## SPEC® CPU2017 Integer Speed Result

### Supermicro
SuperWorkstation 5039C-I (X11SCL-F, Intel Celeron G4920)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed2017_int_base</th>
<th>SPECspeed2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>perlbench_s</td>
<td>2</td>
<td>5.79</td>
<td>8.00</td>
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<tr>
<td>gcc_s</td>
<td>2</td>
<td>8.09</td>
<td>8.79</td>
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<tr>
<td>mcf_s</td>
<td>2</td>
<td>4.02</td>
<td>4.33</td>
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<tr>
<td>omnetpp_s</td>
<td>2</td>
<td>7.27</td>
<td>8.74</td>
</tr>
<tr>
<td>xalancbmk_s</td>
<td>2</td>
<td>8.14</td>
<td>8.14</td>
</tr>
<tr>
<td>x264_s</td>
<td>2</td>
<td>4.50</td>
<td>3.74</td>
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<tr>
<td>deepsjeng_s</td>
<td>2</td>
<td>3.79</td>
<td>7.73</td>
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<tr>
<td>leela_s</td>
<td>2</td>
<td>3.79</td>
<td>7.73</td>
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<tr>
<td>exchange2_s</td>
<td>2</td>
<td>4.10</td>
<td>4.10</td>
</tr>
</tbody>
</table>

---

### Hardware
- **CPU Name:** Intel Celeron G4920
- **Max MHz.:** 3200
- **Nominal:** 3200
- **Enabled:** 2 cores, 1 chip
- **Orderable:** 1 chip
- **Cache L1:** 32 KB I + 32 KB D on chip per core
- **L2:** 256 KB I+D on chip per core
- **L3:** 2 MB I+D on chip per chip
- **Memory:** 64 GB (4 x 16 GB 2Rx8 PC4-2666V-E, running at 2400)
- **Storage:** 1 x 200 GB SATA III SSD
- **Other:** None

### Software
- **OS:** SUSE Linux Enterprise Server 12 SP3 (x86_64)
- **Compiler:** C/C++: Version 19.0.0.117 of Intel C/C++ Compiler for Linux;
  Fortran: Version 19.0.0.117 of Intel Fortran Compiler for Linux
- **Parallel:** Yes
- **Firmware:** Version 1.0a released Feb-2019
- **File System:** xfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 32/64-bit
- **Other:** jemalloc memory allocator V5.0.1
Supermicro
SuperWorkstation 5039C-I (X11SCL-F, Intel Celeron G4920)

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

SPECspeed2017_int_base = 5.80
SPECspeed2017_int_peak = 6.09

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Seconds</th>
<th>Ratio</th>
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<tr>
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<td>641.leela_s</td>
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<td>648.exchange2_s</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

General Notes

Environment variables set by rundcp before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2017/lib/ia32:/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-32:/home/cpu2017/je5.0.1-64"
OMP_STACKSIZE = "192M"

Binaries compiled on a system with 1x Intel Core i9-799X CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.5
Transparent Huge Pages enabled by default
Prior to rundcp invocation
Filesystem page cache synced and cleared with:
sync; echo 3>/proc/sys/vm/drop_caches

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.
# SPEC CPU2017 Integer Speed Result

## Supermicro

SuperWorkstation 5039C-I (X11SCL-F, Intel Celeron G4920)

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<tr>
<td>5.80</td>
<td>6.09</td>
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</table>

### CPU2017 License:
001176

### Test Sponsor:
Supermicro

### Tested by:
Supermicro

### Test Date:
Apr-2019

### Hardware Availability:
Nov-2018

### Software Availability:
Sep-2018

### Platform Notes

Sysinfo program `/home/cpu2017/bin/sysinfo`  
Rev: r5974 of 2018-05-19 9bcd8f2999c33d61f64985e45859ea9  
running on linux-65nv Tue Apr 9 01:47:55 2019

SUT (System Under Test) info as seen by some common utilities.

For more information on this section, see  
https://www.spec.org/cpu2017/Docs/config.html#sysinfo

From `/proc/cpuinfo`

- model name: Intel(R) Celeron(R) G4920 CPU @ 3.20GHz
  - 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
  - physical 0: cores 0 1

From `lscpu`:

- Architecture: x86_64
- CPU op-mode(s): 32-bit, 64-bit
- Byte Order: Little Endian
- CPU(s): 2
- On-line CPU(s) list: 0,1
- Thread(s) per core: 1
- Core(s) per socket: 2
- Socket(s): 1
- NUMA node(s): 1
- Vendor ID: GenuineIntel
- CPU family: 6
- Model: 158
- Model name: Intel(R) Celeron(R) G4920 CPU @ 3.20GHz
- Stepping: 11
- CPU MHz: 3200.000
- CPU max MHz: 3200.0000
- CPU min MHz: 800.0000
- BogoMIPS: 6383.98
- Virtualization: VT-x
- L1d cache: 32K
- L1i cache: 32K
- L2 cache: 256K
- L3 cache: 2048K
- NUMA node0 CPU(s): 0,1
- Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc aperfmperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx est tm2 ssse3 sdbg "cx16" (Continued on next page)
SPEC CPU2017 Integer Speed Result

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Supermicro
SuperWorkstation 5039C-I (X11SCL-F , Intel Celeron G4920)

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**Supermicro**

**SuperWorkstation 5039C-I (X11SCL-F , Intel Celeron G4920)**

**SPECspeed2017_int_base** = 5.80

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**CPU2017 License:** 001176

**Test Sponsor:** Supermicro

**Test Date:** Apr-2019

**Hardware Availability:** Nov-2018

**Tested by:** Supermicro

**Software Availability:** Sep-2018

---

**Platform Notes (Continued)**

xtpr pdc m c pid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave rdrand lahf_lm abm 3dnoprefetch arat epb invpcid_single pln pts dt term hwp hwp_notify hwp_act_window hwp_epp intel_pt rsb_ctxsw spec_ctrl retpoline kaiser tpr_shadow vmni flexpriority ept vpid fsgsb tsc_adj sm er sm invpcid mpx rdseed smap clflushopt xsaveopt xsavec xgetbv1

/proc/cpuinfo cache data

**cache size :** 2048 KB

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a physical chip.

available: 1 nodes (0)

node 0 cpus: 0 1
node 0 size: 64334 MB
node 0 free: 51677 MB
node distances:

node 0

0: 10

From /proc/meminfo

MemTotal: 65878272 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*

SuSE-release:

SUSE Linux Enterprise Server 12 (x86_64)

VERSION = 12

PATCHLEVEL = 3

# This file is deprecated and will be removed in a future service pack or release.

# Please check /etc/os-release for details about this release.

os-release:

NAME="SLES"

VERSION="12-SP3"

VERSION_ID="12.3"

PRETTY_NAME="SUSE Linux Enterprise Server 12 SP3"

ID="sles"

ANSI_COLOR="0;32"

CPE_NAME="cpe:/o:suse:sles:12:sp3"

uname -a:

Linux linux-65nv 4.4.14-94.11-default #1 SMP Thu Feb 1 19:28:26 UTC 2018 (4309ff9)

x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2017-5754 (Meltdown):

Mitigation: PTI

(Continued on next page)
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Platform Notes (Continued)

CVE-2017-5753 (Spectre variant 1): Mitigation: Barriers
CVE-2017-5715 (Spectre variant 2): Mitigation: IBRS+IBPB

run-level 3 Apr 8 11:17

SPEC is set to: /home/cpu2017
Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda3      xfs   145G   20G  125G  14% /home

Additional information from dmidecode follows. 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. 1.0a 02/14/2019
Memory:
  4x Micron 18ADF2G72AZ-2G6H1R 16 GB 2 rank 2667, configured at 2400

(End of data from sysinfo program)

Compiler Version Notes

 Compiler Version Notes

 CC 600.perlbench_s(base) 602.gcc_s(base) 605.mcf_s(base) 625.x264_s(base, peak) 657.xz_s(base)

 Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
 Version 19.0.0.117 Build 20180804
 Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

 CC 600.perlbench_s(peak) 602.gcc_s(peak) 605.mcf_s(peak) 657.xz_s(peak)

 Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
 Version 19.0.0.117 Build 20180804
 Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

 CXXC 623.xalancbmk_s(peak)

 Intel(R) C++ Intel(R) 64 Compiler for applications running on IA-32, Version
 19.0.0.117 Build 20180804
 Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

(Continued on next page)
Supermicro

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CPU2017 License: 001176
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SPEC CPU2017 Integer Speed Result

**SPECspeed2017_int_base** = 5.80
**SPECspeed2017_int_peak** = 6.09

Compiler Version Notes (Continued)

```
CXXC 620.omnetpp_s(base) 623.xalancbmk_s(base) 631.deepsjeng_s(base) 641.leela_s(base)
```

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

```
CXXC 620.omnetpp_s(peak) 631.deepsjeng_s(peak) 641.leela_s(peak)
```

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

```
FC 648.exchange2_s(base, peak)
```

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icc -m64 -std=c11

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

Base Portability Flags

600.perlbench_s: -DSPEC_LP64 -DSPEC_LINUX_X64
602.gcc_s: -DSPEC_LP64
605.mcf_s: -DSPEC_LP64
620.omnetpp_s: -DSPEC_LP64
623.xalancbmk_s: -DSPEC_LP64 -DSPEC_LINUX

(Continued on next page)
**Base Portability Flags (Continued)**

625.x264_s: -DSPEC_LP64
631.deepsjeng_s: -DSPEC_LP64
641.leela_s: -DSPEC_LP64
648.exchange2_s: -DSPEC_LP64
657.xz_s: -DSPEC_LP64

---

**Base Optimization Flags**

C benchmarks:
-Wl,-z,muldefs -xSSE4.2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -openmp -DSPEC/OpenMP
-L/usr/local/je5.0.1-64/lib -ljemalloc

C++ benchmarks:
-Wl,-z,muldefs -xSSE4.2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc

Fortran benchmarks:
-Wl,-z,muldefs -xSSE4.2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
-L/usr/local/je5.0.1-64/lib -ljemalloc

---

**Peak Compiler Invocation**

C benchmarks:
icc -m64 -std=c11

C++ benchmarks (except as noted below):
icpc -m64

623.xalancbmk_s: icpc -m32 -L/usr/local/IntelCompiler19/compilers_and_libraries_2019.0.117/linux/compiler/lib/ia32_lin

Fortran benchmarks:
ifort -m64

---

**Peak Portability Flags**

600.perlbench_s: -DSPEC_LP64 -DSPEC_LINUX_X64
602.gcc_s: -DSPEC_LP64

(Continued on next page)
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Test Sponsor: Supermicro
Tested by: Supermicro

---

**Peak Portability Flags (Continued)**

605.mcf_s: -DSPEC_LP64
620.omnetpp_s: -DSPEC_LP64
623.xalancbmk_s: -D_FILE_OFFSET_BITS=64 -DSPEC_LINUX
625.x264_s: -DSPEC_LP64
631.deepsjeng_s: -DSPEC_LP64
641.leela_s: -DSPEC_LP64
648.exchange2_s: -DSPEC_LP64
657.xz_s: -DSPEC_LP64

---

**Peak Optimization Flags**

C benchmarks:

600.perlbench_s: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -O2
-xSSE4.2 -qopt-mem-layout-trans=3 -ipo -O3 -no-prec-div
-DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP
-fno-strict-overflow -L/usr/local/je5.0.1-64/lib
-ljemalloc

602.gcc_s: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -O2
-xSSE4.2 -qopt-mem-layout-trans=3 -ipo -O3 -no-prec-div
-DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP
-L/usr/local/je5.0.1-64/lib -ljemalloc

605.mcf_s: basepeak = yes

625.x264_s: -Wl,-z,muldefs -xSSE4.2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP
-L/usr/local/je5.0.1-64/lib -ljemalloc

657.xz_s: basepeak = yes

C++ benchmarks:

620.omnetpp_s: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xSSE4.2 -O3 -no-prec-div -qopt-mem-layout-trans=3
-DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP
-L/usr/local/je5.0.1-64/lib -ljemalloc

623.xalancbmk_s: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xSSE4.2 -O3 -no-prec-div -qopt-mem-layout-trans=3
-DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP
-L/usr/local/je5.0.1-32/lib -ljemalloc

(Continued on next page)
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### SPECspeed2017_int_base = 5.80

### SPECspeed2017_int_peak = 6.09

#### Peak Optimization Flags (Continued)

- 631.deepsjeng_s: basepeak = yes
- 641.leela_s: Same as 620.omnetpp_s

**Fortran benchmarks:**
- `-Wl,-z,muldefs -xSSE4.2 -ipo -O3 -no-prec-div`
- `-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte`
- `-L/usr/local/je5.0.1-64/lib -ljemalloc`

The flags files that were used to format this result can be browsed at:


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


---

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

Tested with SPEC CPU2017 v1.0.5 on 2019-04-08 13:47:54-0400.
Report generated on 2019-04-30 17:45:09 by CPU2017 PDF formatter v6067.