# SPEC CPU®2017 Integer Speed Result

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## Hewlett Packard Enterprise

(Test Sponsor: HPE)

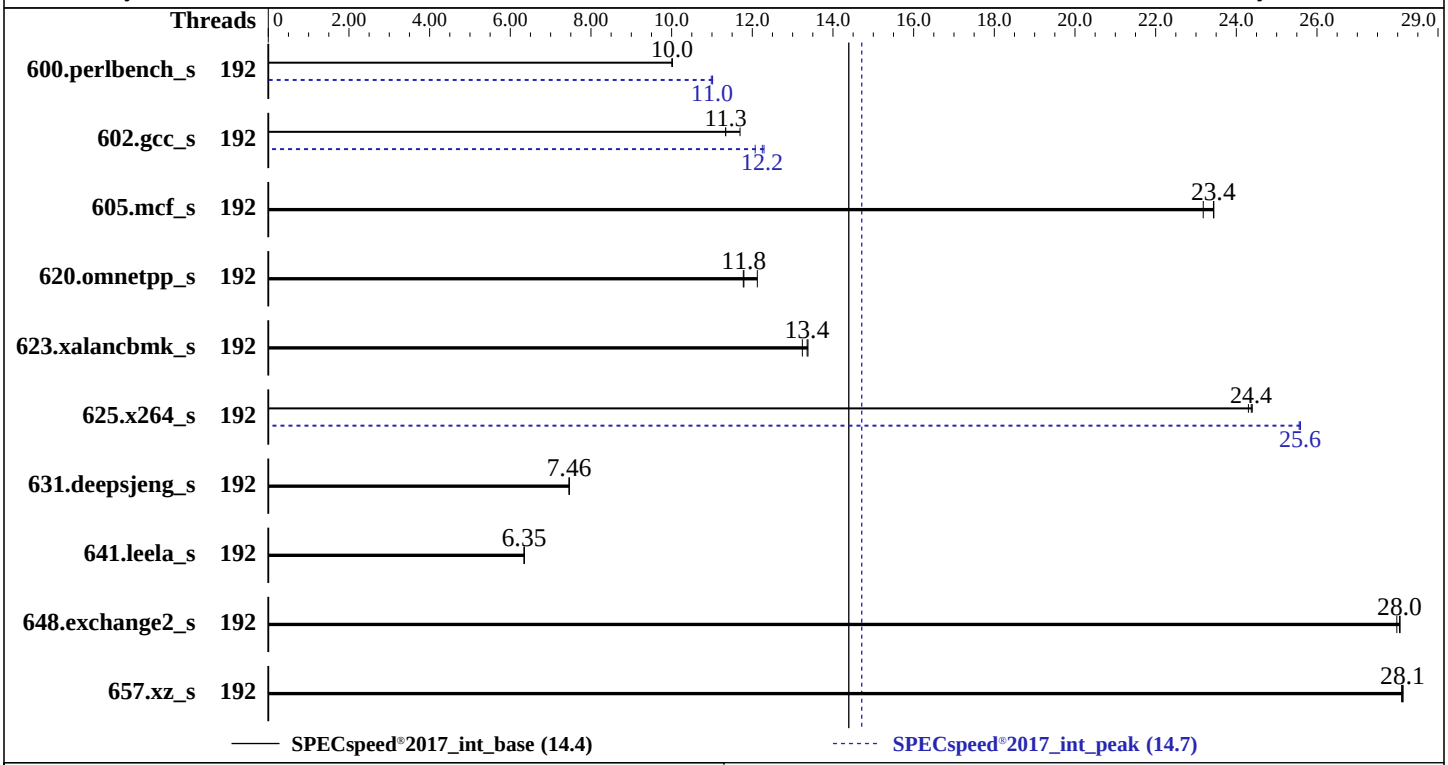
ProLiant Compute DL580 Gen12
(2.70 Ghz, Intel Xeon 6728P)

**SPECspeed®2017_int_base = 14.4**

**SPECspeed®2017_int_peak = 14.7**

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

**Test Date:** Sep-2025
**Hardware Availability:** Jul-2025
**Software Availability:** Jul-2025




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon 6728P |
| Max MHz: | 4100 |
| Nominal: | 2700 |
| Enabled: | 96 cores, 4 chips, 2 threads/core |
| Orderable: | 1,2,4 Chips |
| Cache L1: | 64 KB I + 48 KB D on chip per core |
| L2: | 2 MB I+D on chip per core |
| L3: | 144 MB I+D on chip per chip |
| Other: | None |
| Memory: | 2 TB (32 x 64 GB 2Rx4 PC5-6400B-R) |
| Storage: | 1 x 1.8 TB NVMe SSD |
| Other: | CPU Cooling: Air |

## Software

| | |
|---|---|
| OS: | SUSE Linux Enterprise Server 15 SP6<br>Kernel 6.4.0-150600.23.60-default |
| Compiler: | C/C++: Version 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;<br>Fortran: Version 2024.1 of Intel Fortran Compiler for Linux; |
| Parallel: | Yes |
| Firmware: | HPE BIOS Version v1.43 07/09/2025 released Jul-2025 |
| File System: | btrfs |
| System State: | Run level 3 (multi-user graphical) |
| Base Pointers: | 64-bit |
| Peak Pointers: | 64-bit |
| Other: | jemalloc memory allocator V5.0.1 |
| Power Management: | BIOS set to prefer performance at the cost of additional power usage |

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## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 600.perlbench_s | 192 | 177 | 10.0 | 177 | 10.0 | **177** | **10.0** | 192 | **161** | **11.0** | 162 | 11.0 | 161 | 11.0 |
| 602.gcc_s | 192 | **351** | **11.3** | 340 | 11.7 | 351 | 11.3 | 192 | 330 | 12.1 | 324 | 12.3 | **325** | **12.2** |
| 605.mcf_s | 192 | 204 | 23.2 | 201 | 23.4 | **201** | **23.4** | 192 | 204 | 23.2 | 201 | 23.4 | **201** | **23.4** |
| 620.omnetpp_s | 192 | 135 | 12.1 | **138** | **11.8** | 138 | 11.8 | 192 | 135 | 12.1 | **138** | **11.8** | 138 | 11.8 |
| 623.xalancbmk_s | 192 | 107 | 13.2 | 106 | 13.4 | **106** | **13.4** | 192 | 107 | 13.2 | 106 | 13.4 | **106** | **13.4** |
| 625.x264_s | 192 | 72.6 | 24.3 | **72.4** | **24.4** | 72.3 | 24.4 | 192 | **69.0** | **25.6** | 69.0 | 25.6 | 68.9 | 25.6 |
| 631.deepsjeng_s | 192 | 192 | 7.46 | **192** | **7.46** | 192 | 7.46 | 192 | 192 | 7.46 | **192** | **7.46** | 192 | 7.46 |
| 641.leela_s | 192 | 269 | 6.35 | 269 | 6.34 | **269** | **6.35** | 192 | 269 | 6.35 | 269 | 6.34 | **269** | **6.35** |
| 648.exchange2_s | 192 | **105** | **28.0** | 105 | 28.1 | 105 | 28.0 | 192 | **105** | **28.0** | 105 | 28.1 | 105 | 28.0 |
| 657.xz_s | 192 | 220 | 28.1 | 220 | 28.1 | **220** | **28.1** | 192 | 220 | 28.1 | 220 | 28.1 | **220** | **28.1** |

**SPECspeed®2017_int_base =** **14.4**

**SPECspeed®2017_int_peak =** **14.7**

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>
tuned-adm profile was stopped using "systemctl stop tuned"
```

## Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-64"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"
```

## 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
 sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases
```

## Platform Notes

```
BIOS Configurations : Parameters are selected in the order shown below
Workload Profile set to General Peak Frequency Compute
Enhanced Processor Performance Profile set to Aggressive
Thermal Configuration set to Maximum Cooling
Memory Patrol Scrubbing set to Disabled
Last Level Cache (LLC) Prefetch set to Enabled
XPT Prefetch set to Disabled
Intel UPI Prefetch set to Disabled
Workload Profile set to Custom
  Collaborative Power Control set to Enabled

 Sysinfo program /home/cpu2017/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost Fri Sep  5 11:05:45 2025

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

 ------------------------------------------------------------
 Table of contents
 ------------------------------------------------------------
  1. uname -a
  2. w
  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 254 (254.27+suse.167.g130293e510)
 12. Services, from systemctl list-unit-files
 13. Linux kernel boot-time arguments, from /proc/cmdline
 14. cpupower frequency-info
 15. tuned-adm active
 16. sysctl
 17. /sys/kernel/mm/transparent_hugepage
 18. /sys/kernel/mm/transparent_hugepage/khugepaged
 19. OS release
 20. Disk information
 21. /sys/devices/virtual/dmi/id
 22. dmidecode
 23. BIOS
 ------------------------------------------------------------

 ------------------------------------------------------------
 1. uname -a
   Linux localhost 6.4.0-150600.23.60-default #1 SMP PREEMPT_DYNAMIC Tue Jul  1 14:43:49 UTC 2025 (6f98261)
   x86_64 x86_64 x86_64 GNU/Linux

 ------------------------------------------------------------
 2. w
    11:05:45 up 14 min,  1 user,  load average: 0.07, 0.30, 0.19
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
   benchmar pts/4    :pts/3:S.0       11:01    4:04   0.05s  0.00s SCREEN -S spec
   benchmar pts/5    :pts/3:S.0       11:01    1.00s  0.77s  0.01s sudo su

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

**(Continued on next page)**

## Platform Notes (Continued)

```
   From the command 'logname':       benchmark

------------------------------------------------------------
4. ulimit -a
  core file size          (blocks, -c) 0
  data seg size           (kbytes, -d) unlimited
  scheduling priority             (-e) 0
  file size               (blocks, -f) unlimited
  pending signals                 (-i) 8255269
  max locked memory       (kbytes, -l) 8192
  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) 8255269
  virtual memory          (kbytes, -v) unlimited
  file locks                      (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: benchmark [priv]
 sshd: benchmark@notty
 sh
 /home/benchmark/.vscode-server/code-488a1f239235055e34e673291fb8d8c810886f81 command-shell --cli-data-dir
   /home/benchmark/.vscode-server/cli --parent-process-id 5553 --on-host=127.0.0.1 --on-port
 sh
   /home/benchmark/.vscode-server/cli/servers/Stable-488a1f239235055e34e673291fb8d8c810886f81/server/bin/code
   -server --connection-token=remotessh --accept-server-license-terms --start-server
   --enable-remote-auto-shutdown --socket-path=/tmp/code-34a69dfb-ae79-4292-a343-1ae9d1fc2dc7
 /home/benchmark/.vscode-server/cli/servers/Stable-488a1f239235055e34e673291fb8d8c810886f81/server/node
   /home/benchmark/.vscode-server/cli/servers/Stable-488a1f239235055e34e673291fb8d8c810886f81/server/out/serv
   er-main.js --connection-token=remotessh --accept-server-license-terms --start-server
   --enable-remote-auto-shutdown --socket-path=/tmp/code-34a69dfb-ae79-4292-a343-1ae9d1fc2dc7
 /home/benchmark/.vscode-server/cli/servers/Stable-488a1f239235055e34e673291fb8d8c810886f81/server/node
   /home/benchmark/.vscode-server/cli/servers/Stable-488a1f239235055e34e673291fb8d8c810886f81/server/out/boot
   strap-fork --type=ptyHost --logsPath /home/benchmark/.vscode-server/data/logs/20250905T110116
 /bin/bash --init-file
   /home/benchmark/.vscode-server/cli/servers/Stable-488a1f239235055e34e673291fb8d8c810886f81/server/out/vs/w
   orkbench/contrib/terminal/common/scripts/shellIntegration-bash.sh
 screen -S spec
 SCREEN -S spec
 /bin/bash
 sudo su
 sudo su
 su
 bash
 bash
 runcpu --nobuild --action validate --define default-platform-flags -c 6728P-avx512-speed-20240308.cfg
   --define cores=96 --tune base,peak -o all --define intspeedaffinity --define smt-on --define drop_caches
   intspeed
 runcpu --nobuild --action validate --define default-platform-flags --configfile
   6728P-avx512-speed-20240308.cfg --define cores=96 --tune base,peak --output_format all --define
   intspeedaffinity --define smt-on --define drop_caches --nopower --runmode speed --tune base:peak --size
   refspeed intspeed --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.001/templogs/preenv.intspeed.001.0.log --lognum 001.0 --from_runcpu 2
```

**(Continued on next page)**

## Platform Notes (Continued)

```
 specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6728P
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 173
    stepping        : 1
    microcode       : 0x10003c2
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
    cpu cores       : 24
    siblings        : 48
    4 physical ids (chips)
    192 processors (hardware threads)
    physical id 0: core ids 0-23
    physical id 1: core ids 0-23
    physical id 2: core ids 0-23
    physical id 3: core ids 0-23
    physical id 0: apicids 0-47
    physical id 1: apicids 128-175
    physical id 2: apicids 256-303
    physical id 3: apicids 384-431
  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 2.39.3:
  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):                               192
  On-line CPU(s) list:                  0-191
  Vendor ID:                            GenuineIntel
  Model name:                           Intel(R) Xeon(R) 6728P
  CPU family:                           6
  Model:                                173
  Thread(s) per core:                   2
  Core(s) per socket:                   24
  Socket(s):                            4
  Stepping:                             1
  BogoMIPS:                             5400.00
  Flags:                                fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
                                        pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx
                                        pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good
                                        nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni
                                        pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma
                                        cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt
                                        tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm
                                        3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin
                                        cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow
                                        flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep
                                        bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
                                        avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw
                                        avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc
                                        cqm_mbm_total cqm_mbm_local split_lock_detect user_shstk avx_vnni
```

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## Platform Notes (Continued)

```
                                     avx512_bf16 wbnoinvd dtherm ida arat pln pts hfi vnmi avx512vbmi
                                     umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq
                                     avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid
                                     bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear
                                     serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16
                                     amx_tile amx_int8 flush_l1d arch_capabilities
  Virtualization:                    VT-x
  L1d cache:                         4.5 MiB (96 instances)
  L1i cache:                         6 MiB (96 instances)
  L2 cache:                          192 MiB (96 instances)
  L3 cache:                          576 MiB (4 instances)
  NUMA node(s):                      4
  NUMA node0 CPU(s):                 0-23,96-119
  NUMA node1 CPU(s):                 24-47,120-143
  NUMA node2 CPU(s):                 48-71,144-167
  NUMA node3 CPU(s):                 72-95,168-191
  Vulnerability Gather data sampling:      Not affected
  Vulnerability Indirect target selection: Not affected
  Vulnerability Itlb multihit:             Not affected
  Vulnerability L1tf:                      Not affected
  Vulnerability Mds:                       Not affected
  Vulnerability Meltdown:                  Not affected
  Vulnerability Mmio stale data:           Not affected
  Vulnerability Reg file data sampling:    Not affected
  Vulnerability Retbleed:                  Not affected
  Vulnerability Spec rstack overflow:      Not affected
  Vulnerability Spec store bypass:         Mitigation; Speculative Store Bypass disabled via prctl
  Vulnerability Spectre v1:                Mitigation; usercopy/swapgs barriers and __user pointer
                                           sanitization
  Vulnerability Spectre v2:                Mitigation; Enhanced / Automatic IBRS; IBPB conditional;
                                           PBRSB-eIBRS Not affected; BHI BHI_DIS_S
  Vulnerability Srbds:                     Not affected
  Vulnerability Tsx async abort:           Not affected

From lscpu --cache:
     NAME ONE-SIZE ALL-SIZE WAYS TYPE        LEVEL   SETS PHY-LINE COHERENCY-SIZE
     L1d       48K     4.5M   12 Data            1     64        1             64
     L1i       64K       6M   16 Instruction     1     64        1             64
     L2         2M     192M   16 Unified         2   2048        1             64
     L3       144M     576M   16 Unified         3 147456        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 4 nodes (0-3)
  node 0 cpus: 0-23,96-119
  node 0 size: 515683 MB
  node 0 free: 514306 MB
  node 1 cpus: 24-47,120-143
  node 1 size: 516083 MB
  node 1 free: 512835 MB
  node 2 cpus: 48-71,144-167
  node 2 size: 516044 MB
  node 2 free: 514275 MB
  node 3 cpus: 72-95,168-191
  node 3 size: 516039 MB
  node 3 free: 513219 MB
  node distances:
  node   0   1   2   3
    0:  10  21  21  21
```

**(Continued on next page)**

## Platform Notes (Continued)

```
     1:  21  10  21  21
     2:  21  21  10  21
     3:  21  21  21  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       2113382636 kB

------------------------------------------------------------
10. who -r
  run-level 3 Sep 5 11:01 last=5

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.27+suse.167.g130293e510)
  Default Target  Status
  graphical       running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE           UNIT FILES
  enabled         ModemManager YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd
                  bluetooth chronyd cron display-manager getty@ irqbalance iscsi issue-generator kbdsettings
                  klog lvm2-monitor nscd nvmefc-boot-connections nvmf-autoconnect postfix purge-kernels
                  rollback rsyslog smartd sshd systemd-pstore virtqemud wicked wickedd-auto4 wickedd-dhcp4
                  wickedd-dhcp6 wickedd-nanny wpa_supplicant
  enabled-runtime systemd-remount-fs
  disabled        NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon autofs
                  autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates
                  chrony-wait console-getty cups cups-browsed debug-shell dmraid-activation dnsmasq ebtables
                  exchange-bmc-os-info firewalld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievd
                  iscsi-init iscsid issue-add-ssh-keys kexec-load ksm kvm_stat libvirt-guests lunmask
                  man-db-create multipathd nfs nfs-blkmap nfs-server nfsserver nmb openvpn@ ostree-remount
                  rpcbind rpmconfigcheck rsyncd rtkit-daemon serial-getty@ smartd_generate_opts smb snmpd
                  snmptrapd speech-dispatcherd systemd-boot-check-no-failures systemd-confext
                  systemd-network-generator systemd-nspawn@ systemd-sysext systemd-time-wait-sync
                  systemd-timesyncd tcsd tuned udisks2 update-system-flatpaks upower virtinterfaced
                  virtlockd virtlogd virtnetworkd virtnodedevd virtnwfilterd virtsecretd virtstoraged
                  vncserver@ wpa_supplicant@
  indirect        pcscd saned@ systemd-userdbd tftp wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.23.60-default
  root=UUID=31ddc59e-f5ed-47da-8154-f16fa2fc98b8
  splash=silent
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 186:
    Unable to determine current policy
    boost state support:
      Supported: yes
      Active: yes

------------------------------------------------------------
15. tuned-adm active
  It seems that tuned daemon is not running, preset profile is not activated.
```

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## Platform Notes (Continued)

```
  Preset profile: virtual-host

------------------------------------------------------------
16. sysctl
  kernel.numa_balancing               0
  kernel.randomize_va_space           2
  vm.compaction_proactiveness        20
  vm.dirty_background_bytes           0
  vm.dirty_background_ratio          40
  vm.dirty_bytes                      0
  vm.dirty_expire_centisecs        3000
  vm.dirty_ratio                     20
  vm.dirty_writeback_centisecs      500
  vm.dirtytime_expire_seconds     43200
  vm.extfrag_threshold              500
  vm.min_unmapped_ratio               1
  vm.nr_hugepages                     0
  vm.nr_hugepages_mempolicy           0
  vm.nr_overcommit_hugepages          0
  vm.swappiness                       1
  vm.watermark_boost_factor       15000
  vm.watermark_scale_factor          10
  vm.zone_reclaim_mode                1

------------------------------------------------------------
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 SUSE Linux Enterprise Server 15 SP6

------------------------------------------------------------
20. Disk information
SPEC is set to: /home/cpu2017
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/nvme1n1p3 btrfs  1.8T  316G  1.5T  18% /home

------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
    Vendor:          HPE
    Product:         HPE ProLiant Compute DL580 Gen12
    Product Family:  ProLiant
    Serial:          SANJACSCM

------------------------------------------------------------
```

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## Platform Notes (Continued)

```
 22. dmidecode
   Additional information from dmidecode 3.6 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:
     4x Hynix HMCG94AHBRA480N 64 GB 2 rank 6400
     5x Micron MTC40F2046S1RC64BD2 MWFF 64 GB 2 rank 6400
     23x Micron MTC40F2046S1RC64BD2 QSFF 64 GB 2 rank 6400


 ------------------------------------------------------------
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       HPE
    BIOS Version:      1.43
    BIOS Date:         07/09/2025
    BIOS Revision:     1.43
    Firmware Revision: 1.17
```

## Compiler Version Notes

```
==============================================================================================================
C       | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak)
        | 657.xz_s(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
--------------------------------------------------------------------------------------------------------------

==============================================================================================================
C++     | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak)
        | 641.leela_s(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
--------------------------------------------------------------------------------------------------------------

==============================================================================================================
Fortran | 648.exchange2_s(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
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## Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

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## Base Compiler Invocation (Continued)

Fortran benchmarks:
ifx

## 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:
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

C++ benchmarks:
-w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

## Peak Compiler Invocation

C benchmarks:
icx

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## Peak Compiler Invocation (Continued)

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

600.perlbench_s: -w -m64 -std=c11 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast(pass 1) -xCORE-AVX512 -O3 -ffast-math
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-fiopenmp -DSPEC_OPENMP -fno-strict-overflow
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

602.gcc_s: -w -m64 -std=c11 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast(pass 1) -xCORE-AVX512 -O3 -ffast-math
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-fiopenmp -DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib
-ljemalloc

605.mcf_s: basepeak = yes

625.x264_s: -w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-fno-alias -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

657.xz_s: basepeak = yes

C++ benchmarks:

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## Peak Optimization Flags (Continued)

620.omnetpp_s: `basepeak = yes`

623.xalancbmk_s: `basepeak = yes`

631.deepsjeng_s: `basepeak = yes`

641.leela_s: `basepeak = yes`

Fortran benchmarks:

648.exchange2_s: `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-GNR-rev1.3.html`
`http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-GNR-rev1.3.xml`
`http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml`


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