



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro C7Z170-SQ motherboard
(C7Z170-SQ , Intel Core i5-6600)

SPECint®_rate2006 = 210

SPECint_rate_base2006 = 204

CPU2006 license: 001176

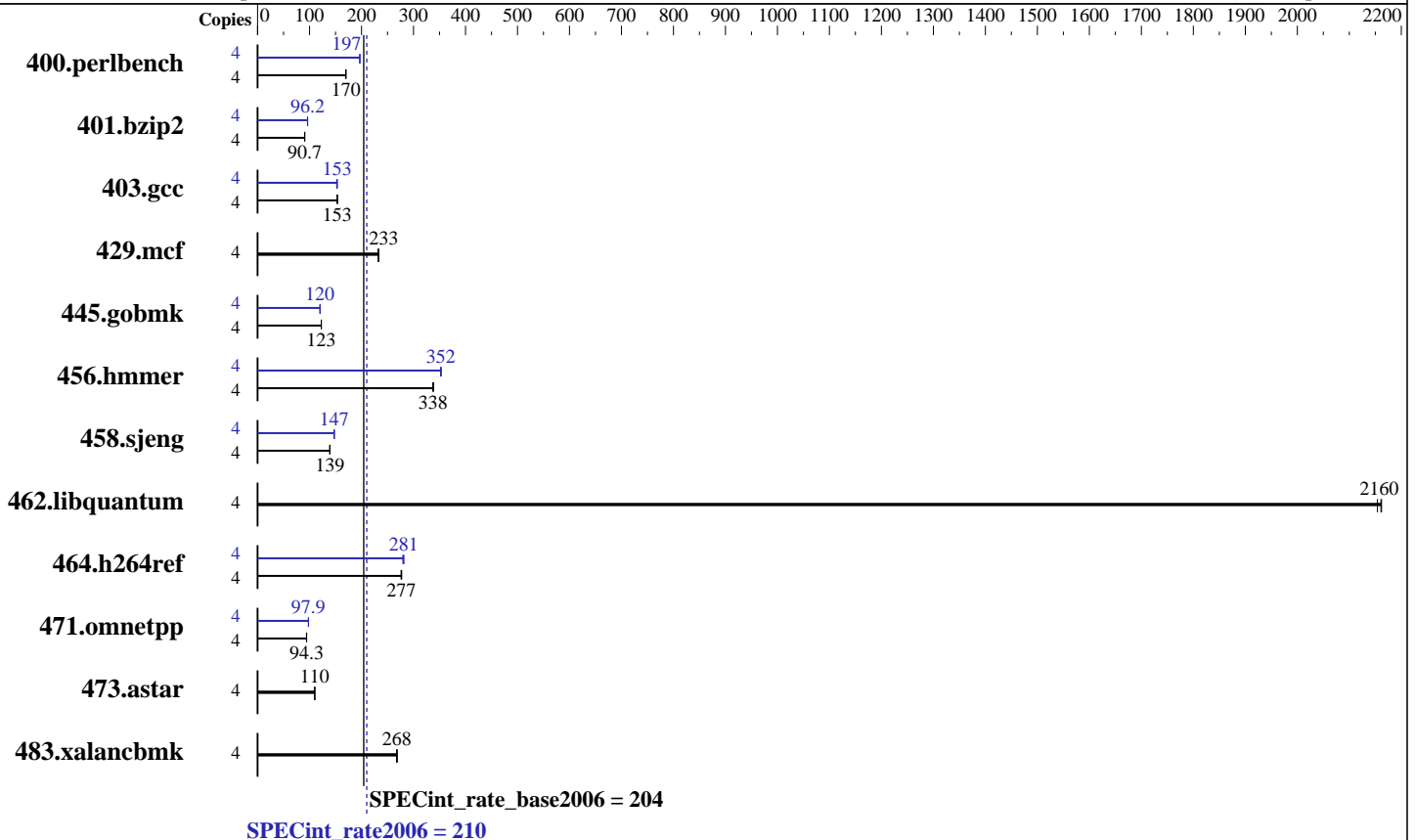
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2015

Hardware Availability: Sep-2015

Software Availability: Sep-2015



Hardware

CPU Name: Intel Core i5-6600
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
 CPU MHz: 3300
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 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: 6 MB I+D on chip per chip
 Other Cache: None
 Memory: 16 GB (4 x 4 GB 1Rx8 PC4-2133P-U)
 Disk Subsystem: 1 x 400 GB SATA III SSD
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.1, Kernel 3.10.0-229.e17.x86_64
 Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.2



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro C7Z170-SQ motherboard
(C7Z170-SQ , Intel Core i5-6600)

SPECint_rate2006 = 210

SPECint_rate_base2006 = 204

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Dec-2015
Hardware Availability: Sep-2015
Software Availability: Sep-2015

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	230	170	<u>230</u>	<u>170</u>	230	170	4	<u>199</u>	<u>197</u>	199	197	199	197
401.bzip2	4	<u>426</u>	<u>90.7</u>	425	90.9	426	90.6	4	401	96.2	<u>401</u>	<u>96.2</u>	401	96.3
403.gcc	4	210	154	<u>210</u>	<u>153</u>	210	153	4	<u>211</u>	<u>153</u>	212	152	210	153
429.mcf	4	<u>157</u>	<u>233</u>	157	233	157	232	4	<u>157</u>	<u>233</u>	157	233	157	232
445.gobmk	4	342	123	342	123	<u>342</u>	<u>123</u>	4	<u>349</u>	<u>120</u>	350	120	349	120
456.hammer	4	110	339	111	337	<u>111</u>	<u>338</u>	4	<u>106</u>	<u>352</u>	106	353	106	352
458.sjeng	4	<u>348</u>	<u>139</u>	348	139	348	139	4	328	147	<u>328</u>	<u>147</u>	328	148
462.libquantum	4	38.3	2160	<u>38.4</u>	<u>2160</u>	38.5	2150	4	38.3	2160	<u>38.4</u>	<u>2160</u>	38.5	2150
464.h264ref	4	321	276	<u>320</u>	<u>277</u>	319	277	4	<u>315</u>	<u>281</u>	315	281	317	279
471.omnetpp	4	266	94.1	265	94.4	<u>265</u>	<u>94.3</u>	4	255	98.0	<u>255</u>	<u>97.9</u>	256	97.8
473.astar	4	<u>255</u>	<u>110</u>	255	110	256	110	4	<u>255</u>	<u>110</u>	255	110	256	110
483.xalancbmk	4	<u>103</u>	<u>268</u>	103	267	103	269	4	<u>103</u>	<u>268</u>	103	267	103	269

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

Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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

As tested, the system used a Supermicro CSE-732G-903B chassis.
The chassis is configured with a PWS-903-PQ power supply, 1 SNK-P0051AP4 heatsink, as well as 1 FAN-0124L4 rear cooling fan.
Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Tue Dec 1 05:19:41 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) Core(TM) i5-6600 CPU @ 3.30GHz
1 "physical id"s (chips)
4 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro C7Z170-SQ motherboard
(C7Z170-SQ , Intel Core i5-6600)

SPECint_rate2006 = 210

SPECint_rate_base2006 = 204

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Dec-2015
Hardware Availability: Sep-2015
Software Availability: Sep-2015

Platform Notes (Continued)

```
cpu cores : 4
siblings  : 4
physical 0: cores 0 1 2 3
cache size : 6144 KB
```

```
From /proc/meminfo
MemTotal:      16169696 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.1 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.1"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.1 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.1:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.1:ga:server
```

```
uname -a:
Linux localhost.localdomain 3.10.0-229.el7.x86_64 #1 SMP Thu Jan 29 18:37:38
EST 2015 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Dec 1 05:07
```

```
SPEC is set to: /usr/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       xfs   369G  164G  206G  45% /
```

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. T20151015150001 10/15/2015
Memory:
4x Micron 8ATF51264AZ-2G1A2 4 GB 1 rank 2133 MHz
```

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro C7Z170-SQ motherboard
(C7Z170-SQ , Intel Core i5-6600)

SPECint_rate2006 = 210

SPECint_rate_base2006 = 204

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2015

Hardware Availability: Sep-2015

Software Availability: Sep-2015

General Notes (Continued)

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled

Base Compiler Invocation

C benchmarks:

icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -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

Supermicro

Supermicro C7Z170-SQ motherboard
(C7Z170-SQ , Intel Core i5-6600)

SPECint_rate2006 = 210

SPECint_rate_base2006 = 204

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Dec-2015
Hardware Availability: Sep-2015
Software Availability: Sep-2015

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

400.perlbench: icc -m64

401.bz2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bz2: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
458.sjeng: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32
401.bz2: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch
-auto-ilp32 -ansi-alias
403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div
429.mcf: basepeak = yes

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro C7Z170-SQ motherboard
(C7Z170-SQ , Intel Core i5-6600)

SPECint_rate2006 = 210

SPECint_rate_base2006 = 204

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2015

Hardware Availability: Sep-2015

Software Availability: Sep-2015

Peak Optimization Flags (Continued)

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4
-auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -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-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revH.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revH.xml>



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro C7Z170-SQ motherboard
(C7Z170-SQ , Intel Core i5-6600)

SPECint_rate2006 = 210

SPECint_rate_base2006 = 204

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2015

Hardware Availability: Sep-2015

Software Availability: Sep-2015

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 30 19:57:12 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 29 December 2015.