## SPEC® CPU2017 Integer Speed Result

**Fujitsu**

PRIMERGY TX1330 M4, Intel Xeon E-2134, 3.50GHz

<table>
<thead>
<tr>
<th>SPECspeed2017_int_base</th>
<th>10.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed2017_int_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 19  
**Test Sponsor:** Fujitsu  
**Tested by:** Fujitsu  
**Test Date:** Nov-2018  
**Hardware Availability:** Nov-2018  
**Software Availability:** Sep-2018

### Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed2017_int_base</th>
<th>SPECspeed2017_int_peak</th>
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<tbody>
<tr>
<td>600.perlbench_s</td>
<td>8</td>
<td>7.09</td>
<td>14.8</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>8</td>
<td>11.7</td>
<td></td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>8</td>
<td>14.8</td>
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</tr>
<tr>
<td>620.omnetpp_s</td>
<td>8</td>
<td>6.58</td>
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</tr>
<tr>
<td>623.xalancbmk_s</td>
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<tr>
<td>625.x264_s</td>
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<tr>
<td>631.deepsjeng_s</td>
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<tr>
<td>641.leela_s</td>
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<td>5.41</td>
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<tr>
<td>648.exchange2_s</td>
<td>8</td>
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<td>15.8</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>8</td>
<td></td>
<td>12.2</td>
</tr>
</tbody>
</table>

### Hardware

- **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 SATA M.2 SSD, 240 GB  
- **Other:** None

### Software

- **OS:** Red Hat Enterprise Linux Server release 7.5 (Maipo)  
  3.10.0-862.el7.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:** 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:** Not Applicable  
- **Other:** jemalloc memory allocator library V5.0.1
SPEC CPU2017 Integer Speed Result
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SPECspeed2017_int_base = 10.0
SPECspeed2017_int_peak = Not Run

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
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<th>Seconds</th>
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</tr>
</tbody>
</table>

SPECspeed2017_int_base = 10.0
SPECspeed2017_int_peak = Not Run

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

Submit Notes
The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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:
KMP_AFFINITY = "granularity=fine,scatter"
OMP_STACKSIZE = "192M"
LD_LIBRARY_PATH = "/home/Benchmark/speccpu2017-ic19/ic19.0-lib/ia32"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/Benchmark/speccpu2017-ic19/ic19.0-lib/intel64"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/Benchmark/speccpu2017-ic19/je5.0.1-32"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/Benchmark/speccpu2017-ic19/je5.0.1-64"
Binaries compiled on a system with 1x Intel Xeon E-2186G CPU + 64GB RAM
memory using Red Hat Enterprise Linux Server release 7.5
Transparent Huge Pages enabled by default
Prior to runcpu invocation
Filesistema 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

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| SPECspeed2017_int_base = | 10.0 |
| SPECspeed2017_int_peak = | Not Run |

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

**General Notes (Continued)**

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.

**Platform Notes**

**BIOS configuration:**
- DCU Streamer Prefetcher = Disabled
- DDR PowerDown and idle counter = FCODE
- CState Pre-Wake = Disabled
- Package C-State Un-demotion = Enabled
- REFRESH_2X_MODE = 1- Enabled for WARM or HOT

**Sysinfo program**
- /home/Benchmark/speccpu2017-ic19/bin/sysinfo
- Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
- running on localhost.localdomain Fri Nov 2 13:36:20 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) 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

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

Platform Notes (Continued)

Model name: Intel(R) Xeon(R) E-2134 CPU @ 3.50GHz
Stepping: 10
CPU MHz: 4249.389
CPU max MHz: 4500.0000
CPU min MHz: 800.0000
BogoMIPS: 7008.00
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 rdtscp
lm constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc
aperfmpref perfmon eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx est tm2 ssse3 sdbg
fma cx16 xtopr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
xsave avx f16c rdrand lahf_lm abm 3dnowprefetch epb intel_pt tpr_shadow vnmi
flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 ibrms invpcid rtm
mpx rdseed adx smap clflushopt xsaveopt xsavec xgetbv1 ibpb ibrs stibp dtherm ida
arat pin pts hwp hwp_notify hwp_act_window hwp_epp spec_ctrl intel_stibp

/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: 65278 MB
node 0 free: 63191 MB
node distances:
node 0
0: 10

From /proc/meminfo
MemTotal: 65545552 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.5 (Maipo)"
ID=rhel
ID_LIKE="fedora"
VARIANT="Server"

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Platform Notes (Continued)

```
VARIANT_ID="server"
VERSION_ID="7.5"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.5 (Maipo)"
redhat-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.5:ga:server

uname -a:
  Linux localhost.localdomain 3.10.0-862.el7.x86_64 #1 SMP Wed Mar 21 18:14:51 EDT 2018
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 2 13:33

SPEC is set to: /home/Benchmark/speccpu2017-ic19
  Filesystem   Type  Size  Used Avail Use% Mounted on
  /dev/mapper/rhel-home xfs   150G   33G  118G  22% /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 SK Hynix HMA82GU7CJR8N-VK 16 GB 2 rank 2667

(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)
    657.xz_s(base)

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

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Compiler Version Notes (Continued)

FC 648.exchange2_s(base)

ifort (IFORT) 19.0.0.117 20180804
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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

Base Optimization Flags

C benchmarks:
-W1,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP
-\L/\usr/local/je5.0.1-64\lib -ljemalloc

C++ benchmarks:
-W1,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc

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CPU\textsuperscript{\textregistered}2017 License: 19
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\textbf{Base Optimization Flags (Continued)}

Fortran benchmarks:
-\texttt{-Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div}
-\texttt{-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte}
-\texttt{-L/usr/local/je5.0.1-64/lib -ljemalloc}

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Fujitsu-Platform-Settings-V1.0.2-CFL-RevB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-icl8.0-official-linux64.2017-12-21.xml
http://www.spec.org/cpu2017/flags/Fujitsu-Platform-Settings-V1.0.2-CFL-RevB.xml

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

Tested with SPEC CPU\textsuperscript{\textregistered}2017 v1.0.2 on 2018-11-02 00:36:20-0400.
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