SPEC CPU®2017 Integer Rate Result

Dell Inc.

PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

SPECrates
SPECrates®2017_int_base = 52.2
SPECrates®2017_int_peak = 54.4

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

Copies

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>36.3</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>39.1</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>47.9</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>29.0</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>88.4</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>67.2</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>41.7</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>41.5</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>28.5</td>
</tr>
<tr>
<td>557.xz_r</td>
<td></td>
</tr>
</tbody>
</table>

Software

OS: Red Hat Enterprise Linux 8.4 (Ootpa)
Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++ Compiler Build 20201113 for Linux;
Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux;
C/C++: Version 2021.1 of Intel C/C++ Compiler Classic Build 20201112 for Linux

Parallel: No
Firmware: Version 1.0.1 released Aug-2021
File System: tmpfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.

Hardware

CPU Name: Intel Xeon E-2336
Max MHz: 4800
Nominal: 2900
Enabled: 6 cores, 1 chip, 2 threads/core
Orderable: 1 chip
Cache L1: 32 KB I + 48 KB D on chip per core
L2: 512 KB I+D on chip per core
L3: 12 MB I+D on chip per chip
Other: None
Memory: 64 GB (2 x 32 GB 2Rx8 PC4-3200AA-E)
Storage: 70 GB on tmpfs
Other: None
Dell Inc.  
PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)  

SPECrate®2017_int_base = 52.2  
SPECrate®2017_int_peak = 54.4

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>Base</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>12</td>
<td>527</td>
<td>36.3</td>
<td>526</td>
<td>36.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>12</td>
<td>435</td>
<td>39.1</td>
<td>431</td>
<td>39.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>12</td>
<td>218</td>
<td>89.0</td>
<td>219</td>
<td>88.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>12</td>
<td>543</td>
<td>29.0</td>
<td>539</td>
<td>29.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>12</td>
<td>188</td>
<td>67.2</td>
<td>188</td>
<td>67.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>525.x264_r</td>
<td>12</td>
<td>186</td>
<td>113</td>
<td>186</td>
<td>113</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>12</td>
<td>330</td>
<td>41.7</td>
<td>329</td>
<td>41.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>541.leela_r</td>
<td>12</td>
<td>479</td>
<td>41.5</td>
<td>479</td>
<td>41.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>12</td>
<td>282</td>
<td>112</td>
<td>282</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>557.xz_r</td>
<td>12</td>
<td>454</td>
<td>28.5</td>
<td>455</td>
<td>28.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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"

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM memory using Red Hat Enterprise Linux 8.1
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, a general purpose malloc implementation

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

**Dell Inc.**

PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>SPECrate®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>52.2</td>
<td>54.4</td>
</tr>
</tbody>
</table>

- **CPU2017 License:** 55
- **Test Sponsor:** Dell Inc.
- **Tested by:** Dell Inc.
- **Test Date:** Aug-2021
- **Hardware Availability:** Oct-2021
- **Software Availability:** May-2021

### General Notes (Continued)

- **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.

Benchmark run from a 70 GB ramdisk created with the cmd: "mount -t tmpfs -o size=70G tmpfs /mnt/ramdisk"

### Platform Notes

**BIOS settings:**
- Virtualization Technology : Disabled
- System Profile : Custom
- CPU Power Management : Maximum Performance
  - C1E : Disabled
- C States : Autonomous
- PCI ASPM L1 Link
- Power Management : Disabled

**Sysinfo program** /mnt/ramdisk/cpu2017-1.1.8-ic2021.1/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61e0b5f5891ef0e16aca64d
running on localhost.localdomain Tue Aug 31 02:15:45 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) E-2336 CPU @ 2.90GHz
 1 "physical id"s (chips)
 12 "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 : 6
siblings : 12
physical 0: cores 0 1 2 3 4 5
```

From lscpu from util-linux 2.32.1:

```
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
```

(Continued on next page)
Dell Inc.

PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

SPECrate®2017_int_base = 52.2
SPECrate®2017_int_peak = 54.4

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

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

Platform Notes (Continued)

Byte Order: Little Endian
CPU(s): 12
On-line CPU(s) list: 0-11
Thread(s) per core: 2
Core(s) per socket: 6
Socket(s): 1
NUMA node(s): 1
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel
CPU family: 6
Model: 167
Model name: Intel(R) Xeon(R) E-2336 CPU @ 2.90GHz
BIOS Model name: Intel(R) Xeon(R) E-2336 CPU @ 2.90GHz
Stepping: 1
CPU MHz: 4602.445
BogoMIPS: 5808.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 512K
L3 cache: 12288K
NUMA node0 CPU(s): 0-11
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 aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault invpcid_single ssbd ibrs ibpb stibp ibrs_enhanced fs.gsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid mxp avx512f avx512dq rdseed adx smap avx512ifma clflushopt intel_pt avx512cd sha_ni avx512bw avx512v1 xsaveopt xsavec xgetbv1 xsaves dtherm ida arat pln pts avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg avx512_vpopcntdq rdpid fsrmd md_clear flush_l1d arch_capabilities

/cache.data
  cache size: 12288 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 8 9 10 11
    node 0 size: 64285 MB
    node 0 free: 54407 MB
    node distances:
      node 0
      0: 10

(Continued on next page)
# Dell Inc. PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)

<table>
<thead>
<tr>
<th>Overview</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU2017 License</td>
<td>55</td>
</tr>
<tr>
<td>Test Sponsor</td>
<td>Dell Inc.</td>
</tr>
<tr>
<td>Tested by</td>
<td>Dell Inc.</td>
</tr>
<tr>
<td>Test Date</td>
<td>Aug-2021</td>
</tr>
<tr>
<td>Hardware Availability</td>
<td>Oct-2021</td>
</tr>
<tr>
<td>Software Availability</td>
<td>May-2021</td>
</tr>
</tbody>
</table>

---

## Platform Notes (Continued)

From `/proc/meminfo`

- MemTotal: 65828588 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

/sbin/tuned-adm active

Current active profile: throughput-performance

From `/etc/*release* /etc/*version*`

- os-release:
  - NAME="Red Hat Enterprise Linux"
  - VERSION="8.4 (Ootpa)"
  - ID="rhel"
  - ID_LIKE="fedora"
  - VERSION_ID="8.4"
  - PLATFORM_ID="platform:el8"
  - PRETTY_NAME="Red Hat Enterprise Linux 8.4 (Ootpa)"
  - ANSI_COLOR="0;31"

- redhat-release: Red Hat Enterprise Linux release 8.4 (Ootpa)
- system-release: Red Hat Enterprise Linux release 8.4 (Ootpa)
- system-release-cpe: cpe:/o:redhat:enterprise_linux:8.4:ga

uname -a:

- Linux localhost.localdomain 4.18.0-305.el8.x86_64 #1 SMP Thu Apr 29 08:54:30 EDT 2021
- x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

- CVE-2018-12207 (iTLB Multihit): Not affected
- 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/swaps barriers and __user pointer sanitization
- CVE-2017-5753 (Spectre variant 1): Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
- CVE-2017-5715 (Spectre variant 2): Not affected
- CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
- CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 Aug 31 02:13

SPEC is set to: /mnt/ramdisk/cpu2017-1.1.8-ic2021.1

<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>
</table>

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

**Dell Inc.**

PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)

**SPECrate®2017_int_base = 52.2**

**SPECrate®2017_int_peak = 54.4**

---

CPU2017 License: 55
Test Sponsor: Dell Inc.
Test Date: Aug-2021

Tested by: Dell Inc.
Hardware Availability: Oct-2021
Software Availability: May-2021

---

**Platform Notes (Continued)**

```
tmpfs          tmpfs   70G  4.4G  66G   7% /mnt/ramdisk
```

From /sys/devices/virtual/dmi/id
Vendor:         Dell Inc.
Product:        PowerEdge T350
Product Family: PowerEdge

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:
2x 00AD00000C01 HMAA4GU7CJR8N-XN 32 GB 2 rank 3200

BIOS:
BIOS Vendor: Dell Inc.
BIOS Version: 1.0.1
BIOS Date: 08/18/2021
BIOS Revision: 1.0

(End of data from sysinfo program)

---

**Compiler Version Notes**

```
C       | 500.perlbench_r(peak)
```

Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

```
C       | 502.gcc_r(peak)
```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

```
C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base, peak)
```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2021.1 Build 20201113

(Continued on next page)
**Compiler Version Notes (Continued)**

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

<table>
<thead>
<tr>
<th>C</th>
<th>500.perlbench_r(peak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>502.gcc_r(peak)</td>
</tr>
<tr>
<td>C</td>
<td>500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base, peak)</td>
</tr>
<tr>
<td>C</td>
<td>500.perlbench_r(peak)</td>
</tr>
<tr>
<td>C</td>
<td>500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base, peak)</td>
</tr>
<tr>
<td>C</td>
<td>500.perlbench_r(peak)</td>
</tr>
<tr>
<td>C</td>
<td>500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base, peak)</td>
</tr>
</tbody>
</table>

(Continued on next page)
Dell Inc.  
PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)  

SPECraten®2017_int_base = 52.2  
SPECraten®2017_int_peak = 54.4  

CPU2017 License: 55  
Test Sponsor: Dell Inc.  
Test Date: Aug-2021  
Tested by: Dell Inc.  
Hardware Availability: Oct-2021  
Software Availability: May-2021  

Compiler Version Notes (Continued)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

==============================================================================  
C++ | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak)  
     | 531.deepsjeng_r(base, peak) 541.leela_r(base, peak)  
==============================================================================  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

==============================================================================  
Fortran | 548.exchange2_r(base, peak)  
==============================================================================  
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 2020112_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:  
icx  
C++ benchmarks:  
icpx  
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  
531.deepsjeng_r: -DSPEC_LP64  

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

### Dell Inc.

**PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)**

<table>
<thead>
<tr>
<th>CPU2017 License: 55</th>
<th>Test Date: Aug-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: Dell Inc.</td>
<td>Hardware Availability: Oct-2021</td>
</tr>
<tr>
<td>Tested by: Dell Inc.</td>
<td>Software Availability: May-2021</td>
</tr>
</tbody>
</table>

**SPECrate®2017_int_base = 52.2**

**SPECrate®2017_int_peak = 54.4**

### Base Portability Flags (Continued)

- 541.leela_r: -DSPEC_LP64
- 548.exchange2_r: -DSPEC_LP64
- 557.xz_r: -DSPEC_LP64

### Base Optimization Flags

**C benchmarks:**

- `-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math`
- `-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`
- `-mbranches-within-32B-boundaries`
- `-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin`
- `-lqkmalloc`

**C++ benchmarks:**

- `-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto`
- `-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`
- `-mbranches-within-32B-boundaries`
- `-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin`
- `-lqkmalloc`

**Fortran benchmarks:**

- `-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ipo -no-prec-div`
- `-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte`
- `-auto -mbranches-within-32B-boundaries`
- `-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin`
- `-lqkmalloc`

### Peak Compiler Invocation

**C benchmarks (except as noted below):**

- `icx`

- `500.perlbench_r: icc`

**C++ benchmarks:**

- `icpx`

**Fortran benchmarks:**

- `ifort`
Dell Inc.

PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)

**SPECrate®2017_int_base = 52.2**

**SPECrate®2017_int_peak = 54.4**

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** Aug-2021  
**Hardware Availability:** Oct-2021  
**Software Availability:** May-2021  

### Peak Portability Flags

- 500.perlbench: -DSPEC_LP64 -DSPEC_LINUX_X64  
- 502.gcc: -D_FILE_OFFSET_BITS=64  
- 505.mcf: -DSPEC_LP64  
- 520.omnetpp: -DSPEC_LP64  
- 523.xalancbmk: -DSPEC_LP64 -DSPEC_LINUX  
- 525.x264: -DSPEC_LP64  
- 531.deepsjeng: -DSPEC_LP64  
- 541.leela: -DSPEC_LP64  
- 548.exchange2: -DSPEC_LP64  
- 557.xz: -DSPEC_LP64

### Peak Optimization Flags

**C benchmarks:**

- 500.perlbench: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2)  
-xCORE-AVX512 -ipo -O3 -no-prec-div  
-fopt-mem-layout-trans=4 -fno-strict-overflow  
mbranches-within-32B-boundaries  
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin  
-lqkmalloc

- 502.gcc: -m32  
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/ia32_lin  
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)  
-fprofile-use=default.profdatalinux -xCORE-AVX512 -flto  
-Ofast(pass 1) -O3 -ffast-math -fopt-mem-layout-trans=4  
mbranches-within-32B-boundaries  
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc

- 505.mcf: basepeak = yes

- 520.omnetpp: -Wl,-z,muldefs -xCORE-AVX512 -flto  
-O3 -ffast-math -fopt-mem-layout-trans=4 -fno-alias  
mbranches-within-32B-boundaries  
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin  
-lqkmalloc

- 557.xz: basepeak = yes

**C++ benchmarks:**

- 520.omnetpp: basepeak = yes

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

Dell Inc.
PowerEdge T350 (Intel Xeon E-2336, 2.90 GHz)

SPECrate®2017_int_base = 52.2
SPECrate®2017_int_peak = 54.4

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

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

Peak Optimization Flags (Continued)

523.xalancbmk_r: basepeak = yes
531.deepsjeng_r: basepeak = yes
541.leela_r: basepeak = yes

Fortran benchmarks:
548.exchange2_r: basepeak = yes

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/Intel-ic2021-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-ICX-rev1.4.xml

SPEC CPU and SPECrate 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 2021-08-30 14:15:45-0400.
Originally published on 2021-10-06.