



# SPEC® CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY TX1330 M4, Intel Pentium Gold G5400, 3.70GHz

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

CPU2017 License: 19

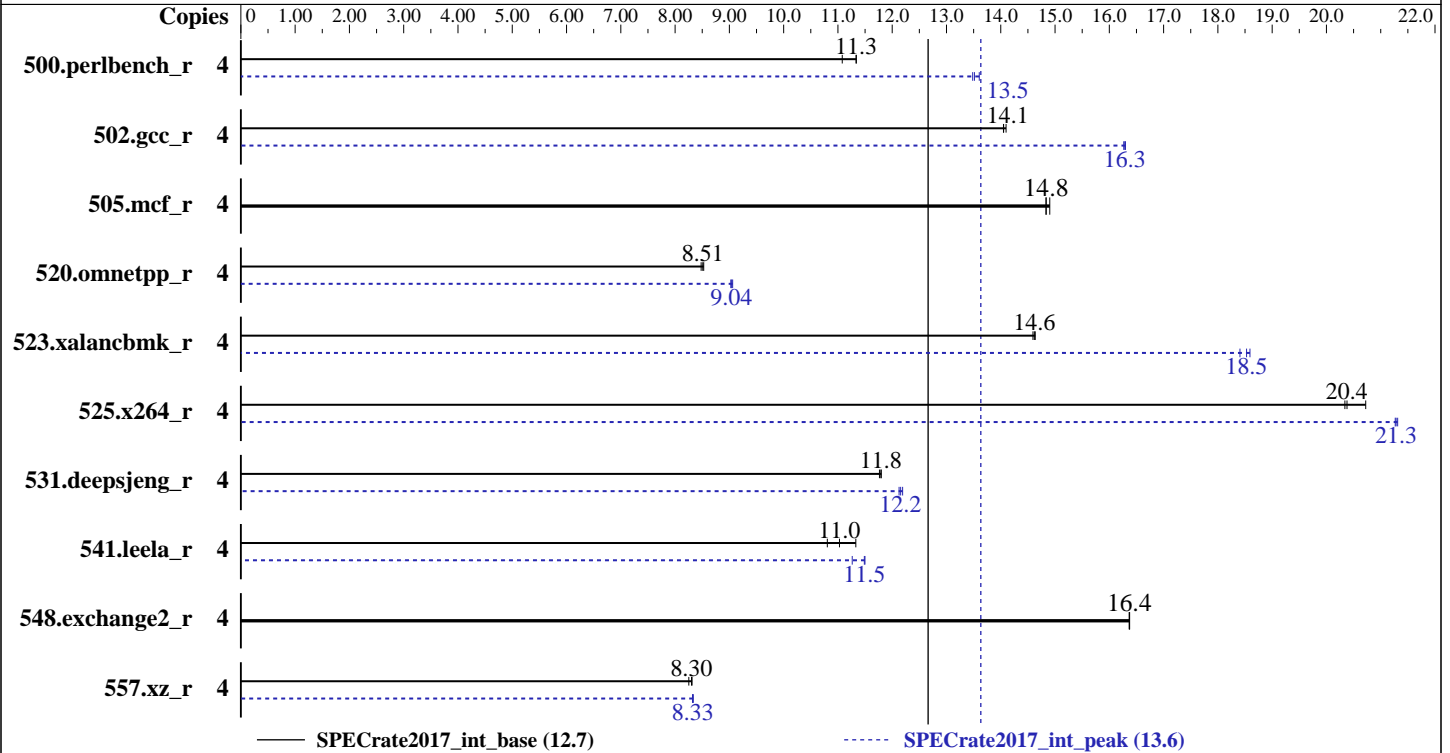
Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Nov-2018

Hardware Availability: Nov-2018

Software Availability: Sep-2018



### Hardware

CPU Name: Intel Pentium Gold G5400  
 Max MHz.: 3700  
 Nominal: 3700  
 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 SATA HDD, 1TB, 7200RPM  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15  
 4.12.14-23-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: No  
 Firmware: Fujitsu BIOS Version V5.0.0.13 R1.4.0 for D3673-A1x, Released Nov-2018 tested as V5.0.0.13 R1.0.0 for D3673-A1x Sep-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 Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY TX1330 M4, Intel Pentium Gold G5400, 3.70GHz

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

CPU2017 License: 19  
Test Sponsor: Fujitsu  
Tested by: Fujitsu

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

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	4	<b>562</b>	<b>11.3</b>	562	11.3	575	11.1	4	468	13.6	472	13.5	<b>471</b>	<b>13.5</b>
502.gcc_r	4	403	14.0	402	14.1	<b>403</b>	<b>14.1</b>	4	348	16.3	<b>348</b>	<b>16.3</b>	348	16.3
505.mcf_r	4	434	14.9	<b>436</b>	<b>14.8</b>	436	14.8	4	434	14.9	<b>436</b>	<b>14.8</b>	436	14.8
520.omnetpp_r	4	615	8.53	619	8.48	<b>617</b>	<b>8.51</b>	4	579	9.06	<b>580</b>	<b>9.04</b>	581	9.03
523.xalancbmk_r	4	<b>289</b>	<b>14.6</b>	289	14.6	289	14.6	4	227	18.6	<b>228</b>	<b>18.5</b>	229	18.4
525.x264_r	4	<b>344</b>	<b>20.4</b>	338	20.7	344	20.3	4	329	21.3	<b>329</b>	<b>21.3</b>	329	21.3
531.deepsjeng_r	4	389	11.8	<b>389</b>	<b>11.8</b>	390	11.8	4	<b>377</b>	<b>12.2</b>	376	12.2	378	12.1
541.leela_r	4	<b>601</b>	<b>11.0</b>	585	11.3	613	10.8	4	576	11.5	<b>577</b>	<b>11.5</b>	588	11.3
548.exchange2_r	4	640	16.4	640	16.4	<b>640</b>	<b>16.4</b>	4	640	16.4	640	16.4	<b>640</b>	<b>16.4</b>
557.xz_r	4	<b>520</b>	<b>8.30</b>	523	8.25	520	8.31	4	518	8.33	519	8.32	<b>519</b>	<b>8.33</b>

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

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

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## 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:  
LD\_LIBRARY\_PATH = "/home/Benchmark/speccpu2017-ic19-20181011/icc19-lib/ia32"  
LD\_LIBRARY\_PATH = "\$LD\_LIBRARY\_PATH:/home/Benchmark/speccpu2017-ic19-20181011/icc19-lib/intel64"  
LD\_LIBRARY\_PATH = "\$LD\_LIBRARY\_PATH:/home/Benchmark/speccpu2017-ic19-20181011/je5.0.1-32"  
LD\_LIBRARY\_PATH = "\$LD\_LIBRARY\_PATH:/home/Benchmark/speccpu2017-ic19-20181011/je5.0.1-64"

Binaries compiled on a system with 2x Intel Xeon E5-2667 v2 CPU + 64GB RAM  
memory using SUSE Linux Enterprise Server 12 SP2  
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  
jemalloc: configured and built at default for 32bit (i686) and 64bit (x86\_64) targets  
jemalloc: built with the RedHat Enterprise 7.4, and the system compiler gcc 4.8.5  
jemalloc: sources available via jemalloc.net

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY TX1330 M4, Intel Pentium Gold G5400, 3.70GHz

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

**CPU2017 License:** 19  
**Test Sponsor:** Fujitsu  
**Tested by:** Fujitsu

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

### General Notes (Continued)

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.

### Platform Notes

BIOS configuration:  
Fan Control = Full  
Sysinfo program /home/Benchmark/speccpu2017-1.0.2/bin/sysinfo  
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f  
running on TX1330M4 Mon Nov 5 17:46:42 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) Pentium(R) Gold G5400 CPU @ 3.70GHz  
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 G5400 CPU @ 3.70GHz  
Stepping: 11  
CPU MHz: 3700.000  
CPU max MHz: 3700.0000  
CPU min MHz: 800.0000

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY TX1330 M4, Intel Pentium Gold G5400, 3.70GHz

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

**CPU2017 License:** 19  
**Test Sponsor:** Fujitsu  
**Tested by:** Fujitsu

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

### Platform Notes (Continued)

```

BogoMIPS:          7392.00
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 cpuid
aperfmpperf tsc_known_freq pni pclmulqdq dtes64 monitor ds_cpl vmx est tm2 ssse3 sdbg
cx16 xtptr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb invpcid_single pti tpr_shadow vnmi
flexpriority ept vpid fsgsbase tsc_adjust smep erms invpcid mpx rdseed smap
clflushopt intel_pt xsaveopt xsavec xgetbv1 xsaves ibpb ibrs stibp dtherm arat pln
pts hwp hwp_notify hwp_act_window hwp_epp ssbd

```

```

/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: 63916 MB
node 0 free: 63437 MB
node distances:
node 0
0: 10

```

```

From /proc/meminfo
MemTotal:      65450924 kB
HugePages_Total:      0
Hugepagesize:   2048 kB

```

```

From /etc/*release* /etc/*version*
os-release:
NAME="SLES"
VERSION="15"
VERSION_ID="15"
PRETTY_NAME="SUSE Linux Enterprise Server 15"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15"

```

uname -a:

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY TX1330 M4, Intel Pentium Gold G5400, 3.70GHz

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

**CPU2017 License:** 19  
**Test Sponsor:** Fujitsu  
**Tested by:** Fujitsu

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

### Platform Notes (Continued)

Linux TX1330M4 4.12.14-23-default #1 SMP Tue May 29 21:04:44 UTC 2018 (cd0437b) x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 Nov 5 17:24

SPEC is set to: /home/Benchmark/speccpu2017-1.0.2  
Filesystem      Type   Size   Used Avail Use% Mounted on  
/dev/sda3       xfs    828G  111G  718G  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 FUJITSU // American Megatrends Inc. V5.0.0.13 R1.0.0 for D3673-A1x  
09/14/2018

Memory:  
4x Samsung M391A2K43BB1-CTD 16 GB 2 rank 2667, configured at 2400

(End of data from sysinfo program)

### Compiler Version Notes

```
=====
CC 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
   525.x264_r(base, peak) 557.xz_r(base, peak)
-----

icc (ICC) 19.0.0.117 20180804
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
-----

CC 500.perlbench_r(peak) 502.gcc_r(peak)
-----

icc (ICC) 19.0.0.117 20180804
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
-----

CXXC 520.omnetpp_r(base) 523.xalanbmk_r(base) 531.deepsjeng_r(base)
     541.leela_r(base)
-----

icpc (ICC) 19.0.0.117 20180804
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
-----
=====
```

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY TX1330 M4, Intel Pentium Gold G5400, 3.70GHz

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

**CPU2017 License:** 19  
**Test Sponsor:** Fujitsu  
**Tested by:** Fujitsu

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

## Compiler Version Notes (Continued)

CXXC 520.omnetpp\_r(peak) 523.xalancbmk\_r(peak) 531.deepsjeng\_r(peak)  
541.leela\_r(peak)

-----  
icpc (ICC) 19.0.0.117 20180804  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.  
-----

=====

FC 548.exchange2\_r(base, peak)  
-----  
ifort (IFORT) 19.0.0.117 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

500.perlbench\_r: -DSPEC\_LP64 -DSPEC\_LINUX\_X64  
502.gcc\_r: -DSPEC\_LP64  
505.mcf\_r: -DSPEC\_LP64  
520.omnetpp\_r: -DSPEC\_LP64  
523.xalancbmk\_r: -DSPEC\_LP64 -DSPEC\_LINUX  
525.x264\_r: -DSPEC\_LP64  
531.deepsjeng\_r: -DSPEC\_LP64  
541.leela\_r: -DSPEC\_LP64  
548.exchange2\_r: -DSPEC\_LP64  
557.xz\_r: -DSPEC\_LP64



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY TX1330 M4, Intel Pentium Gold G5400,  
3.70GHz

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

**CPU2017 License:** 19

**Test Sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test Date:** Nov-2018

**Hardware Availability:** Nov-2018

**Software Availability:** Sep-2018

## Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

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

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m64 -std=c11
```

```
502.gcc_r: icc -m32 -std=c11 -L/opt/intel/compilers_and_libraries/linux/lib/ia32
```

C++ benchmarks (except as noted below):

```
icpc -m64
```

```
523.xalancbmk_r: icpc -m32 -L/opt/intel/compilers_and_libraries/linux/lib/ia32
```

Fortran benchmarks:

```
ifort -m64
```

## Peak Portability Flags

```
500.perlbenc_r: -DSPEC_LP64 -DSPEC_LINUX_X64
```

```
502.gcc_r: -D_FILE_OFFSET_BITS=64
```

```
505.mcf_r: -DSPEC_LP64
```

```
520.omnetpp_r: -DSPEC_LP64
```

```
523.xalancbmk_r: -D_FILE_OFFSET_BITS=64 -DSPEC_LINUX
```

```
525.x264_r: -DSPEC_LP64
```

```
531.deepsjeng_r: -DSPEC_LP64
```

```
541.leela_r: -DSPEC_LP64
```

```
548.exchange2_r: -DSPEC_LP64
```

```
557.xz_r: -DSPEC_LP64
```



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY TX1330 M4, Intel Pentium Gold G5400,  
3.70GHz

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

**CPU2017 License:** 19

**Test Sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test Date:** Nov-2018

**Hardware Availability:** Nov-2018

**Software Availability:** Sep-2018

## Peak Optimization Flags

C benchmarks:

```
500.perlbench_r: -w1, -z, muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo  
-xSSE4.2 -O3 -no-prec-div -qopt-prefetch  
-qopt-mem-layout-trans=3 -fno-strict-overflow  
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

```
502.gcc_r: -w1, -z, muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo  
-xSSE4.2 -O3 -no-prec-div -qopt-prefetch  
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-32/lib  
-ljemalloc
```

505.mcf\_r: basepeak = yes

```
525.x264_r: -w1, -z, muldefs -xSSE4.2 -ipo -O3 -no-prec-div  
-qopt-prefetch -qopt-mem-layout-trans=3 -fno-alias  
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

```
557.xz_r: -w1, -z, muldefs -xSSE4.2 -ipo -O3 -no-prec-div  
-qopt-prefetch -qopt-mem-layout-trans=3  
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

C++ benchmarks:

```
520.omnetpp_r: -w1, -z, muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo  
-xSSE4.2 -O3 -no-prec-div -qopt-prefetch  
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib  
-ljemalloc
```

```
523.xalancbmk_r: -w1, -z, muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo  
-xSSE4.2 -O3 -no-prec-div -qopt-prefetch  
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-32/lib  
-ljemalloc
```

531.deepsjeng\_r: Same as 520.omnetpp\_r

541.leela\_r: Same as 520.omnetpp\_r

Fortran benchmarks:

548.exchange2\_r: basepeak = yes

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/Fujitsu-Platform-Settings-V1.0.2-CFL-RevA.html>





# SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY TX1330 M4, Intel Pentium Gold G5400,  
3.70GHz

SPECrate2017\_int\_base = 12.7

SPECrate2017\_int\_peak = 13.6

**CPU2017 License:** 19

**Test Sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test Date:** Nov-2018

**Hardware Availability:** Nov-2018

**Software Availability:** Sep-2018

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/Fujitsu-Platform-Settings-V1.0.2-CFL-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 v1.0.2 on 2018-11-05 03:46:41-0500.

Report generated on 2018-11-27 13:39:27 by CPU2017 PDF formatter v6067.

Originally published on 2018-11-27.