### SPEC CPU®2017 Integer Rate Result

**Hewlett Packard Enterprise**

(2.20 GHz, Intel Xeon Gold 6538Y+)

**SPECrate®2017_int_base = 623**

**SPECrate®2017_int_peak = 643**

<table>
<thead>
<tr>
<th>Test Sponsor: HPE</th>
<th>Hardware Availability: Feb-2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by: HPE</td>
<td>Software Availability: Dec-2023</td>
</tr>
</tbody>
</table>

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<tr>
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<th>Test Date: Jan-2024</th>
</tr>
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<tr>
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<td>Software Availability: Dec-2023</td>
</tr>
</tbody>
</table>

#### Hardware

- **CPU Name:** Intel Xeon Gold 6538Y+
- **Max MHz:** 4000
- **Nominal:** 2200
- **Enabled:** 64 cores, 2 chips, 2 threads/core
- **Orderable:** 1, 2 chip(s)
- **Cache L1:** 32 KB I + 48 KB D on chip per core
- **L2:** 2 MB I+D on chip per core
- **L3:** 60 MB I+D on chip per chip
- **Other:** None
- **Memory:** 512 GB (16 x 32 GB 2Rx8 PC5-5600B-R, running at 5200)
- **Storage:** 1 x 480 GB SATA SSD
- **Other:** CPU Cooling: Air

#### Software

- **OS:** SUSE Linux Enterprise Server 15 SP5
- **Kernel:** 5.14.21-150500.53-default
- **Compiler:** C/C++: Version 2023.2.3 of Intel oneAPI DPC++/C++ Compiler for Linux;
  Fortran: Version 2023.2.3 of Intel Fortran Compiler for Linux;
- **Parallel:** No
- **Firmware:** HPE BIOS Version v2.10 11/28/2023 released Nov-2023
- **File System:** btrfs
- **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 and OS set to prefer performance at the cost of additional power usage
SPEC CPU®2017 Integer Rate Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL360 Gen11
(2.20 GHz, Intel Xeon Gold 6538Y+)

SPECrate®2017_int_base = 623
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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>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>128</td>
<td>421</td>
<td>484</td>
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<td>483</td>
<td>423</td>
<td>482</td>
<td>128</td>
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<td>523</td>
<td>390</td>
<td>522</td>
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<td>502.gcc_r</td>
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<td>520.omnetpp_r</td>
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<td>523.xalancbmk_r</td>
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<td>1350</td>
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<tr>
<td>557.xz_r</td>
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<td>462</td>
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<td>300</td>
<td>463</td>
<td>299</td>
<td>128</td>
<td>462</td>
<td>300</td>
<td>460</td>
<td>300</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"
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>

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"
  MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
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.

(Continued on next page)
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(2.20 GHz, Intel Xeon Gold 6538Y+)

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

Test Date: Jan-2024
Hardware Availability: Feb-2024
Software Availability: Dec-2023

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 Configuration:
Workload Profile set to General Throughput Compute
Memory Patrol Scrubbing set to Disabled
Intel UPI Link Enablement set to Single Link
Last Level Cache (LLC) Dead Line Allocation set to Disabled
Enhanced Processor Performance Profile set to Aggressive
Thermal Configuration set to Maximum Cooling
Workload Profile set to Custom
DCU Stream Prefetcher set to Disabled
Adjacent Sector Prefetch set to Disabled
Intel UPI Link Power Management set to Enabled

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2023-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Sat Jan 13 00:44:08 2024

SUT (System Under Test) info as seen by some common utilities.

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3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. sysctl
16. /sys/kernel/mm/transparent_hugepage
17. /sys/kernel/mm/transparent_hugepage/transparent
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS

1. uname -a
   Linux localhost 5.14.21-150500.53-default #1 SMP PREEMPT_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043)
   x86_64 x86_64 x86_64 GNU/Linux

2. w
   00:44:08 up 0 min, 0 users, load average: 0.38, 0.14, 0.05

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

<table>
<thead>
<tr>
<th>USER</th>
<th>TTY</th>
<th>FROM</th>
<th>LOGIN@</th>
<th>IDLE</th>
<th>JCPU</th>
<th>PCPU</th>
<th>WHAT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Username
From environment variable $USER: root

4. `ulimit -a`

| core file size | (blocks, -c) unlimited |
| data seg size  | (kbytes, -d) unlimited |
| scheduling priority | (-e) 0 |
| file size      | (blocks, -f) unlimited |
| pending signals | (-l) 2062640 |
| max locked memory | (kbytes, -l) 64 |
| max memory size | (kbytes, -m) unlimited |
| open files     | (-n) 1024 |
| pipe size      | (512 bytes, -p) 8 |
| POSIX message queues | (bytes, -q) 819200 |
| real-time priority | (-r) 0 |
| stack size     | (kbytes, -s) unlimited |
| cpu time       | (seconds, -t) unlimited |
| max user processes | (-u) 2062640 |
| virtual memory | (kbytes, -v) unlimited |
| file locks     | (-x) unlimited |

5. `sysinfo process ancestry`

```
/usr/lib/systemd/systemd --switched-root --system --deserialize 29
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: root@notty
bash -c cd $SPEC/ && $SPEC/intrate_new.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 -c
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=64 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak -o all intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 --configfile
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=64 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
--runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.001/templogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017
```

6. `/proc/cpuinfo`

```
model name    : INTEL(R) XEON(R) GOLD 6538Y+
vendor_id     : GenuineIntel
cpu family    : 6
model         : 207
stepping      : 2
microcode     : 0x210000200
bugs          : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores     : 32
siblings      : 64
2 physical ids (chips)
128 processors (hardware threads)
physical id 0: core ids 0-31
physical id 1: core ids 0-31
physical id 0: apicids 0-63
physical id 1: apicids 128-191

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
```

(Continued on next page)
Platform Notes (Continued)

virtualized systems. Use the above data carefully.

7. lscpu

From lscpu from util-linux 2.37.4:
- Architecture: x86_64
- CPU op-mode(s): 32-bit, 64-bit
- Address sizes: 46 bits physical, 57 bits virtual
- Byte Order: Little Endian
- CPU(s): 128
- On-line CPU(s) list: 0-127
- Vendor ID: GenuineIntel
- Model name: INTEL(R) XEON(R) GOLD 6538Y+
- CPU family: 6
- Model: 207
- Thread(s) per core: 2
- Core(s) per socket: 32
- Socket(s): 2
- Stepping: 2
- BogoMIPS: 4400.00

Flags:
- fpu vme de pse tsc msr pae mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx mdpc lgDT pti msr pae mce cx8 apic ioport mtrr pge mca cmov pat pse smm Svmp inhibit x2apic org xerms invpcid dxrnat acpi nix tso pae mce ring0 npt nonstop_tsc ia32e pni pclmulqdq dtes64 kmos nonstop_tsc intel_pentium mtrr pge mca cmov pat pse smm Svmp inhibit x2apic org xerms invpcid dxrnat acpi nix tso pae mce ring0 npt

Virtualization:
- VT-x

L1d cache:
- 3 MiB (64 instances)

L1i cache:
- 2 MiB (64 instances)

L2 cache:
- 128 MiB (64 instances)

L3 cache:
- 120 MiB (2 instances)

NUMA node(s):
- 4

NUMA node0 CPU(s):
- 0-15,64-79

NUMA node1 CPU(s):
- 16-31,80-95

NUMA node2 CPU(s):
- 32-47,96-111

NUMA node3 CPU(s):
- 48-63,112-127

Vulnerability Itlb multihit:
- Not affected

Vulnerability Lttf:
- Not affected

Vulnerability Mdls:
- Not affected

Vulnerability Meltdown:
- Not affected

Vulnerability Mmio stale data:
- Not affected

Vulnerability Retbleed:
- Not affected

Vulnerability Spec store bypass:
- Mitigation; Speculative Store Bypass disabled via prctl and seccomp

Vulnerability Spectre v1:
- Mitigation; usercopy/swapsgs barriers and __user pointer sanitization

Vulnerability Spectre v2:
- Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRSB-eIBRS SW sequence

Vulnerability Srbds:
- Not affected

Vulnerability Tsx async abort:
- Not affected

(Continued on next page)
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ProLiant DL360 Gen11  
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</table>

| CPU2017 License: 3  |  |

### Platform Notes (Continued)

```
From lscpu --cache:

<table>
<thead>
<tr>
<th>NAME</th>
<th>ONE-SIZE</th>
<th>ALL-SIZE</th>
<th>WAYS</th>
<th>TYPE</th>
<th>LEVEL</th>
<th>SETS</th>
<th>PHY-LINE</th>
<th>COHERENCY-SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1d</td>
<td>48K</td>
<td>12</td>
<td>1</td>
<td>Data</td>
<td>1</td>
<td>64</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>L1i</td>
<td>32K</td>
<td>8</td>
<td>1</td>
<td>Instruction</td>
<td>1</td>
<td>64</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>L2</td>
<td>2M</td>
<td>16</td>
<td>2</td>
<td>Unified</td>
<td>2</td>
<td>2048</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>L3</td>
<td>60M</td>
<td>15</td>
<td>3</td>
<td>Unified</td>
<td>3</td>
<td>65536</td>
<td>1</td>
<td>64</td>
</tr>
</tbody>
</table>
```

8. `numactl --hardware`

| NOTE: a numactl 'node' might or might not correspond to a physical chip. |
| available: 4 nodes (0-3) |
| node 0 cpus: 0-15,64-79 |
| node 0 size: 128709 MB |
| node 0 free: 128120 MB |
| node 1 cpus: 16-31,80-95 |
| node 1 size: 129015 MB |
| node 1 free: 128550 MB |
| node 2 cpus: 32-47,96-111 |
| node 2 size: 128981 MB |
| node 2 free: 128570 MB |
| node 3 cpus: 48-63,112-127 |
| node 3 size: 128977 MB |
| node 3 free: 128453 MB |

node distances:

<table>
<thead>
<tr>
<th>node</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>1:</td>
<td>20</td>
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<td>30</td>
<td>30</td>
</tr>
<tr>
<td>2:</td>
<td>30</td>
<td>30</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>3:</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td>10</td>
</tr>
</tbody>
</table>

9. `/proc/meminfo`

| MemTotal: | 528060520 kB |
```
10. who -r

| run-level 3 | Jan 13 00:43 |
```

11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)

Default Target: multi-user

12. Services, from systemctl list-unit-files

<table>
<thead>
<tr>
<th>STATE</th>
<th>UNIT FILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>enabled</td>
<td>apparmor, auditd, cron, getty@irqbalance, issue-generator, kbdsettings, lvms-monitor, postfix, purge-kernels, rollback, sshd, systemd-ostree, wicked, wickedd-auto4, wickedd-dhcp4, wickedd-dhcp6, wickedd-nanny</td>
</tr>
<tr>
<td>enabled-runtime</td>
<td>systemd-remount-fs</td>
</tr>
<tr>
<td>indirect</td>
<td>pcsd, wicked</td>
</tr>
</tbody>
</table>

13. Linux kernel boot-time arguments, from /proc/cmdline

| BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default | (Continued on next page) |
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#### Platform Notes (Continued)

```
root=UUID=cc6cc077-0be5-45b2-9254-52358283bcfe
splash=silent
mitigations=auto
quiet
security=apparmor
```

14. `cpupower frequency-info`
   - analyzing CPU 0:
     - Unable to determine current policy
     - boost state support:
       - Supported: yes
       - Active: yes

15. `sysctl`
   ```
   kernel.numa_balancing              1
   kernel.randomize_va_space          2
   vm.compaction_proactiveness        20
   vm.dirty_background_bytes          0
   vm.dirty_background_ratio          10
   vm.dirty_bytes                     0
   vm.dirty_expire_centisecs          3000
   vm.dirty_ratio                     20
   vm.dirty_writeback_centisecs       500
   vm.dirtytime_expire_seconds        43200
   vm.extr frag_threshold             500
   vm.min unmapped_ratio              1
   vm.nr_hugepages                    0
   vm.nr_hugepages_mempolicy          0
   vm.nr_overcommit_hugepages         0
   vm.swappiness                      60
   vm.watermark_boost_factor          15000
   vm.watermark_scale_factor          10
   vm.zone_reclaim_mode               0
   ```

16. `/sys/kernel/mm/transparent_hugepage`
   ```
   defrag always defer defer+madvice [madvice] never
   enabled [always] madvice never
   hpage_pmd_size 2097152
   shmem_enabled always within_size advise [never] deny force
   ```

17. `/sys/kernel/mm/transparent_hugepage/khugepaged`
   ```
   alloc_sleep_millisecs 600
   defrag 1
   max_ptes_none 511
   max_ptes_shared 256
   max_ptes_swap 64
   pages_to_scan 4096
   scan_sleep_millisecs 10000
   ```

18. OS release
   ```
   From /etc/*-release /etc/*-version
   os-release SUSE Linux Enterprise Server 15 SP5
   ```

19. Disk information

(Continued on next page)
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**Tested by:** HPE

---

### Platform Notes (Continued)

SPEC is set to: /home/cpu2017  
Filesystem     Type   Size  Used Avail Use% Mounted on  
/dev/sda2      btrfs  371G  176G  194G  48% /home

---

20. /sys/devices/virtual/dmi/id  
Vendor: HPE  
Product: ProLiant DL360 Gen11  
Product Family: ProLiant  
Serial: CNX2070DC4

---

21. dmidecode  
Additional information from dmidecode 3.4 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:  
16x Hynix HMCGB8AGBRA193N 32 GB 2 rank 5600, configured at 5200

---

22. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: HPE  
BIOS Version: 2.10  
BIOS Date: 11/28/2023  
BIOS Revision: 2.10  
Firmware Revision: 1.50

---

### Compiler Version Notes

```
C       | 502.gcc_r(peak)  
------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------
```  
```
C       | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base, peak)  
------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------
```  
```
C       | 502.gcc_r(peak)  
------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------
```  
```
C       | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak)  
------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------
```  
(Continued on next page)
Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL360 Gen11  
(2.20 GHz, Intel Xeon Gold 6538Y+)  

| SPECrate®2017_int_base = 623 |
| SPECrate®2017_int_peak = 643 |

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

| Test Date: Jan-2024 |
| Hardware Availability: Feb-2024 |
| Software Availability: Dec-2023 |

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**Compiler Version Notes (Continued)**

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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 2023.2.3 Build x  
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---

Fortran | 548.exchange2_r(base, peak)  
---

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x  
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---

**Base Compiler Invocation**

C benchmarks:  
icx  

C++ benchmarks:  
icpx  

Fortran benchmarks:  
ifx  

---

**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
SPEC CPU®2017 Integer Rate Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL360 Gen11
(2.20 GHz, Intel Xeon Gold 6538Y+)

SPECrate®2017_int_base = 623
SPECrate®2017_int_peak = 643

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

Test Date: Jan-2024
Hardware Availability: Feb-2024
Software Availability: Dec-2023

Base Optimization Flags

C benchmarks:
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-lflto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc

C++ benchmarks:
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-lflto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc

Peak Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

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

(Continued on next page)
Peak Portability Flags (Continued)

557.xz_r: -DSPEC_LP64

Peak Optimization Flags

C benchmarks:

500.perlbench_r: -w -std=c11 -m64 -Wl,-z,muldefs -fprofile-generate(pass 1) -fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1) -flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse -funroll-loops -gopt-mem-layout-trans=4 -fno-strict-overflow -L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin -ljemalloc

502.gcc_r: -m32 -L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/ia32_lin -std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1) -fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1) -flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse -funroll-loops -gopt-mem-layout-trans=4 -L/usr/local/jemalloc32-5.0.1/lib -ljemalloc

505.mcf_r: basepeak = yes

525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -gopt-mem-layout-trans=4 -fno-alias -L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin -ljemalloc

557.xz_r: basepeak = yes

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalancbnk_r: basepeak = yes

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL360 Gen11
(2.20 GHz, Intel Xeon Gold 6538Y+)

SPECrate®2017_int_base = 623
SPECrate®2017_int_peak = 643

CPU2017 License: 3
Test Sponsor: HPE
Test Date: Jan-2024
Tested by: HPE
Hardware Availability: Feb-2024
Software Availability: Dec-2023

Peak Optimization Flags (Continued)

Fortran benchmarks:

548.exchange2_r:basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.html
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-EMR-rev1.0.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.xml
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-EMR-rev1.0.xml

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

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