# SPEC CPU®2017 Integer Speed Result

## Dell Inc.

PowerEdge R750xs (Intel Xeon Gold 6330N, 2.20 GHz)

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OS:</strong> Red Hat Enterprise Linux 8.4 (Ootpa)</td>
<td><strong>CPU Name:</strong> Intel Xeon Gold 6330N</td>
</tr>
<tr>
<td><strong>Compiler:</strong> 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</td>
<td><strong>Max MHz:</strong> 3400</td>
</tr>
<tr>
<td><strong>Firmware:</strong> Version 1.2.1 released May-2021</td>
<td><strong>Nominal:</strong> 2200</td>
</tr>
<tr>
<td><strong>File System:</strong> tmpfs</td>
<td><strong>Enabled:</strong> 56 cores, 2 chips</td>
</tr>
<tr>
<td><strong>System State:</strong> Run level 3 (multi-user)</td>
<td><strong>Orderable:</strong> 1.2 chips</td>
</tr>
<tr>
<td><strong>Base Pointers:</strong> 64-bit</td>
<td><strong>Cache L1:</strong> 32 KB I + 48 KB D on chip per core</td>
</tr>
<tr>
<td><strong>Peak Pointers:</strong> 64-bit</td>
<td><strong>L2:</strong> 1.25 MB I+D on chip per core</td>
</tr>
<tr>
<td><strong>Other:</strong> jemalloc memory allocator V5.0.1</td>
<td><strong>L3:</strong> 42 MB I+D on chip per chip</td>
</tr>
<tr>
<td><strong>Power Management:</strong> BIOS and OS set to prefer performance at the cost of additional power usage.</td>
<td><strong>Other:</strong> None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Memory:</strong> 512 GB (16 x 32 GB 2Rx8 PC4-3200AA-R, running at 2666)</td>
<td><strong>Memory:</strong> 512 GB (16 x 32 GB 2Rx8 PC4-3200AA-R, running at 2666)</td>
</tr>
<tr>
<td><strong>Storage:</strong> 225 GB on tmpfs</td>
<td><strong>Storage:</strong> 225 GB on tmpfs</td>
</tr>
<tr>
<td><strong>Other:</strong> None</td>
<td><strong>Other:</strong> None</td>
</tr>
</tbody>
</table>

## SPECspeed®2017_int_base = 11.5

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_peak = 11.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dell Inc.</td>
</tr>
<tr>
<td>Test Date: Oct-2021</td>
</tr>
<tr>
<td>Test Sponsor: Dell Inc.</td>
</tr>
<tr>
<td>Tested by: Dell Inc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base (11.5)</th>
<th>SPECspeed®2017_int_peak (11.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Threads</strong></td>
<td><strong>Threads</strong></td>
</tr>
<tr>
<td>600.perlbench_s 56</td>
<td>600.perlbench_s 56</td>
</tr>
<tr>
<td>602.gcc_s 56</td>
<td>602.gcc_s 56</td>
</tr>
<tr>
<td>605.mcf_s 56</td>
<td>605.mcf_s 56</td>
</tr>
<tr>
<td>620.omnetpp_s 56</td>
<td>620.omnetpp_s 56</td>
</tr>
<tr>
<td>623.xalanchmk_s 56</td>
<td>623.xalanchmk_s 56</td>
</tr>
<tr>
<td>625.x264_s 56</td>
<td>625.x264_s 56</td>
</tr>
<tr>
<td>631.deepsjeng_s 56</td>
<td>631.deepsjeng_s 56</td>
</tr>
<tr>
<td>641.leela_s 56</td>
<td>641.leela_s 56</td>
</tr>
<tr>
<td>648.exchange2_s 56</td>
<td>648.exchange2_s 56</td>
</tr>
<tr>
<td>657.xz_s 56</td>
<td>657.xz_s 56</td>
</tr>
<tr>
<td><strong>SPECspeed®2017_int_base = 11.5</strong></td>
<td><strong>SPECspeed®2017_int_peak = 11.7</strong></td>
</tr>
</tbody>
</table>

| 0 | 1.00 | 2.00 | 3.00 | 4.00 | 5.00 | 6.00 | 7.00 | 8.00 | 9.00 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 23.0 |
| 8.04 | 10.4 | 10.8 | 19.1 | 11.3 | 13.2 | 16.6 | 17.3 | 4.71 | 18.8 |

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

**PowerEdge R750xs (Intel Xeon Gold 6330N, 2.20 GHz)**

**SPECspeed®2017_int_base = 11.5**

**SPECspeed®2017_int_peak = 11.7**

**CPU Name:** Intel Xeon Gold 6330N
**Max MHz:** 3400
**Nominal:** 2200
**Enabled:** 56 cores, 2 chips
**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:** 42 MB I+D on chip per chip
**Other:** None
**Memory:** 512 GB (16 x 32 GB 2Rx8 PC4-3200AA-R, running at 2666)
**Storage:** 225 GB on tmpfs
**Other:** None
## Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</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>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perbench_s</td>
<td>56</td>
<td>253</td>
<td>7.03</td>
<td>253</td>
<td>7.01</td>
<td>56</td>
<td>221</td>
<td>8.04</td>
<td>219</td>
<td>8.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>56</td>
<td>379</td>
<td>10.5</td>
<td>382</td>
<td>10.4</td>
<td>56</td>
<td>368</td>
<td>10.8</td>
<td>364</td>
<td>10.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>56</td>
<td>247</td>
<td>19.1</td>
<td>248</td>
<td>19.1</td>
<td>56</td>
<td>247</td>
<td>19.1</td>
<td>248</td>
<td>19.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>56</td>
<td>139</td>
<td>11.7</td>
<td>145</td>
<td>11.3</td>
<td>56</td>
<td>139</td>
<td>11.7</td>
<td>145</td>
<td>11.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>623.xalancbmk_s</td>
<td>56</td>
<td>107</td>
<td>13.2</td>
<td>108</td>
<td>13.2</td>
<td>56</td>
<td>107</td>
<td>13.2</td>
<td>108</td>
<td>13.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>625.x264_s</td>
<td>56</td>
<td>106</td>
<td>16.6</td>
<td>106</td>
<td>16.6</td>
<td>56</td>
<td>102</td>
<td>17.3</td>
<td>102</td>
<td>17.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>56</td>
<td>249</td>
<td>5.75</td>
<td>249</td>
<td>5.75</td>
<td>56</td>
<td>249</td>
<td>5.75</td>
<td>249</td>
<td>5.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>641.leela_s</td>
<td>56</td>
<td>362</td>
<td>4.71</td>
<td>362</td>
<td>4.71</td>
<td>56</td>
<td>362</td>
<td>4.71</td>
<td>362</td>
<td>4.71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>56</td>
<td>156</td>
<td>18.8</td>
<td>156</td>
<td>18.8</td>
<td>56</td>
<td>156</td>
<td>18.8</td>
<td>156</td>
<td>18.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>657.xz_s</td>
<td>56</td>
<td>273</td>
<td>22.6</td>
<td>271</td>
<td>22.8</td>
<td>56</td>
<td>273</td>
<td>22.6</td>
<td>271</td>
<td>22.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SPECspeed®2017 int_base = 11.5**  
**SPECspeed®2017 int_peak = 11.7**

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

## 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:

- KMP_AFFINITY = "granularity=fine,scatter"
- LD_LIBRARY_PATH = "/mnt/ramdisk/cpu2017-1.1.8-ic2021.1/lib/intel64:/mnt/ramdisk/cpu2017-1.1.8-ic2021.1/je5.0.1-64"
- MALLOC_CONF = "retain:true"
- OMP_STACKSIZE = "192M"

## 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  
    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.

(Continued on next page)
**General Notes (Continued)**

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:
- Logical Processor : Disabled
- 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 : Disabled
- Power Management : Disabled
- PCI ASPM L1 Link : Disabled
- Power Management : Disabled

Sysinfo program /mnt/ramdisk/cpu2017-1.1.8-ic2021.1/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
running on r750xs.jzjpm83.inside.dell.com Mon Oct 11 09:22:10 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 6330N CPU @ 2.20GHz
  2 "physical id"s (chips)
  56 "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 : 28
  siblings : 28
  physical 0: cores 0 1 2 3 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
  physical 1: cores 0 1 2 3 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

From lscpu from util-linux 2.32.1:
- Architecture: x86_64

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

Dell Inc.

PowerEdge R750xs (Intel Xeon Gold 6330N, 2.20 GHz)

SPECspeed®2017_int_base = 11.5
SPECspeed®2017_int_peak = 11.7

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

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

Platform Notes (Continued)

CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 56
On-line CPU(s) list: 0-55
Thread(s) per core: 1
Core(s) per socket: 28
Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Gold 6330N CPU @ 2.20GHz
BIOS Model name: Intel(R) Xeon(R) Gold 6330N CPU @ 2.20GHz
Stepping: 6
CPU MHz: 3077.801
BogoMIPS: 4400.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 43008K
NUMA node0 CPU(s): 0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54
NUMA node1 CPU(s): 1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55
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 aperfmperf pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsv f16c rdrand lahf_lm abm 3nowprefetch cpuid_fault epb cat_l3 invpcid_single intel_pup spin ma ibrs ibpb stibp ibrs_enhanced fsbgbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invbig cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb intel_pt avx512cd sha ni avx512bw avx512vl xsavesopt xsaves xgetbv1 xsaveopt xsaves cqm_llc cqm_occup llc cqm_mbb_total cqm_mbb_local split_lock_detect wbuginvv dtherm ida arat pni pts avx512vbmi umk uopk avx512_vmbi2 gfni vaes vpmulqd avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid fsrm md_clear pconfig flush_lld arch_capabilities

From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 2 nodes (0-1)
node 0 cpus: 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50

(Continued on next page)
Dell Inc.  

PowerEdge R750xs (Intel Xeon Gold 6330N, 2.20 GHz)  

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base</th>
<th>11.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_int_peak</td>
<td>11.7</td>
</tr>
</tbody>
</table>

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

---

**Platform Notes (Continued)**

52 54  
node 0 size: 257179 MB  
node 0 free: 246544 MB  
node 1 cpus: 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55  
node 1 size: 258002 MB  
node 1 free: 257442 MB  
node distances:  
node 0: 0 1  
node 1: 0 10 20  
1: 20 10  

From /proc/meminfo  
MemTotal: 527545860 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 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

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

Dell Inc.

PowerEdge R750xs (Intel Xeon Gold 6330N, 2.20 GHz)

SPECspeed®2017_int_base = 11.5
SPECspeed®2017_int_peak = 11.7

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

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

Platform Notes (Continued)

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 Oct 11 09:12
SPEC is set to: /mnt/ramdisk/cpu2017-1.1.8-ic2021.1
Filesystem Type Size Used Avail Use% Mounted on
tmpfs tmpfs 225G 4.4G 221G 2% /mnt/ramdisk

From /sys/devices/virtual/dmi/id
Vendor: Dell Inc.
Product: PowerEdge R750xs
Product Family: PowerEdge
Serial: JZJPM83

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, configured at 2666

BIOS:
BIOS Vendor: Dell Inc.
BIOS Version: 1.2.1
BIOS Date: 05/28/2021
BIOS Revision: 1.2

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C | 600.perlbench_s(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.
==============================================================================

(Continued on next page)
Dell Inc.

PowerEdge R750xs (Intel Xeon Gold 6330N, 2.20 GHz)

Specspeed®2017_int_base = 11.5
Specspeed®2017_int_peak = 11.7

Compiler Version Notes (Continued)

C

| 600.perlbench_s(base) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak) 657.xz_s(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.

C

| 600.perlbench_s(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

| 600.perlbench_s(base) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak) 657.xz_s(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.

C++

| 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak) 641.leela_s(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

| 648.exchange2_s(base, peak) |

Intel(R) Fortran 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.

Base Compiler Invocation

C benchmarks:
icx

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

**Dell Inc.**

PowerEdge R750xs (Intel Xeon Gold 6330N, 2.20 GHz)

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base</th>
<th>11.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_int_peak</td>
<td>11.7</td>
</tr>
</tbody>
</table>

**SPEC2017 License:** 55

**Test Sponsor:** Dell Inc.

**Tested by:** Dell Inc.

<table>
<thead>
<tr>
<th>CPU2017 License</th>
<th>Test Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>Oct-2021</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Hardware Availability</strong></th>
<th>May-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Software Availability</strong></td>
<td>Jul-2021</td>
</tr>
</tbody>
</table>

---

**Base Compiler Invocation (Continued)**

C++ benchmarks:
- icpx

Fortran benchmarks:
- ifort

---

**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:
- -DSPEC_OPENMP -std=c11 -m64 -fopenmp -Wl,-z,muldefs -xCORE-AVX512
- -O3 -ffast-math -flto -mfpmath=sse -funroll-loops
- -qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
- -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

C++ benchmarks:
- -DSPEC_OPENMP -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:
- -m64 -xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-mem-layout-trans=4
- -nostandard-realloc-lhs -align array32byte -auto
- -mbranches-within-32B-boundaries
## SPEC CPU®2017 Integer Speed Result

### Dell Inc.

PowerEdge R750xs (Intel Xeon Gold 6330N, 2.20 GHz)

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base</th>
<th>SPECspeed®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.5</td>
<td>11.7</td>
</tr>
</tbody>
</table>

| CPU2017 License: | 55 |
| Test Date:      | Oct-2021 |
| Test Sponsor:   | Dell Inc. |
| Tested by:      | Dell Inc. |

### Peak Compiler Invocation

C benchmarks (except as noted below):
- icx

600.perlbench_s: icc

C++ benchmarks:
- icpx

Fortran benchmarks:
- ifort

### Peak Portability Flags

Same as Base Portability Flags

### Peak Optimization Flags

C benchmarks:

600.perlbench_s: -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/usr/local/jemalloc64-5.0.1/lib -ljemalloc

602.gcc_s: -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profd(data(pass 2) -xCORE-AVX512 -flto
-Ofast(pass 1) -O3 -ffast-math -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

605.mcf_s: basepeak = yes

625.x264_s: -DSPEC_OPENMP -fiopenmp -std=c11 -m64 -Wl,-z,muldefs
-xCORE-AVX512 -flto -O3 -ffast-math
-qopt-mem-layout-trans=4 -fno-alias
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

657.xz_s: basepeak = yes

(Continued on next page)
Dell Inc. PowerEdge R750xs (Intel Xeon Gold 6330N, 2.20 GHz)

SPECspeed®2017_int_base = 11.5
SPECspeed®2017_int_peak = 11.7

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

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

Peak Optimization Flags (Continued)

C++ benchmarks:

620.omnetpp_s: basepeak = yes
623.xalancbmk_s: basepeak = yes
631.deepsjeng_s: basepeak = yes
641.leela_s: basepeak = yes

Fortran benchmarks:

648.exchange2_s: 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 SPECspeed 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 2021-10-11 10:22:10-0400.
Report generated on 2021-11-10 10:12:32 by CPU2017 PDF formatter v6442.
Originally published on 2021-11-09.