**SPEC® CPU2017 Integer Rate Result**

Dell Inc.

PowerEdge C6420 (Intel Xeon Gold 6154, 3.00 GHz)  

<table>
<thead>
<tr>
<th>SPECrate2017_int_base</th>
<th>150</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate2017_int_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Copies</th>
<th>SPECrate2017_int_base (150)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r 72</td>
<td><img src="image1" alt="Graph" /></td>
</tr>
<tr>
<td>502.gcc_r 72</td>
<td><img src="image2" alt="Graph" /></td>
</tr>
<tr>
<td>505.mcf_r 72</td>
<td><img src="image3" alt="Graph" /></td>
</tr>
<tr>
<td>520.omnetpp_r 72</td>
<td><img src="image4" alt="Graph" /></td>
</tr>
<tr>
<td>523.xalancbmk_r 72</td>
<td><img src="image5" alt="Graph" /></td>
</tr>
<tr>
<td>525.x264_r 72</td>
<td><img src="image6" alt="Graph" /></td>
</tr>
<tr>
<td>531.deepsjeng_r 72</td>
<td><img src="image7" alt="Graph" /></td>
</tr>
<tr>
<td>541.leela_r 72</td>
<td><img src="image8" alt="Graph" /></td>
</tr>
<tr>
<td>548.exchange2_r 72</td>
<td><img src="image9" alt="Graph" /></td>
</tr>
<tr>
<td>557.xz_r 72</td>
<td><img src="image10" alt="Graph" /></td>
</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Xeon Gold 6154  
- **Max MHz.:** 3700  
- **Nominal:** 3000  
- **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:** 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)  
- **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 6154, 3.00 GHz)

SPECrate2017_int_base = 150
SPECrate2017_int_peak = Not Run

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

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

Results Table

<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>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>72</td>
<td>1000</td>
<td>115</td>
<td>934</td>
<td>123</td>
<td>1031</td>
<td>111</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>72</td>
<td>826</td>
<td>123</td>
<td>795</td>
<td>128</td>
<td>869</td>
<td>117</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>72</td>
<td>625</td>
<td>186</td>
<td>697</td>
<td>167</td>
<td>676</td>
<td>172</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>72</td>
<td>1019</td>
<td>92.7</td>
<td>1170</td>
<td>80.7</td>
<td>1077</td>
<td>87.7</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>72</td>
<td>580</td>
<td>131</td>
<td>581</td>
<td>131</td>
<td>390</td>
<td>195</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>72</td>
<td>402</td>
<td>314</td>
<td>368</td>
<td>343</td>
<td>275</td>
<td>458</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>72</td>
<td>626</td>
<td>132</td>
<td>659</td>
<td>125</td>
<td>423</td>
<td>195</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>72</td>
<td>865</td>
<td>138</td>
<td>909</td>
<td>131</td>
<td>644</td>
<td>185</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>72</td>
<td>617</td>
<td>306</td>
<td>612</td>
<td>308</td>
<td>434</td>
<td>435</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>72</td>
<td>735</td>
<td>106</td>
<td>753</td>
<td>103</td>
<td>538</td>
<td>144</td>
</tr>
</tbody>
</table>

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.:
umactl --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 6154, 3.00 GHz)

| SPECrate2017_int_base = | 150 |
| SPECrate2017_int_peak = | Not Run |

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

Test Date: Dec-2017  
Hardware Availability: Sep-2017  
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 96c45e4568ad54c135fd618bcc091c0f  
running on localhost.localdomain Thu Dec 21 21:35:50 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 6154 CPU @ 3.00GHz  
  2  "physical id"s (chips)  
  72  "processors"
**SPEC CPU2017 Integer Rate Result**

**Dell Inc.**

PowerEdge C6420 (Intel Xeon Gold 6154, 3.00 GHz)

| SPECrate2017_int_base = | 150 |
| SPECrate2017_int_peak = | Not Run |

**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)**

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 : 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:

```plaintext
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
Thread(s) per core: 2
Core(s) per socket: 18
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6154 CPU @ 3.00GHz
Stepping: 4
CPU MHz: 3000.000
BogoMIPS: 6000.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 25344K
NUMA node0 CPU(s): 0,4,8,12,16,20,24,28,32,36,40,44,48,52,56,60,64,68
NUMA node1 CPU(s): 1,5,9,13,17,21,25,29,33,37,41,45,49,53,57,61,65,69
NUMA node2 CPU(s): 2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62,66,70
NUMA node3 CPU(s): 3,7,11,15,19,23,27,31,35,39,43,47,51,55,59,63,67,71
Flags: fpu vme vmp evolution tsc msr pae mce cx8 apic sep mtrr pge mca cmov ...
```

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

Dell Inc.  
PowerEdge C6420 (Intel Xeon Gold 6154, 3.00 GHz)  

SPECrate2017_int_base = 150  
SPECrate2017_int_peak = Not Run

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>55</th>
<th>Test Date:</th>
<th>Dec-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Dell Inc.</td>
<td>Hardware Availability:</td>
<td>Sep-2017</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Dell Inc.</td>
<td>Software Availability:</td>
<td>Sep-2017</td>
</tr>
</tbody>
</table>

**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 64 68
- node 0 size: 47813 MB
- node 0 free: 46433 MB
- node 1 cpus: 1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61 65 69
- node 1 size: 49152 MB
- node 1 free: 47858 MB
- node 2 cpus: 2 6 10 14 18 22 26 30 34 38 42 46 50 54 58 62 66 70
- node 2 size: 49152 MB
- node 2 free: 47820 MB
- node 3 cpus: 3 7 11 15 19 23 27 31 35 39 43 47 51 55 59 63 67 71
- node 3 size: 49152 MB
- node 3 free: 47539 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 6154, 3.00 GHz)  

<table>
<thead>
<tr>
<th>SPECrate2017_int_base</th>
<th>150</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate2017_int_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

| 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)

run-level 3 Dec 21 21:26

SPEC is set to: /root/cpu2017

Filesystem   Type  Size  Used  Avail  Use% Mounted on  
/dev/sda2     xfs  433G   19G  415G    5% /

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. 1.0.8 07/12/2017

Memory:
- 12x 00CE063200CE M393A2K43BB1-CTD 16 GB 2 rank 2666
- 4x Not Specified Not Specified

(End of data from sysinfo program)

Compiler Version Notes

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

### Dell Inc.

**PowerEdge C6420 (Intel Xeon Gold 6154, 3.00 GHz)**

<table>
<thead>
<tr>
<th>SPECrate2017_int_base</th>
<th>150</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate2017_int_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Test Date</th>
<th>Dec-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Availability</td>
<td>Sep-2017</td>
</tr>
<tr>
<td>Software Availability</td>
<td>Sep-2017</td>
</tr>
</tbody>
</table>

### 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:**
  - -W1, -z, muldefs -xCORE-AVX2 -ipo -03 -no-prec-div
  - -qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc

- **C++ benchmarks:**
  - -W1, -z, muldefs -xCORE-AVX2 -ipo -03 -no-prec-div
  - -qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc

- **Fortran benchmarks:**
  - -W1, -z, muldefs -xCORE-AVX2 -ipo -03 -no-prec-div
  - -qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
  - -L/usr/local/je5.0.1-64/lib -ljemalloc
Dell Inc.

PowerEdge C6420 (Intel Xeon Gold 6154, 3.00 GHz)

SPECrate2017_int_base = 150
SPECrate2017_int_peak = Not Run

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

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

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:

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 v1.0.2 on 2017-12-21 22:35:50-0500.
Originally published on 2018-02-27.