**SPEC CPU® 2017 Integer Speed Result**

Dell Inc.

PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

**SPECspeed® 2017 int_base** = 11.3  
**SPECspeed® 2017 int_peak** = 11.5

---

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

**Test Date:** May-2021  
**Hardware Availability:** Jul-2021  
**Software Availability:** Feb-2021

---

### Hardware

**CPU Name:** Intel Xeon Silver 4316  
**Max MHz:** 3400  
**Nominal:** 2300  
**Enabled:** 20 cores, 1 chip  
**Orderable:** 1 chip  
**Cache L1:** 32 KB I + 48 KB D on chip per core  
**L2:** 1.25 MB I+D on chip per core  
**L3:** 30 MB I+D on chip per chip  
**Other:** None  
**Memory:** 512 GB (8 x 64 GB 2Rx4 PC4-3200AA-R, running at 2666)  
**Storage:** 1 x 240 GB M.2 SATA SSD  
**Other:** None

---

### Software

**OS:** Red Hat Enterprise Linux 8.3 (Ootpa)  
4.18.0-240.15.1.el8_3.x86_64  
**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:** Yes  
**Firmware:** Version 0.9.0 released May-2021  
**File System:** xfs  
**System State:** Run level 5 (graphical multi-user)  
**Base Pointers:** 64-bit  
**Peak Pointers:** 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.

---

**Threads**  
<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed® 2017 int_base</th>
<th>SPECspeed® 2017 int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>20</td>
<td>7.02</td>
<td>-</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>20</td>
<td>8.03</td>
<td>10.6</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>20</td>
<td>10.6</td>
<td>10.9</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>20</td>
<td>10.6</td>
<td>-</td>
</tr>
<tr>
<td>623.xalancbmk_s</td>
<td>20</td>
<td>13.0</td>
<td>-</td>
</tr>
<tr>
<td>625.x264_s</td>
<td>20</td>
<td>16.6</td>
<td>17.3</td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>20</td>
<td>5.78</td>
<td>-</td>
</tr>
<tr>
<td>641.leela_s</td>
<td>20</td>
<td>4.72</td>
<td>-</td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>20</td>
<td>18.8</td>
<td>-</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>20</td>
<td>19.5</td>
<td>-</td>
</tr>
</tbody>
</table>
Dell Inc.

PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

SPECspeed®2017_int_base = 11.3

SPECspeed®2017_int_peak = 11.5

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>Threads</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.perlbench_s</td>
<td>20</td>
<td>253</td>
<td>7.02</td>
<td>253</td>
<td>7.03</td>
<td>253</td>
<td>7.01</td>
<td>20</td>
<td>221</td>
<td>8.03</td>
<td>221</td>
<td>8.05</td>
<td>221</td>
<td>8.03</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>20</td>
<td>376</td>
<td>10.6</td>
<td>375</td>
<td>10.6</td>
<td>379</td>
<td>10.5</td>
<td>20</td>
<td>366</td>
<td>10.9</td>
<td>365</td>
<td>10.9</td>
<td>365</td>
<td>10.9</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>20</td>
<td>237</td>
<td>19.9</td>
<td>237</td>
<td>19.9</td>
<td>241</td>
<td>19.6</td>
<td>20</td>
<td>237</td>
<td>19.9</td>
<td>237</td>
<td>19.9</td>
<td>241</td>
<td>19.6</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>20</td>
<td>152</td>
<td>10.7</td>
<td>156</td>
<td>10.4</td>
<td>154</td>
<td>10.6</td>
<td>20</td>
<td>152</td>
<td>10.7</td>
<td>156</td>
<td>10.4</td>
<td>154</td>
<td>10.6</td>
</tr>
<tr>
<td>623.xalancmk_s</td>
<td>20</td>
<td>109</td>
<td>13.0</td>
<td>107</td>
<td>13.2</td>
<td>109</td>
<td>13.0</td>
<td>20</td>
<td>109</td>
<td>13.0</td>
<td>107</td>
<td>13.2</td>
<td>109</td>
<td>13.0</td>
</tr>
<tr>
<td>625.x264_s</td>
<td>20</td>
<td>106</td>
<td>16.6</td>
<td>106</td>
<td>16.6</td>
<td>107</td>
<td>16.6</td>
<td>20</td>
<td>102</td>
<td>17.3</td>
<td>102</td>
<td>17.3</td>
<td>102</td>
<td>17.3</td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>20</td>
<td>248</td>
<td>5.78</td>
<td>248</td>
<td>5.78</td>
<td>248</td>
<td>5.77</td>
<td>20</td>
<td>248</td>
<td>5.78</td>
<td>248</td>
<td>5.78</td>
<td>248</td>
<td>5.77</td>
</tr>
<tr>
<td>641.leela_s</td>
<td>20</td>
<td>362</td>
<td>4.72</td>
<td>362</td>
<td>4.72</td>
<td>362</td>
<td>4.71</td>
<td>20</td>
<td>362</td>
<td>4.72</td>
<td>362</td>
<td>4.72</td>
<td>362</td>
<td>4.72</td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>20</td>
<td>157</td>
<td>18.7</td>
<td>156</td>
<td>18.8</td>
<td>156</td>
<td>18.8</td>
<td>20</td>
<td>157</td>
<td>18.7</td>
<td>156</td>
<td>18.8</td>
<td>156</td>
<td>18.8</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>20</td>
<td>318</td>
<td>19.5</td>
<td>317</td>
<td>19.5</td>
<td>318</td>
<td>19.5</td>
<td>20</td>
<td>318</td>
<td>19.5</td>
<td>317</td>
<td>19.5</td>
<td>318</td>
<td>19.5</td>
</tr>
</tbody>
</table>

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 = 
"/home/cpu2017-1.1.5-ic2021.1/lib/intel64:/home/cpu2017-1.1.5-ic2021.1/j
e5.0.1-64"
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.
SPEC CPU®2017 Integer Speed Result

Dell Inc.

PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

SPECspeed®2017_int_base = 11.3
SPECspeed®2017_int_peak = 11.5

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

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

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.

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
  Power Management : Disabled

Sysinfo program /home/cpu2017-1.1.5-ic2021.1/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on localhost.localdomain Wed May 19 11:52:06 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) Silver 4316 CPU @ 2.30GHz
  1 "physical id"s (chips)
  20 "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 : 20
siblings : 20
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

From lscpu:
  Architecture: x86_64
  CPU op-mode(s): 32-bit, 64-bit
  Byte Order: Little Endian
  CPU(s): 20
  On-line CPU(s) list: 0-19
  Thread(s) per core: 1

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

Dell Inc.

PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

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

SPECspeed®2017_int_base = 11.3
SPECspeed®2017_int_peak = 11.5

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

Platform Notes (Continued)

Core(s) per socket: 20
Socket(s): 1
NUMA node(s): 1
Vendor ID: GenuineIntel
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Silver 4316 CPU @ 2.30GHz
Stepping: 6
CPU MHz: 1236.527
BogoMIPS: 4600.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 30720K
NUMA node0 CPU(s): 0-19

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
aperfmpref pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
xtpr pdcm 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
intel_puin ssbd mba ibrs ibpb ibrs_enhanced tsc_adjust bmi1 hle avx2
smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma
clflushopt clwb intel_pt avx512cd sha ni avx512bw avx512vl xsaveopt xsavec xsaves
cqmm_llc cqmm_occup_llc cqmm_mbmb_total cqmm_mbmb_local split_lock_detect wbnoinvd
dtherm ida arat pln pts avx512vbmi umip pkp ospe avx512vbmi2 gfni vaes vpcm1ldqd
avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdrpid md_clear pconfig flush_lid
arch_capabilities

/proc/cpuinfo cache data
  cache size : 30720 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 12 13 14 15 16 17 18 19
  node 0 size: 496139 MB
  node 0 free: 498460 MB
  node distances:
    node 0
      0: 10

From /proc/meminfo
  MemTotal: 527818112 KB
  HugePages_Total: 0
  Hugepagesize: 2048 KB

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

Dell Inc.
PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

SPECspeed®2017_int_base = 11.3
SPECspeed®2017_int_peak = 11.5

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

Platform Notes (Continued)

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

From /etc/*release* /etc/*version*
os-release:
   NAME="Red Hat Enterprise Linux"
   VERSION="8.3 (Ootpa)"
   ID="rhel"
   ID_LIKE="fedora"
   VERSION_ID="8.3"
   PLATFORM_ID="platform:el8"
   PRETTY_NAME="Red Hat Enterprise Linux 8.3 (Ootpa)"
   ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.3:ga

uname -a:
   Linux localhost.localdomain 4.18.0-240.15.1.el8_3.x86_64 #1 SMP Wed Feb 3 03:12:15 EST
   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/swapsgs
   barriers and __user pointer
   sanitation
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 5 May 19 11:39

SPEC is set to: /home/cpu2017-1.1.5-ic2021.1

Filesystem            Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home  xfs   168G  8.2G  160G   5%  /home

From /sys/devices/virtual/dmi/id
Vendor: Dell Inc.

(Continued on next page)
Dell Inc.
PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

SPECspeed®2017_int_base = 11.3
SPECspeed®2017_int_peak = 11.5

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

Platform Notes (Continued)

Product: PowerEdge XR12
Product Family: PowerEdge
Serial: 09A000C

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.

Memory:
4x 002C069D002C 36ASF8G72PZ-3G2B2 64 GB 2 rank 3200, configured at 2666
4x 00AD063200AD HMAA8GR7AJR4N-XN 64 GB 2 rank 3200, configured at 2666

BIOS:
BIOS Vendor: Dell Inc.
BIOS Version: 0.9.0
BIOS Date: 05/10/2021
BIOS Revision: 0.9

(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.
------------------------------------------------------------------------------

==============================================================================
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.
Dell Inc. PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

SPECspeed®2017_int_base = 11.3
SPECspeed®2017_int_peak = 11.5

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

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

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++     | 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

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

(Continued on next page)
Dell Inc.

PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

**SPECspeed®2017_int_base = 11.3**
**SPECspeed®2017_int_peak = 11.5**

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

### Base Portability Flags (Continued)

- `620.omnetpp_s`: `-DSPEC_LP64`  
- `623.xalancbmk_s`: `-DSPEC_LP64 -DSPEC_LINUX`  
- `625.x264_s`: `-DSPEC_LP64`  
- `631.deepsjeng_s`: `-DSPEC_LP64`  
- `641.leea_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`

### Peak Compiler Invocation

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

- `icx`

- `600.perlbench_s: icc`

**C++ benchmarks:**

- `icpx`

**Fortran benchmarks:**

- `ifort`
Dell Inc.
PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

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

SPECspeed®2017_int_base = 11.3
SPECspeed®2017_int_peak = 11.5

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

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

602gcc_s: -m64 -std=c11 -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/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

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
## SPEC CPU®2017 Integer Speed Result

**Dell Inc.**

PowerEdge XR12 (Intel Xeon Silver 4316, 2.30 GHz)

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base</th>
<th>SPECspeed®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.3</td>
<td>11.5</td>
</tr>
</tbody>
</table>

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

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 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 v1.1.5 on 2021-05-19 12:52:05-0400.  
Originally published on 2021-07-06.