**SPEC® CPU2017 Integer Rate Result**

**Fujitsu**

PRIMERGY TX2550 M5, Intel Xeon Gold 6252, 2.10 GHz

| Copies | 0 | 30.0 | 60.0 | 90.0 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 | 510 | 540 | 570 | 600 |
|--------|---|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 500.perlbench_r | 96 | 208 |      |      | 216 |      |      | 349 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 502.gcc_r | 96 |      |      |      |      |      |      |      |      |      |      |      |      |      | 349 |      |      |      |      |      |      |      |      |
| 505.mcf_r | 96 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 176 |      |      |      |      |      |      |
| 520.omnetpp_r | 96 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 523.xalancbmk_r | 96 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 525.x264_r | 96 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 531.deepsjeng_r | 96 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 541.leela_r | 96 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 548.exchange2_r | 96 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 557.xz_r | 96 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

---

**Hardware**

- **CPU Name:** Intel Xeon Gold 6252
- **Max MHz.:** 3700
- **Nominal:** 2100
- **Enabled:** 48 cores, 2 chips, 2 threads/core
- **Orderable:** 1,2 chips
- **Cache L1:** 32 KB I + 32 KB D on chip per core
- **L2:** 1 MB I+D on chip per core
- **L3:** 35.75 MB I+D on chip per chip
- **Other:** None
- **Memory:** 384 GB (12 x 32 GB 2Rx4 PC4-2933Y-R)
- **Storage:** 1 x SATA M.2 SSD, 480 GB
- **Other:** None

---

**Software**

- **OS:** SUSE Linux Enterprise Server 15
- **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:** No
- **Firmware:** Fujitsu BIOS Version V5.0.0.14 R1.8.0 for D3386-B1x. Released Jun-2019 tested as V5.0.0.14 R1.6.0 for D3386-B1x Apr-2019
- **File System:** btrfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** Not Applicable
- **Other:** None

---

**SPECrate2017_int_base = 266**

**SPECrate2017_int_peak = Not Run**

---

**Copyright 2017-2019 Standard Performance Evaluation Corporation**
Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>96</td>
<td>736</td>
<td>208</td>
<td>734</td>
<td>208</td>
<td>730</td>
<td>209</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>96</td>
<td>630</td>
<td>216</td>
<td>629</td>
<td>216</td>
<td>626</td>
<td>217</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>96</td>
<td>443</td>
<td>351</td>
<td>445</td>
<td>349</td>
<td>445</td>
<td>349</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>96</td>
<td>719</td>
<td>175</td>
<td>717</td>
<td>176</td>
<td>718</td>
<td>176</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>96</td>
<td>344</td>
<td>295</td>
<td>344</td>
<td>295</td>
<td>342</td>
<td>296</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>525.x264_r</td>
<td>96</td>
<td>319</td>
<td>527</td>
<td>319</td>
<td>528</td>
<td>318</td>
<td>529</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>96</td>
<td>483</td>
<td>228</td>
<td>484</td>
<td>227</td>
<td>483</td>
<td>228</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>541.leela_r</td>
<td>96</td>
<td>758</td>
<td>210</td>
<td>772</td>
<td>206</td>
<td>769</td>
<td>207</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>96</td>
<td>525</td>
<td>479</td>
<td>525</td>
<td>479</td>
<td>526</td>
<td>478</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>557.xz_r</td>
<td>96</td>
<td>572</td>
<td>181</td>
<td>571</td>
<td>181</td>
<td>572</td>
<td>181</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SPECrate2017_int_base = 266
SPECrate2017_int_peak = Not Run

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"
Kernel Boot Parameter set with : nohz_full=1-95

General Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/root/speccpu2017-int/lib/intel64"

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
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
NA: 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.

(Continued on next page)
Fujitsu
PRIMERGY TX2550 M5, Intel Xeon Gold 6252, 2.10 GHz

SPECrate2017_int_base = 266
SPECrate2017_int_peak = Not Run

General Notes (Continued)

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:
Patrol Scrub = Disabled
DCU Ip Prefetcher = Disabled
DCU Streamer Prefetcher = Disabled
Fan Control = Full
Stale AtoS = Enable
WR CRC feature Control = Disabled
Sysinfo program /root/speccpu2017-int/bin/sysinfo
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
running on linux-cjzd Tue May 14 22:46:08 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) Gold 6252 CPU @ 2.10GHz
  2 "physical id"s (chips)
  96 "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 : 24
siblings : 48
  physical 0: cores 0 1 2 3 4 5 6 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
  physical 1: cores 0 1 2 3 4 5 6 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29

From lscpu:
  Architecture: x86_64
  CPU op-mode(s): 32-bit, 64-bit
  Byte Order: Little Endian
  CPU(s): 96
  On-line CPU(s) list: 0-95
  Thread(s) per core: 2
  Core(s) per socket: 24
  Socket(s): 2
  NUMA node(s): 4
  Vendor ID: GenuineIntel
  CPU family: 6
  Model: 85
  Model name: Intel(R) Xeon(R) Gold 6252 CPU @ 2.10GHz
  Stepping: 6

(Continued on next page)
Fujitsu
PRIMERGY TX2550 M5, Intel Xeon Gold 6252, 2.10 GHz

<table>
<thead>
<tr>
<th>CPU2017 License: 19</th>
<th>Test Date: May-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: Fujitsu</td>
<td>Hardware Availability: Jun-2019</td>
</tr>
<tr>
<td>Tested by: Fujitsu</td>
<td>Software Availability: Feb-2019</td>
</tr>
</tbody>
</table>

**SPEC CPU2017 Integer Rate Result**

Copyright 2017-2019 Standard Performance Evaluation Corporation

<table>
<thead>
<tr>
<th>SPECrate2017_int_base</th>
<th>SPECrate2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>266</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

```plaintext
CPU MHz: 2100.000
CPU max MHz: 3700.0000
CPU min MHz: 1000.0000
BogoMIPS: 4200.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 36608K
NUMA node0 CPU(s): 0,3,7,8,12-14,18-20,48-51,55,56,60-62,66-68
NUMA node1 CPU(s): 4-6,9-11,15-17,21-23,52-54,57-59,63-65,69-71
NUMA node2 CPU(s): 24-27,31,32,36-38,42-44,72-75,79,80,84-86,90-92
NUMA node3 CPU(s): 28-30,33-35,39-41,45-47,76-78,81-83,87-89,93-95
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 rdtsc
lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology
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 rdtsc
lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology
```

From `numactl --hardware` WARNING: a numactl 'node' might or might not correspond to a physical chip.
```plaintext
available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3 7 8 12 13 14 18 19 20 48 49 50 51 55 56 60 61 62 66 67 68
node 0 size: 95197 MB
node 0 free: 91848 MB
node 1 cpus: 4 5 6 9 10 11 15 16 17 21 22 23 52 53 54 57 58 59 63 64 65 69 70 71
node 1 size: 96763 MB
node 1 free: 96107 MB
node 2 cpus: 24 25 26 27 31 32 36 37 38 42 43 44 72 73 74 75 79 80 84 85 86 90 91 92
node 2 size: 96763 MB
node 2 free: 96361 MB
node 3 cpus: 28 29 30 33 34 35 39 40 41 45 46 47 76 77 78 81 82 83 87 88 89 93 94 95
node 3 size: 96532 MB
node 3 free: 96261 MB
node distances:
node 0 1 2 3
0: 10 11 21 21
```

(Continued on next page)
Fujitsu
PRIMERGY TX2550 M5, Intel Xeon Gold 6252, 2.10 GHz

SPECrater2017_int_base = 266
SPECrater2017_int_peak = Not Run

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

Platform Notes (Continued)

1:  11  10  21  21
2:  21  21  10  11
3:  21  21  11  10

From /proc/meminfo
MemTotal:       394503456 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:
Linux linux-cjzd 4.12.14-25.28-default #1 SMP Wed Jan 16 20:00:47 UTC 2019 (dd6077c)
x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:
CVE-2017-5754 (Meltdown):          Not affected
CVE-2017-5753 (Spectre variant 1): Mitigation: __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling

run-level 3 May 12 22:34

SPEC is set to: /root/speccpu2017-int

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. V5.0.0.14 R1.6.0 for D3386-B1x
04/09/2019

Memory:
12x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933, configured at 2934

(End of data from sysinfo program)
Fujitsu
PRIMERGY TX2550 M5, Intel Xeon Gold 6252, 2.10 GHz

SPECrate2017_int_base = 266
SPECrate2017_int_peak = Not Run

CPU2017 License: 19
Test Date: May-2019
Test Sponsor: Fujitsu
Hardware Availability: Jun-2019
Tested by: Fujitsu
Software Availability: Feb-2019

Compiler Version Notes
==============================================================================
CC  500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base) 525.x264_r(base)
   557.xz_r(base)
------------------------------------------------------------------------------
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.
==============================================================================
CXXC 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base)
   541.leela_r(base)
------------------------------------------------------------------------------
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  548.exchange2_r(base)
------------------------------------------------------------------------------
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
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

(Continued on next page)
SPEC CPU2017 Integer Rate Result

Fujitsu
PRIMERGY TX2550 M5, Intel Xeon Gold 6252, 2.10 GHz

SPECrate2017_int_base = 266
SPECrate2017_int_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Test Date: May-2019
Tested by: Fujitsu
Hardware Availability: Jun-2019
Software Availability: Feb-2019

Base Portability Flags (Continued)

523.xalanbmk_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

Base Optimization Flags

C benchmarks:
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.1.144/linux/compiler/lib/intel64
-lqkmalloc

C++ benchmarks:
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.1.144/linux/compiler/lib/intel64
-lqkmalloc

Fortran benchmarks:
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.1.144/linux/compiler/lib/intel64
-lqkmalloc

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:

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.

Tested with SPEC CPU2017 v1.0.5 on 2019-05-14 09:46:07-0400.
Originally published on 2019-06-11.