Supermicro C7Z170-M motherboard (C7Z170-M, Intel Pentium G4400)

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

CPU Name: Intel Pentium G4400
CPU Characteristics:
- CPU MHz: 3300
- FPU: Integrated
- CPU(s) enabled: 2 cores, 1 chip, 2 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: 3 MB I+D on chip per chip
- Other Cache: None
- Memory: 16 GB (4 x 4 GB 1Rx8 PC4-2800R-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

SPECint®2006 = 54.9
SPECint_base2006 = 53.4

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

Supermicro C7Z170-M motherboard (C7Z170-M, Intel Pentium G4400)

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</tbody>
</table>

**Results Table**

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-731i-300B chassis.

The chassis is configured with a PWS-105-PQ power supply, 1 SNK-P0046A6 heatsink, as well as 1 PAN-0108L4 rear cooling fan.

Sysinfo program /usr/cpu2006/config/sysinfo.rev6914

$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on C7Z170-01 Sat Nov 21 03:44:10 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) Pentium(R) CPU G4400 @ 3.30GHz
1 "physical id"s (chips)
2 "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 : 2
siblings : 2

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Supermicro C7Z170-M motherboard
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SPECint2006 = 54.9
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Platform Notes (Continued)

   physical 0: cores 0 1
   cache size : 3072 KB

   From /proc/meminfo
   MemTotal:    16210132 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 C7Z170-01 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 21 03:43

   SPEC is set to: /usr/cpu2006
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/sda2      xfs   183G  5.8G  177G   4% /

   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. 1.0c 11/11/2015
   Memory:
   4x 0420 F4-2800C16-4GRK 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 = "2"
Supermicro
Supermicro C7Z170-M motherboard
(C7Z170-M, Intel Pentium G4400)

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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

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

C benchmarks:
-xSSE4.2  -ipo -03 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xSSE4.2  -ipo -03 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64

Base Optimization Flags

C benchmarks:

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca
## SPEC CINT2006 Result

**Supermicro**  
Supermicro C7Z170-M motherboard  
(C7Z170-M, Intel Pentium G4400)  

Supermicro C7Z170-M motherboard  
(C7Z170-M, Intel Pentium G4400)  

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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

### Peak Compiler Invocation

C benchmarks (except as noted below):  
```bash  
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):  
```bash  
ilcpc -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:  
```bash  
400.perlbench: -xSSE4.2(pass 2) -prof-gen:threadssafe(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  
```

```bash  
401.bzip2: -xSSE4.2(pass 2) -prof-gen:threadssafe(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  
```

```bash  
403.gcc: -xSSE4.2 -ipo -o3 -no-prec-div -inline-calloc  
-opt-malloc-options=3 -auto-ilp32  
```

```bash  
429.mcf: -xSSE4.2 -ipo -o3 -no-prec-div -parallel -opt-prefetch  
-auto-p32  
```

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Peak Optimization Flags (Continued)

445.gobmk: -xSSE4.2(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: -xSSE4.2(pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -par-num-threads=1(pass 1)
- prof-use(pass 2) -unroll14

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2)
-03(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: -xSSE4.2 -ipo -03 -no-prec-div -opt-prefetch -auto-p32
- Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xSSE4.2 -ipo -03 -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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