**SPEC® CPU2017 Integer Speed Result**

**Dell Inc.**  
PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Mar-2019</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>Hardware Availability:</td>
<td>Apr-2019</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Feb-2019</td>
</tr>
</tbody>
</table>

### Software

**OS:** Ubuntu 18.04.2 LTS  
**Compiler:** C/C++: Version 19.0.1.144 of Intel C/C++  
**Compiler Build:** 20181018 for Linux; Fortran: Version 19.0.1.144 of Intel Fortran  
**Compiler Build:** 20181018 for Linux  
**Parallel:** Yes  
**Firmware:** Version 2.2.2 released Mar-2019  
**File System:** ext4  
**System State:** Run level 5 (multi-user)  
**Base Pointers:** 64-bit  
**Peak Pointers:** 64-bit  
**Other:** jemalloc memory allocator V5.0.1

### Hardware

**CPU Name:** Intel Xeon Gold 5220  
**Max MHz.:** 3900  
**Nominal:** 2200  
**Enabled:** 36 cores, 2 chips, 2 threads/core  
**Orderable:** 1.2 chips  
**Cache L1:** 32 KB I + 32 KB D on chip per core  
**Cache L2:** 1 MB I+D on chip per core  
**Cache L3:** 24.75 MB I+D on chip per chip  
**Other:** None  
**Memory:** 384 GB (12 x 32 GB 2Rx4 PC4-2933Y-R, running at 2666)  
**Storage:** 1 x 480 GB SATA SSD  
**Other:** None

### Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed2017_int_base</th>
<th>SPECspeed2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>perlbench</td>
<td>72</td>
<td>9.75</td>
<td>9.92</td>
</tr>
<tr>
<td>gcc</td>
<td>72</td>
<td>9.43</td>
<td>9.43</td>
</tr>
<tr>
<td>mcf</td>
<td>72</td>
<td>11.9</td>
<td>11.9</td>
</tr>
<tr>
<td>omnetpp</td>
<td>72</td>
<td>7.69</td>
<td>7.69</td>
</tr>
<tr>
<td>xalancbmk</td>
<td>72</td>
<td>12.4</td>
<td>12.4</td>
</tr>
<tr>
<td>x264</td>
<td>72</td>
<td>14.2</td>
<td>14.2</td>
</tr>
<tr>
<td>deepsjeng</td>
<td>72</td>
<td>5.46</td>
<td>5.46</td>
</tr>
<tr>
<td>leela</td>
<td>72</td>
<td>4.78</td>
<td>4.78</td>
</tr>
<tr>
<td>exchange2</td>
<td>72</td>
<td>14.1</td>
<td>14.1</td>
</tr>
<tr>
<td>xz</td>
<td>72</td>
<td>21.5</td>
<td>21.5</td>
</tr>
</tbody>
</table>

---

**Notes:**

- Dell Inc.  
- CPU2017 License: 55  
- Copyright 2017-2019 Standard Performance Evaluation Corporation  
- Tested Date: Mar-2019  
- Hardware Availability: Apr-2019  
- Software Availability: Feb-2019  
- Tested by: Dell Inc.
### Dell Inc. PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)

**SPECspeed2017_int_base** = 9.75  
**SPECspeed2017_int_peak** = 9.92

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Threads</th>
<th>Seconds</th>
<th>Base Ratio</th>
<th>Seconds</th>
<th>Base Ratio</th>
<th>Seconds</th>
<th>Base Ratio</th>
<th>Peak Threads</th>
<th>Seconds</th>
<th>Peak Ratio</th>
<th>Seconds</th>
<th>Peak Ratio</th>
<th>Seconds</th>
<th>Peak Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>72</td>
<td>271</td>
<td>6.56</td>
<td>271</td>
<td>6.56</td>
<td>274</td>
<td>6.47</td>
<td>72</td>
<td>232</td>
<td>7.66</td>
<td>231</td>
<td>7.69</td>
<td>232</td>
<td>7.65</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>72</td>
<td>398</td>
<td>11.9</td>
<td>396</td>
<td>11.9</td>
<td>405</td>
<td>11.6</td>
<td>72</td>
<td>398</td>
<td>11.9</td>
<td>395</td>
<td>12.0</td>
<td>396</td>
<td>11.9</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>72</td>
<td>212</td>
<td>7.69</td>
<td>212</td>
<td>7.71</td>
<td>207</td>
<td>7.89</td>
<td>72</td>
<td>204</td>
<td>8.00</td>
<td>212</td>
<td>7.69</td>
<td>217</td>
<td>7.53</td>
</tr>
<tr>
<td>623.xalanchmk_s</td>
<td>72</td>
<td>114</td>
<td>12.4</td>
<td>113</td>
<td>12.5</td>
<td>114</td>
<td>12.4</td>
<td>72</td>
<td>113</td>
<td>12.5</td>
<td>114</td>
<td>12.4</td>
<td>115</td>
<td>12.3</td>
</tr>
<tr>
<td>625.x264_s</td>
<td>72</td>
<td>124</td>
<td>14.2</td>
<td>125</td>
<td>14.2</td>
<td>125</td>
<td>14.1</td>
<td>72</td>
<td>125</td>
<td>14.1</td>
<td>124</td>
<td>14.2</td>
<td>125</td>
<td>14.1</td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>72</td>
<td>261</td>
<td>5.48</td>
<td>262</td>
<td>5.47</td>
<td>263</td>
<td>5.45</td>
<td>72</td>
<td>262</td>
<td>5.47</td>
<td>263</td>
<td>5.46</td>
<td>263</td>
<td>5.46</td>
</tr>
<tr>
<td>641.leela_s</td>
<td>72</td>
<td>358</td>
<td>4.77</td>
<td>357</td>
<td>4.78</td>
<td>357</td>
<td>4.78</td>
<td>72</td>
<td>357</td>
<td>4.78</td>
<td>357</td>
<td>4.78</td>
<td>357</td>
<td>4.78</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>72</td>
<td>288</td>
<td>21.5</td>
<td>288</td>
<td>21.5</td>
<td>291</td>
<td>21.3</td>
<td>72</td>
<td>285</td>
<td>21.7</td>
<td>286</td>
<td>21.6</td>
<td>289</td>
<td>21.4</td>
</tr>
</tbody>
</table>

**SPECspeed2017_int_base** = 9.75  
**SPECspeed2017_int_peak** = 9.92

### 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"

### General Notes

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

```
LD_LIBRARY_PATH = "/home/cpu2017/lib/ia32:/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-32:/home/cpu2017/je5.0.1-64"
```

Binaries compiled on a system with 1x Intel Core i9-7900X CPU + 32GB RAM memory using Redhat Enterprise Linux 7.5

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-2017-5735 (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.

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.:
```
numactl --interleave=all runcpu <etc>
```
Dell Inc.

PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)

SPEC CPU2017 Integer Speed Result

<table>
<thead>
<tr>
<th>SPECspeed2017_int_base</th>
<th>9.75</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed2017_int_peak</td>
<td>9.92</td>
</tr>
</tbody>
</table>

CPU2017 License: 55
Test Sponsor: Dell Inc.
Test Date: Mar-2019
Tested by: Dell Inc.
Hardware Availability: Apr-2019
Software Availability: Feb-2019

General Notes (Continued)

jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

Platform Notes

BIOS settings:
ADDC setting disabled
Sub NUMA Cluster enabled
Virtualization Technology disabled
DCU Streamer Prefetcher enabled
System Profile set to Custom
CPU Performance set to Maximum Performance
C States set to Autonomous
C1E disabled
Uncore Frequency set to Dynamic
Energy Efficiency Policy set to Performance
Memory Patrol Scrub disabled
Logical Processor enabled
CPU Interconnect Bus Link Power Management disabled
PCI ASPM L1 Link Power Management disabled
Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
running on intel-sut Wed Mar 13 18:07:14 2019

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 5220 CPU @ 2.20GHz
  2 "physical id"s (chips)
  72 "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 : 18
siblings : 36
physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 72
On-line CPU(s) list: 0-71

(Continued on next page)
## SPEC CPU2017 Integer Speed Result

### Dell Inc.

**PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)**

- **CPU2017 License:** 55
- **Test Sponsor:** Dell Inc.
- **Tested by:** Dell Inc.
- **Test Date:** Mar-2019
- **Hardware Availability:** Apr-2019
- **Software Availability:** Feb-2019

### SPECspeed2017_int_base = 9.75

### SPECspeed2017_int_peak = 9.92

### Platform Notes (Continued)

- **Thread(s) per core:** 2
- **Core(s) per socket:** 18
- **Socket(s):** 2
- **NUMA node(s):** 2
- **Vendor ID:** GenuineIntel
- **CPU family:** 6
- **Model:** 85
- **Model name:** Intel(R) Xeon(R) Gold 5220 CPU @ 2.20GHz
- **Stepping:** 6
- **CPU MHz:** 1394.107
- **BogoMIPS:** 4400.00
- **Virtualization:** VT-x
- **L1d cache:** 32K
- **L1i cache:** 32K
- **L2 cache:** 1024K
- **L3 cache:** 25344K
- **NUMA node0 CPU(s):**
  - 0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70
- **NUMA node1 CPU(s):**
  - 1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59,61,63,65,67,69,71

### 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
aerpmpref perf忻v 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 aes xsave avx f16c rdrand
lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cdp_l3 invpcid_single ssbd mba ibrs
ibpb ibrsenhanced tpr_shadow vmporn flexpric m bmmi hle avx2 smep bmi2 erms invpcid rtm
cqm mpx rdt_a avx512f avx512dq rdseed adx
```

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 52 54 56 58 60 62 64 66 68 70
 node 0 size: 191929 MB
 node 0 free: 191480 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 57 59 61 63 65 67 69 71
 node 1 size: 193506 MB
```

(Continued on next page)
## Dell Inc.

**PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)**

<table>
<thead>
<tr>
<th>SPECspeed2017_int_base</th>
<th>SPECspeed2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.75</td>
<td>9.92</td>
</tr>
</tbody>
</table>

### Platform Notes (Continued)

node 1 free: 192894 MB
node distances:
node  0  1
  0:  10  21
  1:  21  10

From /proc/meminfo
MemTotal: 394687204 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
Ubuntu 18.04.2 LTS

From /etc/*release* /etc/*version*
debian_version: buster/sid
os-release:
  NAME="Ubuntu"
  VERSION="18.04.2 LTS (Bionic Beaver)"
  ID=ubuntu
  ID_LIKE=debian
  PRETTY_NAME="Ubuntu 18.04.2 LTS"
  VERSION_ID="18.04"
  HOME_URL="https://www.ubuntu.com/
  SUPPORT_URL="https://help.ubuntu.com/

uname -a:
Linux intel-sut 4.15.0-45-generic #48-Ubuntu SMP Tue Jan 29 16:28:13 UTC 2019 x86_64
x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2017-5754 (Meltdown): Not affected
CVE-2017-5753 (Spectre variant 1): Mitigation: __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Enhanced IBRS, IBPB

run-level 5 Mar 13 18:00

SPEC is set to: /home/cpu2017

<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>/dev/sda2</td>
<td>ext4</td>
<td>439G</td>
<td>19G</td>
<td>398G</td>
<td>5%</td>
<td>/</td>
</tr>
</tbody>
</table>

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.

BIOS Dell Inc. 2.2.2 03/05/2019

(Continued on next page)
SPEC CPU2017 Integer Speed Result

Dell Inc.
PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)

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

SPECspeed2017_int_base = 9.75
SPECspeed2017_int_peak = 9.92

Test Date: Mar-2019
Hardware Availability: Apr-2019
Software Availability: Feb-2019

Platform Notes (Continued)

Memory:
3x 00AD00B300AD HMA84GR7CR4N-WM 32 GB 2 rank 2933, configured at 2666
9x 00AD063200AD HMA84GR7CR4N-WM 32 GB 2 rank 2933, configured at 2666
4x Not Specified Not Specified

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
CC  600.perlbench_s(base) 602.gcc_s(base) 605.mcf_s(base) 625.x264_s(base, peak) 657.xz_s(base)
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
==============================================================================

==============================================================================
CC   600.perlbench_s(peak) 602.gcc_s(peak) 605.mcf_s(peak) 657.xz_s(peak)
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
==============================================================================

==============================================================================
CXXC 620.omnetpp_s(base) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak) 641.leela_s(base, peak)
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
==============================================================================

==============================================================================
CXXC 620.omnetpp_s(peak)
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
==============================================================================

==============================================================================
FC  648.exchange2_s(base, peak)
(Continued on next page)
# SPEC CPU2017 Integer Speed Result

**Dell Inc.**

PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)  

<table>
<thead>
<tr>
<th>SPECspeed2017_int_base</th>
<th>SPECspeed2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.75</td>
<td>9.92</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Test Date:** Mar-2019  
**Tested by:** Dell Inc.  
**Hardware Availability:** Apr-2019  
**Software Availability:** Feb-2019

## Compiler Version Notes (Continued)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

---

## Base Compiler Invocation

C benchmarks:  
```bash  
icc -m64 -std=c11  
```

C++ benchmarks:  
```bash  
icpc -m64  
```

Fortran benchmarks:  
```bash  
ifort -m64  
```

## 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:  
```bash  
-W1,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=4 -gopenmp -DSPEC_OPENMP  
-L/usr/local/je5.0.1-64/lib -ljemalloc  
```

C++ benchmarks:  
```bash  
-W1,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=4  
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.1.144/linux/compiler/lib/intel64 -lqkmalloc  
```

(Continued on next page)
Dell Inc.
PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)

SPECspeed2017_int_base = 9.75
SPECspeed2017_int_peak = 9.92

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

Test Date: Mar-2019
Hardware Availability: Apr-2019
Software Availability: Feb-2019

Base Optimization Flags (Continued)

Fortran benchmarks:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-mem-layout-trans=4
-nostandard-realloc-lhs

Peak Compiler Invocation

C benchmarks:
icc -m64 -std=c11

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

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) -O2
-xCORE-AVX512 -qopt-mem-layout-trans=4 -ipo -O3
-no-prec-div -DSPEC_SUPPRESS_OPENMP -qopenmp
-DSPEC_OPENMP -fno-strict-overflow
-L/usr/local/je5.0.1-64/lib -ljemalloc

602.gcc_s: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -O2
-xCORE-AVX512 -qopt-mem-layout-trans=4 -ipo -O3
-no-prec-div -DSPEC_SUPPRESS_OPENMP -qopenmp
-DSPEC_OPENMP -fno-strict-overflow
-L/usr/local/je5.0.1-64/lib -ljemalloc

605.mcf_s: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=4
-DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP
-L/usr/local/je5.0.1-64/lib -ljemalloc

(Continued on next page)
**SPEC CPU2017 Integer Speed Result**

**Dell Inc.**

**PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)**

<table>
<thead>
<tr>
<th>SPECspeed2017_int_base</th>
<th>SPECspeed2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.75</td>
<td>9.92</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU2017 License: 55</th>
<th>Test Sponsor: Dell Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Date: Mar-2019</td>
<td>Hardware Availability: Apr-2019</td>
</tr>
<tr>
<td>Tested by: Dell Inc.</td>
<td>Software Availability: Feb-2019</td>
</tr>
</tbody>
</table>

**Peak Optimization Flags (Continued)**

625.x264_s: -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -openmp -DSPEC_OPENMP
-L/usr/local/je5.0.1-64/lib -ljemalloc

657.xz_s: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -O2
-xCORE-AVX512 -qopt-mem-layout-trans=4 -ipo -O3
-no-prec-div -DSPEC_SUPPRESS_OPENMP -openmp
-DSPEC_OPENMP -L/usr/local/je5.0.1-64/lib -ljemalloc

C++ benchmarks:

620.omnetpp_s: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=4
-DSPEC_SUPPRESS_OPENMP
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.1.144/linux/compiler/lib/intel64
-lqkmalloc

623.xalancbmk_s: -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.1.144/linux/compiler/lib/intel64
-lqkmalloc

631.deepsjeng_s: Same as 623.xalancbmk_s

641.leela_s: Same as 623.xalancbmk_s

Fortran benchmarks:

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-mem-layout-trans=4
-nostandard-realloc-lhs

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:

### Dell Inc. PowerEdge FC640 (Intel Xeon Gold 5220, 2.20GHz)

<table>
<thead>
<tr>
<th>SPECspeed2017_int_base</th>
<th>SPECspeed2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.75</td>
<td>9.92</td>
</tr>
</tbody>
</table>

- **CPU2017 License:** 55
- **Test Sponsor:** Dell Inc.
- **Tested by:** Dell Inc.
- **Test Date:** Mar-2019
- **Hardware Availability:** Apr-2019
- **Software Availability:** Feb-2019

---

**SPEC is a registered trademark 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 CPU2017 v1.0.5 on 2019-03-13 14:07:13-0400.  
Originally published on 2019-06-11.