



# SPEC CPU®2017 Floating Point Rate Result

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New H3C Technologies Co., Ltd.

SPECrate®2017\_fp\_base = 1130

H3C UniServer R6900 G7 (Intel Xeon 6724P)

SPECrate®2017\_fp\_peak = Not Run

CPU2017 License: 9066

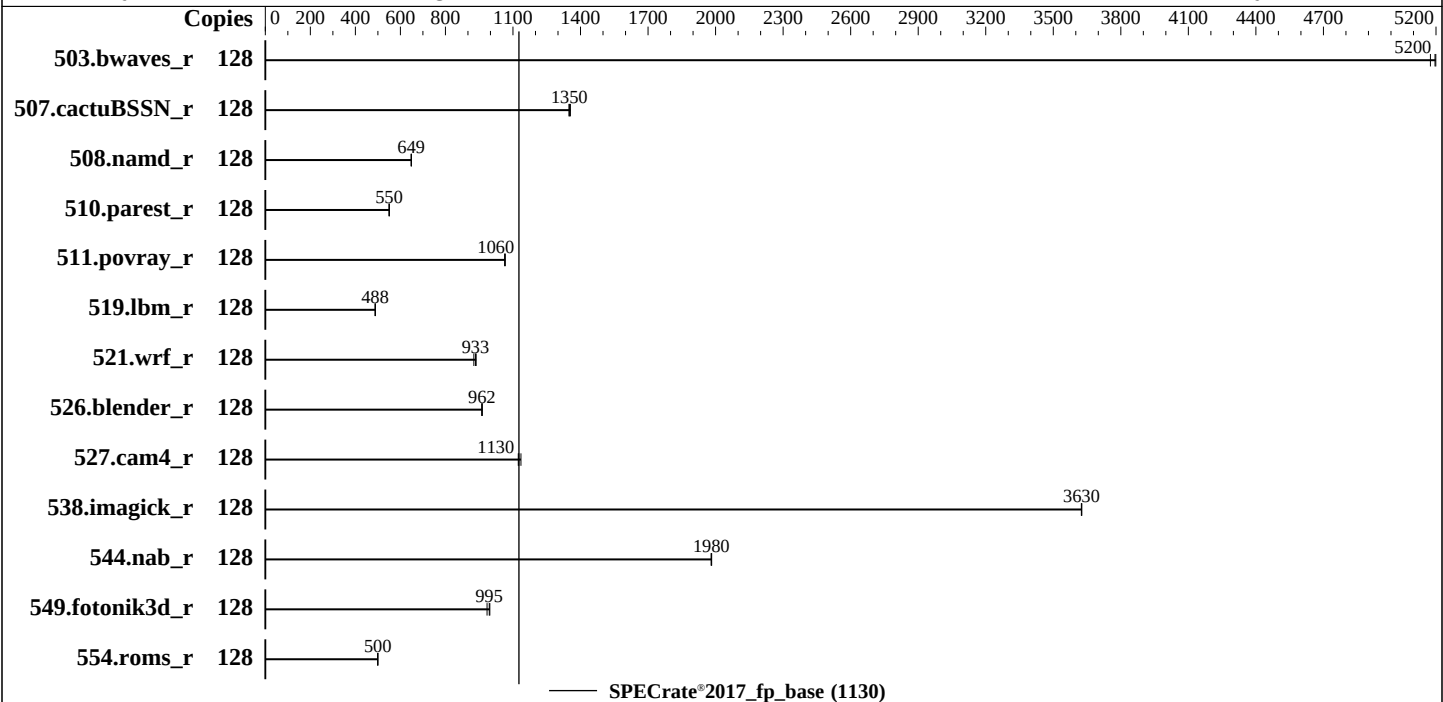
Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Nov-2025

Hardware Availability: Dec-2025

Software Availability: Jun-2025



## Hardware

CPU Name: Intel Xeon 6724P  
Max MHz: 4300  
Nominal: 3600  
Enabled: 64 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: 72 MB I+D on chip per chip  
Other: None  
Memory: 1 TB (32 x 32 GB 2Rx8 PC5-6400B-R)  
Storage: 1 x 960 GB SATA SSD  
Other: CPU Cooling: Air

## Software

OS: SUSE Linux Enterprise Server 15 SP7  
6.4.0-150700.51-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: btrfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: Not Applicable  
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   |         |       |         |       |         |       |
|-----------------|--------|-------------|-------------|------------|-------------|------------|-------------|--------|---------|-------|---------|-------|---------|-------|
|                 | Copies | Seconds     | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 503.bwaves_r    | 128    | 247         | 5200        | <u>247</u> | <u>5200</u> | 248        | 5180        |        |         |       |         |       |         |       |
| 507.cactuBSSN_r | 128    | 120         | 1350        | <u>120</u> | <u>1350</u> | 120        | 1360        |        |         |       |         |       |         |       |
| 508.namd_r      | 128    | <u>187</u>  | <u>649</u>  | 188        | 648         | 187        | 649         |        |         |       |         |       |         |       |
| 510.parest_r    | 128    | 609         | 550         | 608        | 551         | <u>608</u> | <u>550</u>  |        |         |       |         |       |         |       |
| 511.povray_r    | 128    | 281         | 1060        | 281        | 1070        | <u>281</u> | <u>1060</u> |        |         |       |         |       |         |       |
| 519.lbm_r       | 128    | 277         | 488         | <u>276</u> | <u>488</u>  | 276        | 489         |        |         |       |         |       |         |       |
| 521.wrf_r       | 128    | 306         | 936         | <u>307</u> | <u>933</u>  | 310        | 926         |        |         |       |         |       |         |       |
| 526.blender_r   | 128    | 202         | 964         | 203        | 961         | <u>203</u> | <u>962</u>  |        |         |       |         |       |         |       |
| 527.cam4_r      | 128    | 197         | 1140        | <u>199</u> | <u>1130</u> | 199        | 1120        |        |         |       |         |       |         |       |
| 538.imagick_r   | 128    | <u>87.8</u> | <u>3630</u> | 87.8       | 3630        | 87.8       | 3620        |        |         |       |         |       |         |       |
| 544.nab_r       | 128    | 109         | 1980        | <u>109</u> | <u>1980</u> | 109        | 1980        |        |         |       |         |       |         |       |
| 549.fotonik3d_r | 128    | <u>502</u>  | <u>995</u>  | 500        | 997         | 506        | 985         |        |         |       |         |       |         |       |
| 554.roms_r      | 128    | 407         | 500         | <u>407</u> | <u>500</u>  | 408        | 499         |        |         |       |         |       |         |       |

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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/je5.0.1-64"  
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.

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## General Notes (Continued)

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 Settings:

SNC = Enable

ACPI C6x Enumeration = C6 as ACPI C2

DCU Streamer Prefetcher = Disable

### BMC Settings:

Fan mode = powerful mode

Sysinfo program /home/speccpu/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Wed Nov 12 10:46:05 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 (254.24+suse.148.g83b9060b6e)
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 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611/lp)
x86_64 x86_64 x86_64 GNU/Linux
```

```
2. w
10:46:05 up 10:58, 1 user, load average: 94.00, 119.77, 124.32
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
```

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## Platform Notes (Continued)

```
root      tty1      -          23:48    2:12m  1.49s  0.05s  -bash
```

### 3. Username

From environment variable \$USER: root

### 4. ulimit -a

```
core file size          (blocks, -c) unlimited
data seg size           (kbytes, -d) unlimited
scheduling priority     (-e) 0
file size               (blocks, -f) unlimited
pending signals         (-i) 4126278
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) 4126278
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
```

### 5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize=42
login -- root
-bash
-bash
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 -c
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=64 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base -o all fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 --configfile
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=64 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base --output_format all --nopower --runmode
rate --tune base --size refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.052/temlogs/preenv.fprate.052.0.log --lognum 052.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpu
```

### 6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6724P
vendor_id       : GenuineIntel
cpu family      : 6
model           : 173
stepping        : 1
microcode       : 0x10003d0
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores       : 16
siblings        : 32
4 physical ids (chips)
128 processors (hardware threads)
physical id 0:  core ids 0-15
physical id 1:  core ids 0-15
physical id 2:  core ids 0-15
physical id 3:  core ids 0-15
physical id 0:  apicids 0-31
```

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## Platform Notes (Continued)

physical id 1: apicids 128-159

physical id 2: apicids 256-287

physical id 3: apicids 384-415

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 2.40.4:

```
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):                      128
On-line CPU(s) list:         0-127
Vendor ID:                   GenuineIntel
Model name:                  Intel(R) Xeon(R) 6724P
CPU family:                   6
Model:                       173
Thread(s) per core:          2
Core(s) per socket:          16
Socket(s):                   4
Stepping:                    1
CPU(s) scaling MHz:          19%
CPU max MHz:                  4300.0000
CPU min MHz:                  800.0000
BogoMIPS:                    7200.00
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 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 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:                   3 MiB (64 instances)
L1i cache:                   4 MiB (64 instances)
L2 cache:                    128 MiB (64 instances)
L3 cache:                    288 MiB (4 instances)
NUMA node(s):                4
NUMA node0 CPU(s):           0-15,64-79
NUMA node1 CPU(s):           16-31,80-95
NUMA node2 CPU(s):           32-47,96-111
NUMA node3 CPU(s):           48-63,112-127
Vulnerability Gather data sampling: Not affected
Vulnerability Itlb multihit: Not affected
```

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## Platform Notes (Continued)

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      | 3M       | 12   | Data        | 1     | 64    | 1        | 64             |
| L1i  | 64K      | 4M       | 16   | Instruction | 1     | 64    | 1        | 64             |
| L2   | 2M       | 128M     | 16   | Unified     | 2     | 2048  | 1        | 64             |
| L3   | 72M      | 288M     | 16   | Unified     | 3     | 73728 | 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: 0-15,64-79  
node 0 size: 257566 MB  
node 0 free: 244470 MB  
node 1 cpus: 16-31,80-95  
node 1 size: 258000 MB  
node 1 free: 247513 MB  
node 2 cpus: 32-47,96-111  
node 2 size: 258039 MB  
node 2 free: 247794 MB  
node 3 cpus: 48-63,112-127  
node 3 size: 257993 MB  
node 3 free: 247122 MB  
node distances:  
node 0 1 2 3  
0: 10 21 31 21  
1: 21 10 21 31  
2: 31 21 10 21  
3: 21 31 21 10

9. /proc/meminfo

MemTotal: 1056357828 kB

10. who -r

run-level 3 Nov 11 23:48

11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)

Default Target Status  
multi-user running

12. Services, from systemctl list-unit-files

STATE UNIT FILES

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## Platform Notes (Continued)

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 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  
autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates  
chrony-wait chronyd console-getty cups cups-browsed debug-shell dmraid-activation dnsmasq  
ebtables exchange-bmc-os-info firewalld fsidd gnome-remote-desktop gpm grub2-once haveged  
ipmi ipmievd issue-add-ssh-keys kexec-load ksm kvm\_stat lunmask man-db-create multipathd  
nfs nfs-blkmap nmb openvpn@ ostree-remount ostree-state-overlay@ rpcbind rpmconfigcheck  
rsyncd rtkit-daemon samba-bgqd 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 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-6.4.0-150700.51-default  
root=UUID=caa76791-ac18-477b-958c-517956aed673  
splash=silent  
mitigations=auto  
quiet  
security=apparmor

### 14. cpupower frequency-info

analyzing CPU 102:  
current policy: frequency should be within 800 MHz and 4.30 GHz.  
The governor "powersave" 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 |
| 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

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## Platform Notes (Continued)

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 SP7

-----  
19. Disk information  
SPEC is set to: /home/speccpu  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda2 btrfs 892G 115G 775G 13% /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 3.6 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:  
26x Hynix HMC88AHBRA290N 32 GB 2 rank 6400  
1x Hynix HMC88AHBRA472N 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.  
BIOS Version: 7.00.19  
BIOS Date: 09/26/2025  
BIOS Revision: 5.35  
Firmware Revision: 2.10

## Compiler Version Notes

=====

|   |                                                     |
|---|-----------------------------------------------------|
| C | 519.lbm_r(base) 538.imagick_r(base) 544.nab_r(base) |
|---|-----------------------------------------------------|

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## Compiler Version Notes (Continued)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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C++ | 508.namd\_r(base) 510.parest\_r(base)

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C++, C | 511.povray\_r(base) 526.blender\_r(base)

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C++, C, Fortran | 507.cactuBSSN\_r(base)

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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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Fortran | 503.bwaves\_r(base) 549.fotonik3d\_r(base) 554.roms\_r(base)

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Fortran, C | 521.wrf\_r(base) 527.cam4\_r(base)

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## Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

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New H3C Technologies Co., Ltd.

SPECrate®2017\_fp\_base = 1130

H3C UniServer R6900 G7 (Intel Xeon 6724P)

SPECrate®2017\_fp\_peak = Not Run

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Nov-2025

Hardware Availability: Dec-2025

Software Availability: Jun-2025

## Base Compiler Invocation (Continued)

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## Base Portability Flags

503.bwaves\_r: -DSPEC\_LP64

507.cactuBSSN\_r: -DSPEC\_LP64

508.namd\_r: -DSPEC\_LP64

510.parest\_r: -DSPEC\_LP64

511.povray\_r: -DSPEC\_LP64

519.lbm\_r: -DSPEC\_LP64

521.wrf\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG -convert big\_endian

526.blender\_r: -DSPEC\_LP64 -DSPEC\_LINUX -funsigned-char

527.cam4\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG

538.imagick\_r: -DSPEC\_LP64

544.nab\_r: -DSPEC\_LP64

549.fotonik3d\_r: -DSPEC\_LP64

554.roms\_r: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math

-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

-Wno-implicit-int -mprefer-vector-width=512 -ljemalloc

-L/usr/local/jemalloc64-5.0.1/lib

C++ benchmarks:

-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast

-ffast-math -flto -mfpmath=sse -funroll-loops

-qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc

-L/usr/local/jemalloc64-5.0.1/lib

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# SPEC CPU®2017 Floating Point Rate Result

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New H3C Technologies Co., Ltd.

SPECrate®2017\_fp\_base = 1130

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Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Nov-2025

Hardware Availability: Dec-2025

Software Availability: Jun-2025

## Base Optimization Flags (Continued)

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both Fortran and C:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs  
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both C and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512  
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using Fortran, C, and C++:

```
-w -m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512  
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib
```

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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