**SPEC CPU®2017 Integer Rate Result**

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**Hewlett Packard Enterprise**
(Test Sponsor: HPE)
ProLiant DL380a Gen11
(2.00 GHz, Intel Xeon Platinum 8460Y+)

**SPECrate®2017_int_base = 694**
**SPECrate®2017_int_peak = 717**

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<tr>
<th>Copies</th>
<th>SPECrate®2017_int_base (694)</th>
<th>SPECrate®2017_int_peak (717)</th>
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<td>514</td>
<td>556</td>
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<td>502.gcc_r 160</td>
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<td>505.mcf_r 160</td>
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<td>520.omnetpp_r 160</td>
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<tr>
<td>523.xalancbmk_r 160</td>
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<td>525.x264_r 160</td>
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<td>531.deepsjeng_r 160</td>
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<td>541.leela_r 160</td>
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<tr>
<td>548.exchange2_r 160</td>
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<td>1400</td>
</tr>
<tr>
<td>557.xz_r 160</td>
<td></td>
<td>1400</td>
</tr>
</tbody>
</table>

**Hardware**

CPU Name: Intel Xeon Platinum 8460Y+
Max MHz: 3700
Nominal: 2000
Enabled: 80 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: 105 MB I+D on chip per chip
Other: None
Memory: 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)
Storage: 1 x 1.6 TB NVMe SSD
Other: None

**Software**

OS: Red Hat Enterprise Linux 9.0 (Plow)
Kernel: 5.14.0-70.13.1.el9_0.x86_64
Compiler: C/C++, Version 2023.0 of Intel oneAPI DPC++/C++ Compiler for Linux;
Fortran: Version 2023.0 of Intel Fortran Compiler for Linux;
Parallel: No
Firmware: HPE BIOS Version v1.22 01/18/2023 released Jan-2023
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 and OS set to prefer performance at the cost of additional power usage
Hewlett Packard Enterprise
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CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Results Table

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</table>

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Compiler Notes

SPEC has ruled that the compiler used for this result was performing a compilation that specifically improves the performance of the 523.xalancbmk_r / 623.xalanchmk_s benchmarks using a priori knowledge of the SPEC code and dataset to perform a transformation that has narrow applicability.

In order to encourage optimizations that have wide applicability (see rule 1.4 https://www.spec.org/cpu2017/Docs/runrules.html#rule_1.4), SPEC will no longer publish results using this optimization.

This result is left in the SPEC results database for historical reference.

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 numaclt i.e.: numaclt --interleave=all runcpu <etc>
IRQ balance service was stopped using "systemctl stop irqbalance.service"
tuned-adm profile was set to Accelerator-Performance using "tuned-adm profile accelerator-performance"
perf-bias for all the CPUs is set using "cpupower set -b 0"
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CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: May-2023
Hardware Availability: Mar-2023
Software Availability: Dec-2022

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
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.
jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

Platform Notes

The system ROM used for this result contains Intel microcode version 0x2b000161 for the Intel Xeon Platinum 8460Y+ Processor
BIOS Configuration
  Workload Profile set to General Throughput Compute
  Memory Patrol Scrubbing set to Disabled
  Last Level Cache (LLC) Dead Line Allocation set to Disabled
  Intel UPI Link Enablement set to Single Link
  Enhanced Processor Performance Profile set to Aggressive
  Thermal Configuration set to Maximum Cooling
  Workload Profile set to Custom
  Adjacent Sector Prefetch set to Disabled
  DCU Stream Prefetcher set to Disabled
  Intel UPI Link Power Management set to Enabled
  Minimum Processor Idle Power Package C-State set to Package C6 (non-retention) State

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c6ae2c92cc097bec197
running on localhost.localdomain Wed May 17 10:38:03 2023

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

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16. syact1
17. /sys/kernel/mm/transparent_hugepage
18. /sys/kernel/mm/transparent_hugepage/klru
19. OS release
20. Disk information
21. /sys/devices/virtual/dmi/id
22. dmidecode
23. BIOS

------------------------------------------------------------
1. uname -a
Linux localhost.localdomain 5.14.0-70.13.1.el9_0.x86_64 #1 SMP PREEMPT Thu Apr 14 12:42:38 EDT 2022 x86_64
x86_64 x86_64 GNU/Linux

------------------------------------------------------------
2. w
10:38:03 up 0 min,  0 users,  load average: 0.92, 0.32, 0.11
USER     TTY        LOGIN@   IDLE   JCPU   PCPU WHAT

------------------------------------------------------------
3. Username
From environment variable $USER: root

------------------------------------------------------------
4. ulimit -a
real-time non-blocking time (microseconds, -R) unlimited
core file size (blocks, -c) 0
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) unlimited
pending signals (-i) 2062712
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) 2062712
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize 30
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: root [priv]
sshd: root@notty
bash -c cd $SPEC/ && $SPEC/intrate.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=160 --c
ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=80 --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=160 --c
ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=80 --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

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Platform Notes (Continued)

$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) Platinum 8460Y+
vendor_id : GenuineIntel
cpu family : 6
model : 143
stepping : 6
microcode : 0x2b000161
bugs : spec_store_bypass
cpu cores : 40
siblings : 80

2 physical ids (chips)
160 processors (hardware threads)
physical id 0: core ids 0-39
physical id 1: core ids 0-39
physical id 0: apicids 0-79
physical id 1: apicids 128-207

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for 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): 160
On-line CPU(s) list: 0-159
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel(R) Corporation
Model name: Intel(R) Xeon(R) Platinum 8460Y+
BIOS Model name: Intel(R) Xeon(R) Platinum 8460Y+
CPU family: 6
Model: 143
Thread(s) per core: 2
Core(s) per socket: 40
Socket(s): 2
Stepping: 6
BogoMIPS: 4000.00

Flags:

fpu vme de pse tsc msr pae mce cmov pat pse36
clflush dtls acpi mmx fxsr sse sse2 ss ht tm pse syscall nx pdpe1gb rdtscp
lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology
nonstop_tsc cpuid aperfmperf tsx_knowndef pni pclmulqdq dtes64 monitor
ksuid vmb drain reclaim pmtenum kmip cmie urum tsxmsd

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Platform Notes (Continued)
cldemote movdiri movdir64b enqcmd fasm md_clear serialize tsxldtrk pconfig
arch_lbr avx512_fp16 amx_tile flush_l1d arch_capabilities

Virtualization:
VT-x
L1d cache: 3.8 MiB (80 instances)
L1i cache: 2.5 MiB (80 instances)
L2 cache: 160 MiB (80 instances)
L3 cache: 210 MiB (2 instances)
NUMA node(s):
8
NUMA node0 CPU(s):
0-9, 80-89
NUMA node1 CPU(s):
10-19, 90-99
NUMA node2 CPU(s):
20-29, 100-109
NUMA node3 CPU(s):
30-39, 110-119
NUMA node4 CPU(s):
40-49, 120-129
NUMA node5 CPU(s):
50-59, 130-139
NUMA node6 CPU(s):
60-69, 140-149
NUMA node7 CPU(s):
70-79, 150-159
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitation
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected

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>
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<td>48K</td>
<td>3.8M</td>
<td>12</td>
<td>Data</td>
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<td>64</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>L1i</td>
<td>32K</td>
<td>2.5M</td>
<td>8</td>
<td>Instruction</td>
<td>1</td>
<td>64</td>
<td>1</td>
<td>64</td>
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<tr>
<td>L2</td>
<td>2M</td>
<td>160M</td>
<td>16</td>
<td>Unified</td>
<td>2</td>
<td>2048</td>
<td>1</td>
<td>64</td>
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<tr>
<td>L3</td>
<td>105M</td>
<td>210M</td>
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<td>3</td>
<td>114688</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: 8 nodes (0-7)
node 0 cpus: 0-9, 80-89
node 0 size: 64220 MB
node 0 free: 63811 MB
node 1 cpus: 10-19, 90-99
node 1 size: 64507 MB
node 1 free: 64174 MB
node 2 cpus: 20-29, 100-109
node 2 size: 64507 MB
node 2 free: 64115 MB
node 3 cpus: 30-39, 110-119
node 3 size: 64507 MB
node 3 free: 63612 MB
node 4 cpus: 40-49, 120-129
node 4 size: 64471 MB
node 4 free: 64044 MB
node 5 cpus: 50-59, 130-139
node 5 size: 64507 MB
node 5 free: 64042 MB
node 6 cpus: 60-69, 140-149
node 6 size: 64507 MB
node 6 free: 64151 MB
node 7 cpus: 70-79, 150-159
node 7 size: 64487 MB

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Platform Notes (Continued)

node 7 free: 64179 MB
node distances:
node 0 1 2 3 4 5 6 7
0: 10 20 30 30 30 30 30 30
1: 20 10 30 30 30 30 30 30
2: 30 30 10 20 30 30 30 30
3: 30 30 20 10 30 30 30 30
4: 30 30 30 10 20 30 30 30
5: 30 30 30 20 10 30 30 30
6: 30 30 30 30 10 20 30 30
7: 30 30 30 30 30 10 20 10

9. /proc/meminfo
   MemTotal: 528095280 kB

10. who -r
    run-level 3 May 17 10:37

11. Systemd service manager version: systemd 250 (250-6.el9_0)
    Default Target Status
    multi-user running

12. Services, from systemctl list-unit-files
    STATE UNIT FILES
    enabled NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd crond
    dbus-broker firewalld getty@ irqbalance kdump lvm2-monitor mdmonitor microcode
    nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sshd sssd
    systemd-network-generator tuned udisks2
    enabled-runtime systemd-remount-fs
    disabled blk-availability chrony-wait chronyd console-getty cpupower debug-shell kvm_stat
    man-db-restart-cache-update nftables powertop rdac rhsm rhsm-facts rpmdb-rebuild
    serial-getty@ sshd-keygen@ systemd-boot-check-no-failures systemd-patore systemd-sysext
    indirect sshd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-sshd sssd-sudo

13. Linux kernel boot-time arguments, from /proc/cmdline
    BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-70.13.1.el9_0.x86_64
    root=/dev/mapper/rHEL-root
    ro
    resume=/dev/mapper/rHEL-swap
    rd.lvm.lv=rhel/root
    rd.lvm.lv=rhel/swap

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

15. tuned-adm active
    Current active profile: accelerator-performance

(Continued on next page)
Platform Notes (Continued)

16. 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                       40
   vm.dirty_writeback_centisecs         500
   vm.dirtytime_expire_seconds          43200
   vm.extrfrag_threshold                500
   vm.min_unmapped_ratio                1
   vm.nr_hugepages                      0
   vm.nr_hugepages_mempolicy            0
   vm.nr_overcommit_hugepages           0
   vm.swappiness                        10
   vm.watermark_boost_factor            15000
   vm.watermark_scale_factor            10
   vm.zone_reclaim_mode                 0

--------------------------------------------
17. /sys/kernel/mm/transparent_hugepage
   defrag always defer defer madvise [madvise] never
   enabled [always] madvise never
   hpage_pmd_size 2097152
   shmem_enabled always within_size advise [never] deny force

--------------------------------------------
18. /sys/kernel/mm/transparent_hugepage/khugepaged
   alloc.sleep_millisecs 60000
   defrag 1
   max_ptes_none 511
   max_ptes_shared 256
   max_ptes_swap 64
   pages_to_scan 4096
   scan.sleep_millisecs 10000

--------------------------------------------
19. OS release
   From /etc/*-release /etc/*-version
   os-release Red Hat Enterprise Linux 9.0 (Plow)
   redhat-release Red Hat Enterprise Linux release 9.0 (Plow)
   system-release Red Hat Enterprise Linux release 9.0 (Plow)

--------------------------------------------
20. Disk information
   SPEC is set to: /home/cpu2017
   Filesystem Type Size Used Avail Use% Mounted on
   /dev/mapper/rhel-home xfs 1.4T 153G 1.3T 11% /home

--------------------------------------------
21. /sys/devices/virtual/dmi/id
   Vendor: HPE
   Product: ProLiant DL380a Gen11
   Product Family: ProLiant
   Serial: CNX22602MZ

--------------------------------------------
22. dmidecode

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

Additional information from dmidecode 3.3 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:
7x Hynix HMC88AEBRA168N 32 GB 2 rank 4800
6x Hynix HMC88MEBRA113N 32 GB 2 rank 4800
3x Hynix HMC88MEBRA115N 32 GB 2 rank 4800

---

23. BIOS
(This section combines info from /sys/devices and dmidecode.)

<table>
<thead>
<tr>
<th>BIOS Vendor:</th>
<th>HPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS Version:</td>
<td>1.22</td>
</tr>
<tr>
<td>BIOS Date:</td>
<td>01/18/2023</td>
</tr>
<tr>
<td>BIOS Revision:</td>
<td>1.22</td>
</tr>
<tr>
<td>Firmware Revision:</td>
<td>1.30</td>
</tr>
</tbody>
</table>

---

**Compiler Version Notes**

---

C | 502.gcc_r(peak)
---

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

---

C | 502.gcc_r(peak)
---

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.0.0 Build 20221201
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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)
---

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---

C++ | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak) 531.deepsjeng_r(base, peak) 541.leetar_r(base, peak)
---

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
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(Continued on next page)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380a Gen11
(2.00 GHz, Intel Xeon Platinum 8460Y+)

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

SPECrate®2017_int_base = 694
SPECrate®2017_int_peak = 717

Test Date: May-2023
Hardware Availability: Mar-2023
Software Availability: Dec-2022

Compiler Version Notes (Continued)

Fortran | 548.exchange2_r(base, peak)
------------------------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
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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.leea_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 -xsapphirerapids -O3 -ffast-math
-ffast-math=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-1qkmalloc

C++ benchmarks:
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-ffast-math=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin

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

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380a Gen11
(2.00 GHz, Intel Xeon Platinum 8460Y+)

| SPECrate®2017_int_base = 694 |
| SPECrate®2017_int_peak = 717 |

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

Test Date: May-2023
Hardware Availability: Mar-2023
Software Availability: Dec-2022

Base Optimization Flags (Continued)

C++ benchmarks (continued):
- 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/usr/local/intel/compiler/2023.0.0/linux/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.teela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64

Peak Optimization Flags

C benchmarks:
500.perlbench_r: -w -std=c11 -m64 -Wl,-z,muldefs
-fprofile-generate(pass 1)

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

500.perlbench_r (continued):
-ffast-math -flto -Ofast -xCORE-AVX2 -funroll-loops -qopt-mem-layout-trans=4
-fno-strict-overflow
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -m32
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/ia32_lin
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)
-ffast-math -flto -Ofast -xCORE-AVX512 -funroll-loops -qopt-mem-layout-trans=4
-fno-alias
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmalloc

505.mcf_r: basepeak = yes

525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmalloc

557.xz_r: basepeak = yes

C++ benchmarks:

520.omnetpp_r: basepeak = yes

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes

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/HPE-Platform-Flags-Intel-SPR-rev2.1.html
http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.html
### SPEC CPU®2017 Integer Rate Result

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant DL380a Gen11  
(2.00 GHz, Intel Xeon Platinum 8460Y+)**

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</table>

**CPU2017 License:** 3  
**Test Sponsor:** HPE  
**Tested by:** HPE  
**Test Date:** May-2023  
**Hardware Availability:** Mar-2023  
**Software Availability:** Dec-2022

You can also download the XML flags sources by saving the following links:

- [http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-SPR-rev2.1.xml](http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-SPR-rev2.1.xml)
- [http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.xml](http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.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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