Dell Inc.
PowerEdge C6420 (Intel Xeon Gold 6130, 2.10 GHz)

**SPECrate2017_int_base = 155**

**SPECrate2017_int_peak = Not Run**

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<tr>
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<tr>
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<td>505.mcf_r</td>
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<tr>
<td>520.omnetpp_r</td>
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<td>523.xalancbmk_r</td>
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<td>525.x264_r</td>
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<tr>
<td>531.deepsjeng_r</td>
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<tr>
<td>541.leela_r</td>
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<tr>
<td>548.exchange2_r</td>
<td>64</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>64</td>
</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Xeon Gold 6130
- **Max MHz.:** 3700
- **Nominal:** 2100
- **Enabled:** 32 cores, 2 chips, 2 threads/core
- **Orderable:** 1,2 chips
- **Cache L1:** 32 KB I + 32 KB D on chip per core
- **L2:** 1 MB I+D on chip per core
- **L3:** 22 MB I+D on chip per chip
- **Other:** None
- **Memory:** 192 GB (12 x 16 GB 2Rx8 PC4-2666V-R)
- **Storage:** 480GB SATA SSD
- **Other:** None

**Software**

- **OS:** CentOS Linux release 7.4.1708 (Core) 3.10.0-693.5.2.el7.x86_64
- **Compiler:** C/C++: Version 18.0.0.128 of Intel C/C++ Compiler for Linux;
  Fortran: Version 18.0.0.128 of Intel Fortran Compiler for Linux
- **Parallel:** No
- **Firmware:** Version 1.0.8 released Jul-2017
- **File System:** xfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 32/64-bit
- **Other:** jemalloc: jemalloc memory allocator library V5.0.1;
### SPEC CPU2017 Integer Rate Result

**Dell Inc.**

PowerEdge C6420 (Intel Xeon Gold 6130, 2.10 GHz)  

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

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</tr>
</tbody>
</table>

**SPECrate2017_int_base** = 155  
**SPECrate2017_int_peak** = Not Run

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

### 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:


Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.4

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>

jemalloc: configured and built at default for 32bit (i686) and 64bit (x86_64) targets;  
jemalloc: built with the RedHat Enterprise 7.4, and the system compiler gcc 4.8.5;

(Continued on next page)
Dell Inc.  
PowerEdge C6420 (Intel Xeon Gold 6130, 2.10 GHz)  

SPECrate2017_int_base = 155  
SPECrate2017_int_peak = Not Run

CPU2017 License: 55  
Test Date: Dec-2017  
Test Sponsor: Dell Inc.  
Hardware Availability: Sep-2017

Tested by: Dell Inc.  
Software Availability: Sep-2017

General Notes (Continued)

jemalloc: sources available via jemalloc.net

No: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

No: 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.

No: 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.

This benchmark result is intended to provide perspective on past performance using the historical hardware and/or software described on this result page.

The system as described on this result page was formerly generally available. At the time of this publication, it may not be shipping, and/or may not be supported, and/or may fail to meet other tests of General Availability described in the SPEC OSG Policy document, http://www.spec.org/osg/policy.html

This measured result may not be representative of the result that would be measured were this benchmark run with hardware and software available as of the publication date.

Platform Notes

BIOS settings:
Virtualization Technology disabled
System Profile set to Custom
CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
Turbo Boost enabled
C States disabled
Memory Patrol Scrub disabled
PCI ASPM L1 Link Power Management disabled
Sysinfo program /root/cpu2017/bin/sysinfo
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bce091c0f
running on localhost.localdomain Thu Dec 14 23:50:48 2017

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 6130 CPU @ 2.10GHz
   2 "physical id"s (chips)
   64 "processors"

(Continued on next page)
### Dell Inc. PowerEdge C6420 (Intel Xeon Gold 6130, 2.10 GHz)

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**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.

**Test Date:** Dec-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Sep-2017

### Platform Notes (Continued)

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

```plaintext
cpu cores : 16  
siblings : 32  
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15  
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
```

From lscpu:

```plaintext
Architecture: x86_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian
```

**CPU(s):** 64  
**On-line CPU(s) list:** 0-63  
**Thread(s) per core:** 2  
**Core(s) per socket:** 16  
**Socket(s):** 2  
**NUMA node(s):** 4  
**Vendor ID:** GenuineIntel  
**CPU family:** 6  
**Model:** 85  
**Model name:** Intel(R) Xeon(R) Gold 6130 CPU @ 2.10GHz  
**Stepping:** 4  
**CPU MHz:** 2100.000  
**BogoMIPS:** 4200.00  
**Virtualization:** VT-x  
**L1d cache:** 32K  
**L1i cache:** 32K  
**L2 cache:** 1024K  
**L3 cache:** 22528K  
**NUMA node0 CPU(s):** 0,4,8,12,16,20,24,28,32,36,40,44,48,52,56,60  
**NUMA node1 CPU(s):** 1,5,9,13,17,21,25,29,33,37,41,45,49,53,57,61  
**NUMA node2 CPU(s):** 2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62  
**NUMA node3 CPU(s):** 3,7,11,15,19,23,27,31,35,39,43,47,51,55,59,63  
**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 apic sm mpx vm xsave xmls FormData lahf_lm abm 3nowprefetch ebz cat_13 cdcp_13 intel_pt tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a avx512f avx512dq rdseed adx smap clflushopt clwb avx512cd avx512bw avx512vl xsaveopt xsavevc xsave vsetbv1 cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local dtherm ida arat pni pms

/proc/cpuinfo cache data  
**cache size:** 22528 KB

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

Dell Inc.  
PowerEdge C6420 (Intel Xeon Gold 6130, 2.10 GHz)  

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CPU2017 License: 55  
Test Sponsor: Dell Inc.  
Tested by: Dell Inc.  
Test Date: Dec-2017  
Hardware Availability: Sep-2017  
Software Availability: Sep-2017

Platform Notes (Continued)

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
node 0 size: 47813 MB
node 0 free: 46391 MB
node 1 cpus: 1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61
node 1 size: 49152 MB
node 1 free: 47620 MB
node 2 cpus: 2 6 10 14 18 22 26 30 34 38 42 46 50 54 58 62
node 2 size: 49152 MB
node 2 free: 47803 MB
node 3 cpus: 3 7 11 15 19 23 27 31 35 39 43 47 51 55 59 63
node 3 size: 49152 MB
node 3 free: 47848 MB
node distances:
node 0 1 2 3
0: 10 21 11 21
1: 21 10 21 11
2: 11 21 10 21
3: 21 11 21 10

From /proc/meminfo
MemTotal: 196689516 kB
HugePages_Total: 128
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*  
centos-release: CentOS Linux release 7.4.1708 (Core)  
centos-release-upstream: Derived from Red Hat Enterprise Linux 7.4 (Source)  
os-release:
NAME="CentOS Linux"
VERSION="7 (Core)"
ID="centos"
ID_LIKE="rhel fedora"
VERSION_ID="7"
PRETTY_NAME="CentOS Linux 7 (Core)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:centos:centos:7"

redhat-release: CentOS Linux release 7.4.1708 (Core)  
system-release: CentOS Linux release 7.4.1708 (Core)  
system-release-cpe: cpe:/o:centos:centos:7

uname -a:
Linux localhost.localdomain 3.10.0-693.5.2.el7.x86_64 #1 SMP Fri Oct 20 20:32:50 UTC 2017 x86_64 x86_64 x86_64 GNU/Linux

(Continued on next page)
### Dell Inc. PowerEdge C6420 (Intel Xeon Gold 6130, 2.10 GHz)

<table>
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</tr>
</tbody>
</table>

### SPECrate2017_int_base = 155

### SPECrate2017_int_peak = Not Run

### Platform Notes (Continued)

- run-level 3 Dec 14 23:47
- SPEC is set to: /root/cpu2017
- Filesysten Type Size Used Avail Use% Mounted on
  - /dev/sda2 xfs 433G 13G 420G 3% /

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 SMIOS" standard.

- BIOS Dell Inc. 1.0.8 07/12/2017
- Memory:
  - 3x 002C00B3002C 18ASF2G72PDZ-2G6D1 16 GB 2 rank 2666
  - 9x 00AD00B300AD HMA82GR7AFR8N-VK 16 GB 2 rank 2666
  - 4x Not Specified Not Specified

(End of data from sysinfo program)

### Compiler Version Notes

```
<table>
<thead>
<tr>
<th>CC</th>
<th>500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base) 525.x264_r(base) 557.xz_r(base)</th>
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<tr>
<td>icc</td>
<td>(ICC) 18.0.0 20170811 Copyright (C) 1985-2017 Intel Corporation. All rights reserved.</td>
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<td>520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_r(base)</td>
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<tr>
<td>icpc</td>
<td>(ICC) 18.0.0 20170811 Copyright (C) 1985-2017 Intel Corporation. All rights reserved.</td>
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<td>FC</td>
<td>548.exchange2_r(base)</td>
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<tr>
<td>ifort</td>
<td>(IFORT) 18.0.0 20170811 Copyright (C) 1985-2017 Intel Corporation. All rights reserved.</td>
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## SPEC CPU2017 Integer Rate Result

**Dell Inc.**

**PowerEdge C6420 (Intel Xeon Gold 6130, 2.10 GHz)**

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### Base Compiler Invocation

- **C benchmarks:**
  - icc

- **C++ benchmarks:**
  - icpc

- **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

### Base Optimization Flags

- **C benchmarks:**
  - -Wl,-z,muldefs  -xCORE-AVX2  -ipo  -O3  -no-prec-div  
  - -qopt-mem-layout-trans=3  -L/usr/local/je5.0.1-64/lib  -ljemalloc

- **C++ benchmarks:**
  - -Wl,-z,muldefs  -xCORE-AVX2  -ipo  -O3  -no-prec-div  
  - -qopt-mem-layout-trans=3  -L/usr/local/je5.0.1-64/lib  -ljemalloc

- **Fortran benchmarks:**
  - -Wl,-z,muldefs  -xCORE-AVX2  -ipo  -O3  -no-prec-div  
  - -qopt-mem-layout-trans=3  -nostandard-realloc-lhs  -align array32byte  
  - -L/usr/local/je5.0.1-64/lib  -ljemalloc
## SPEC CPU2017 Integer Rate Result

**Dell Inc.**  
**PowerEdge C6420 (Intel Xeon Gold 6130, 2.10 GHz)**

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### Base Other Flags

- **C benchmarks:**  
  - `-m64 -std=c11`

- **C++ benchmarks:**  
  - `-m64`

- **Fortran benchmarks:**  
  - `-m64`

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:


---

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

Tested with SPEC CPU2017 v1.0.2 on 2017-12-15 00:50:47-0500.  
Originally published on 2018-02-27.