# SPEC CPU®2017 Integer Rate Result

## Dell Inc.

PowerEdge R750xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

<table>
<thead>
<tr>
<th>Copies</th>
<th>SPECrate®2017_int_base</th>
<th>SPECrate®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>40</td>
<td>40</td>
<td>42</td>
</tr>
<tr>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>240</td>
<td>240</td>
<td>240</td>
</tr>
<tr>
<td>280</td>
<td>280</td>
<td>280</td>
</tr>
<tr>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>360</td>
<td>360</td>
<td>360</td>
</tr>
<tr>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>440</td>
<td>440</td>
<td>440</td>
</tr>
<tr>
<td>480</td>
<td>480</td>
<td>480</td>
</tr>
<tr>
<td>520</td>
<td>520</td>
<td>520</td>
</tr>
<tr>
<td>560</td>
<td>560</td>
<td>560</td>
</tr>
<tr>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>640</td>
<td>640</td>
<td>640</td>
</tr>
<tr>
<td>680</td>
<td>680</td>
<td>680</td>
</tr>
<tr>
<td>720</td>
<td>720</td>
<td>720</td>
</tr>
<tr>
<td>760</td>
<td>760</td>
<td>760</td>
</tr>
<tr>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>840</td>
<td>840</td>
<td>840</td>
</tr>
<tr>
<td>910</td>
<td>910</td>
<td>910</td>
</tr>
</tbody>
</table>

| 500.perlbench_r | 128 | ▲▲▲ 347 |
| 502.gcc_r       | 128 | ▲ 324    |
| 505.mcf_r       | 128 | ▲ 337    |
| 520.omnetpp_r   | 128 | ▲ 245    |
| 523.xalancbmk_r | 128 | ▲ 506    |
| 525.x264_r      | 128 | ▲ 863    |
| 531.deepsjeng_r | 128 | ▲ 327    |
| 541.leela_r     | 128 | ▲ 319    |
| 548.exchange2_r | 128 | ▲ 891    |
| 557.xz_r        | 128 | ▲ 236    |

**SPECrate®2017_int_base = 414**

**SPECrate®2017_int_peak = 428**

## Hardware

**CPU Name:** Intel Xeon Platinum 8352Y  
**Max MHz:** 3400  
**Nominal:** 2200  
**Enabled:** 64 cores, 2 chips, 2 threads/core  
**Orderable:** 1.2 chips  
**Cache L1:** 32 KB I + 48 KB D on chip per core  
**L2:** 1.25 MB I+D on chip per core  
**L3:** 48 MB I+D on chip per chip  
**Other:** None  
**Memory:** 512 GB (16 x 32 GB 2Rx8 PC4-3200AA-R)  
**Storage:** 225 GB on tmpfs  
**Other:** None

## 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 1.1.3 released Apr-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.
## Dell Inc.
PowerEdge R750xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

<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>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>128</td>
<td>697</td>
<td>292</td>
<td>698</td>
<td>292</td>
<td>128</td>
<td>604</td>
<td>337</td>
<td>606</td>
<td>337</td>
<td></td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>128</td>
<td>560</td>
<td>324</td>
<td>558</td>
<td>325</td>
<td>128</td>
<td>468</td>
<td>387</td>
<td>468</td>
<td>387</td>
<td></td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>128</td>
<td>313</td>
<td>660</td>
<td>312</td>
<td>664</td>
<td>128</td>
<td>312</td>
<td>660</td>
<td>312</td>
<td>664</td>
<td></td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>128</td>
<td>685</td>
<td>245</td>
<td>682</td>
<td>246</td>
<td>128</td>
<td>682</td>
<td>246</td>
<td>682</td>
<td>246</td>
<td></td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>128</td>
<td>267</td>
<td>506</td>
<td>266</td>
<td>507</td>
<td>128</td>
<td>266</td>
<td>507</td>
<td>266</td>
<td>507</td>
<td></td>
</tr>
<tr>
<td>525.x264_r</td>
<td>128</td>
<td>260</td>
<td>863</td>
<td>260</td>
<td>864</td>
<td>128</td>
<td>247</td>
<td>906</td>
<td>248</td>
<td>903</td>
<td></td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>128</td>
<td>448</td>
<td>328</td>
<td>448</td>
<td>327</td>
<td>128</td>
<td>448</td>
<td>328</td>
<td>448</td>
<td>327</td>
<td></td>
</tr>
<tr>
<td>541.leela_r</td>
<td>128</td>
<td>665</td>
<td>319</td>
<td>663</td>
<td>320</td>
<td>128</td>
<td>663</td>
<td>320</td>
<td>663</td>
<td>320</td>
<td></td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>128</td>
<td>376</td>
<td>891</td>
<td>374</td>
<td>896</td>
<td>128</td>
<td>374</td>
<td>896</td>
<td>374</td>
<td>896</td>
<td></td>
</tr>
<tr>
<td>557.xz_r</td>
<td>128</td>
<td>586</td>
<td>236</td>
<td>586</td>
<td>236</td>
<td>128</td>
<td>597</td>
<td>232</td>
<td>596</td>
<td>232</td>
<td></td>
</tr>
</tbody>
</table>

**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"

**Environment Variables Notes**

Environment variables set by runcpu before the start of the run:

```bash
LD_LIBRARY_PATH = 
"/mnt/ramdisk/cpu2017-1.1.8-ic2021.1/lib/intel64:/mnt/ramdisk/cpu2017-1.1.8-ic2021.1/lib/ia32:/mnt/ramdisk/cpu2017-1.1.8-ic2021.1/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 Red Hat Enterprise Linux 8.1
Transparent Huge Pages enabled by default
Prior to runcpu invocation
Filesystem page cache synced and cleared with:
```bash
sync; echo 3>/proc/sys/vm/drop_caches
```

(Continued on next page)
General Notes (Continued)

runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

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 225 GB ramdisk created with the cmd: "mount -t tmpfs -o size=225G tmpfs /mnt/ramdisk"

Platform Notes

BIOS settings:
Sub NUMA Cluster : 2-Way Clustering
Virtualization Technology : Disabled

System Profile : Custom
CPU Power Management : Maximum Performance
   C1E : Disabled
   C States : Autonomous
Memory Patrol Scrub : Disabled
Energy Efficiency Policy : Performance
CPU Interconnect Bus Link
   Power Management : Disabled
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 982a61ec0915b55891ef0e16a1acfc64d
running on r750xs.jzjpm83.inside.dell.com Wed Aug 11 15:17:43 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) Platinum 8352Y CPU @ 2.20GHz
   2 "physical id"s (chips)
   128 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following

(Continued on next page)
Dell Inc.
PowerEdge R750xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

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

SPEC CPU®2017 Integer Rate Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 414
SPECrate®2017_int_peak = 428

Platform Notes (Continued)

excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 32
siblings : 64
physical 0: cores 0 1 2 3 4 5 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
28 29 30 31
physical 1: cores 0 1 2 3 4 5 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
28 29 30 31

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): 128
On-line CPU(s) list: 0-127
Thread(s) per core: 2
Core(s) per socket: 32
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Platinum 8352Y CPU @ 2.0GHz
BIOS Model name: Intel(R) Xeon(R) Platinum 8352Y CPU @ 2.0GHz
Stepping: 6
CPU MHz: 1954.960
BogoMIPS: 4400.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 49152K
NUMA node0 CPU(s):
0,4,8,12,16,20,24,28,32,36,40,44,48,52,56,60,64,68,72,76,80,84,88,92,96,100,104,108,
112,116,120,124
NUMA node1 CPU(s):
2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62,66,70,74,78,82,86,90,94,98,102,106,110,
114,118,122,126
NUMA node2 CPU(s):
1,5,9,13,17,21,25,29,33,37,41,45,49,53,57,61,65,69,73,77,81,85,89,93,97,101,105,109,
113,117,121,125
NUMA node3 CPU(s):
115,119,123,127
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

(Continued on next page)
Dell Inc.

PowerEdge R750xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

SPECrate®2017_int_base = 414
SPECrate®2017_int_peak = 428

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

Platform Notes (Continued)

aperfmpref pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
xtrpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
avx f16c rdrand lahf_lm abm 3nowprefetch cpuid_fault epb cat_l3 invpcid_single
intel_pni ssbd mba ibrs ibpb stibp ibrs_enhanced fsgsbase tsc_adjust bmi1 hle avx2
smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma
c1flushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsave vgetbv1
xsaves cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local split_lock_detect wbnoinvd
dtherm ida arat pln pts avx512vmbi umpk pku ospke avx512_vmbi2 qfni vaes vpclmulqdq
avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid fsrm md_clear pconfig
flush_l1d arch_capabilities

/proc/cpuinfo cache data
cache size: 49152 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 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88 92 96
100 104 108 112 116 120 124
node 0 size: 128117 MB
node 0 free: 127659 MB
node 1 cpus: 2 6 10 14 18 22 26 30 34 38 42 46 50 54 58 62 66 70 74 78 82 86 90 94 98
102 106 110 114 118 122 126
node 1 size: 129017 MB
node 1 free: 127895 MB
node 2 cpus: 1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61 65 69 73 77 81 85 89 93 97
101 105 109 113 117 121 125
node 2 size: 129017 MB
node 2 free: 119293 MB
node 3 cpus: 3 7 11 15 19 23 27 31 35 39 43 47 51 55 59 63 67 71 75 79 83 87 91 95 99
103 107 111 115 119 123 127
node 3 size: 129014 MB
node 3 free: 128448 MB
node distances:
node 0 1 2 3
0: 10 11 20 20
1: 11 10 20 20
2: 20 20 10 11
3: 20 20 11 10

From /proc/meminfo
MemTotal: 527529948 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

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

(Continued on next page)
Platform Notes (Continued)

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

```plaintext
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
```

```plaintext
uname -a:
Linux r750xs.jzjpm83.inside.dell.com 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): Not affected
CVE-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swaps barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 Aug 11 15:16

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>
<tbody>
<tr>
<td>tmpfs</td>
<td>tmpfs</td>
<td>225G</td>
<td>4.4G</td>
<td>221G</td>
<td>2%</td>
<td>/mnt/ramdisk</td>
</tr>
</tbody>
</table>

From /sys/devices/virtual/dmi/id

Vendor: Dell Inc.
Product: PowerEdge R750 xs
Product Family: PowerEdge
Serial: JZJPM83
Platform Notes (Continued)

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:
16x 002C069D002C 18ASF4G72PDZ-3G2E1 32 GB 2 rank 3200

BIOS:
  BIOS Vendor:       Dell Inc.
  BIOS Version:      1.1.3
  BIOS Date:         04/27/2021
  BIOS Revision:     1.1

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C       | 500.perlbench_r(peak) 557.xz_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)
-----------------------------------------------------------------------------
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       | 500.perlbench_r(peak) 557.xz_r(peak)
-----------------------------------------------------------------------------
(Continued on next page)
Dell Inc. PowerEdge R750xs (Intel Xeon Platinum 8352Y, 2.20 GHz)  

**SPEC CPU®2017 Integer Rate Result**

<table>
<thead>
<tr>
<th>Spec Name</th>
<th>Spec Code</th>
<th>Result</th>
<th>DSRC Code</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_base</td>
<td>Dell Inc.</td>
<td>414</td>
<td>Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000</td>
<td>414</td>
</tr>
<tr>
<td>SPECrate®2017_int_peak</td>
<td>Dell Inc.</td>
<td>428</td>
<td>Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000</td>
<td>428</td>
</tr>
</tbody>
</table>

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

**Compiler Version Notes (Continued)**

---

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)
---

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 | 500.perlbench_r(peak) 557.xz_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)
---

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.
---

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

## Dell Inc.

PowerEdge R750xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

<table>
<thead>
<tr>
<th>SPECrates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate\textsuperscript{2017\textunderscore int\textunderscore base}</td>
<td>414</td>
</tr>
<tr>
<td>SPECrate\textsuperscript{2017\textunderscore int\textunderscore peak}</td>
<td>428</td>
</tr>
</tbody>
</table>

### CPU2017 License:
55

### Test Date:
Aug-2021

### Test Sponsor:
Dell Inc.

### Hardware Availability:
Jul-2021

### Tested by:
Dell Inc.

### Software Availability:
May-2021

### Compiler Version Notes (Continued)

<table>
<thead>
<tr>
<th>C++ Benchmark</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>520.omnetpp_r</td>
<td>-DSPEC_LP64 -DSPEC_LINUX_X64</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>-DSPEC_LP64 -DSPEC_LINUX</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>-DSPEC_LP64</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>-DSPEC_LP64</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>-DSPEC_LP64</td>
</tr>
</tbody>
</table>

### Intel(R) Fortran Intel(R) 64 Compiler Classic

<table>
<thead>
<tr>
<th>Fortran Benchmark</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>548.exchange2_r</td>
<td>-DSPEC_LP64</td>
</tr>
</tbody>
</table>

### 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
- 541.leela_r: -DSPEC_LP64
- 548.exchange2_r: -DSPEC_LP64
- 557.xz_r: -DSPEC_LP64
Dell Inc.
PowerEdge R750xs (Intel Xeon Platinum 8352Y, 2.20 GHz)  

SPECrate®2017_int_base = 414  
SPECrate®2017_int_peak = 428

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

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

### 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`
- `557.xz_r: icc`

C++ benchmarks:
- `icpx`

Fortran benchmarks:
- `ifort`

### Peak Portability Flags

- `500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64`
- `502.gcc_r: -D_FILE_OFFSET_BITS=64`
- `505.mcf_r: -DSPEC_LP64`
SPEC CPU®2017 Integer Rate Result

Dell Inc.
PowerEdge R750xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

SPECRate®2017_int_base = 414
SPECRate®2017_int_peak = 428

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

Peak Portability Flags (Continued)

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

Peak Optimization Flags

C benchmarks:

500.perlbench_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2)
-xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-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_r: -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.profdata(pass 2) -xCORE-AVX512 -flto
-Ofast(pass 1) -O3 -ffast-math -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc

505.mcf_r: basepeak = yes

525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -flto
-O3 -ffast-math -qopt-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_r: -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-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:

520.omnetpp_r: basepeak = yes

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

(Continued on next page)
### Dell Inc.

PowerEdge R750xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>SPECrate®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>414</td>
<td>428</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** Aug-2021  
**Hardware Availability:** Jul-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 2021-08-11 16:17:42-0400.  
Report generated on 2021-09-14 19:15:54 by CPU2017 PDF formatter v6442.  
Originally published on 2021-09-14.