Supermicro
SuperWorkstation 5039C-I (X11SCL-F, Intel Xeon E-2134)

**SPECspeed2017_fp_base** = 26.6
**SPECspeed2017_fp_peak** = 28.2

<table>
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<tr>
<th>Threads</th>
<th>SPECspeed2017_fp_base</th>
<th>SPECspeed2017_fp_peak</th>
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<td>4</td>
<td>39.1</td>
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<td>31.4</td>
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<td>8</td>
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<td>47.5</td>
</tr>
<tr>
<td>4</td>
<td>15.3</td>
<td>15.3</td>
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</table>

**CPU Name:** Intel Xeon E-2134
**Max MHz.:** 4500
**Nominal:** 3500
**Enabled:** 4 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:** 8 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

**OS:** SUSE Linux Enterprise Server 12 SP3 (x86_64)
**Compiler:** C/C++: Version 19.0.1.144 of Intel C/C++ Compiler for Linux;
**Fortran:** Version 19.0.1.144 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:** 64-bit
**Other:** None
## SPEC CPU2017 Floating Point Speed Result

**Supermicro**
SuperWorkstation 5039C-I (X11SCL-F, Intel Xeon E-2134)

**SPECspeed2017_fp_base** = 26.6

**SPECspeed2017_fp_peak** = 28.2

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
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<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Ratio</th>
<th>Seconds</th>
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<td>603.bwaves_s</td>
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</tr>
</tbody>
</table>

**SPECspeed2017_fp_base** = **SPECspeed2017_fp_peak** = 26.6

### Operating System Notes

The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

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.

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.

### General Notes

Environment variables set by runcpu before the start of the run:

- KMP_AFFINITY = "granularity=fine,compact,1,0"
- LD_LIBRARY_PATH = "/home/cpu2017/lib/intel64"
- 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.
Supermicro
SuperWorkstation 5039C-I (X11SCL-F , Intel Xeon E-2134)

SPECspeed2017_fp_base = 26.6
SPECspeed2017_fp_peak = 28.2

CPU2017 License: 001176
Test Sponsor: Supermicro
Hardware Availability: Nov-2018
Tested by: Supermicro
Software Availability: Nov-2018
Test Date: Jun-2019

Platform Notes
Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r5974 of 2018-05-19 9bcede8f2999c33d61f64985e45859ea9
running on linux-65nv Mon Jun 17 05:56:15 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) Xeon(R) E-2134 CPU @ 3.50GHz
1 "physical id"s (chips)
8 "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 : 8
physical 0: cores 0 1 2 3

From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 8
On-line CPU(s) list: 0-7
Thread(s) per core: 2
Core(s) per socket: 4
Socket(s): 1
NUMA node(s): 1
Vendor ID: GenuineIntel
CPU family: 6
Model: 158
Model name: Intel(R) Xeon(R) E-2134 CPU @ 3.50GHz
Stepping: 10
CPU MHz: 4402.922
CPU max MHz: 4500.0000
CPU min MHz: 800.0000
BogoMIPS: 7004.22
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 256K
L3 cache: 8192K
NUMA node0 CPU(s): 0-7
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 rdtscc
lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc
aperfmperf eagerfpu nni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg

(Continued on next page)
SPEC CPU2017 Floating Point Speed Result

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Supermicro
SuperWorkstation 5039C-I (X11SCL-F, Intel Xeon E-2134)

SPECspeed2017_fp_base = 26.6
SPECspeed2017_fp_peak = 28.2

CPU2017 License: 001176
Test Sponsor: Supermicro
Test Date: Jun-2019
Hardware Availability: Nov-2018
Tested by: Supermicro
Software Availability: Nov-2018

Platform Notes (Continued)

fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch ida arat epb invpcid_single pln pts dtherm hwp hwp_notify hwp_act_window hwp_epd intel_pt rsb_ctxsw spec_ctrl retpoline kaiser tpr_shadow vmni fpxpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtmt mpx rdseed adx smap clflushopt xsaveopt xsavec xgetbv1

/proc/cpuinfo cache data
  cache size : 8192 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 6 7
    node 0 size: 64333 MB
    node 0 free: 43088 MB
    node distances:
      node 0
        0:  10

From /proc/meminfo
  MemTotal: 65877388 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 CPU2017 Floating Point Speed Result

Supermicro
SuperWorkstation 5039C-I (X11SCL-F, Intel Xeon E-2134)

SPECspeed2017_fp_base = 26.6
SPECspeed2017_fp_peak = 28.2

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro
Test Date: Jun-2019
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Software Availability: Nov-2018

Platform Notes (Continued)

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

run-level 3 Jun 14 12:08

SPEC is set to: /home/cpu2017

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/sda3</td>
<td>xfs</td>
<td>145G</td>
<td>40G</td>
<td>106G</td>
<td>28%</td>
<td>/home</td>
</tr>
</tbody>
</table>

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

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
CC 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base, peak)
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
==============================================================================

FC 607.cactuBSSN_s(base, peak)
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

FC 603.bwaves_s(base) 649.fotonik3d_s(base) 654.roms_s(base, peak)
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

(Continued on next page)
Supermicro
SuperWorkstation 5039C-I (X11SCL-F, Intel Xeon E-2134)

| SPECspeed2017_fp_peak = 28.2 |
| SPECspeed2017_fp_base = 26.6 |

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

Compiler Version Notes (Continued)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icc -m64 -std=c11

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
ifort -m64 icc -m64 -std=c11

(Continued on next page)
Supermicro
SuperWorkstation 5039C-I (X11SCL-F, Intel Xeon E-2134)

SPECspeed2017_fp_base = 26.6
SPECspeed2017_fp_peak = 28.2

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

Test Date: Jun-2019
Hardware Availability: Nov-2018
Software Availability: Nov-2018

Base Compiler Invocation (Continued)

Benchmarks using Fortran, C, and C++:
icpc -m64 icc -m64 -std=c11 ifort -m64

Base Portability Flags

603.bwaves_s: -DSPEC_LP64
607.cactuBSSN_s: -DSPEC_LP64
619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
627.cam4_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
628.pop2_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
   -assume byterecl
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP

Fortran benchmarks:
-DSPEC_OPENMP -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
-nostandard-realloc-lhs

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP
-nostandard-realloc-lhs

Benchmarks using Fortran, C, and C++:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP
-nostandard-realloc-lhs
Supermicro
SuperWorkstation 5039C-I (X11SCL-F, Intel Xeon E-2134)  SPECspeed2017_fp_peak = 28.2
SPECspeed2017_fp_base = 26.6

CPU2017 License: 001176
Test Sponsor: Supermicro
Test Date: Jun-2019
Tested by: Supermicro
Hardware Availability: Nov-2018
Software Availability: Nov-2018

Peak Compiler Invocation

C benchmarks:
icc -m64 -std=c11

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
ifort -m64 icc -m64 -std=c11

Benchmarks using Fortran, C, and C++:
icpc -m64 icc -m64 -std=c11 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP

Fortran benchmarks:

603.bwaves_s: -prof-gen(pass 1) -prof-use(pass 2) -DSPEC_SUPPRESS_OPENMP
-DSPEC_OPENMP -O2 -xCORE-AVX2 -qopt-prefetch -ipo -O3
-ffinite-math-only -no-prec-div -qopt-mem-layout-trans=4
-qopenmp -nostandard-realloc-lhs
649.fotonik3d_s: Same as 603.bwaves_s
654.roms_s: -DSPEC_OPENMP -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4
-qopenmp -nostandard-realloc-lhs

Benchmarks using both Fortran and C:

621.wrf_s: -prof-gen(pass 1) -prof-use(pass 2) -O2 -xCORE-AVX2
-qopt-prefetch -ipo -O3 -ffinite-math-only -no-prec-div
-qopt-mem-layout-trans=4 -DSPEC_SUPPRESS_OPENMP -qopenmp
-DSPEC_OPENMP -nostandard-realloc-lhs

(Continued on next page)
### SPEC CPU2017 Floating Point Speed Result

**Supermicro**  
SuperWorkstation 5039C-I (X11SCL-F, Intel Xeon E-2134)

<table>
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<tr>
<th>Spec CPU2017 License: 001176</th>
<th>Test Date: Jun-2019</th>
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<tbody>
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<td>Test Sponsor: Supermicro</td>
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<td>Tested by: Supermicro</td>
<td>Software Availability: Nov-2018</td>
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</table>

#### SPECspeed2017_fp_base = 26.6

#### SPECspeed2017_fp_peak = 28.2

---

**Peak Optimization Flags (Continued)**

627.cam4_s: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
-DSPEC_OPENMP -nostandard-realloc-lhs

628.pop2_s: Same as 621.wrf_s

Benchmarks using Fortran, C, and C++:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP
-nostandard-realloc-lhs

---

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 2019-06-16 17:56:14-0400.  
Originally published on 2019-07-09.