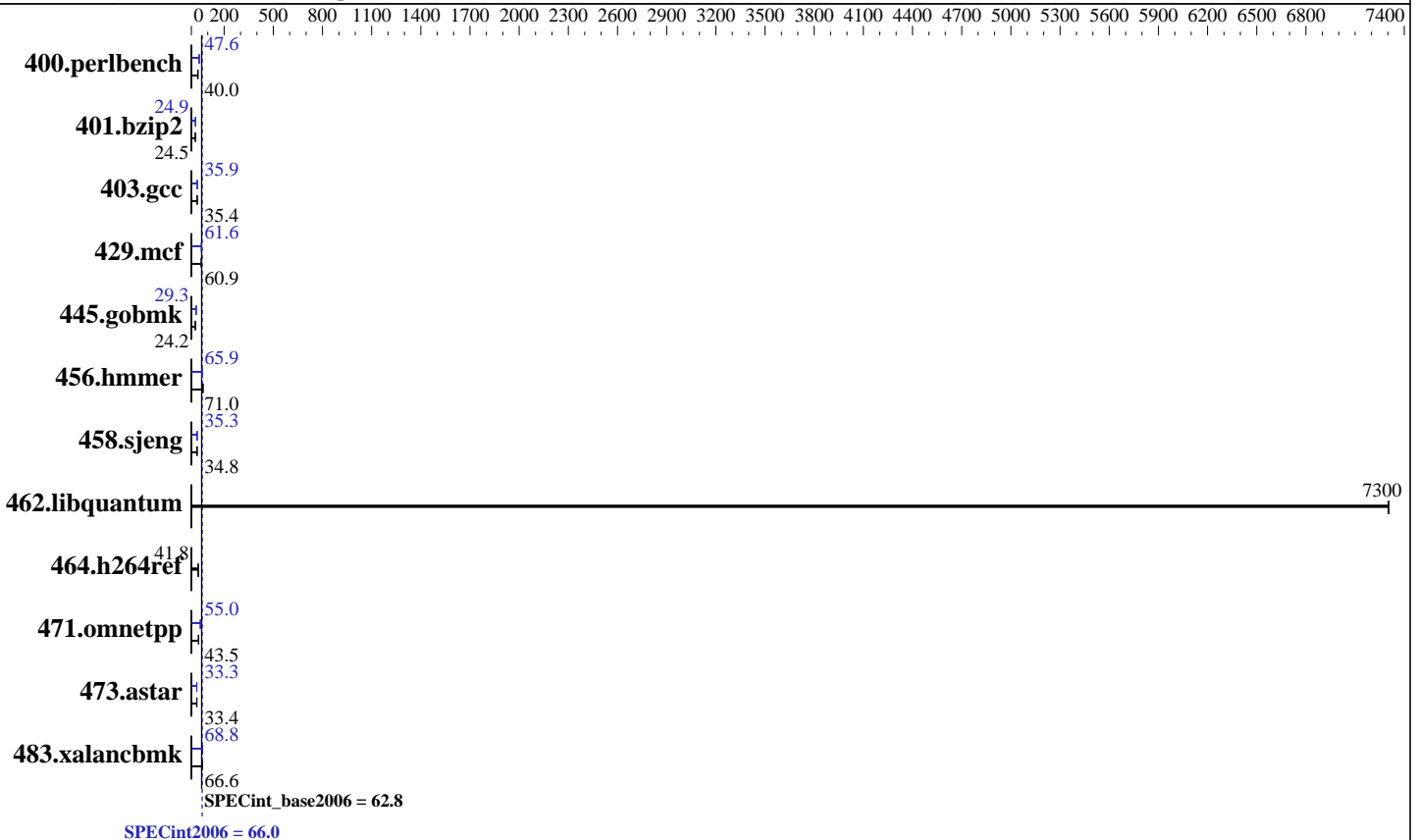
Test date: Nov-2014

Test sponsor: Quanta Computer Inc.

Hardware Availability: Nov-2014

Tested by: Quanta Computer Inc.

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2698 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 32 cores, 2 chips, 16 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: 40 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (8 x 16 GB 2Rx4 PC4-2133P-R)

Disk Subsystem: 197 GB 1 x 240 GB SATA, SSD
 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: 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 V10.0



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Quanta Computer Inc.

SPECint2006 = 66.0

T21P-4U (Intel Xeon E5-2698 v3)

SPECint_base2006 = 62.8

CPU2006 license: 9050

Test date: Nov-2014

Test sponsor: Quanta Computer Inc.

Hardware Availability: Nov-2014

Tested by: Quanta Computer Inc.

Software Availability: Nov-2013

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	244	40.1	244	40.0	<u>244</u>	<u>40.0</u>	<u>205</u>	<u>47.6</u>	205	47.6	206	47.5
401.bzip2	<u>394</u>	<u>24.5</u>	395	24.4	394	24.5	388	24.9	388	24.9	<u>388</u>	<u>24.9</u>
403.gcc	228	35.4	<u>227</u>	<u>35.4</u>	227	35.5	<u>225</u>	<u>35.9</u>	224	35.9	225	35.8
429.mcf	<u>150</u>	<u>60.9</u>	150	60.8	149	61.0	149	61.4	147	61.9	<u>148</u>	<u>61.6</u>
445.gobmk	433	24.2	<u>433</u>	<u>24.2</u>	434	24.2	<u>358</u>	<u>29.3</u>	357	29.3	358	29.3
456.hammer	131	71.0	<u>131</u>	<u>71.0</u>	132	70.6	<u>142</u>	<u>65.9</u>	141	66.1	143	65.4
458.sjeng	348	34.8	347	34.8	<u>347</u>	<u>34.8</u>	<u>343</u>	<u>35.3</u>	343	35.3	342	35.3
462.libquantum	<u>2.84</u>	<u>7300</u>	2.84	7300	2.84	7310	<u>2.84</u>	<u>7300</u>	2.84	7300	2.84	7310
464.h264ref	528	41.9	<u>529</u>	<u>41.8</u>	530	41.8	528	41.9	<u>529</u>	<u>41.8</u>	530	41.8
471.omnetpp	142	44.0	<u>144</u>	<u>43.5</u>	144	43.5	114	54.9	<u>114</u>	<u>55.0</u>	113	55.3
473.astar	210	33.4	210	33.5	<u>210</u>	<u>33.4</u>	211	33.2	<u>211</u>	<u>33.3</u>	211	33.3
483.xalancbmk	104	66.3	<u>104</u>	<u>66.6</u>	103	66.7	100	68.8	100	68.9	<u>100</u>	<u>68.8</u>

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

Default BIOS settings were used
 Sysinfo program /speccpu/speccpu_linux/config/sysinfo.rev6818
 \$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
 running on localhost.localdomain Sun Nov 16 06:49:53 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 E5-2698 v3 @ 2.30GHz
 2 "physical id"s (chips)
 64 "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 : 16
siblings : 32
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Quanta Computer Inc.

SPECint2006 = 66.0

T21P-4U (Intel Xeon E5-2698 v3)

SPECint_base2006 = 62.8

CPU2006 license: 9050

Test date: Nov-2014

Test sponsor: Quanta Computer Inc.

Hardware Availability: Nov-2014

Tested by: Quanta Computer Inc.

Software Availability: Nov-2013

Platform Notes (Continued)

physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size : 40960 KB

```
From /proc/meminfo
MemTotal:      132046688 kB
HugePages_Total:      1
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.localdomain 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 Nov 14 15:45
```

```
SPEC is set to: /speccpu/speccpu_linux
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdca2      ext4  197G   12G  176G   6% /
```

```
Additional information from dmidecode:
BIOS American Megatrends Inc. S2P_2A06 10/30/2014
Memory:
8x NO DIMM NO DIMM
8x Samsung M393A2G40DB0-CPB 16 GB 2133 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,scatter"
LD_LIBRARY_PATH = "/speccpu/speccpu_linux/libs/32:/speccpu/speccpu_linux/libs/64:/speccpu/speccpu_linux/sh"
OMP_NUM_THREADS = "32"
```

```
Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Quanta Computer Inc.

SPECint2006 = 66.0

T21P-4U (Intel Xeon E5-2698 v3)

SPECint_base2006 = 62.8

CPU2006 license: 9050

Test date: Nov-2014

Test sponsor: Quanta Computer Inc.

Hardware Availability: Nov-2014

Tested by: Quanta Computer Inc.

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:

-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

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

Quanta Computer Inc.	SPECint2006 =	66.0
T21P-4U (Intel Xeon E5-2698 v3)	SPECint_base2006 =	62.8

CPU2006 license: 9050	Test date:	Nov-2014
Test sponsor: Quanta Computer Inc.	Hardware Availability:	Nov-2014
Tested by: Quanta Computer Inc.	Software Availability:	Nov-2013

Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

445.gobmk: `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`
 464.h264ref: `-DSPEC_CPU_LP64`
 473.astar: `-DSPEC_CPU_LP64`
 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) -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`

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.hmmer: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32 -ansi-alias`

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Quanta Computer Inc.

SPECint2006 = 66.0

T21P-4U (Intel Xeon E5-2698 v3)

SPECint_base2006 = 62.8

CPU2006 license: 9050

Test date: Nov-2014

Test sponsor: Quanta Computer Inc.

Hardware Availability: Nov-2014

Tested by: Quanta Computer Inc.

Software Availability: Nov-2013

Peak Optimization Flags (Continued)

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: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-ansi-alias -Wl,-z,muldefs -L/sh -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-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Quanta-Cloud-Technology-Platform-Settings-V1.0.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/Quanta-Cloud-Technology-Platform-Settings-V1.0.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 Wed Dec 3 10:30:14 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 2 December 2014.