



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5019C-WR (X11SCW-F , Intel Pentium Gold G5500T)

SPECspeed®2017\_int\_base = 6.01

SPECspeed®2017\_int\_peak = 6.33

CPU2017 License: 001176

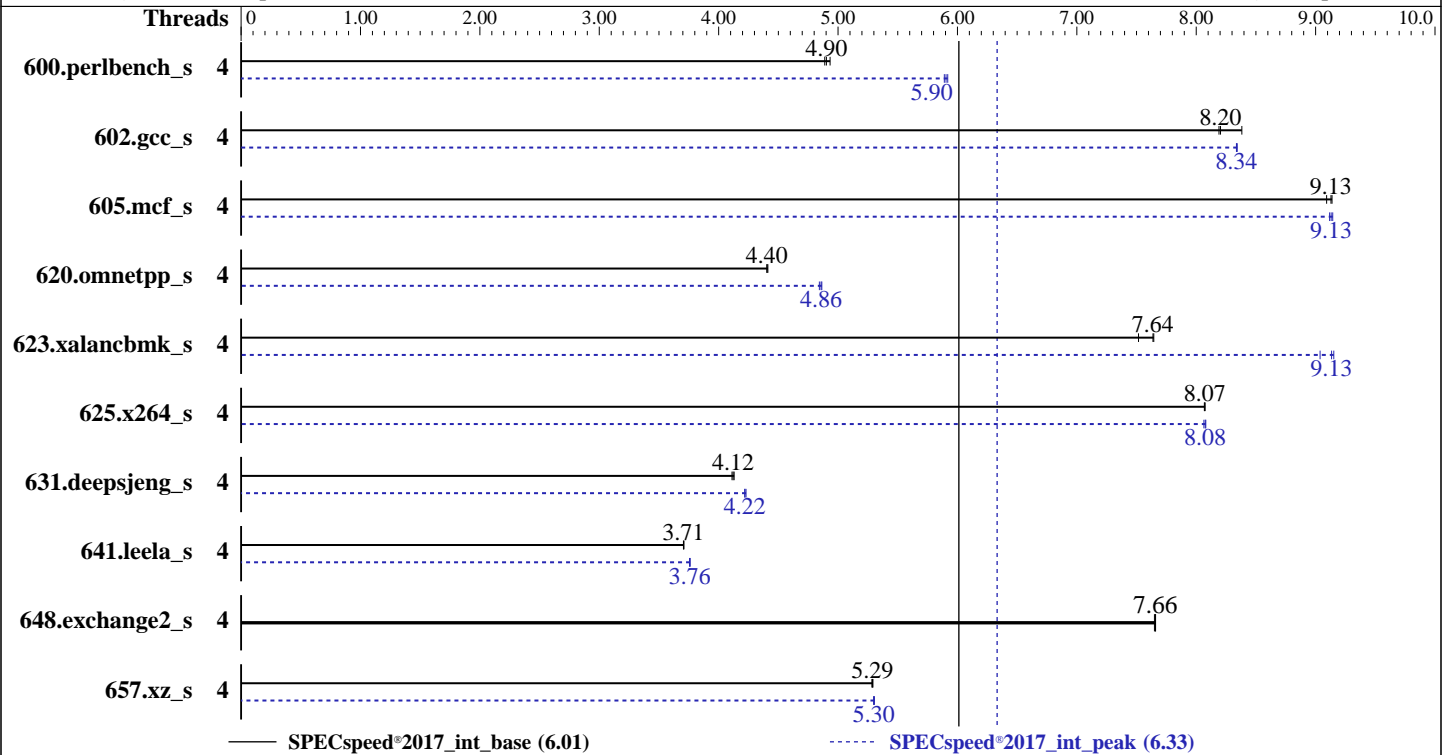
Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Oct-2019

Hardware Availability: Nov-2018

Software Availability: Sep-2018



### Hardware

CPU Name: Intel Pentium Gold G5500T  
 Max MHz: 3200  
 Nominal: 3200  
 Enabled: 2 cores, 1 chip, 2 threads/core  
 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: 4 MB I+D on chip per chip  
 Other: None  
 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)  
 Kernel 4.4.114-94.11-default  
 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 1.0b released May-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  
 Power Management: --



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5019C-WR (X11SCW-F , Intel Pentium Gold G5500T)

SPECspeed®2017\_int\_base = 6.01

SPECspeed®2017\_int\_peak = 6.33

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

Test Date: Oct-2019  
Hardware Availability: Nov-2018  
Software Availability: Sep-2018

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	4	<b>362</b>	<b>4.90</b>	363	4.89	360	4.93	4	301	5.89	<b>301</b>	<b>5.90</b>	300	5.92
602.gcc_s	4	475	8.38	<b>485</b>	<b>8.20</b>	486	8.19	4	<b>478</b>	<b>8.34</b>	478	8.34	477	8.34
605.mcf_s	4	<b>517</b>	<b>9.13</b>	519	9.09	517	9.14	4	518	9.12	<b>517</b>	<b>9.13</b>	516	9.14
620.omnetpp_s	4	370	4.41	370	4.40	<b>370</b>	<b>4.40</b>	4	335	4.86	<b>336</b>	<b>4.86</b>	337	4.84
623.xalancbmk_s	4	185	7.64	189	7.52	<b>186</b>	<b>7.64</b>	4	157	9.04	155	9.15	<b>155</b>	<b>9.13</b>
625.x264_s	4	218	8.07	219	8.07	<b>219</b>	<b>8.07</b>	4	218	8.08	<b>218</b>	<b>8.08</b>	219	8.06
631.deepsjeng_s	4	347	4.13	349	4.11	<b>348</b>	<b>4.12</b>	4	<b>340</b>	<b>4.22</b>	340	4.22	339	4.23
641.leela_s	4	460	3.71	460	3.71	<b>460</b>	<b>3.71</b>	4	<b>454</b>	<b>3.76</b>	454	3.76	454	3.76
648.exchange2_s	4	<b>384</b>	<b>7.66</b>	384	7.65	384	7.66	4	<b>384</b>	<b>7.66</b>	384	7.65	384	7.66
657.xz_s	4	1168	5.29	1170	5.28	<b>1169</b>	<b>5.29</b>	4	<b>1167</b>	<b>5.30</b>	1167	5.30	1165	5.30

SPECspeed®2017\_int\_base = **6.01**

SPECspeed®2017\_int\_peak = **6.33**

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 runcpu 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 i9-7900X CPU + 32GB RAM

memory using Redhat Enterprise Linux 7.5

Transparent Huge Pages enabled by default

Prior to runcpu 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.

jemalloc, a general purpose malloc implementation

built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5019C-WR (X11SCW-F , Intel Pentium Gold G5500T)

SPECspeed®2017\_int\_base = 6.01

SPECspeed®2017\_int\_peak = 6.33

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

**Test Date:** Oct-2019  
**Hardware Availability:** Nov-2018  
**Software Availability:** Sep-2018

### Platform Notes

sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9  
running on linux-65nv Sun Oct 6 13:47:24 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) Pentium(R) Gold G5500T CPU @ 3.20GHz  
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 : 2  
siblings : 4  
physical 0: cores 0 1

From lscpu:  
Architecture: x86\_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 4  
On-line CPU(s) list: 0-3  
Thread(s) per core: 2  
Core(s) per socket: 2  
Socket(s): 1  
NUMA node(s): 1  
Vendor ID: GenuineIntel  
CPU family: 6  
Model: 158  
Model name: Intel(R) Pentium(R) Gold G5500T CPU @ 3.20GHz  
Stepping: 11  
CPU MHz: 3200.039  
CPU max MHz: 3200.0000  
CPU min MHz: 800.0000  
BogoMIPS: 6383.97  
Virtualization: VT-x  
L1d cache: 32K  
L1i cache: 32K  
L2 cache: 256K  
L3 cache: 4096K  
NUMA node0 CPU(s): 0-3  
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 CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5019C-WR (X11SCW-F , Intel Pentium Gold G5500T)

SPECspeed®2017\_int\_base = 6.01

SPECspeed®2017\_int\_peak = 6.33

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

**Test Date:** Oct-2019  
**Hardware Availability:** Nov-2018  
**Software Availability:** Sep-2018

### Platform Notes (Continued)

```
xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave rdrand
lahf_lm abm 3dnowprefetch arat epb invpcid_single pln pts dtherm hwp hwp_notify
hwp_act_window hwp_epp intel_pt rsb_ctxsw spec_ctrl retpoline kaiser tpr_shadow vnmi
flexpriority ept vpid fsgsbase tsc_adjust smep erms invpcid mpx rdseed smap
clflushopt xsaveopt xsavec xgetbv1
```

```
/proc/cpuinfo cache data
cache size : 4096 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 2 3
node 0 size: 64333 MB
node 0 free: 50671 MB
node distances:
node 0
0: 10
```

```
From /proc/meminfo
MemTotal: 65877980 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 4.4.114-94.11-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)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5019C-WR (X11SCW-F, Intel Pentium Gold G5500T)

SPECspeed®2017\_int\_base = 6.01

SPECspeed®2017\_int\_peak = 6.33

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

**Test Date:** Oct-2019  
**Hardware Availability:** Nov-2018  
**Software Availability:** Sep-2018

### Platform Notes (Continued)

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

run-level 3 Oct 5 14:56

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda3	xfs	145G	25G	120G	18%	/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. 1.0b 05/16/2019

Memory:

4x Micron 18ADF2G72AZ-2G6H1R 16 GB 2 rank 2667, configured at 2400

(End of data from sysinfo program)

### Compiler Version Notes

```

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

```

=====
C++       | 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.

```

=====
C++       | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base)
          | 631.deepsjeng_s(base, peak) 641.leela_s(base, 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.

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5019C-WR (X11SCW-F , Intel Pentium Gold G5500T)

SPECspeed®2017\_int\_base = 6.01

SPECspeed®2017\_int\_peak = 6.33

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

**Test Date:** Oct-2019  
**Hardware Availability:** Nov-2018  
**Software Availability:** Sep-2018

## Compiler Version Notes (Continued)

=====  
C++ | 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.  
-----

=====  
C++ | 620.omnetpp\_s(base, peak) 623.xalancbmk\_s(base)  
631.deepsjeng\_s(base, peak) 641.leela\_s(base, 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.  
-----

=====  
Fortran | 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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5019C-WR (X11SCW-F , Intel Pentium Gold G5500T)

SPECspeed®2017\_int\_base = 6.01

SPECspeed®2017\_int\_peak = 6.33

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

**Test Date:** Oct-2019  
**Hardware Availability:** Nov-2018  
**Software Availability:** Sep-2018

## Base Portability Flags (Continued)

623.xalancbmk\_s: -DSPEC\_LP64 -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

## Base Optimization Flags

### C benchmarks:

-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

### 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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5019C-WR (X11SCW-F , Intel Pentium Gold G5500T)

SPECspeed®2017\_int\_base = 6.01

SPECspeed®2017\_int\_peak = 6.33

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

**Test Date:** Oct-2019  
**Hardware Availability:** Nov-2018  
**Software Availability:** Sep-2018

## Peak Portability Flags (Continued)

```
602.gcc_s: -DSPEC_LP64
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: -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
```

```
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: Same as 602.gcc_s
```

### 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
```

(Continued on next page)





# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5019C-WR (X11SCW-F , Intel Pentium Gold G5500T)

SPECspeed®2017\_int\_base = 6.01

SPECspeed®2017\_int\_peak = 6.33

**CPU2017 License:** 001176

**Test Sponsor:** Supermicro

**Tested by:** Supermicro

**Test Date:** Oct-2019

**Hardware Availability:** Nov-2018

**Software Availability:** Sep-2018

## Peak Optimization Flags (Continued)

```
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
```

631.deepsjeng\_s: Same as 620.omnetpp\_s

641.leela\_s: Same as 620.omnetpp\_s

Fortran benchmarks:

648.exchange2\_s: basepeak = yes

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

<http://www.spec.org/cpu2017/flags/Intel-ic19.0-official-linux64.2019-01-15.html>

<http://www.spec.org/cpu2017/flags/Default-Platform-Flags.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic19.0-official-linux64.2019-01-15.xml>

<http://www.spec.org/cpu2017/flags/Default-Platform-Flags.xml>

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.0.5 on 2019-10-06 01:47:24-0400.

Report generated on 2019-10-29 16:14:44 by CPU2017 PDF formatter v6255.

Originally published on 2019-10-29.