SPEC CPU®2017 Integer Rate Result

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New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6534)

$SPECrate®2017\_int\_base =$ **205**

$SPECrate®2017\_int\_peak =$ Not Run

CPU2017 License: 9066
Test Sponsor: New H3C Technologies Co., Ltd.
Tested by: New H3C Technologies Co., Ltd.

Test Date: Aug-2024
Hardware Availability: Oct-2023
Software Availability: Mar-2024

Benchmark	Copies	Result
500.perlbench_r	32	163
502.gcc_r	32	196
505.mcf_r	32	343
520.omnetpp_r	32	135
523.xalancbmk_r	32	282
525.x264_r	32	408
531.deepsjeng_r	32	141
541.leela_r	32	138
548.exchange2_r	32	430
557.xz_r	32	93.2

SPECrate®2017_int_base (205)

Hardware

CPU Name: Intel Xeon Gold 6534
 Max MHz: 4200
 Nominal: 3900
Enabled: 16 cores, 2 chips, 2 threads/core
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: 22.5 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 6.4 TB NVME SSD
Other: CPU Cooling: Air

Software

OS: Red Hat Enterprise Linux 9.2 (Plow)
 5.14.0-284.11.1.el9_2.x86_64
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 6.10.43 released Jul-2024 BIOS
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other: None
Power Management: BIOS and OS set to prefer performance at the cost of
 additional power usage.

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

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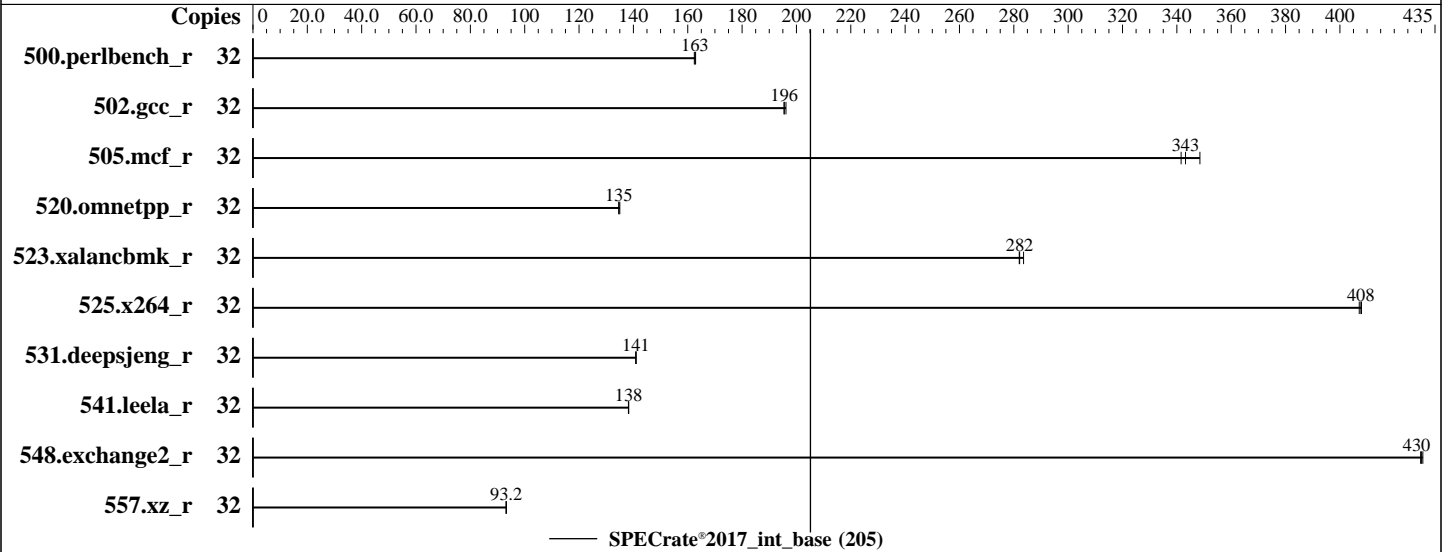
SPECrate®2017_int_peak = Not Run

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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	32	313	163	**313**	**163**	314	162							
502.gcc_r	32	**232**	**196**	232	195	231	196							
505.mcf_r	32	**151**	**343**	151	342	148	348							
520.omnetpp_r	32	**312**	**135**	311	135	312	135							
523.xalancbmk_r	32	119	284	120	282	**120**	**282**							
525.x264_r	32	137	408	**137**	**408**	138	407							
531.deepsjeng_r	32	260	141	260	141	**260**	**141**							
541.leela_r	32	383	138	384	138	**383**	**138**							
548.exchange2_r	32	**195**	**430**	195	430	195	431							
557.xz_r	32	371	93.2	**371**	**93.2**	371	93.2							
SPECrate®2017_int_base =	**205**													
SPECrate®2017_int_peak =	**Not Run**													

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.

Standard Performance Evaluation Corporation (info@spec.org) https://www.spec.org/

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Platform Notes

```
 BIOS Settings:
 SNC = Enable SNC2 (2-clusters)
 Power Performance Tuning = BIOS Controls EPB
 ENERGY_PERF_BIAS_CFG mode = Performance

 Sysinfo program /home/speccpu/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost.localdomain Sun Aug  4 22:19:27 2024

 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. Systemd service manager version: systemd 252 (252-13.el9_2)
 11. Services, from systemctl list-unit-files
 12. Linux kernel boot-time arguments, from /proc/cmdline
 13. cpupower frequency-info
 14. tuned-adm active
 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 5.14.0-284.11.1.el9_2.x86_64 #1 SMP PREEMPT_DYNAMIC Wed Apr 12 10:45:03 EDT
   2023 x86_64 x86_64 x86_64 GNU/Linux


 ------------------------------------------------------------
 2. w
   22:19:27 up 4 min,  3 users,  load average: 0.11, 0.39, 0.21
   USER     TTY          LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1         22:17   15.00s  0.97s  0.01s sh intrate.sh
   root     pts/0        22:17    1:35   0.01s  0.01s -bash
   root     pts/1        22:18   29.00s  0.07s  0.00s sh 6534.sh


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


 ------------------------------------------------------------
 4. ulimit -a
   real-time non-blocking time  (microseconds, -R) unlimited
   core file size              (blocks, -c) 0
   data seg size               (kbytes, -d) unlimited
```

(Continued on next page)

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Platform Notes (Continued)

```
  scheduling priority                  (-e) 0
  file size                 (blocks, -f) unlimited
  pending signals                      (-i) 4126618
  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) 4126618
  virtual memory             (kbytes, -v) unlimited
  file locks                           (-x) unlimited


    ----------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31
 login -- root
 -bash
 sh intrate.sh
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=32 -c
   ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=16 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base -o all intrate
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=32 --configfile
   ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=16 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base --output_format all --nopower --runmode
   rate --tune base --size refrate intrate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.001/templogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
 $SPEC = /home/speccpu


    ----------------------------------------------------------
6. /proc/cpuinfo
    model name      : INTEL(R) XEON(R) GOLD 6534
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 207
    stepping        : 2
    microcode       : 0x21000200
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
    cpu cores       : 8
    siblings        : 16
    2 physical ids (chips)
    32 processors (hardware threads)
    physical id 0: core ids 0-7
    physical id 1: core ids 0-7
    physical id 0: apicids 0-15
    physical id 1: apicids 128-143
  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:
  Architecture:              x86_64
  CPU op-mode(s):            32-bit, 64-bit
  Address sizes:             52 bits physical, 57 bits virtual
  Byte Order:                Little Endian
```

(Continued on next page)

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Platform Notes (Continued)

```
CPU(s):                     32
On-line CPU(s) list:        0-31
Vendor ID:                  GenuineIntel
BIOS Vendor ID:             Intel(R) Corporation
Model name:                 INTEL(R) XEON(R) GOLD 6534
BIOS Model name:            INTEL(R) XEON(R) GOLD 6534
CPU family:                 6
Model:                      207
Thread(s) per core:         2
Core(s) per socket:         8
Socket(s):                  2
Stepping:                   2
CPU max MHz:                4200.0000
CPU min MHz:                800.0000
BogoMIPS:                   7800.00
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
                            invpcid_single cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow
                            vnmi 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 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 ibt amx_bf16 avx512_fp16 amx_tile amx_int8
                            flush_l1d arch_capabilities
Virtualization:             VT-x
L1d cache:                  768 KiB (16 instances)
L1i cache:                  512 KiB (16 instances)
L2 cache:                   32 MiB (16 instances)
L3 cache:                   45 MiB (2 instances)
NUMA node(s):               4
NUMA node0 CPU(s):          0-3,16-19
NUMA node1 CPU(s):          4-7,20-23
NUMA node2 CPU(s):          8-11,24-27
NUMA node3 CPU(s):          12-15,28-31
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
Vulnerability Spectre v1:       Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:       Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRSB-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     768K   12 Data            1    64        1             64
    L1i       32K     512K    8 Instruction     1    64        1             64
```

(Continued on next page)

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Platform Notes (Continued)

```
    L2         2M     32M   16 Unified        2 2048       1           64
    L3       22.5M    45M   15 Unified        3 24576      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: 0-3,16-19
  node 0 size: 257623 MB
  node 0 free: 256946 MB
  node 1 cpus: 4-7,20-23
  node 1 size: 258045 MB
  node 1 free: 257474 MB
  node 2 cpus: 8-11,24-27
  node 2 size: 258045 MB
  node 2 free: 257390 MB
  node 3 cpus: 12-15,28-31
  node 3 size: 258001 MB
  node 3 free: 257272 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:      1056478516 kB

'who -r' did not return a run level


  -----------------------------------------------------------
10. Systemd service manager version: systemd 252 (252-13.el9_2)
  Default Target  Status
  multi-user      starting


  -----------------------------------------------------------
11. Services, from systemctl list-unit-files
  STATE           UNIT FILES
  enabled         ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online
                  accounts-daemon atd auditd avahi-daemon bluetooth chronyd crond cups dbus-broker firewalld
                  gdm getty@ insights-client-boot irqbalance iscsi iscsi-onboot kdump libstoragemgmt
                  lm_sensors low-memory-monitor lvm2-monitor mcelog mdmonitor microcode multipathd
                  nis-domainname nvmefc-boot-connections ostree-remount pmcd pmie pmlogger
                  power-profiles-daemon qemu-guest-agent rhsmcertd rpcbind rsyslog rtkit-daemon
                  selinux-autorelabel-mark smartd sshd sssd switcheroo-control sysstat systemd-boot-update
                  systemd-network-generator tuned udisks2 upower vgauthd vmtoolsd
  enabled-runtime systemd-remount-fs
  disabled        arp-ethers autofs blk-availability brltty canberra-system-bootup canberra-system-shutdown
                  canberra-system-shutdown-reboot chrony-wait cni-dhcp console-getty cpupower cups-browsed
                  dbus-daemon debug-shell dnf-system-upgrade dnsmasq fancontrol fcoe grafana-server gssproxy
                  httpd httpd@ ibacm iprdump iprinit iprupdate ipsec iscsid iscsiuio kpatch kvm_stat ledmon
                  lldpad man-db-restart-cache-update nfs-blkmap nfs-server nftables nmb nvmf-autoconnect
                  ostree-readonly-sysroot-migration pesign pmfind pmie_farm pmlogger_farm pmproxy podman
                  podman-auto-update podman-clean-transient podman-kube@ podman-restart postfix powertop
                  psacct ras-mc-ctl rasdaemon rdisc rhcd rhsm rhsm-facts rpmdb-rebuild rrdcached saslauthd
                  selinux-check-proper-disable serial-getty@ smb snmpd snmptrapd speech-dispatcherd
                  srp_daemon srp_daemon_port@ sshd-keygen@ systemd-boot-check-no-failures systemd-pstore
                  systemd-sysext target targetclid tog-pegasus trace-cmd vsftpd wpa_supplicant
```

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Platform Notes (Continued)

```
    indirect           pcscd spice-vdagentd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo
                       systemd-sysupdate systemd-sysupdate-reboot vsftpd@


    -----------------------------------------------------------
12. Linux kernel boot-time arguments, from /proc/cmdline
   BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-284.11.1.el9_2.x86_64
   root=/dev/mapper/rhel-root
   ro
   resume=/dev/mapper/rhel-swap
   rd.lvm.lv=rhel/root
   rd.lvm.lv=rhel/swap
   rhgb
   quiet
   nohz_full=1-143
   rcu_nocbs=1-143
   console=tty0


    -----------------------------------------------------------
13. cpupower frequency-info
   analyzing CPU 0:
     current policy: frequency should be within 800 MHz and 4.20 GHz.
                     The governor "performance" may decide which speed to use
                     within this range.
     boost state support:
       Supported: yes
       Active: yes


    -----------------------------------------------------------
14. tuned-adm active
   Current active profile: throughput-performance


    -----------------------------------------------------------
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                   40
   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


    -----------------------------------------------------------
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
```

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Platform Notes (Continued)

```
   -------------------------------------------------------------
   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     Red Hat Enterprise Linux 9.2 (Plow)
     redhat-release Red Hat Enterprise Linux release 9.2 (Plow)
     system-release Red Hat Enterprise Linux release 9.2 (Plow)

   -------------------------------------------------------------
   19. Disk information
   SPEC is set to: /home/speccpu
     Filesystem            Type  Size  Used Avail Use% Mounted on
     /dev/mapper/rhel-home xfs   5.8T  140G  5.7T   3% /home

   -------------------------------------------------------------
   20. /sys/devices/virtual/dmi/id
       Vendor:        New H3C Technologies Co., Ltd.
       Product:       H3C UniServer R4900 G6 Ultra
       Product Family: Rack
       Serial:        210235A4CHH244000003

   -------------------------------------------------------------
   21. dmidecode
     Additional information from dmidecode 3.3 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 HMCG94AGBRA179N 64 GB 2 rank 5600, configured at 4800



   -------------------------------------------------------------
   22. BIOS
   (This section combines info from /sys/devices and dmidecode.)
     BIOS Vendor:      American Megatrends International, LLC.
     BIOS Version:     6.10.43
     BIOS Date:        07/27/2024
     BIOS Revision:    5.32
```

Compiler Version Notes

```
==================================================================================================
C        | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base) 525.x264_r(base) 557.xz_r(base)
--------------------------------------------------------------------------------------------------
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++      | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_r(base)
```

(Continued on next page)

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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
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------


========================================================================================
Fortran | 548.exchange2_r(base)
----------------------------------------------------------------------------------------
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.
----------------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`icx`

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`

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G6 Ultra (Intel Xeon Gold 6534)

SPECrate®2017_int_base = 205

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9066		**Test Date:**	Aug-2024
Test Sponsor: New H3C Technologies Co., Ltd.		**Hardware Availability:**	Oct-2023
Tested by: New H3C Technologies Co., Ltd.		**Software Availability:**	Mar-2024

Base Optimization Flags (Continued)

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
```

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-V1.0-SPR-RevE.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-V1.0-SPR-RevE.xml

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

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