# SPEC® CPU2017 Integer Speed Result

Hewlett Packard Enterprise  
ProLiant DL380 Gen10  
(3.20 GHz, Intel Xeon Gold 6134M)

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>HPE</td>
</tr>
<tr>
<td>Tested by:</td>
<td>HPE</td>
</tr>
</tbody>
</table>

## Software

- **OS:** Red Hat Enterprise Linux Server release 7.4 (Maipo)
- **Compiler:** C/C++: Version 18.0.2.199 of Intel C/C++
- **Fortran:** Version 18.0.2.199 of Intel Fortran
- **Compiler for Linux:**
- **Firmware:** HPE BIOS Version U30 10/15/2018 released Oct-2018
- **File System:** xfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** Not Applicable
- **Other:** jemalloc memory allocator V5.0.1

## Hardware

- **CPU Name:** Intel Xeon Gold 6134M
- **Max MHz.:** 3700
- **Nominal:** 3200
- **Enabled:** 16 cores, 2 chips
- **Orderable:** 1, 2 chip(s)
- **Cache L1:** 32 KB I + 32 KB D on chip per core
- **L2:** 1 MB I+D on chip per core
- **L3:** 24.75 MB I+D on chip per chip
- **Memory:** 768 GB (24 x 32 GB 2Rx4 PC4-2666V-R)
- **Storage:** 1 x 480 GB SATA SSD, RAID 0
- **Other:** None

## Test Data

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Threads</th>
<th>SPECspeed2017_int_base</th>
<th>SPECspeed2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>perlbench_s</td>
<td>16</td>
<td>Not Run</td>
<td></td>
</tr>
<tr>
<td>gcc_s</td>
<td>16</td>
<td>8.82</td>
<td>8.66</td>
</tr>
<tr>
<td>mcf_s</td>
<td>16</td>
<td>10.9</td>
<td></td>
</tr>
<tr>
<td>omnetpp_s</td>
<td>16</td>
<td>6.47</td>
<td></td>
</tr>
<tr>
<td>xalancbk_s</td>
<td>16</td>
<td>9.43</td>
<td></td>
</tr>
<tr>
<td>x264_s</td>
<td>16</td>
<td>11.0</td>
<td></td>
</tr>
<tr>
<td>deepsjeng_s</td>
<td>16</td>
<td>5.17</td>
<td></td>
</tr>
<tr>
<td>leela_s</td>
<td>16</td>
<td>4.31</td>
<td></td>
</tr>
<tr>
<td>exchange2_s</td>
<td>16</td>
<td>13.4</td>
<td></td>
</tr>
<tr>
<td>xz_s</td>
<td>16</td>
<td>19.7</td>
<td>14</td>
</tr>
</tbody>
</table>

## Test Details

- **Test Date:** Nov-2018
- **Hardware Availability:** Oct-2018
- **Software Availability:** Mar-2018

**SPECspeed2017_int_base = 8.66**

**SPECspeed2017_int_peak = Not Run**
SPEC CPU2017 Integer Speed Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(3.20 GHz, Intel Xeon Gold 6134M)

SPECspeed2017_int_base = 8.66
SPECspeed2017_int_peak = Not Run

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>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>16</td>
<td>290</td>
<td>6.12</td>
<td>286</td>
<td>6.20</td>
<td>285</td>
<td>6.22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>16</td>
<td>448</td>
<td>8.89</td>
<td>452</td>
<td>8.82</td>
<td>452</td>
<td>8.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>16</td>
<td>432</td>
<td>10.9</td>
<td>428</td>
<td>11.0</td>
<td>433</td>
<td>10.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>16</td>
<td>249</td>
<td>6.55</td>
<td>265</td>
<td>6.15</td>
<td>252</td>
<td>6.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>623.xalancbmk_s</td>
<td>16</td>
<td>150</td>
<td>9.44</td>
<td>152</td>
<td>9.32</td>
<td>150</td>
<td>9.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>625.x264_s</td>
<td>16</td>
<td>160</td>
<td>11.0</td>
<td>160</td>
<td>11.0</td>
<td>160</td>
<td>11.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>16</td>
<td>278</td>
<td>5.16</td>
<td>277</td>
<td>5.17</td>
<td>277</td>
<td>5.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>641.leela_s</td>
<td>16</td>
<td>396</td>
<td>4.30</td>
<td>396</td>
<td>4.31</td>
<td>396</td>
<td>4.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>16</td>
<td>219</td>
<td>13.4</td>
<td>219</td>
<td>13.4</td>
<td>219</td>
<td>13.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>657.xz_s</td>
<td>16</td>
<td>314</td>
<td>19.7</td>
<td>311</td>
<td>19.9</td>
<td>314</td>
<td>19.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SPECspeed2017_int_base = 8.66
SPECspeed2017_int_peak = Not Run

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"
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>
IRQ balance service was stopped using "systemctl stop irqbalance.service"
Tuned-adm profile was set to Throughput-Performance using "tuned-adm profile throughput-performance"

General Notes

Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/cpu2017/lib/ia32:/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-32:/home/cpu2017/je5.0.1-64"
OMP_STACKSIZE = "192M"

Binaries compiled on a system with 1x Intel Core i7-6700K CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.5

Yes: 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-2017-5753 (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.
jemalloc, a general purpose malloc implementation
Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL380 Gen10  
(3.20 GHz, Intel Xeon Gold 6134M)

**SPEC CPU2017 Integer Speed Result**  
Copyright 2017-2019 Standard Performance Evaluation Corporation

**SPECspeed2017_int_base = 8.66**  
**SPECspeed2017_int_peak = Not Run**

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>HPE</td>
</tr>
<tr>
<td>Tested by:</td>
<td>HPE</td>
</tr>
</tbody>
</table>

**General Notes (Continued)**

built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5  

**Platform Notes**

BIOS Configuration:  
Hyper-Threading set to Disabled  
Thermal Configuration set to Maximum Cooling  
LLC Prefetch set to Enabled  
LLC Dead Line Allocation set to Disabled  
Stale A to S set to Disabled  
XPT Prefetch set to Disabled  
Memory Patrol Scrubbing set to Disabled  
Workload Profile set to General Peak Frequency Compute  
Energy/Performance Bias set to Maximum Performance  
Workload Profile set to Custom  
Numa Group Size Optimization set to Flat  
Uncore Frequency Scaling set to Auto  
Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r5974 of 2018-05-19 9bced8f2999c33d61f64985e45859ea9  
running on localhost.localdomain Tue Nov 27 05:26:35 2018

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 6134M CPU @ 3.20GHz  
2 "physical id"s (chips)  
16 "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 : 8  
siblings : 8  
physical 0: cores 0 2 3 9 16 19 26 27  
physical 1: cores 0 2 3 9 16 19 26 27

From lscpu:  
Architecture: x86_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 16  
On-line CPU(s) list: 0-15  
Thread(s) per core: 1  
Core(s) per socket: 8  
Socket(s): 2

(Continued on next page)
SPEC CPU2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(3.20 GHz, Intel Xeon Gold 6134M)

SPECspeed2017_int_base = 8.66
SPECspeed2017_int_peak = Not Run

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Nov-2018
Hardware Availability: Oct-2018
Software Availability: Mar-2018

Platform Notes (Continued)

NUMA node(s): 2
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6134M CPU @ 3.20GHz
Stepping: 4
CPU MHz: 3200.000
BogoMIPS: 6400.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 25344K
NUMA node0 CPU(s): 0-7
NUMA node1 CPU(s): 8-15
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush dts acp l mmx fxsr sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp
lm constant_tsc art arch_perfmon pebs bts rep_good ntopology nonstop_tsc
aperfmpref eagerfpu pni pclmulqdq dtets64 monitor ds_cpl vmx smx est tm2 ssse3 fma
clx6 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
xsave avx f16c rldrand lahf_lm abm 3nowprefetch epb cat_13 cd p _l3 invpcid_single
intel_pt spec_ctrl ibpb_support tpr_shadow vmni flexpriority ept vpid fsqsbsebase
rtsc_adjust bm1 hle avx2 smep bmi2 erms invpclt rtm cqm mpx rdt_a avx512f avx512dq
rdseed adx smap clflushopt clwb avx512cd avx512bw avx512vl xsaveopt xsaveopt xgetbvl
cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local dtherm ida arat pln pts

/proc/cpuinfo cache data
  cache size : 25344 KB

From numactl --hardware WARNING: a numactl 'node' might or may not correspond to a
physical chip.

From /proc/meminfo
  MemTotal: 792271444 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
  os-release:
    NAME="Red Hat Enterprise Linux Server"
    VERSION="7.4 (Maipo)"
    ID="rhel"
    ID_LIKE="fedora"
    VARIANT="Server"
    VARIANT_ID="server"
    VERSION_ID="7.4"
    PRETTY_NAME="Red Hat Enterprise Linux Server 7.4 (Maipo)"

(Continued on next page)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(3.20 GHz, Intel Xeon Gold 6134M)

<table>
<thead>
<tr>
<th>SPEC CPU2017 License: 3</th>
<th>Test Date: Nov-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: HPE</td>
<td>Hardware Availability: Oct-2018</td>
</tr>
<tr>
<td>Tested by: HPE</td>
<td>Software Availability: Mar-2018</td>
</tr>
</tbody>
</table>

**SPECspeed2017_int_base** = 8.66

**SPECspeed2017_int_peak** = Not Run

---

**Platform Notes (Continued)**

- `redhat-release`: Red Hat Enterprise Linux Server release 7.4 (Maipo)
- `system-release`: Red Hat Enterprise Linux Server release 7.4 (Maipo)

```text
uname -a:
Linux localhost.localdomain 3.10.0-693.20.1.el7.x86_64 #1 SMP Wed Feb 7 16:53:38 EST 2018 x86_64 x86_64 x86_64 GNU/Linux
```

**Kernel self-reported vulnerability status:**

- CVE-2017-5754 (Meltdown): Mitigation: PTI
- CVE-2017-5753 (Spectre variant 1): Mitigation: Load fences
- CVE-2017-5715 (Spectre variant 2): Mitigation: IBRS (kernel)

**run-level 3** Nov 27 05:25

**SPEC is set to:** /home/cpu2017

```text
Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel00-home xfs   318G   17G  301G   6% /home
```

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 HPE U30** 10/15/2018
- **Memory:**
  - 24x UNKNOWN NOT AVAILABLE 32 GB 2 rank 2666

(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)
     657.xz_s(base)

 icc (ICC) 18.0.2 20180210
 Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
```

```
 CXXC 620.omnetpp_s(base) 623.xalancbmk_s(base) 631.deepsjeng_s(base)
     641.leela_s(base)

 icpc (ICC) 18.0.2 20180210
 Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
```
SPEC CPU2017 Integer Speed Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(3.20 GHz, Intel Xeon Gold 6134M)

SPECSpeed2017_int_base = 8.66
SPECSpeed2017_int_peak = Not Run

<table>
<thead>
<tr>
<th>CPU2017 License: 3</th>
<th>Test Date: Nov-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: HPE</td>
<td>Hardware Availability: Oct-2018</td>
</tr>
<tr>
<td>Tested by: HPE</td>
<td>Software Availability: Mar-2018</td>
</tr>
</tbody>
</table>

Compiler Version Notes (Continued)

------------------------------------------------------------------------------
FC 648.exchange2_s(base)
------------------------------------------------------------------------------
ifort (IFORT) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icc -m64 -std=cll

C++ benchmarks:
icpc -m64

Fortran benchmarks:
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:
-W1,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -gopenmp -DSPEC_OPENMP
-L/usr/local/je5.0.1-64/lib -ljemalloc

(Continued on next page)
SPEC CPU2017 Integer Speed Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(3.20 GHz, Intel Xeon Gold 6134M)

SPECspeed2017_int_base = 8.66
SPECspeed2017_int_peak = Not Run

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Nov-2018
Hardware Availability: Oct-2018
Software Availability: Mar-2018

Base Optimization Flags (Continued)

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
-L/usr/local/je5.0.1-64/lib -ljemalloc

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revH.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2017-12-21.xml
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revH.xml

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 2018-11-27 05:26:34-0500.
Originally published on 2019-02-05.