## SPEC CPU®2017 Integer Rate Result

### Copyright 2017-2021 Standard Performance Evaluation Corporation

### Hewlett Packard Enterprise

**Test Sponsor**: HPE  
**ProLiant DL380 Gen10 Plus**  
**CPU**: (2.90 GHz, Intel Xeon Gold 6326)

### SPECrate®2017_int_base = 263

### SPECrate®2017_int_peak = 271

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>3</th>
<th>Test Date:</th>
<th>Aug-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>HPE</td>
<td>Hardware Availability:</td>
<td>Jun-2021</td>
</tr>
<tr>
<td>Tested by:</td>
<td>HPE</td>
<td>Software Availability:</td>
<td>Dec-2020</td>
</tr>
</tbody>
</table>

### Hardware

**CPU Name**: Intel Xeon Gold 6326  
**Max MHz**: 3500  
**Nominal**: 2900  
**Enabled**: 32 cores, 2 chips, 2 threads/core  
**Orderable**: 1, 2 chip(s)  
**Cache L1**: 32 KB I + 48 KB D on chip per core  
**L2**: 1.25 MB I+D on chip per core  
**L3**: 24 MB I+D on chip per core  
**Other**: None  
**Memory**: 2 TB (32 x 64 GB 2Rx4 PC4-3200AA-R)  
**Storage**: 1 x 400 GB SAS SSD, RAID 0  
**Other**: None

### Software

**OS**: Red Hat Enterprise Linux 8.3 (Ootpa)  
**Kernel**: 4.18.0-240.el8.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**: No  
**Firmware**: HPE BIOS Version U46 v1.50 05/27/2021 released May-2021  
**File System**: xfs  
**System State**: Run level 3 (multi-user)  
**Base Pointers**: 64-bit  
**Peak Pointers**: 32/64-bit  
**Other**: jemalloc memory allocator V5.0.1  
**Power Management**: BIOS set to prefer performance at the cost of additional power usage

### Copies

<table>
<thead>
<tr>
<th>Program</th>
<th>Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>64</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>64</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>64</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>64</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>64</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>64</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>64</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>64</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>64</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>64</td>
</tr>
</tbody>
</table>

**SPECrate®2017_int_base = 263**  
**SPECrate®2017_int_peak = 271**
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

SPECrate®2017_int_base = 263
SPECrate®2017_int_peak = 271

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>
<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>64</td>
<td>577</td>
<td>177</td>
<td>577</td>
<td>177</td>
<td>577</td>
<td>177</td>
<td>64</td>
<td>494</td>
<td>206</td>
<td>494</td>
<td>206</td>
<td>495</td>
<td>206</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>64</td>
<td>417</td>
<td>217</td>
<td>420</td>
<td>216</td>
<td>417</td>
<td>218</td>
<td>64</td>
<td>366</td>
<td>248</td>
<td>368</td>
<td>246</td>
<td>367</td>
<td>247</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>64</td>
<td>228</td>
<td>454</td>
<td>227</td>
<td>455</td>
<td>227</td>
<td>455</td>
<td>64</td>
<td>228</td>
<td>454</td>
<td>227</td>
<td>455</td>
<td>227</td>
<td>455</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>64</td>
<td>483</td>
<td>174</td>
<td>485</td>
<td>173</td>
<td>483</td>
<td>174</td>
<td>64</td>
<td>483</td>
<td>174</td>
<td>485</td>
<td>173</td>
<td>483</td>
<td>174</td>
</tr>
<tr>
<td>523.xalanbmk_r</td>
<td>64</td>
<td>203</td>
<td>333</td>
<td>203</td>
<td>333</td>
<td>203</td>
<td>334</td>
<td>64</td>
<td>203</td>
<td>333</td>
<td>203</td>
<td>333</td>
<td>203</td>
<td>334</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>64</td>
<td>208</td>
<td>538</td>
<td>208</td>
<td>538</td>
<td>208</td>
<td>539</td>
<td>64</td>
<td>199</td>
<td>563</td>
<td>199</td>
<td>564</td>
<td>199</td>
<td>564</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>64</td>
<td>371</td>
<td>197</td>
<td>372</td>
<td>197</td>
<td>372</td>
<td>197</td>
<td>64</td>
<td>371</td>
<td>197</td>
<td>372</td>
<td>197</td>
<td>372</td>
<td>197</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>64</td>
<td>551</td>
<td>192</td>
<td>551</td>
<td>192</td>
<td>551</td>
<td>192</td>
<td>64</td>
<td>551</td>
<td>192</td>
<td>551</td>
<td>192</td>
<td>551</td>
<td>192</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>64</td>
<td>314</td>
<td>534</td>
<td>315</td>
<td>533</td>
<td>314</td>
<td>533</td>
<td>64</td>
<td>314</td>
<td>534</td>
<td>315</td>
<td>533</td>
<td>314</td>
<td>533</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>64</td>
<td>482</td>
<td>144</td>
<td>483</td>
<td>143</td>
<td>483</td>
<td>143</td>
<td>64</td>
<td>494</td>
<td>140</td>
<td>494</td>
<td>140</td>
<td>493</td>
<td>140</td>
</tr>
</tbody>
</table>

Specrate®2017_int_base = 263
Specrate®2017_int_peak = 271

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"
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

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = 
"/home/cpu2017/lib/intel64:/home/cpu2017/lib/ia32:/home/cpu2017/je5.0.1-32"
MALLOCP_CONF = "retain:true"

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM memory using Red Hat Enterprise Linux 8.1

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

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Hewlett Packard Enterprise**
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base = 263</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak = 271</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU2017 License: 3</th>
<th>Test Date: Aug-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: HPE</td>
<td>Hardware Availability: Jun-2021</td>
</tr>
<tr>
<td>Tested by: HPE</td>
<td>Software Availability: Dec-2020</td>
</tr>
</tbody>
</table>

**General Notes (Continued)**

runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>

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-2017-5753 (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**

The system ROM used for this result contains Intel microcode version 0xd0002a0 for the Intel Xeon Gold 6326 processor.

- BIOS Configuration:
  - Workload Profile set to General Throughput Compute
  - Memory Patrol Scrubbing set to Disabled
  - Advanced Memory Protection set to Advanced ECC
  - XPT Remote Prefetcher set to Enabled
  - Last Level Cache (LLC) Dead Line Allocation set to Disabled
  - Enhanced Processor Performance set to Enabled
  - Enhanced Processor Performance Profile set to Aggressive
  - Thermal Configuration set to Maximum Cooling
  - Intel UPI Link Frequency set to Minimum
  - Intel UPI Link Enablement set to Single Link
  - D2K set to Disabled
  - Workload Profile set to Custom
  - DCU Stream Prefetcher set to Disabled
  - Energy Efficient Turbo set to Enabled
  - Adjacent Sector Prefetch set to Disabled
  - Intel UPI Link Power Management set to Enabled

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16aca64d
running on localhost.localdomain Thu Aug 26 15:55:07 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) Gold 6326 CPU @ 2.90GHz
  2 "physical id"s (chips)
  64 "processors"

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

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

SPECrate®2017_int_base = 263
SPECrate®2017_int_peak = 271

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

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.)

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 from util-linux 2.32.1:
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: 106
Model name: Intel(R) Xeon(R) Gold 6326 CPU @ 2.90GHz
Stepping: 6
CPU MHz: 2944.369
BogoMIPS: 5800.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 24576K
NUMA node0 CPU(s): 0-7,32-39
NUMA node1 CPU(s): 8-15,40-47
NUMA node2 CPU(s): 16-23,48-55
NUMA node3 CPU(s): 24-31,56-63
Flags: fpu vme de pse tsc msr pae mce cmovpat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdeldgb rdtsscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtr7 pdc_cm dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave f16c rdrand lahf_lm abm 36nowprefetch cpuid_fault epb cat13 invpcid_single ssbd mba ibrs ibrs Enhanced tpr_shadow vnmi flexpriority ept vpid ept_ad fsg_base tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid cqm rdt_a avx512f avx512d avx512dq rdseed adx smap avx512ifma cflshhotpl clwb intel_pt avx512cd sha ni avx512bw avx512vl xsaveopt xsavec xsavec xgetbv1 xsaves cqm_llc cqm_ocmp_llc cqm_mbb_total cqm_mbb_local split_lock_detect wbnoivd dtherm ida arat pni pts avx512vbm1 umip pku ospke avx512_vbmi gfni vaes vpcm11qdg avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid md_clear pconfig flush_l1d arch_capabilities

(Continued on next page)
Platform Notes (Continued)

/proc/cpuinfo cache data
  cache size : 24576 KB

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 1 2 3 4 5 6 7 32 33 34 35 36 37 38 39
  node 0 size: 507286 MB
  node 0 free: 515383 MB
  node 1 cpus: 8 9 10 11 12 13 14 15 40 41 42 43 44 45 46 47
  node 1 size: 507495 MB
  node 1 free: 515671 MB
  node 2 cpus: 16 17 18 19 20 21 22 23 48 49 50 51 52 53 54 55
  node 2 size: 507526 MB
  node 2 free: 515676 MB
  node 3 cpus: 24 25 26 27 28 29 30 31 56 57 58 59 60 61 62 63
  node 3 size: 507405 MB
  node 3 free: 515826 MB
  node distances:
    node   0   1   2   3
    0:  10  20  30  30
    1:  20  10  30  30
    2:  30  30  10  20
    3:  30  30  20  10

From /proc/meminfo

MemTotal:       2113488204 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

/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

(Continued on next page)
**Platform Notes (Continued)**

uname -a:
   Linux localhost.localdomain 4.18.0-240.el8.x86_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020
   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/swapgs barriers and __user pointer sanitization
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 3 Aug 26 15:54

SPEC is set to: /home/cpu2017
   Filesystem      Type Size Used Avail Use% Mounted on
   /dev/mapper/rhel-home xfs  297G 104G 193G  36%  /home

From /sys/devices/virtual/dmi/id
   Vendor:         HPE
   Product:        ProLiant DL380 Gen10 Plus
   Product Family: ProLiant
   Serial:         CN70110BZV

Additional information from dmidecode 3.2 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:
   32x Micron 36ASF8G72PZ-3G2B2 64 GB 2 rank 3200

BIOS:
   BIOS Vendor:      HPE
   BIOS Version:     U46
   BIOS Date:        05/27/2021
   BIOS Revision:    1.50
   Firmware Revision: 2.50

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

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

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

SPECrates

SPECrates\textsuperscript{\textregistered}2017\textsubscript{int\_base} = 263
SPECrates\textsuperscript{\textregistered}2017\textsubscript{int\_peak} = 271

Test Date: Aug-2021
Hardware Availability: Jun-2021
Software Availability: Dec-2020

Platform Notes (Continued)

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C | 500.perlbench\textsubscript{r}(peak) 557.xz\textsubscript{r}(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 | 502.gcc\textsubscript{r}(peak)
==============================================================================

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

==============================================================================
C | 500.perlbench\textsubscript{r}(base) 502.gcc\textsubscript{r}(base) 505.mcf\textsubscript{r}(base, peak)
| 525.x264\textsubscript{r}(base, peak) 557.xz\textsubscript{r}(base)
==============================================================================

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 | 500.perlbench\textsubscript{r}(peak) 557.xz\textsubscript{r}(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 | 502.gcc\textsubscript{r}(peak)
==============================================================================

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

(Continued on next page)
Compiler Version Notes (Continued)

---------------------------------------------
C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base)
---------------------------------------------
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       | 500.perlbench_r(peak) 557.xz_r(peak)
---------------------------------------------
------------------
C       | 502.gcc_r(peak)
------------------
------------------
C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base)
------------------
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++     | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak) 531.deepsjeng_r(base, peak) 541.leela_r(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  | 548.exchange2_r(base, peak)
---------------------------------------------
------------------
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000

(Continued on next page)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

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

SPECrate®2017_int_base = 263
SPECrate®2017_int_peak = 271

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

Test Date: Aug-2021
Hardware Availability: Jun-2021
Software Availability: Dec-2020

Compiler Version Notes (Continued)
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

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:
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math
-fflto -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
-1qkmalloc

C++ benchmarks:
-w -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

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

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

SPECrate®2017_int_base = 263
SPECrate®2017_int_peak = 271

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

Test Date: Aug-2021
Hardware Availability: Jun-2021
Software Availability: Dec-2020

Base Optimization Flags (Continued)

C++ benchmarks (continued):
-1qkmalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ipo -no-prec-div
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte
-auto -mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-1qkmalloc

Peak Compiler Invocation

C benchmarks (except as noted below):
icx
500.perlbench_r: icc
557.xz_r: icc

C++ benchmarks:
icpx

Fortran benchmarks:
ifort

Peak Portability Flags

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -D_FILE_OFFSET_BITS=64
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
Hewlett Packard Enterprise

ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

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

HPE
ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

SPECrate®2017_int_base = 263
SPECrate®2017_int_peak = 271

CPU2017 License: 3
Test Sponsor: HPE
Hardware Availability: Jun-2021
Tested by: HPE
Software Availability: Dec-2020

Test Date: Aug-2021

Peak Optimization Flags

C benchmarks:

500.perlbench_r: -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/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -m32
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/ia32_lin
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX512 -flto
-O3 -O3 -ffast-math -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc

505.mcf_r: basepeak = yes

525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -flto
-O3 -ffast-math -qopt-mem-layout-trans=4 -fno-alias
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

557.xz_r: -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalancbmk_r: basepeak = yes

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes

Fortran benchmarks:

548.exchange2_r: basepeak = yes
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.90 GHz, Intel Xeon Gold 6326)

SPECrate®2017_int_base = 263
SPECrate®2017_int_peak = 271

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-V1.0-ICX-revE.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-V1.0-ICX-revE.xml
http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml