



# SPEC CPU®2017 Integer Rate Result

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New H3C Technologies Co., Ltd.

SPECrate®2017\_int\_base = 2580

H3C UniServer R6900 G7 (Intel Xeon 6768P)

SPECrate®2017\_int\_peak = 2680

CPU2017 License: 9066

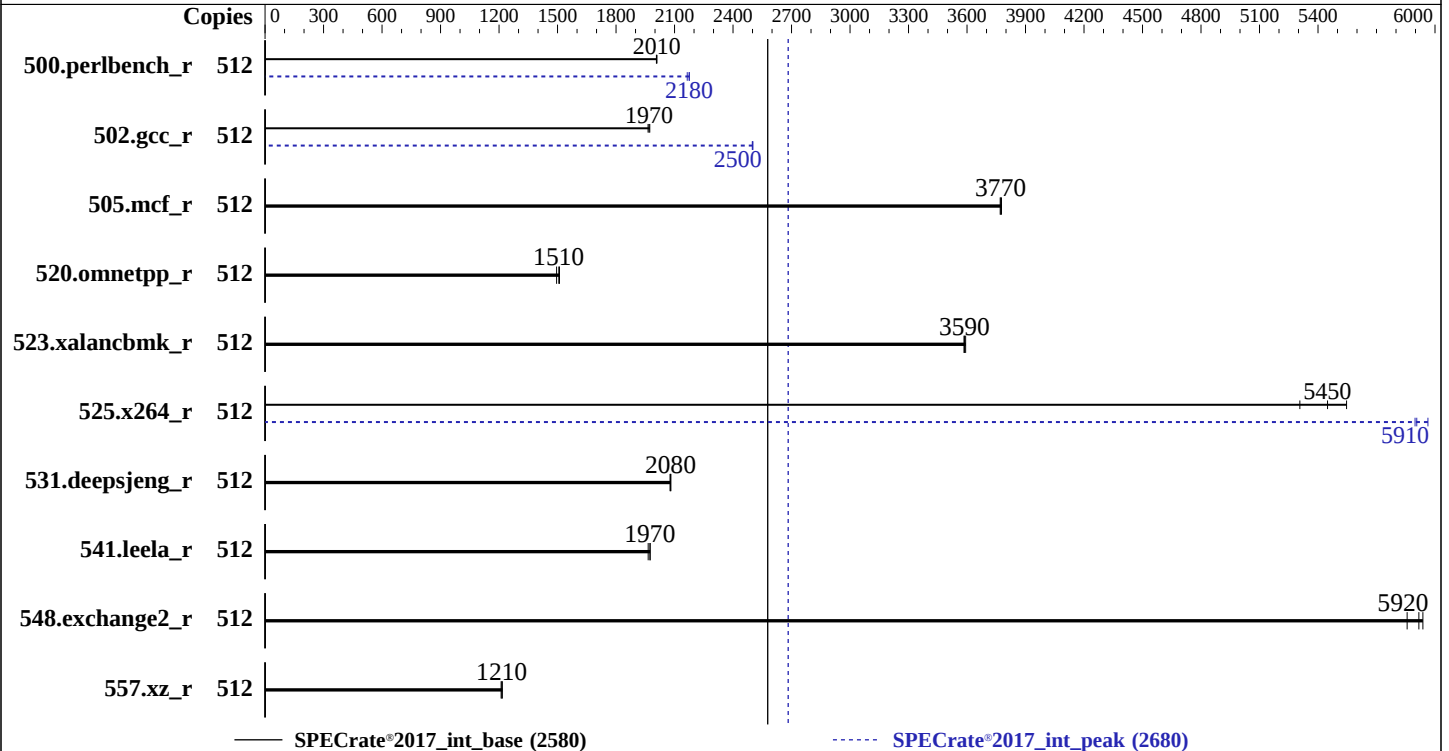
Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Oct-2025

Hardware Availability: Dec-2025

Software Availability: Jun-2024



## Hardware

CPU Name: Intel Xeon 6768P  
Max MHz: 3900  
Nominal: 2400  
Enabled: 256 cores, 4 chips, 2 threads/core  
Orderable: 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: 336 MB I+D on chip per chip  
Other: None  
Memory: 1 TB (32 x 32 GB 2Rx4 PC5-6400B-R)  
Storage: 1 x 960 GB SATA SSD  
Other: CPU Cooling: Air

## Software

OS: SUSE Linux Enterprise Server 15 SP6  
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: No  
Firmware: Version 7.00.19 released Sep-2025 BIOS  
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.



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## Results Table

| Benchmark       | Base   |            |             |            |             |            |             | Peak   |            |             |            |             |         |       |
|-----------------|--------|------------|-------------|------------|-------------|------------|-------------|--------|------------|-------------|------------|-------------|---------|-------|
|                 | Copies | Seconds    | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       | Copies | Seconds    | Ratio       | Seconds    | Ratio       | Seconds | Ratio |
| 500.perlbench_r | 512    | 406        | 2010        | 406        | 2010        | <b>406</b> | <b>2010</b> | 512    | 375        | 2180        | <b>375</b> | <b>2180</b> | 376     | 2170  |
| 502.gcc_r       | 512    | <b>368</b> | <b>1970</b> | 369        | 1960        | 367        | 1970        | 512    | <b>290</b> | <b>2500</b> | 290        | 2500        | 290     | 2500  |
| 505.mcf_r       | 512    | 219        | 3780        | <b>219</b> | <b>3770</b> | 219        | 3770        | 512    | 219        | 3780        | <b>219</b> | <b>3770</b> | 219     | 3770  |
| 520.omnetpp_r   | 512    | <b>446</b> | <b>1510</b> | 449        | 1500        | 445        | 1510        | 512    | <b>446</b> | <b>1510</b> | 449        | 1500        | 445     | 1510  |
| 523.xalancbmk_r | 512    | 150        | 3590        | <b>151</b> | <b>3590</b> | 151        | 3580        | 512    | 150        | 3590        | <b>151</b> | <b>3590</b> | 151     | 3580  |
| 525.x264_r      | 512    | 162        | 5550        | <b>165</b> | <b>5450</b> | 169        | 5310        | 512    | 150        | 5960        | <b>152</b> | <b>5910</b> | 152     | 5900  |
| 531.deepsjeng_r | 512    | 282        | 2080        | <b>282</b> | <b>2080</b> | 283        | 2080        | 512    | 282        | 2080        | <b>282</b> | <b>2080</b> | 283     | 2080  |
| 541.leela_r     | 512    | <b>430</b> | <b>1970</b> | 432        | 1960        | 429        | 1970        | 512    | <b>430</b> | <b>1970</b> | 432        | 1960        | 429     | 1970  |
| 548.exchange2_r | 512    | <b>227</b> | <b>5920</b> | 229        | 5860        | 226        | 5940        | 512    | <b>227</b> | <b>5920</b> | 229        | 5860        | 226     | 5940  |
| 557.xz_r        | 512    | <b>455</b> | <b>1210</b> | 454        | 1220        | 457        | 1210        | 512    | <b>455</b> | <b>1210</b> | 454        | 1220        | 457     | 1210  |

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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"

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:

LD\_LIBRARY\_PATH = "/home/speccpu/lib/intel64:/home/speccpu/lib/ia32:/home/speccpu/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

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>

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.

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## General Notes (Continued)

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 Settings:

SNC = Enable

ACPI C6x Enumeration = C6 as ACPI C2

### BMC Settings:

Fan mode = powerful mode

Sysinfo program /home/speccpu/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Fri Oct 10 20:57:37 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. sysctl
16. /sys/kernel/mm/transparent\_hugepage
17. /sys/kernel/mm/transparent\_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. 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  
20:57:37 up 3 min, 1 user, load average: 0.94, 0.66, 0.28  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - 22Apr24 9.00s 1.20s 0.02s -bash

3. Username  
From environment variable \$USER: root

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## Platform Notes (Continued)

```
-----
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         (-i) 4125200
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) 4125200
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
-----
```

```
-----
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize=31
login -- root
-bash
-bash
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=512 -c
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=256 --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=512 --configfile
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=256 --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/CPU2017.065/temlogs/preenv.intrate.065.0.log --lognum 065.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpu
-----
```

```
-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) 6768P
vendor_id      : GenuineIntel
cpu family     : 6
model          : 173
stepping       : 1
microcode      : 0x10003d0
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores      : 64
siblings       : 128
4 physical ids (chips)
512 processors (hardware threads)
physical id 0: core ids 0-31,64-95
physical id 1: core ids 0-31,64-95
physical id 2: core ids 0-31,64-95
physical id 3: core ids 0-31,64-95
physical id 0: apicids 0-63,128-191
physical id 1: apicids 256-319,384-447
physical id 2: apicids 512-575,640-703
physical id 3: apicids 768-831,896-959
Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
virtualized systems. Use the above data carefully.
-----
```

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## Platform Notes (Continued)

### 7. lscpu

From lscpu from util-linux 2.39.3:

```
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:         52 bits physical, 57 bits virtual
Byte Order:            Little Endian
CPU(s):                512
On-line CPU(s) list:   0-511
Vendor ID:             GenuineIntel
BIOS Vendor ID:        Intel(R) Corporation
Model name:            Intel(R) Xeon(R) 6768P
BIOS Model name:       Intel(R) Xeon(R) 6768P UNKNOWN CPU @ 2.4GHz
BIOS CPU family:       179
CPU family:            6
Model:                 173
Thread(s) per core:    2
Core(s) per socket:    64
Socket(s):             4
Stepping:              1
CPU(s) scaling MHz:    22%
CPU max MHz:           3900.0000
CPU min MHz:           800.0000
BogoMIPS:              4800.00
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 hwp hwp_act_window hwp_epp hwp_pkg_req vnmi avx512vbmi
umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpc1mulqdq 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:             12 MiB (256 instances)
L1i cache:             16 MiB (256 instances)
L2 cache:              512 MiB (256 instances)
L3 cache:              1.3 GiB (4 instances)
NUMA node(s):          8
NUMA node0 CPU(s):     0-31,256-287
NUMA node1 CPU(s):     32-63,288-319
NUMA node2 CPU(s):     64-95,320-351
NUMA node3 CPU(s):     96-127,352-383
NUMA node4 CPU(s):     128-159,384-415
NUMA node5 CPU(s):     160-191,416-447
NUMA node6 CPU(s):     192-223,448-479
NUMA node7 CPU(s):     224-255,480-511
```

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## Platform Notes (Continued)

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

From lscpu --cache:

| NAME | ONE-SIZE | ALL-SIZE | WAYS | TYPE        | LEVEL | SETS   | PHY-LINE | COHERENCY-SIZE |
|------|----------|----------|------|-------------|-------|--------|----------|----------------|
| L1d  | 48K      | 12M      | 12   | Data        | 1     | 64     | 1        | 64             |
| L1i  | 64K      | 16M      | 16   | Instruction | 1     | 64     | 1        | 64             |
| L2   | 2M       | 512M     | 16   | Unified     | 2     | 2048   | 1        | 64             |
| L3   | 336M     | 1.3G     | 16   | Unified     | 3     | 344064 | 1        | 64             |

8. numactl --hardware

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

available: 8 nodes (0-7)  
node 0 cpus: 0-31,256-287  
node 0 size: 128470 MB  
node 0 free: 127612 MB  
node 1 cpus: 32-63,288-319  
node 1 size: 129007 MB  
node 1 free: 128411 MB  
node 2 cpus: 64-95,320-351  
node 2 size: 128968 MB  
node 2 free: 128395 MB  
node 3 cpus: 96-127,352-383  
node 3 size: 129007 MB  
node 3 free: 128477 MB  
node 4 cpus: 128-159,384-415  
node 4 size: 129007 MB  
node 4 free: 128429 MB  
node 5 cpus: 160-191,416-447  
node 5 size: 129007 MB  
node 5 free: 128448 MB  
node 6 cpus: 192-223,448-479  
node 6 size: 129007 MB  
node 6 free: 128301 MB  
node 7 cpus: 224-255,480-511  
node 7 size: 128850 MB  
node 7 free: 128277 MB  
node distances:  
node    0    1    2    3    4    5    6    7  
0:  10  12  21  21  21  21  21  21  
1:  12  10  21  21  21  21  21  21  
2:  21  21  10  12  21  21  21  21  
3:  21  21  12  10  21  21  21  21  
4:  21  21  21  21  10  12  21  21  
5:  21  21  21  21  12  10  21  21  
6:  21  21  21  21  21  21  10  12

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## Platform Notes (Continued)

7: 21 21 21 21 21 21 21 12 10

9. /proc/meminfo

MemTotal: 1056076940 kB

10. who -r

run-level 3 Apr 22 20:00

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

Default Target Status  
multi-user running

12. Services, from systemctl list-unit-files

STATE UNIT FILES

enabled apparmor auditd cron getty@ irqbalance issue-generator kbdsettings postfix purge-kernels  
rollback sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6

wickedd-nanny

enabled-runtime systemd-remount-fs

disabled boot-sysctl ca-certificates chrony-wait chronyd console-getty debug-shell ebttables

fancontrol firewalld grub2-once haveged issue-add-ssh-keys kexec-load lm\_sensors lunmask  
rpmconfigcheck serial-getty@ systemd-boot-check-no-failures systemd-confext

systemd-network-generator systemd-sysexit systemd-time-wait-sync systemd-timesyncd

indirect systemd-userdbd wickedd

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

BOOT\_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default  
root=UUID=287cccce-a705-4048-89d9-10107c0283b3  
splash=silent  
resume=/dev/disk/by-uuid/48e58092-2d5c-481f-adc6-5553a102ed9a  
mitigations=auto  
quiet  
security=apparmor

14. cpupower frequency-info

analyzing CPU 91:

current policy: frequency should be within 800 MHz and 3.90 GHz.  
The governor "performance" may decide which speed to use  
within this range.

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 |

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## Platform Notes (Continued)

```
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
```

```
-----
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 60000
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 SP6
```

```
-----
19. Disk information
SPEC is set to: /home/speccpu
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3       xfs   854G  369G  486G  44% /home
```

```
-----
20. /sys/devices/virtual/dmi/id
Vendor:      New H3C Technologies Co., Ltd.
Product:     H3C UniServer R6900 G7
Product Family: Rack
Serial:      210200A0DXH259000003
```

```
-----
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:
27x Hynix HMC88AHBRA290N 32 GB 2 rank 6400
5x Hynix HMC88AHBRA478N 32 GB 2 rank 6400
```

```
-----
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:      American Megatrends International, LLC.
```

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## Platform Notes (Continued)

BIOS Version: 7.00.19  
BIOS Date: 09/26/2025  
BIOS Revision: 5.35  
Firmware Revision: 2.10

## Compiler Version Notes

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.1.0 Build 20240308  
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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 | 502.gcc\_r(peak)

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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)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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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 2024.1.0 Build 20240308  
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Fortran | 548.exchange2\_r(base, peak)

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## Base Compiler Invocation

C benchmarks:  
icx

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# SPEC CPU®2017 Integer Rate Result

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New H3C Technologies Co., Ltd.

SPECrate®2017\_int\_base = 2580

H3C UniServer R6900 G7 (Intel Xeon 6768P)

SPECrate®2017\_int\_peak = 2680

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Oct-2025

Hardware Availability: Dec-2025

Software Availability: Jun-2024

## Base Compiler Invocation (Continued)

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

## 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  
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc

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/opt/intel/oneapi/compiler/2024.1/lib -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/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc



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CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Oct-2025

Hardware Availability: Dec-2025

Software Availability: Jun-2024

## 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
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.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-fno-strict-overflow
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc

502.gcc_r: -m32 -L/opt/intel/oneapi/compiler/2024.1/lib32 -std=gnu89
-Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc
```

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## Peak Optimization Flags (Continued)

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/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc

557.xz\_r: basepeak = yes

C++ benchmarks:

520.omnetpp\_r: basepeak = yes

523.xalancbmk\_r: basepeak = yes

531.deepsjeng\_r: basepeak = yes

541.leela\_r: basepeak = yes

Fortran benchmarks:

548.exchange2\_r: basepeak = yes

The flags files that were used to format this result can be browsed at

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

[http://www.spec.org/cpu2017/flags/New\\_H3C-Platform-Settings-Intel-GNR-RevC.html](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-Intel-GNR-RevC.html)

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

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

[http://www.spec.org/cpu2017/flags/New\\_H3C-Platform-Settings-Intel-GNR-RevC.xml](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-Intel-GNR-RevC.xml)

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