



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

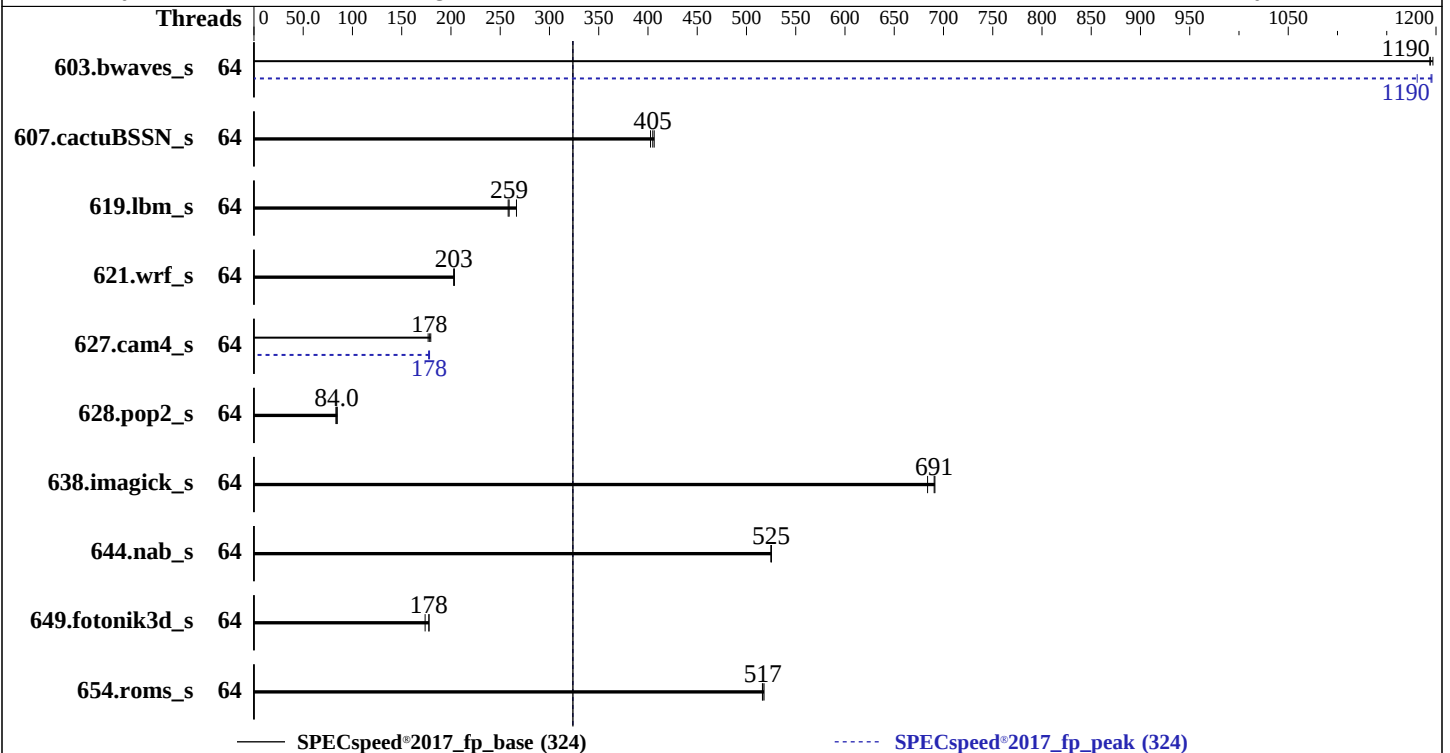
Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024



Hardware

CPU Name: Intel Xeon Gold 6530
Max MHz: 4000
Nominal: 2100
Enabled: 64 cores, 2 chips
Orderable: 1,2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
L2: 2 MB I+D on chip per core
L3: 160 MB I+D on chip per chip
Other: None
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-5600B-R, running at 4800)
Storage: 1 x 3.84 TB NVME SSD
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP5
5.14.21-150500.53-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 6.10.50 released Feb-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.
H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	64	<u>49.4</u>	<u>1190</u>	49.4	1190	49.3	1200	64	50.0	1180	<u>49.4</u>	<u>1190</u>	49.3	1200
607.cactuBSSN_s	64	41.0	406	<u>41.2</u>	<u>405</u>	41.4	403	64	41.0	406	<u>41.2</u>	<u>405</u>	41.4	403
619.lbm_s	64	<u>20.2</u>	<u>259</u>	19.7	266	20.3	258	64	<u>20.2</u>	<u>259</u>	19.7	266	20.3	258
621.wrf_s	64	65.2	203	<u>65.2</u>	<u>203</u>	65.0	203	64	65.2	203	<u>65.2</u>	<u>203</u>	65.0	203
627.cam4_s	64	50.1	177	<u>49.7</u>	<u>178</u>	49.4	180	64	50.0	177	49.7	178	<u>49.8</u>	<u>178</u>
628.pop2_s	64	143	83.2	140	84.6	<u>141</u>	<u>84.0</u>	64	143	83.2	140	84.6	<u>141</u>	<u>84.0</u>
638.imagick_s	64	<u>20.9</u>	<u>691</u>	21.1	684	20.9	691	64	<u>20.9</u>	<u>691</u>	21.1	684	20.9	691
644.nab_s	64	33.3	525	33.3	525	<u>33.3</u>	<u>525</u>	64	33.3	525	33.3	525	<u>33.3</u>	<u>525</u>
649.fotonik3d_s	64	<u>51.3</u>	<u>178</u>	51.3	178	52.5	174	64	<u>51.3</u>	<u>178</u>	51.3	178	52.5	174
654.roms_s	64	30.5	516	30.4	518	<u>30.5</u>	<u>517</u>	64	30.5	516	30.4	518	<u>30.5</u>	<u>517</u>

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

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"

LD_LIBRARY_PATH = "/home/speccpunew/lib/intel64:/home/speccpunew/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:

Enable LP [Global] = Single LP

SNC = Disabled

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Platform Notes (Continued)

Package C State = C0/C1 state

LLC Prefetch = Enabled

BMC Settings:

Fan mode = powerful mode

Sysinfo program /home/specpunew/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Mon Apr 7 16:31:14 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 249 (249.16+suse.171.gdad0071f15)
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 5.14.21-150500.53-default #1 SMP PREEMPT_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043)
x86_64 x86_64 x86_64 GNU/Linux
```

```
2. w
16:31:14 up 5:33, 3 users, load average: 4.47, 34.58, 48.77
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1      -               10:59    10.00s 1.28s  0.00s sh speed.sh
root      pts/0    172.16.66.164   15:25    1:05m  0.02s  0.02s -bash
root      pts/1    172.16.66.164   15:27    1:22   2.77s  2.45s /usr/bin/ruby.ruby2.5 --encoding=utf-8
/usr/lib/YaST2/bin/y2start lan qt -name YaST2 -icon yast
```

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

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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Platform Notes (Continued)

data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) unlimited
pending signals (-i) 4126670
max locked memory (kbytes, -l) 64
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) 4126670
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited

5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize 30
login -- root
-bash
sh speed.sh
runcpu --nobuild --action validate --define default-platform-flags -c
ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=64 --tune base,peak -o all --define
drop_caches fpspeed
runcpu --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 drop_caches --nopower --runmode speed --tune base:peak --size refspeak fpspeed --nopreenv
--note-preenv --logfile $SPEC/tmp/CPU2017.043/templogs/preenv.fpspeed.043.0.log --lognum 043.0
--from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpunew
```

6. /proc/cpuinfo

```
model name      : INTEL(R) XEON(R) GOLD 6530
vendor_id      : GenuineIntel
cpu family      : 6
model          : 207
stepping       : 2
microcode      : 0x21000291
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores      : 32
siblings       : 32
2 physical ids (chips)
64 processors (hardware threads)
physical id 0: core ids 0-31
physical id 1: core ids 0-31
physical id 0: apicids
0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62
physical id 1: apicids
128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190
```

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 2.37.4:

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Platform Notes (Continued)

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): 64
On-line CPU(s) list: 0-63
Vendor ID: GenuineIntel
Model name: INTEL(R) XEON(R) GOLD 6530
CPU family: 6
Model: 207
Thread(s) per core: 1
Core(s) per socket: 32
Socket(s): 2
Stepping: 2
CPU max MHz: 4000.0000
CPU min MHz: 800.0000
BogoMIPS: 4200.00
Flags: fpvme 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 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 invpcid_single cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced 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 avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req 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 avx512_fp16 amx_tile flush_l1d arch_capabilities
L1d cache: 3 MiB (64 instances)
L1i cache: 2 MiB (64 instances)
L2 cache: 128 MiB (64 instances)
L3 cache: 320 MiB (2 instances)
NUMA node(s): 2
NUMA node0 CPU(s): 0-31
NUMA node1 CPU(s): 32-63
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Retbleed: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBSRB-eIBRS SW sequence
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	32K	2M	8	Instruction	1	64	1	64
L2	2M	128M	16	Unified	2	2048	1	64
L3	160M	320M	20	Unified	3	131072	1	64

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Platform Notes (Continued)

8. numactl --hardware

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

```
available: 2 nodes (0-1)
node 0 cpus: 0-31
node 0 size: 515664 MB
node 0 free: 511113 MB
node 1 cpus: 32-63
node 1 size: 516032 MB
node 1 free: 509707 MB
node distances:
node    0    1
 0:   10   21
 1:   21   10
```

9. /proc/meminfo

MemTotal: 1056458196 kB

10. who -r

run-level 3 Apr 7 10:58

11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)

```
Default Target    Status
multi-user        running
```

12. Services, from systemctl list-unit-files

```
STATE      UNIT FILES
enabled    YaST2-Firstboot YaST2-Second-Stage apparmor cron display-manager getty@ issue-generator
           kbdsettings klog lvm2-monitor nsd nvme-fc-boot-connections purge-kernels rollback rsyslog
           smartd sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime
disabled   systemd-remount-fs
           auditd autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates
           chrony-wait chronyd console-getty cups cups-browsed debug-shell ebtables
           exchange-bmc-os-info fancontrol firewalld gpm grub2-once haveged haveged-switch-root ipmi
           ipmievdev irqbalance issue-add-ssh-keys kdump kdump-early kexec-load lm_sensors lunmask
           man-db-create multipathd ndctl-monitor nfs nfs-blkmap nmb nvme-fc-autoconnect postfix rpcbind
           rpmconfigcheck rsyncd serial-getty@ smartd_generate_opts smb snmpd snmptrapd svnserve
           sysstat systemd-boot-check-no-failures systemd-network-generator systemd-sysext
           systemd-time-wait-sync systemd-timesyncd tuned vncserver@
indirect   pcsd wickedd
```

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

```
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
root=UUID=befab1a9-6492-412a-9d0b-079466ad03eb
splash=silent
resume=/dev/disk/by-uuid/64b85326-8619-4fcb-8127-1e8683bd7471
mitigations=auto
quiet
splash=silent
mitigations=auto
```

14. cpupower frequency-info

analyzing CPU 0:

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Platform Notes (Continued)

current policy: frequency should be within 800 MHz and 4.00 GHz.
The governor "performance" may decide which speed to use within this range.

boost state support:

Supported: yes

Active: yes

15. tuned-adm active

Current active profile: throughput-performance

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	10
vm.watermark_boost_factor	15000
vm.watermark_scale_factor	10
vm.zone_reclaim_mode	0

17. /sys/kernel/mm/transparent_hugepage

defrag	always defer+madvise [madvise] never
enabled	[always] madvise never
hpage_pmd_size	2097152
shmem_enabled	always within_size advise [never] deny force

18. /sys/kernel/mm/transparent_hugepage/khugepaged

alloc_sleep_millisecs	60000
defrag	1
max_ptes_none	511
max_ptes_shared	256
max_ptes_swap	64
pages_to_scan	4096
scan_sleep_millisecs	10000

19. OS release

From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP5

20. Disk information

SPEC is set to: /home/specpunew

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p5	xfs	522G	519G	3.2G	100%	/home

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Platform Notes (Continued)

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

Vendor: New H3C Technologies Co., Ltd.
Product: H3C UniServer R4900 G6 Ultra
Product Family: Rack
Serial: 210235A4CHH244000019

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:

16x Hynix HMC694AGBRA179N 64 GB 2 rank 5600, configured at 4800

23. BIOS

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

BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 6.10.50
BIOS Date: 02/28/2025
BIOS Revision: 5.32

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.

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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.
H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Compiler Version Notes (Continued)

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 -fiopenmp
-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 -flto -mfpmath=sse -funroll-loops

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.
H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

-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
-flto -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 -flto -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

Peak Optimization Flags

C benchmarks:

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-2024

Peak Optimization Flags (Continued)

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 -flto -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 -flto -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-RevB.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-RevB.xml



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6530)

SPECspeed®2017_fp_base = 324

SPECspeed®2017_fp_peak = 324

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2025

Hardware Availability: Oct-2023

Software Availability: Mar-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 2025-04-07 04:31:14-0400.

Report generated on 2025-05-08 10:04:03 by CPU2017 PDF formatter v6716.

Originally published on 2025-05-06.