Supermicro
Supermicro C7H170-M motherboard
(C7H170-M, Intel Core i5-6500T)

SPECint$_{rate2006} = 169$
SPECint$_{rate\_base2006} = 163$

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

Hardware
CPU Name: Intel Core i5-6500T
CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz
CPU MHz: 2500
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 PC4-2666P-U, running at 2133 MHz)
Disk Subsystem: 1 x 200 GB SATA III SSD
Other Hardware: None

Software
Operating System: Red Hat Enterprise Linux Server release 7.1,
Kernel 3.10.0-229.el7.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

**Supermicro**

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**SPECint_rate2006 = 169**
**SPECint_rate_base2006 = 163**

### CPU2006 license:
001176

**Test date:** Nov-2015

**Hardware Availability:** Sep-2015

**Test sponsor:** Supermicro

**Tested by:** Supermicro

**Software Availability:** Sep-2015

### Results Table

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<th>Ratio</th>
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<th>Peak</th>
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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-743TQ-865B-SQ chassis. The chassis is configured with a PWS-865-PQ power supply, 1 SNK-P0046A4 heatsink, as well as 1 FAN-0103L4 rear fan and 2 FAN-0104L4 chassis fan.

Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on C7H170-01 Thu Nov 19 12:35:59 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) i5-6500T CPU @ 2.50GHz
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.)
Supermicro
Supermicro C7H170-M motherboard
(C7H170-M, Intel Core i5-6500T)

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

Platform Notes (Continued)

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

From /proc/meminfo
- MemTotal: 16334556 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)

uname -a:
- Linux C7H170-01 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 Nov 19 01:05

SPEC is set to: /usr/cpu2006
- Filesystem Type Size Used Avail Use% Mounted on
  - /dev/sda2 xfs 183G 36G 147G 20% /

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 0420 F4-2666C15-4GRR 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"

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Supermicro
Supermicro C7H170-M motherboard
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SPECint\textsubscript{rate2006} = 169
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**CPU2006 license:** 001176
**Test date:** Nov-2015
**Test sponsor:** Supermicro
**Hardware Availability:** Sep-2015
**Tested by:** Supermicro
**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`
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Supermicro C7H170-M motherboard
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Peak Compiler Invocation

C benchmarks (except as noted below):

400.perlbench: icc -m32 -L/opt/intel/compilers_and_library_2016_linux/compiler/lib/ia32_lin

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers_and_library_2016_linux/compiler/lib/ia32_lin

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -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_OFFSETBITS=64
456.hmmer: -D_FILE_OFFSETBITS=64 -DSPEC_CPU_LP64
458.sjeng: -D_FILE_OFFSETBITS=64 -DSPEC_CPU_LP64
462.libquantum: -D_FILE_OFFSETBITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSETBITS=64
471.omnetpp: -D_FILE_OFFSETBITS=64
473.astar: -D_FILE_OFFSETBITS=64
483.xalancbmk: -D_FILE_OFFSETBITS=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.bzip2: -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

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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
Supermicro
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