



# SPEC® CPU2017 Integer Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Supermicro

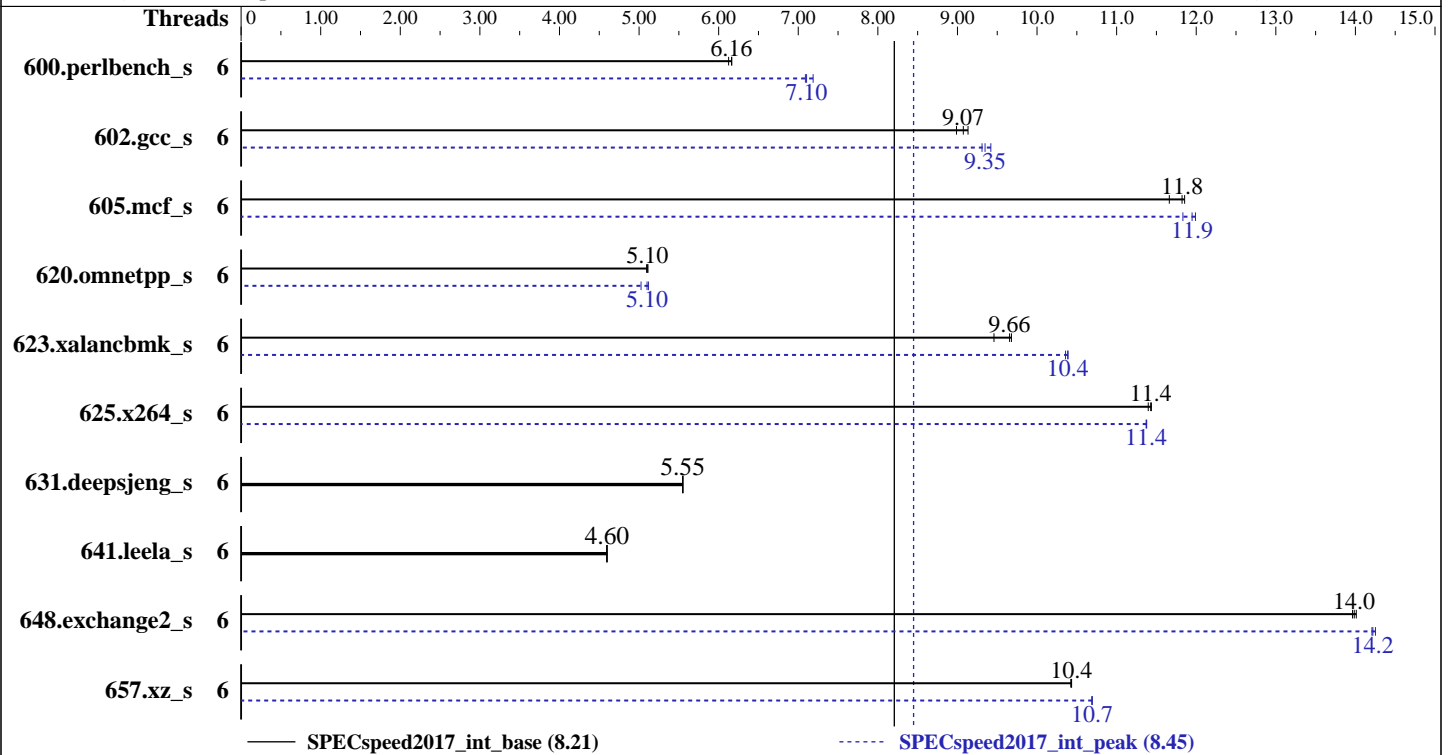
SuperWorkstation 5039A-i (X11SRA , Intel Xeon W-2133)

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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

Test Date: Sep-2018  
Hardware Availability: Jul-2017  
Software Availability: Mar-2018



### Hardware

CPU Name: Intel Xeon W-2133  
Max MHz.: 3900  
Nominal: 3600  
Enabled: 6 cores, 1 chip  
Orderable: 1 chip  
Cache L1: 32 KB I + 32 KB D on chip per core  
L2: 1 MB I+D on chip per core  
L3: 8.25 MB I+D on chip per chip  
Other: None  
Memory: 64 GB (4 x 16 GB 2Rx8 PC4-2666V-E)  
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 18.0.2.199 of Intel C/C++  
Compiler for Linux;  
Fortran: Version 18.0.2.199 of Intel Fortran  
Compiler for Linux  
Parallel: Yes  
Firmware: Supermicro BIOS version 1.2 released Aug-2018  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other: jemalloc memory allocator library V5.0.1



# SPEC CPU2017 Integer Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Supermicro

SuperWorkstation 5039A-i (X11SRA , Intel Xeon W-2133)

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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

Test Date: Sep-2018  
Hardware Availability: Jul-2017  
Software Availability: Mar-2018

## Results Table

Benchmark	Base						Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	6	<b>288</b>	<b>6.16</b>	290	6.13	288	6.16	6	250	7.09	247	7.19	<b>250</b>	<b>7.10</b>
602.gcc_s	6	<b>439</b>	<b>9.07</b>	443	8.99	436	9.13	6	<b>426</b>	<b>9.35</b>	423	9.42	428	9.31
605.mcf_s	6	405	11.7	<b>399</b>	<b>11.8</b>	398	11.9	6	399	11.8	<b>395</b>	<b>11.9</b>	394	12.0
620.omnetpp_s	6	319	5.11	320	5.09	<b>320</b>	<b>5.10</b>	6	319	5.12	<b>320</b>	<b>5.10</b>	325	5.03
623.xalancbmk_s	6	146	9.68	<b>147</b>	<b>9.66</b>	150	9.46	6	137	10.4	136	10.4	<b>136</b>	<b>10.4</b>
625.x264_s	6	<b>154</b>	<b>11.4</b>	154	11.4	155	11.4	6	<b>155</b>	<b>11.4</b>	155	11.4	155	11.4
631.deepsjeng_s	6	<b>258</b>	<b>5.55</b>	258	5.55	258	5.55	6	<b>258</b>	<b>5.55</b>	258	5.55	258	5.55
641.leela_s	6	371	4.60	371	4.59	<b>371</b>	<b>4.60</b>	6	371	4.60	371	4.59	<b>371</b>	<b>4.60</b>
648.exchange2_s	6	210	14.0	<b>210</b>	<b>14.0</b>	211	14.0	6	207	14.2	206	14.3	<b>207</b>	<b>14.2</b>
657.xz_s	6	<b>593</b>	<b>10.4</b>	593	10.4	592	10.4	6	578	10.7	<b>578</b>	<b>10.7</b>	578	10.7

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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 i7-6700K 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 CPU2017 Integer Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Supermicro

SuperWorkstation 5039A-i (X11SRA , Intel Xeon W-2133)

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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

**Test Date:** Sep-2018  
**Hardware Availability:** Jul-2017  
**Software Availability:** Mar-2018

## Platform Notes

BIOS Settings:

Hyper-Threading [ALL] = Disable

Sysinfo program /home/cpu2017/bin/sysinfo

Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9

running on linux-k7zv Wed Sep 19 14:34:00 2018

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) Xeon(R) W-2133 CPU @ 3.60GHz

1 "physical id"s (chips)

6 "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 : 6

siblings : 6

physical 0: cores 0 1 2 3 4 5

From lscpu:

Architecture: x86\_64

CPU op-mode(s): 32-bit, 64-bit

Byte Order: Little Endian

CPU(s): 6

On-line CPU(s) list: 0-5

Thread(s) per core: 1

Core(s) per socket: 6

Socket(s): 1

NUMA node(s): 1

Vendor ID: GenuineIntel

CPU family: 6

Model: 85

Model name: Intel(R) Xeon(R) W-2133 CPU @ 3.60GHz

Stepping: 4

CPU MHz: 1500.000

CPU max MHz: 3601.0000

CPU min MHz: 1200.0000

BogoMIPS: 7199.78

Virtualization: VT-x

L1d cache: 32K

L1i cache: 32K

L2 cache: 1024K

L3 cache: 8448K

NUMA node0 CPU(s): 0-5

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

(Continued on next page)



# SPEC CPU2017 Integer Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Supermicro

SuperWorkstation 5039A-i (X11SRA , Intel Xeon W-2133)

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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

**Test Date:** Sep-2018  
**Hardware Availability:** Jul-2017  
**Software Availability:** Mar-2018

### Platform Notes (Continued)

```
lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc
aperfmpperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 sse3 sdbg
fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
xsave avx fl6c rdrand lahf_lm abm 3dnowprefetch ida arat epb invpcid_single pln pts
dtherm intel_pt rsb_ctxsw spec_ctrl retpoline kaiser tpr_shadow vnmi flexpriority
ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mpx
avx512f avx512dq rdseed adx smap clflushopt clwb avx512cd avx512bw avx512v1 xsaveopt
xsavec xgetbv1 cqm_llc cqm_occup_llc
```

```
/proc/cpuinfo cache data
cache size : 8448 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 4 5
node 0 size: 64120 MB
node 0 free: 63613 MB
node distances:
node 0
0: 10
```

From /proc/meminfo

```
MemTotal: 65659672 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-k7zv 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
```

(Continued on next page)



# SPEC CPU2017 Integer Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Supermicro

SuperWorkstation 5039A-i (X11SRA , Intel Xeon W-2133)

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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

**Test Date:** Sep-2018  
**Hardware Availability:** Jul-2017  
**Software Availability:** Mar-2018

### Platform Notes (Continued)

Kernel self-reported vulnerability status:

CVE-2017-5754 (Meltdown): Mitigation: PTI  
CVE-2017-5753 (Spectre variant 1): Mitigation: Barriers  
CVE-2017-5715 (Spectre variant 2): Mitigation: IBRS+IBPB

run-level 3 Sep 19 14:32

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	xf	145G	17G	128G	12%	/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. 1.2 08/23/2018

Memory:

4x Micron 18ADF2G72AZ-2G6H1R 16 GB 2 rank 2666  
4x NO DIMM NO DIMM

(End of data from sysinfo program)

### 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)  
=====

icc (ICC) 18.0.2 20180210

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)  
=====

icc (ICC) 18.0.2 20180210

Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
=====

=====  
CXXC 620.omnetpp\_s(base) 623.xalancbmk\_s(base) 631.deepsjeng\_s(base) 641.leela\_s(base)  
=====

icpc (ICC) 18.0.2 20180210

Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

(Continued on next page)



# SPEC CPU2017 Integer Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Supermicro

SuperWorkstation 5039A-i (X11SRA , Intel Xeon W-2133)

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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

Test Date: Sep-2018  
Hardware Availability: Jul-2017  
Software Availability: Mar-2018

## Compiler Version Notes (Continued)

=====  
CXXC 620.omnetpp\_s(peak) 623.xalancbmk\_s(peak) 631.deepsjeng\_s(peak)  
641.leela\_s(peak)

-----  
icpc (ICC) 18.0.2 20180210  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

=====  
FC 648.exchange2\_s(base, peak)

-----  
ifort (IFORT) 18.0.2 20180210  
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  
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



# SPEC CPU2017 Integer Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Supermicro

SuperWorkstation 5039A-i (X11SRA , Intel Xeon W-2133)

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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

**Test Date:** Sep-2018  
**Hardware Availability:** Jul-2017  
**Software Availability:** Mar-2018

## Base Optimization Flags

### C benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -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 -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc
```

### Fortran benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs  
-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/home/prasadj/specdev/IC18u2_Internal/lin_18_0_20180210/compiler/lib/ia32_lin
```

### Fortran benchmarks:

```
ifort -m64
```

## Peak 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: -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
```



# SPEC CPU2017 Integer Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Supermicro

SuperWorkstation 5039A-i (X11SRA , Intel Xeon W-2133)

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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

**Test Date:** Sep-2018  
**Hardware Availability:** Jul-2017  
**Software Availability:** Mar-2018

## Peak Optimization Flags

C benchmarks:

```
600.perlbench_s: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -O2  
-xCORE-AVX512 -qopt-prefetch -ipo -O3  
-qopt-mem-layout-trans=3 -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  
-xCORE-AVX512 -qopt-prefetch -ipo -O3  
-qopt-mem-layout-trans=3 -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  
-xCORE-AVX512 -O3 -no-prec-div -qopt-prefetch  
-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 -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-prefetch -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  
-xCORE-AVX512 -O3 -no-prec-div -qopt-prefetch  
-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  
-xCORE-AVX512 -O3 -no-prec-div -qopt-prefetch  
-qopt-mem-layout-trans=3 -DSPEC_SUPPRESS_OPENMP -qopenmp  
-DSPEC_OPENMP -L/usr/local/je5.0.1-32/lib -ljemalloc
```

631.deepsjeng\_s: basepeak = yes

641.leela\_s: basepeak = yes

Fortran benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs  
-L/usr/local/je5.0.1-64/lib -ljemalloc
```





# SPEC CPU2017 Integer Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Supermicro

SuperWorkstation 5039A-i (X11SRA , Intel Xeon W-2133)

SPECspeed2017\_int\_base = 8.21

SPECspeed2017\_int\_peak = 8.45

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

**Test Date:** Sep-2018  
**Hardware Availability:** Jul-2017  
**Software Availability:** Mar-2018

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

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2017-12-21.html>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-BSF-revA.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2017-12-21.xml>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-BSF-revA.xml>

SPEC is a registered trademark 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 CPU2017 v1.0.5 on 2018-09-19 02:33:59-0400.

Report generated on 2018-10-31 19:07:11 by CPU2017 PDF formatter v6067.

Originally published on 2018-10-16.