### Fujitsu

**PRIMERGY RX2540 M6, Intel Xeon Gold 6336Y, 2.40GHz**

<table>
<thead>
<tr>
<th>Copies</th>
<th>SPECrate®2017_int_base = 338</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r 96</td>
<td></td>
</tr>
<tr>
<td>502.gcc_r 96</td>
<td></td>
</tr>
<tr>
<td>505.mcf_r 96</td>
<td></td>
</tr>
<tr>
<td>520.omnetpp_r 96</td>
<td></td>
</tr>
<tr>
<td>523.xalancbmk_r 96</td>
<td></td>
</tr>
<tr>
<td>525.x264_r 96</td>
<td></td>
</tr>
<tr>
<td>531.deepsjeng_r 96</td>
<td></td>
</tr>
<tr>
<td>541.leela_r 96</td>
<td></td>
</tr>
<tr>
<td>548.exchange2_r 96</td>
<td></td>
</tr>
<tr>
<td>557.xz_r 96</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name: Intel Xeon Gold 6336Y</td>
<td>OS: Red Hat Enterprise Linux release 8.2 (Ootpa) 4.18.0-193.el8.x86_64</td>
</tr>
<tr>
<td>Max MHz: 3600</td>
<td>Compiler: C/C++: Version 19.1.2.275 of Intel C/C++ Compiler for Linux; Fortran: Version 19.1.2.275 of Intel Fortran Compiler for Linux</td>
</tr>
<tr>
<td>Nominal: 2400</td>
<td>Parallel: No</td>
</tr>
<tr>
<td>Enabled: 48 cores, 2 chips, 2 threads/core</td>
<td>Firmware: Fujitsu BIOS Version V1.0.0.0 R1.6.0 for D3891-A1x. Released Jun-2021 tested as V1.0.0.0 R1.2.0 for D3891-A1x Apr-2021</td>
</tr>
<tr>
<td>Orderable: 1.2 chips</td>
<td>File System: xfs</td>
</tr>
<tr>
<td>Cache L1: 32 KB I + 48 KB D on chip per core</td>
<td>System State: Run level 3 (multi-user)</td>
</tr>
<tr>
<td>L2: 1.25 MB I+D on chip per core</td>
<td>Base Pointers: 64-bit</td>
</tr>
<tr>
<td>L3: 36 MB I+D on chip per chip</td>
<td>Peak Pointers: Not Applicable</td>
</tr>
<tr>
<td>Other: None</td>
<td>Other: None</td>
</tr>
<tr>
<td>Memory: 1 TB (32 x 32 GB 2Rx4 PC4-3200AA-R)</td>
<td>Power Management: BIOS set to prefer performance at the cost of additional power usage</td>
</tr>
<tr>
<td>Storage: 1 x SATA M.2 SSD, 480GB</td>
<td></td>
</tr>
</tbody>
</table>

**CPU2017 License:** 19  
**Test Date:** May-2021  
**Hardware Availability:** Aug-2021  
**Test Sponsor:** Fujitsu  
**Software Availability:** Aug-2020  
**Tested by:** Fujitsu  
**Software Availability:** Aug-2020
SPEC CPU®2017 Integer Rate Result

Fujitsu
PRIMERGY RX2540 M6, Intel Xeon Gold 6336Y, 2.40GHz

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

SPECrate®2017_int_base = 338
SPECrate®2017_int_peak = Not Run

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>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark</td>
<td>Base</td>
<td></td>
<td></td>
<td>Peak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500.perlbench_r</td>
<td>96</td>
<td>685</td>
<td>223</td>
<td>684</td>
<td>223</td>
<td>686</td>
<td>223</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>96</td>
<td>501</td>
<td>271</td>
<td>502</td>
<td>271</td>
<td>499</td>
<td>272</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>96</td>
<td>281</td>
<td>552</td>
<td>280</td>
<td>554</td>
<td>281</td>
<td>552</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>96</td>
<td>562</td>
<td>224</td>
<td>560</td>
<td>225</td>
<td>560</td>
<td>225</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>96</td>
<td>242</td>
<td>420</td>
<td>240</td>
<td>423</td>
<td>244</td>
<td>420</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>96</td>
<td>249</td>
<td>675</td>
<td>250</td>
<td>673</td>
<td>250</td>
<td>673</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>96</td>
<td>424</td>
<td>260</td>
<td>423</td>
<td>260</td>
<td>424</td>
<td>260</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>96</td>
<td>623</td>
<td>255</td>
<td>622</td>
<td>255</td>
<td>624</td>
<td>255</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>96</td>
<td>345</td>
<td>728</td>
<td>344</td>
<td>730</td>
<td>345</td>
<td>728</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>96</td>
<td>552</td>
<td>188</td>
<td>552</td>
<td>188</td>
<td>551</td>
<td>188</td>
</tr>
</tbody>
</table>

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

Submit Notes

The config file option 'submit' was used.

Operating System Notes

Stack size set to unlimited using "ulimit –s unlimited"
Kernel Boot Parameter set with : nohz_full=1-95

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
"/home/PVT/speccpu-1.1.8/lib/intel64:/home/PVT/speccpu-1.1.8/lib/ia32:/home/PVT/speccpu-1.1.8/je5.0.1-32"
MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM memory using Redhat Enterprise Linux 8.0
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.:
## General Notes (Continued)

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.

**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
- CPU C1E Support = Disabled
- Package C State Limit = C2
- UPI Link Frequency Select = 10.4 GT/s
- XPT Prefetch = Enabled
- LLC Prefetch = Enabled
- SNC = Enable SNC2
- UPI Prefetch = Disabled
- FAN Control = Full

Sysinfo program /home/PVT/speccpu-1.1.8/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ecb55891ef0e16acaf6d
running on localhost.localdomain Mon May 24 11:21:14 2021

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 6336Y CPU @ 2.40GHz
- 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 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
  - physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

From lscpu from util-linux 2.32.1:
- 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

(Continued on next page)
SPEC CPU®2017 Integer Rate Result

Fujitsu
PRIMERGY RX2540 M6, Intel Xeon Gold 6336Y, 2.40GHz

Fujitsu

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

Fujitsu
PRIMERGY RX2540 M6, Intel Xeon Gold 6336Y, 2.40GHz

SPECrate®2017_int_base = 338
SPECrate®2017_int_peak = Not Run

Platform Notes (Continued)

Thread(s) per core: 2
Core(s) per socket: 24
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Gold 6336Y CPU @ 2.40GHz
Stepping: 6
CPU MHz: 2163.091
CPU max MHz: 3600.0000
CPU min MHz: 800.0000
BogoMIPS: 4800.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 36864K
NUMA node0 CPU(s): 0-11, 48-59
NUMA node1 CPU(s): 12-23, 60-71
NUMA node2 CPU(s): 24-35, 72-83
NUMA node3 CPU(s): 36-47, 84-95

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 rdtscp
lm constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
aerperfmpref pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
xtrar pdcmt cpid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 invpcid_single ssbd
mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vmpni flexpriority ept vpid fsgsbase
trc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm rdt_a avx512f avx512dq
rdseed adx smap avx512sfma clflushopt clwb intel_pt avx512cd sha ni avx512bw
avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbb_total
cqm_mbb_local wboinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp
hwp_pkg_req avx512vmbi umip pku ospe avx512_vbmi2 gfni vaes vpcmnlqdq avx512_vnni
avx512_bitalg tme avx512_vpopcntdq la57 rdpid md_clear pconfig flush_l1d
arch_capabilities

/proccpuinfo cache data
cache size : 36864 KB

From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 48 49 50 51 52 53 54 55 56 57 58 59
node 0 size: 257463 MB
node 0 free: 256666 MB
node 1 cpus: 12 13 14 15 16 17 18 19 20 21 22 23 60 61 62 63 64 65 66 67 68 69 70 71

(Continued on next page)
## SPEC CPU®2017 Integer Rate Result

**Fujitsu**  
PRIMERGY RX2540 M6, Intel Xeon Gold 6336Y, 2.40GHz  

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base =</th>
<th>338</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak =</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Fujitsu</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Fujitsu</td>
</tr>
</tbody>
</table>

---

### Platform Notes (Continued)

- **node 1**: size: 258042 MB  
- **node 1 free**: 257718 MB  
- **node 2 cpus**: 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95  
- **node 2 size**: 258015 MB  
- **node 2 free**: 257795 MB  
- **node 3 cpus**: 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95  
- **node 3 size**: 258040 MB  
- **node 3 free**: 257813 MB  
- **node distances**:

<table>
<thead>
<tr>
<th>node</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:</td>
<td>10</td>
<td>11</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>1:</td>
<td>11</td>
<td>10</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>2:</td>
<td>20</td>
<td>20</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>3:</td>
<td>20</td>
<td>20</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

- **From /proc/meminfo**
  - MemTotal: 1056318272 kB  
  - HugePages_Total: 0  
  - Hugepagesize: 2048 kB  

- **/sbin/tuned-adm active**
  - Current active profile: throughput-performance

- **/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has performance**

- **From /etc/*release* /etc/*version***
  - os-release:
    - NAME="Red Hat Enterprise Linux"
    - VERSION="8.2 (Ootpa)"
    - ID="rhel"
    - ID_LIKE="fedora"
    - VERSION_ID="8.2"
    - PLATFORM_ID="platform:el8"
    - PRETTY_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"
    - ANSI_COLOR="0;31"
    - redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
    - system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
    - system-release-cpe: cpe:/o:redhat:enterprise_linux:8.2:ga

- **uname -a**
  
  Linux localhost.localdomain 4.18.0-193.el8.x86_64 #1 SMP Fri Mar 27 14:35:58 UTC 2020
  
  x86_64 x86_64 x86_64 GNU/Linux

- **Kernel self-reported vulnerability status:**
  - CVE-2018-12207 (iTLB Multihit): Not affected

(Continued on next page)
Fujitsu
PRIMERGY RX2540 M6, Intel Xeon Gold 6336Y, 2.40GHz

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

Test Date: May-2021
Hardware Availability: Aug-2021
Software Availability: Aug-2020

SPECrate®2017_int_base = 338
SPECrate®2017_int_peak = Not Run

Platform Notes (Continued)

CVE-2018-3620 (L1 Terminal Fault): Not affected
Microarchitectural Data Sampling: Not affected
CVE-2017-5754 (Meltdown): Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2018-3639 (Speculative Store Bypass): Mitigation: usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5753 (Spectre variant 1): Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
CVE-2017-5715 (Spectre variant 2): No status reported
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 May 24 11:19

SPEC is set to: /home/PVT/speccpu-1.1.8
Filesystem Type Size Used Avail Use% Mounted on
/dev/sdb3 xfs 330G 101G 230G 31% /home

From /sys/devices/virtual/dmi/id
Vendor: FUJITSU
Product: PRIMERGY RX2540 M6
Product Family: SERVER
Serial: EWAAxxxxxx

Additional information from dmidecode 3.2 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.
Memory:
32x Samsung M393A4K40DB3-CWE 32 GB 2 rank 3200

BIOS:
BIOS Vendor: FUJITSU
BIOS Version: V1.0.0.0 R1.2.0 for D3891-A1x
BIOS Date: 04/01/2021
BIOS Revision: 1.2
Firmware Revision: 3.20

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base)

(Continued on next page)
SPEC CPU®2017 Integer Rate Result

Fujitsu
PRIMERGY RX2540 M6, Intel Xeon Gold 6336Y, 2.40GHz

SPECr®2017_int_base = 338
SPECr®2017_int_peak = Not Run

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

Compiler Version Notes (Continued)

<table>
<thead>
<tr>
<th>525.x264_r(base) 557.xz_r(base)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel(R) C Compiler for applications running on Intel(R) 64, Version 19.1.2.275 Build 20200604</td>
</tr>
<tr>
<td>Copyright (C) 1985-2020 Intel Corporation. All rights reserved.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_r(base)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 19.1.2.275 Build 20200604</td>
</tr>
<tr>
<td>Copyright (C) 1985-2020 Intel Corporation. All rights reserved.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>548.exchange2_r(base)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.1.2.275 Build 20200623</td>
</tr>
<tr>
<td>Copyright (C) 1985-2020 Intel Corporation. All rights reserved.</td>
</tr>
</tbody>
</table>

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

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

(Continued on next page)
SPEC CPU®2017 Integer Rate Result

Fujitsu
PRIMERGY RX2540 M6, Intel Xeon Gold 6336Y, 2.40GHz

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>338</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

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

Test Date: May-2021
Hardware Availability: Aug-2021
Software Availability: Aug-2020

Base Portability Flags (Continued)

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:
- -m64 -qnextgen -std=c11
- -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
- -xCORE-AVX2 -O3 -ffast-math -flto -mfpmath=sse -funroll-loops
- -qopt-mem-layout-trans=4
- -L/usr/local/IntelCompiler19/compilers_and_libraries_2020.3.275/linux/compiler/lib/intel64_lin
  -lqkmalloc

C++ benchmarks:
- -m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
- -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math -flto -mfpmath=sse
- -funroll-loops -qopt-mem-layout-trans=4
- -L/usr/local/IntelCompiler19/compilers_and_libraries_2020.3.275/linux/compiler/lib/intel64_lin
  -lqkmalloc

Fortran benchmarks:
- -m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
- -xCORE-AVX2 -O3 -ipo -no-prec-div -qopt-mem-layout-trans=4
- -nostandard-realloc-lhs -align array32byte -auto
- -mbranches-within-32B-boundaries
- -L/usr/local/IntelCompiler19/compilers_and_libraries_2020.3.275/linux/compiler/lib/intel64_lin
  -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:

http://www.spec.org/cpu2017/flags/Fujitsu-Platform-Settings-V1.0-ICL-RevA.xml
http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revA.xml
SPEC CPU®2017 Integer Rate Result

Fujitsu
PRIMERGY RX2540 M6, Intel Xeon Gold 6336Y, 2.40GHz

SPECratenet_int_base = 338
SPECratenet_int_peak = Not Run

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

Test Date: May-2021
Hardware Availability: Aug-2021
Software Availability: Aug-2020

SPEC CPU and SPECratenet are registered trademarks 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 CPU®2017 v1.1.8 on 2021-05-24 11:21:14-0400.
Originally published on 2021-07-20.