



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECSpeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECSpeed®2017_fp_peak = 363

CPU2017 License: 9066

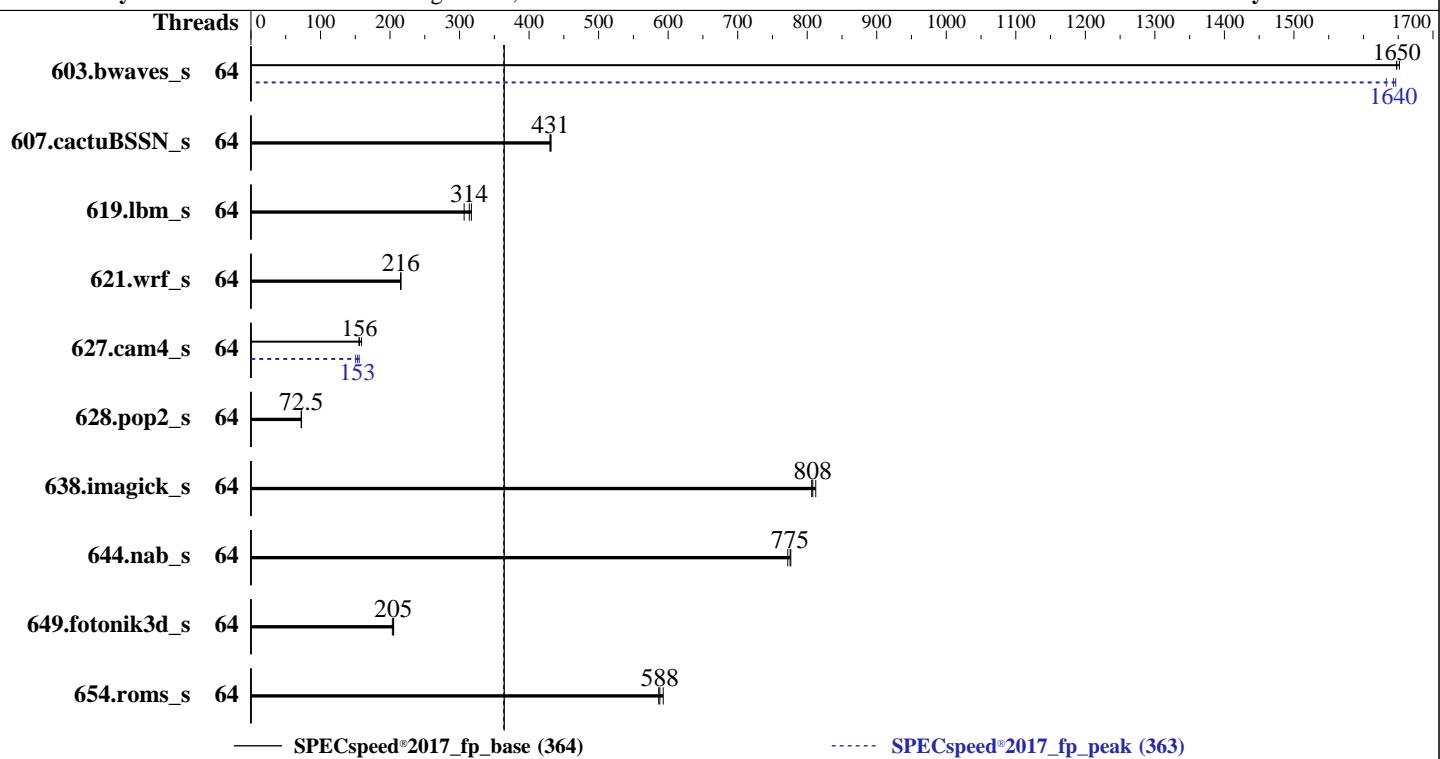
Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024



Hardware

CPU Name: Intel Xeon 6745P
 Max MHz: 4300
 Nominal: 3100
 Enabled: 64 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: 336 MB I+D on chip per chip
 Other: None
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-6400B-R)
 Storage: 1 x 960 GB SATA SSD
 Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Desktop 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: Yes
 Firmware: Version 7.00.15 released Jun-2025 BIOS
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 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.



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECSpeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECSpeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	64	35.8	1650	35.7	1650	<u>35.8</u>	<u>1650</u>	64	<u>35.9</u>	<u>1640</u>	35.8	1650	36.1	1630
607.cactuBSSN_s	64	<u>38.7</u>	<u>431</u>	38.6	432	38.8	430	64	<u>38.7</u>	<u>431</u>	38.6	432	38.8	430
619.lbm_s	64	<u>16.7</u>	<u>314</u>	17.1	307	16.5	317	64	<u>16.7</u>	<u>314</u>	17.1	307	16.5	317
621.wrf_s	64	61.5	215	<u>61.4</u>	<u>216</u>	61.3	216	64	61.5	215	<u>61.4</u>	<u>216</u>	61.3	216
627.cam4_s	64	<u>56.8</u>	<u>156</u>	57.1	155	55.7	159	64	<u>57.8</u>	<u>153</u>	56.9	156	58.9	151
628.pop2_s	64	<u>164</u>	<u>72.5</u>	163	72.8	164	72.3	64	<u>164</u>	<u>72.5</u>	163	72.8	164	72.3
638.imagick_s	64	17.8	812	<u>17.9</u>	<u>808</u>	17.9	806	64	17.8	812	<u>17.9</u>	<u>808</u>	17.9	806
644.nab_s	64	22.6	772	22.5	776	<u>22.5</u>	<u>775</u>	64	22.6	772	22.5	776	<u>22.5</u>	<u>775</u>
649.fotonik3d_s	64	<u>44.5</u>	<u>205</u>	44.8	203	44.4	205	64	<u>44.5</u>	<u>205</u>	44.8	203	44.4	205
654.roms_s	64	<u>26.8</u>	<u>588</u>	26.8	586	26.6	593	64	<u>26.8</u>	<u>588</u>	26.8	586	26.6	593

SPECSpeed®2017_fp_base = 364

SPECSpeed®2017_fp_peak = 363

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"

Environment Variables Notes

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

```
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/home/speccpu/lib/intel64:/home/speccpu/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 Redhat Enterprise Linux 8.0

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
```

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 Settings:

SNC = Enable

LLC Prefetch = Enabled

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECSpeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECSpeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Platform Notes (Continued)

BMC Settings:

Fan mode = powerful mode

```
Sysinfo program /home/speccpu/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost.localdomain Sun Aug 10 21:48:34 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.localdomain 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024
(36cle09) x86_64 x86_64 x86_64 GNU/Linux

2. w
21:48:34 up 5:42, 1 user, load average: 6.27, 5.85, 3.53
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root ttym1 - 16:06 2:57m 1.09s 0.00s -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) 4126297
max locked memory (kbytes, -l) 8192
max memory size (kbytes, -m) unlimited

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECSpeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECSpeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Platform Notes (Continued)

```
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) 4126297
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
runncpu --nobuild --action validate --define default-platform-flags -c
  ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=64 --tune base,peak -o all --define smt-on
  --define drop_caches fpspeed
runncpu --nobuild --action validate --define default-platform-flags --configfile
  ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=64 --tune base,peak --output_format all
  --define smt-on --define drop_caches --nopower --runmode speed --tune base:peak --size refspeed fpspeed
  --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.066/templogs/preenv.fpspeed.066.0.log --lognum 066.0
  --from_runncpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpu
```

6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6745P
vendor_id       : GenuineIntel
cpu family     : 6
model          : 173
stepping        : 1
microcode       : 0x1000380
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores      : 32
siblings        : 64
2 physical ids (chips)
128 processors (hardware threads)
physical id 0: core ids 0-15,64-79
physical id 1: core ids 0-15,64-79
physical id 0: apicids 0-31,128-159
physical id 1: apicids 256-287,384-415
```

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 2.39.3:
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):                 128
On-line CPU(s) list:    0-127
Vendor ID:               GenuineIntel
BIOS Vendor ID:         Intel(R) Corporation
Model name:              Intel(R) Xeon(R) 6745P
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECSpeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECSpeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Platform Notes (Continued)

BIOS Model name:	Intel(R) Xeon(R) 6745P UNKNOWN CPU @ 3.1GHz
BIOS CPU family:	179
CPU family:	6
Model:	173
Thread(s) per core:	2
Core(s) per socket:	32
Socket(s):	2
Stepping:	1
CPU(s) scaling MHz:	25%
CPU max MHz:	4300.0000
CPU min MHz:	800.0000
BogoMIPS:	6200.00
Flags:	fpu vme de pse tsc msr pae mce cx8 apic sep mttr pg e 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 aperf mperf tsc_known_freq pn1 pclmulqdq dtes64 monitor ds_cpl vmx est tm2 ssse3 sdbe 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_13 cat_12 cdp_13 intel_ppin cdp_12 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmil hle avx2 smep bmi2 erms invpcid rtm cqmq rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqmq_llc cqmq_occup_llc cqmq_mbm_total cqmq_mbm_local split_lock_detect user_shstx avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req hfi vnmi avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnmi avx512_bitalg tme avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote movdir64b enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16 amx_tile amx_int8 flush_llc 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:	672 MiB (2 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
Vulnerability Llft:	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; 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
------	----------	----------	------	------	-------	------	----------	----------------

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECspeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECspeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Platform Notes (Continued)

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	336M	672M	16 Unified	3	344064	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: 257565 MB
node 0 free: 255374 MB
node 1 cpus: 16-31,80-95
node 1 size: 258039 MB
node 1 free: 257436 MB
node 2 cpus: 32-47,96-111
node 2 size: 258000 MB
node 2 free: 251008 MB
node 3 cpus: 48-63,112-127
node 3 size: 257996 MB
node 3 free: 254330 MB
node distances:
node 0 1 2 3
0: 10 12 21 21
1: 12 10 21 21
2: 21 21 10 12
3: 21 21 12 10

9. /proc/meminfo

MemTotal: 1056360672 kB

10. who -r

run-level 3 Aug 10 16:06

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	ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager firewalld getty@ irqbalance issue-generator kbdsettings klog lvm2-monitor nscd postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wpa_supplicant
enabled-runtime	systemd-remount-fs
disabled	autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait chronyd console-getty cups cups-browsed debug-shell dnsmasq ebttables exchange-bmc-os-info fsidd gpm grub2-once haveged ipmi ipmievfd issue-add-ssh-keys kexec-load lunmask man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd serial-getty@ smartd_generate_opts snmpd snmptrapd systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd udisks2 vncserver@ wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny wpa_supplicant@ indirect systemd-userdbd wickedd

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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECSpeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECSpeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Platform Notes (Continued)

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=35e5c459-d5dd-489f-91aa-6ba2f90e84be
resume=/dev/disk/by-uuid/1bfff873f-5117-4ef6-82f8-427cc8e7b3fc
splash=silent
quiet
security=apparmor
mitigations=auto

-----
14. cpupower frequency-info
analyzing CPU 84:
    current policy: frequency should be within 800 MHz and 4.30 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
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+madvise [madvise] never
enabled          [always] madvise 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
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECSpeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECSpeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Platform Notes (Continued)

os-release SUSE Linux Enterprise Desktop 15 SP6

19. Disk information

SPEC is set to: /home/speccpu

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda3	xfs	351G	134G	217G	39%	/home

20. /sys/devices/virtual/dmi/id

Vendor:	New H3C Technologies Co., Ltd.
Product:	H3C UniServer R4900 G7
Product Family:	Rack
Serial:	210235A51AH259000015

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:

16x Hynix HMCG94AHBRA480N 64 GB 2 rank 6400

22. BIOS

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

BIOS Vendor:	American Megatrends International, LLC.
BIOS Version:	7.00.15
BIOS Date:	06/03/2025
BIOS Revision:	5.35
Firmware Revision:	2.6

Compiler Version Notes

=====

C | 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_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++, C, Fortran | 607.cactubSSN_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.

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.

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

=====

=====

Fortran | 603.bwaves_s(base, peak) 649.fotonik3d_s(base, peak) 654.roms_s(base, peak)

=====

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECspeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECspeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Compiler Version Notes (Continued)

```
=====
Fortran, C      | 621.wrf_s(base, peak) 627.cam4_s(base, peak) 628.pop2_s(base, peak)
=====
```

```
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
```

```
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.
=====
```

Base Compiler Invocation

C benchmarks:

icx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

Base Portability Flags

```
603.bwaves_s: -DSPEC_LP64
607.cactuBSSN_s: -DSPEC_LP64
619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
627.cam4_s: -DSPEC_LP64 -DSPEC_CASE_FLAG
628.pop2_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
-assume byterecl
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -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 -fopenmp
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECSpeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECSpeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Base Optimization Flags (Continued)

C benchmarks (continued):

```
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

Benchmarks using Fortran, C, and C++:

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

Peak Compiler Invocation

C benchmarks:

icx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

Peak Portability Flags

Same as Base Portability Flags



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECspeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECspeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

Peak Optimization Flags

C benchmarks:

619.lbm_s: basepeak = yes

638.imagick_s: basepeak = yes

644.nab_s: basepeak = yes

Fortran benchmarks:

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

649.fotonik3d_s: basepeak = yes

654.roms_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf_s: basepeak = yes

```
627.cam4_s: -w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -fsto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

628.pop2_s: basepeak = yes

Benchmarks using Fortran, C, and C++:

607.cactuBSSN_s: 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-BHS-RevA.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-BHS-RevA.xml



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECSpeed®2017_fp_base = 364

H3C UniServer R4900 G7 (Intel Xeon 6745P)

SPECSpeed®2017_fp_peak = 363

CPU2017 License: 9066

Test Date: Aug-2025

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2025

Tested by: New H3C Technologies Co., Ltd.

Software Availability: Jun-2024

SPEC CPU and SPECSpeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

Tested with SPEC CPU®2017 v1.1.9 on 2025-08-10 09:48:34-0400.

Report generated on 2025-08-26 17:50:12 by CPU2017 PDF formatter v6716.

Originally published on 2025-08-26.