SPEC® CINT2006 Result
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Supermicro

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

$SPECint^®2006 =$ 53.5

$SPECint\_base2006 =$ 52.1

Benchmark results chart:

- 400.perlbench: 38.3 / 34.5
- 401.bzip2: 21.3 / 21.1
- 403.gcc: 37.6 / 37.4
- 429.mcf: 61.7 / 61.3
- 445.gobmk: 23.3 / 24.3
- 456.hmmer: 70.8
- 458.sjeng: 28.4 / 28.0
- 462.libquantum: 1710
- 464.h264ref: 52.0
- 471.omnetpp: 34.7 / 29.3
- 473.astar: 28.6 / 28.7
- 483.xalancbmk: 69.8 / 67.0

SPECint_base2006 = 52.1

SPECint2006 = 53.5

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:	Yes
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V10.2

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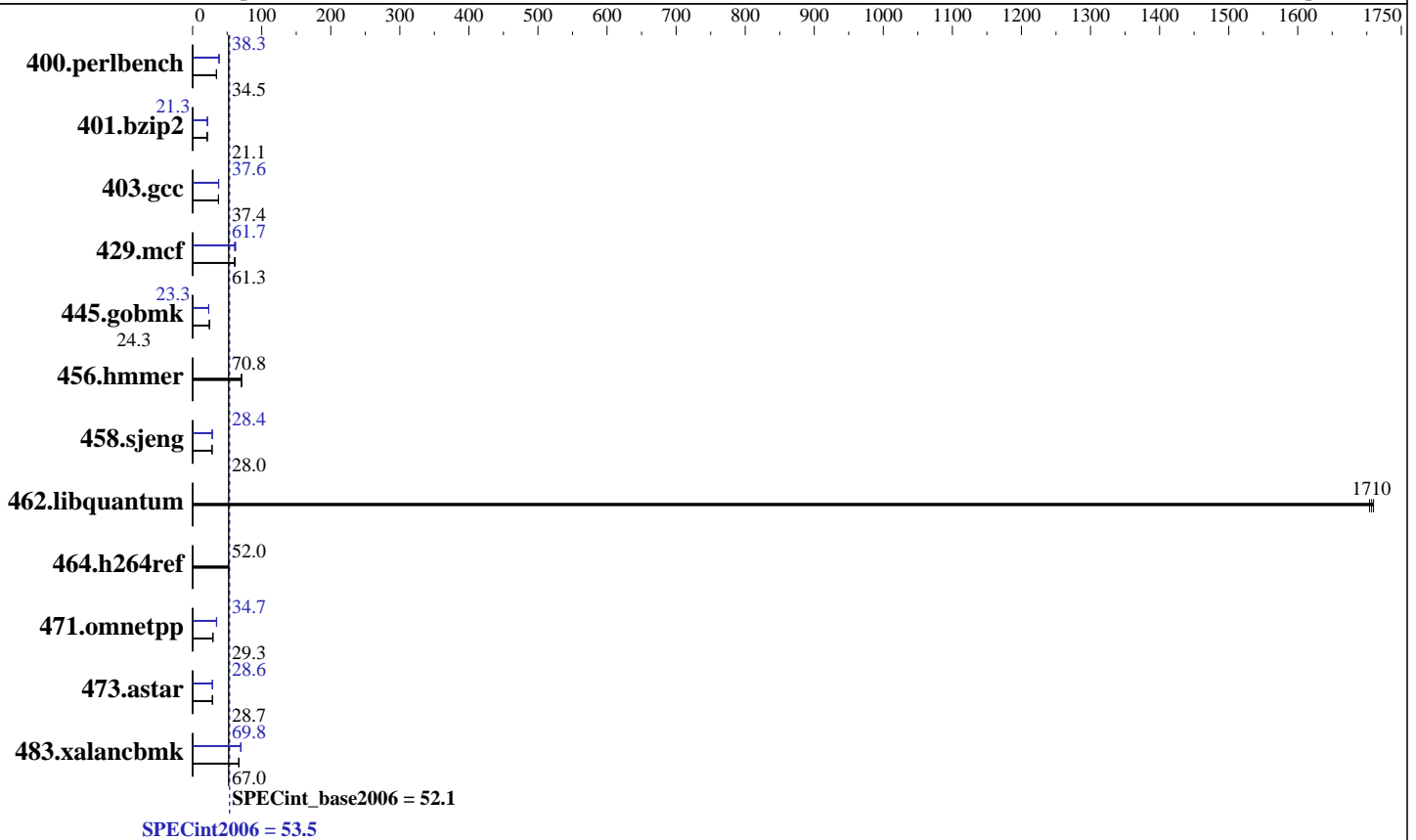**Test sponsor:** Supermicro
Tested by: Supermicro

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

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	283	34.6	**283**	**34.5**	284	34.5	256	38.2	255	38.3	**255**	**38.3**
401.bzip2	458	21.1	**457**	**21.1**	457	21.1	452	21.3	452	21.4	**452**	**21.3**
403.gcc	215	37.5	**215**	**37.4**	215	37.4	215	37.5	**214**	**37.6**	213	37.7
429.mcf	151	60.5	149	61.4	**149**	**61.3**	**148**	**61.7**	146	62.3	151	60.6
445.gobmk	**432**	**24.3**	432	24.3	432	24.3	451	23.3	451	23.3	**451**	**23.3**
456.hmmer	132	70.9	132	70.6	**132**	**70.8**	132	70.9	132	70.6	**132**	**70.8**
458.sjeng	432	28.0	431	28.0	**432**	**28.0**	426	28.4	426	28.4	426	28.4
462.libquantum	12.1	1710	**12.1**	**1710**	12.2	1700	12.1	1710	**12.1**	**1710**	12.2	1700
464.h264ref	425	52.1	**426**	**52.0**	427	51.8	425	52.1	**426**	**52.0**	427	51.8
471.omnetpp	**213**	**29.3**	213	29.4	214	29.3	182	34.3	180	34.7	**180**	**34.7**
473.astar	**245**	**28.7**	245	28.6	244	28.7	244	28.7	245	28.6	**245**	**28.6**
483.xalancbmk	103	67.0	103	66.7	**103**	**67.0**	98.9	69.7	**98.9**	**69.8**	98.8	69.8

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

```
    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 01:39:09 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.)
          cpu cores : 4
          siblings  : 4
```

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Platform Notes (Continued)

```
      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)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:7.1:ga:server

  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:
  KMP_AFFINITY = "granularity=fine,scatter"
  LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"
  OMP_NUM_THREADS = "4"
```

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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  -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
```

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Peak Compiler Invocation

C benchmarks (except as noted below):
    `icc -m64`

   400.perlbench: `icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

     445.gobmk: `icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

C++ benchmarks (except as noted below):
     `icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

      473.astar: `icpc -m64`

Peak Portability Flags

      400.perlbench: `-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32`
        401.bzip2: `-DSPEC_CPU_LP64`
          403.gcc: `-DSPEC_CPU_LP64`
          429.mcf: `-DSPEC_CPU_LP64`
        445.gobmk: `-D_FILE_OFFSET_BITS=64`
        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: `-D_FILE_OFFSET_BITS=64`
        473.astar: `-DSPEC_CPU_LP64`
    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) -opt-prefetch`
              `-ansi-alias`

        401.bzip2: `-xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)`
              `-ipo(pass 2) -O3(pass 2) -no-prec-div`
              `-par-num-threads=1(pass 1) -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`

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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: basepeak = yes

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

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

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)
-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-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

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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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