Supermicro

Supermicro C7Z170-SQ motherboard
(C7Z170-SQ, Intel Core i7-6700)

SPECint_rate2006 = 249
SPECint_rate_base2006 = 242

CPU2006 license: 001176
Test date: Oct-2015
Test sponsor: Supermicro
Hardware Availability: Sep-2015
Tested by: Supermicro
Software Availability: Sep-2014

Operating System: Red Hat Enterprise Linux Server release 7.0,
Kernel 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: xfs
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>SPECint_rate2006</th>
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</tr>
<tr>
<td>473.astar</td>
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<td>274</td>
<td>274</td>
</tr>
</tbody>
</table>

Hardware

CPU Name: Intel Core i7-6700
CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz
CPU MHz: 3400
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
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: 8 MB I+D on chip per chip
L2 Cache: None
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 7.0,
Kernel 3.10.0-123.el7.x86_64
Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE
for Linux
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# SPEC CINT2006 Result

## Supermicro
Supermicro C7Z170-SQ motherboard  
(C7Z170-SQ, Intel Core i7-6700)

### SPECint_rate2006 = 249
### SPECint_rate_base2006 = 242

- **CPU2006 license:** 001176
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## Results Table

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<td>203</td>
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</table>

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 /home/cpu2006/config/sysinfo.rev6914  
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1  
running on localhost.localdomain Fri Oct 30 11:48:19 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) i7-6700 CPU @ 3.40GHz  
1 "physical id"s (chips)  
8 "processors" cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

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Supermicro

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Platform Notes (Continued)

- cpu cores: 4
- siblings: 8
- physical 0: cores 0 1 2 3
- cache size: 8192 KB

From /proc/meminfo
- MemTotal: 16169852 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 Oct 30 11:24

SPEC is set to: /home/cpu2006

Filesystem Type Size Used Avail Use\% Mounted on
/dev/mapper/rhel-home xfs 318G 302G 17G 95% /home

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 = "~/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

Continued on next page
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SPECint_rate2006 = 249
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CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

General Notes (Continued)
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

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
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

Peak Compiler Invocation
C benchmarks (except as noted below):
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
400.perlbench: icc -m64
SPEC CINT2006 Result

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

Peak Compiler Invocation (Continued)

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

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll12 -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

Continued on next page
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SPECint_rate_base2006 = 242

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

Test date: Oct-2015
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Peak Optimization Flags (Continued)

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/Supermicro-Platform-Settings-V1.2-revG.20141230.00.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/Supermicro-Platform-Settings-V1.2-revG.20141230.00.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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