



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL360 Gen12

(2.20 GHz, Intel Xeon 6505P)

SPECspeed®2017\_int\_base = 14.4

SPECspeed®2017\_int\_peak = 14.7

CPU2017 License: 3

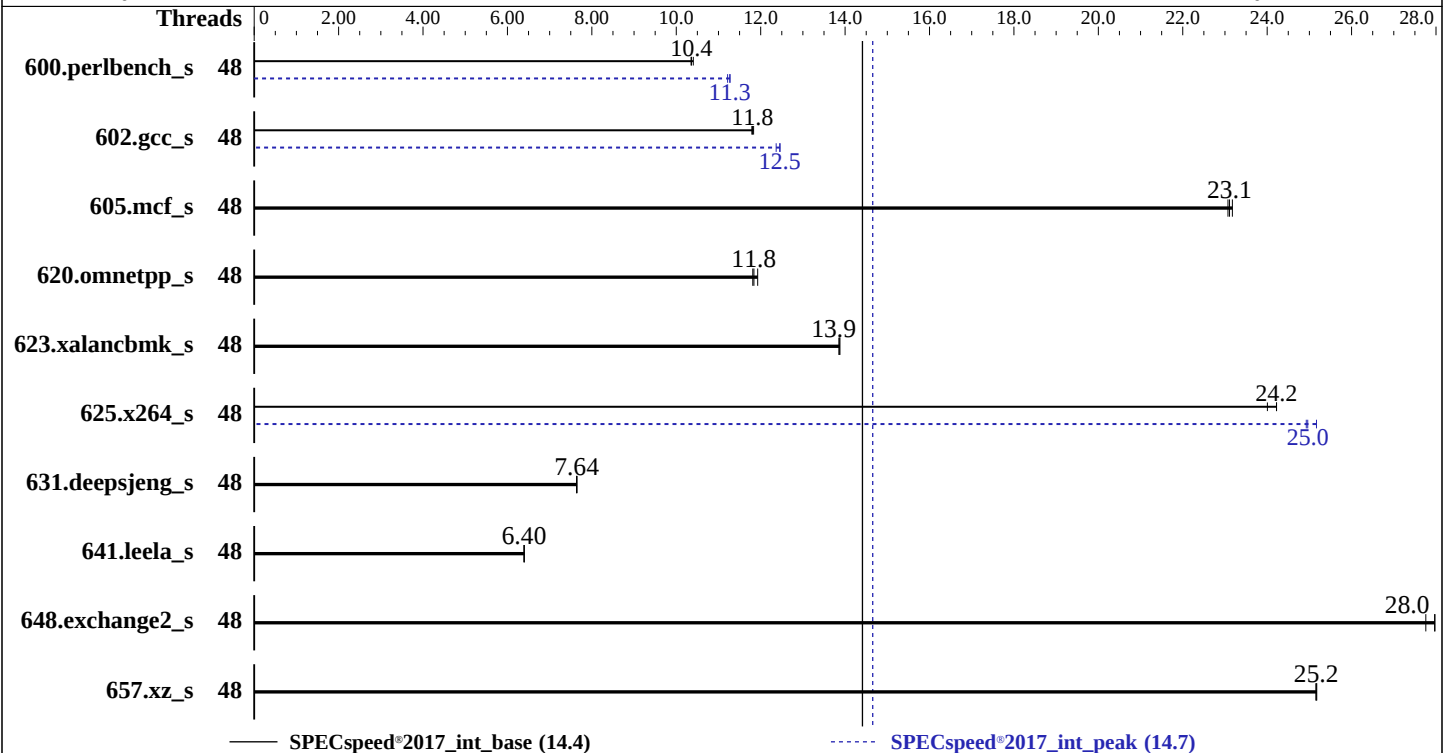
Test Sponsor: HPE

Tested by: HPE

Test Date: Apr-2025

Hardware Availability: Mar-2025

Software Availability: Jun-2024



## Hardware

CPU Name: Intel Xeon 6505P  
Max MHz: 4100  
Nominal: 2200  
Enabled: 24 cores, 2 chips, 2 threads/core  
Orderable: 1,2 Chips  
Cache L1: 64 KB I + 48 KB D on chip per core  
L2: 2 MB I+D on chip per core  
L3: 48 MB I+D on chip per chip  
Other: None  
Memory: 512 GB (16 x 32 GB 2Rx8 PC5-6400B-R)  
Storage: 1 x 3.2 TB NVMe SSD  
Other: CPU Cooling: Air

## Software

OS: SUSE Linux Enterprise Server 15 SP6  
Kernel 6.4.0-150600.21-default  
Compiler: C/C++: Version 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;  
Fortran: Version 2024.1 of Intel Fortran Compiler for Linux;  
Parallel: Yes  
Firmware: HPE BIOS Version v1.20 02/14/2025 released Feb-2025  
File System: xfs  
System State: Run level 5 (multi-user)  
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 | 48      | 171               | 10.4               | 171               | 10.4               | <b><u>171</u></b>  | <b><u>10.4</u></b> | 48      | 158               | 11.2               | <b><u>158</u></b>  | <b><u>11.3</u></b> | 157               | 11.3               |
| 602.gcc_s       | 48      | 338               | 11.8               | <b><u>337</u></b> | <b><u>11.8</u></b> | 337                | 11.8               | 48      | 322               | 12.4               | 320                | 12.5               | <b><u>320</u></b> | <b><u>12.5</u></b> |
| 605.mcf_s       | 48      | 204               | 23.2               | 205               | 23.1               | <b><u>204</u></b>  | <b><u>23.1</u></b> | 48      | 204               | 23.2               | 205                | 23.1               | <b><u>204</u></b> | <b><u>23.1</u></b> |
| 620.omnetpp_s   | 48      | 137               | 11.9               | 138               | 11.8               | <b><u>138</u></b>  | <b><u>11.8</u></b> | 48      | 137               | 11.9               | 138                | 11.8               | <b><u>138</u></b> | <b><u>11.8</u></b> |
| 623.xalanchmk_s | 48      | 102               | 13.9               | <b><u>102</u></b> | <b><u>13.9</u></b> | 102                | 13.9               | 48      | 102               | 13.9               | <b><u>102</u></b>  | <b><u>13.9</u></b> | 102               | 13.9               |
| 625.x264_s      | 48      | 73.5              | 24.0               | 72.8              | 24.2               | <b><u>72.8</u></b> | <b><u>24.2</u></b> | 48      | 70.1              | 25.2               | <b><u>70.7</u></b> | <b><u>25.0</u></b> | 70.8              | 24.9               |
| 631.deepsjeng_s | 48      | <b><u>188</u></b> | <b><u>7.64</u></b> | 187               | 7.65               | 188                | 7.64               | 48      | <b><u>188</u></b> | <b><u>7.64</u></b> | 187                | 7.65               | 188               | 7.64               |
| 641.leela_s     | 48      | 267               | 6.39               | 267               | 6.40               | <b><u>267</u></b>  | <b><u>6.40</u></b> | 48      | 267               | 6.39               | 267                | 6.40               | <b><u>267</u></b> | <b><u>6.40</u></b> |
| 648.exchange2_s | 48      | 105               | 28.0               | 106               | 27.8               | <b><u>105</u></b>  | <b><u>28.0</u></b> | 48      | 105               | 28.0               | 106                | 27.8               | <b><u>105</u></b> | <b><u>28.0</u></b> |
| 657.xz_s        | 48      | 246               | 25.2               | 246               | 25.2               | <b><u>246</u></b>  | <b><u>25.2</u></b> | 48      | 246               | 25.2               | 246                | 25.2               | <b><u>246</u></b> | <b><u>25.2</u></b> |

SPECspeed®2017\_int\_base = 14.4

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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"  
MALLOCONF = "retain:true"  
OMP\_STACKSIZE = "192M"

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM  
memory using Redhat Enterprise Linux 8.0  
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>



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## Platform Notes

### BIOS Configuration:

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  
Intel UPI Prefetch set to Disabled

Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost Mon Apr 21 14:47:57 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 (254.10+suse.84.ge8d77af424)
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 6.4.0-150600.21-default #1 SMP PREEMPT\_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09)  
x86\_64 x86\_64 x86\_64 GNU/Linux

2. w  
14:47:57 up 1 min, 3 users, load average: 2.75, 1.53, 0.58  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root pts/0 172.17.1.96 14:47 13.00s 0.73s 0.00s -bash

3. Username  
From environment variable \$USER: root

4. ulimit -a  
core file size (blocks, -c) unlimited

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## Platform Notes (Continued)

data seg size (kbytes, -d) unlimited  
scheduling priority (-e) 0  
file size (blocks, -f) unlimited  
pending signals (-i) 2062919  
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) 2062919  
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: root [priv]
sshd: root@pts/0
-bash
-bash
runcpu --nobuild --action validate --define default-platform-flags -c
ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=48 --tune base,peak -o all --define
intspeedaffinity --define drop_caches intspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=48 --tune base,peak --output_format all
--define intspeedaffinity --define drop_caches --nopower --runmode speed --tune base:peak --size refspeed
intspeed --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.005/templogs/preenv.intspeed.005.0.log
--lognum 005.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017
```

### 6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6505P
vendor_id       : GenuineIntel
cpu family      : 6
model           : 173
stepping        : 1
microcode       : 0x1000380
bugs             : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores       : 12
siblings        : 24
2 physical ids (chips)
48 processors (hardware threads)
physical id 0:  core ids 0-11
physical id 1:  core ids 0-11
physical id 0:  apicids 0-23
physical id 1:  apicids 128-151
```

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
```

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## Platform Notes (Continued)

CPU op-mode(s): 32-bit, 64-bit  
Address sizes: 46 bits physical, 57 bits virtual  
Byte Order: Little Endian  
CPU(s): 48  
On-line CPU(s) list: 0-47  
Vendor ID: GenuineIntel  
BIOS Vendor ID: Intel(R) Corporation  
Model name: Intel(R) Xeon(R) 6505P  
BIOS Model name: Intel(R) Xeon(R) 6505P CPU @ 2.2GHz  
BIOS CPU family: 179  
CPU family: 6  
Model: 173  
Thread(s) per core: 2  
Core(s) per socket: 12  
Socket(s): 2  
Stepping: 1  
BogoMIPS: 4400.00  
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 hle avx2 smep bmi2 erms invpcid rtm 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 avx512\_bf16 wbnoinvd dtherm ida arat pln pts 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: 1.1 MiB (24 instances)  
L1i cache: 1.5 MiB (24 instances)  
L2 cache: 48 MiB (24 instances)  
L3 cache: 96 MiB (2 instances)  
NUMA node(s): 2  
NUMA node0 CPU(s): 0-11,24-35  
NUMA node1 CPU(s): 12-23,36-47  
Vulnerability Gather data sampling: 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; RSB filling; PBRSE-eIBRS Not affected; BHI BHI\_DIS\_S  
  
Vulnerability Srbds: Not affected  
Vulnerability Tsx async abort: Not affected

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## Platform Notes (Continued)

From lscpu --cache:

| NAME | ONE-SIZE | ALL-SIZE | WAYS | TYPE        | LEVEL | SETS  | PHY-LINE | COHERENCY-SIZE |
|------|----------|----------|------|-------------|-------|-------|----------|----------------|
| L1d  | 48K      | 1.1M     | 12   | Data        | 1     | 64    | 1        | 64             |
| L1i  | 64K      | 1.5M     | 16   | Instruction | 1     | 64    | 1        | 64             |
| L2   | 2M       | 48M      | 16   | Unified     | 2     | 2048  | 1        | 64             |
| L3   | 48M      | 96M      | 16   | Unified     | 3     | 49152 | 1        | 64             |

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

available: 2 nodes (0-1)

node 0 cpus: 0-11,24-35

node 0 size: 257732 MB

node 0 free: 255406 MB

node 1 cpus: 12-23,36-47

node 1 size: 258028 MB

node 1 free: 256864 MB

node distances:

node 0 1

0: 10 21

1: 21 10

9. /proc/meminfo

MemTotal: 528138804 kB

10. who -r

run-level 5 Apr 21 14:47

11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)

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 cron display-manager getty@ irqbalance issue-generator kbdsettings klog  
lvm2-monitor nsd nvme-fc-boot-connections nvme-autoconnect postfix purge-kernels rollback  
rsyslog smartd sshd systemd-pstore 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  
autovast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates  
chrony-wait chronyd console-getty cups cups-browsed debug-shell dnsmasq ebtables  
exchange-bmc-os-info firewalld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmiev  
issue-add-ssh-keys kexec-load lunmask man-db-create multipathd nfs nfs-blkmap 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-sysext systemd-time-wait-sync  
systemd-timesyncd tuned udisks2 update-system-flatpaks upower vncserver@ wpa\_supplicant@  
indirect pcsd saned@ systemd-userdbd wickedd

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

BOOT\_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default

root=UUID=6f38f8cb-6744-4bb2-980a-6e692ebdf8b4

splash=silent

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## Platform Notes (Continued)

```
resume=/dev/disk/by-uuid/3188516f-5c98-4497-afe7-d252ff459ba8
mitigations=auto
quiet
security=apparmor
```

### 14. cpupower frequency-info

```
analyzing CPU 17:
  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.
Preset profile: balanced
```

### 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                 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                   60
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+madvice [madvice] never
enabled         [always] madvice 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
```

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## Platform Notes (Continued)

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/nvme0n1p3 | xfs  | 2.0T | 450G | 1.5T  | 23%  | /home      |

### 21. /sys/devices/virtual/dmi/id

Vendor: HPE  
Product: HPE ProLiant Compute DL360 Gen12  
Product Family: ProLiant  
Serial: D249RP0053

### 22. 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:

1x Hynix HMC688AHBRA472N 32 GB 2 rank 6400  
15x Micron MTC20F2085S1RC64BD2 QSFF 32 GB 2 rank 6400

### 23. BIOS

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

BIOS Vendor: HPE  
BIOS Version: 1.20  
BIOS Date: 02/14/2025  
BIOS Revision: 1.20  
Firmware Revision: 1.10

## 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)  
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Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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# SPEC CPU®2017 Integer Speed Result

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**Hewlett Packard Enterprise**

(Test Sponsor: HPE)

**ProLiant Compute DL360 Gen12**

(2.20 GHz, Intel Xeon 6505P)

**SPECspeed®2017\_int\_base = 14.4**

**SPECspeed®2017\_int\_peak = 14.7**

**CPU2017 License:** 3

**Test Sponsor:** HPE

**Tested by:** HPE

**Test Date:** Apr-2025

**Hardware Availability:** Mar-2025

**Software Availability:** Jun-2024

## Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

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 -xsapphirerapids -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 -xsapphirerapids -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 -xsapphirerapids -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



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## Peak Compiler Invocation

C benchmarks:

icx

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 -xsapphirerapids -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

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**Hardware Availability:** Mar-2025

**Software Availability:** Jun-2024

## Peak Optimization Flags (Continued)

C++ benchmarks:

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-rev1.1.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-rev1.1.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

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