SPEC CPU®2017 Integer Rate Result

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New H3C Technologies Co., Ltd.

$SPECrate^{®}2017\_int\_base =$ 1030

H3C UniServer R4900 G7 (Intel Xeon 6740E)
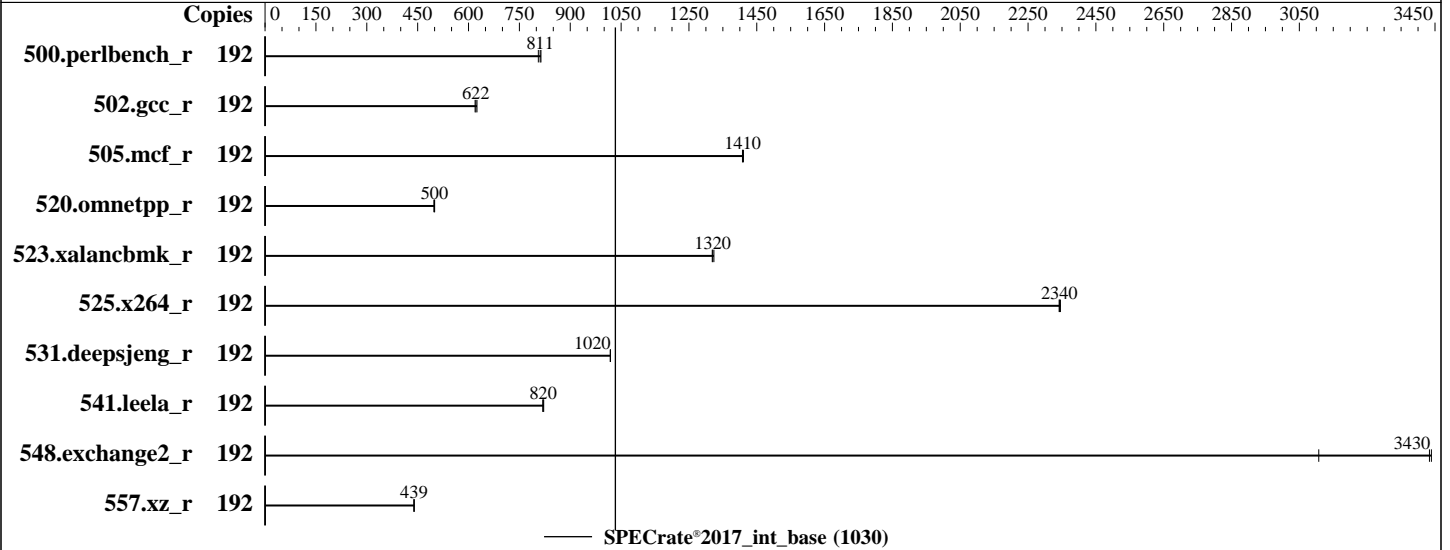
$SPECrate^{®}2017\_int\_peak =$ Not Run

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

Copies

Benchmark	Copies	Result
500.perlbench_r	192	811
502.gcc_r	192	622
505.mcf_r	192	1410
520.omnetpp_r	192	500
523.xalancbmk_r	192	1320
525.x264_r	192	2340
531.deepsjeng_r	192	1020
541.leela_r	192	820
548.exchange2_r	192	3430
557.xz_r	192	439

SPECrate®2017_int_base (1030)

Hardware

CPU Name: Intel Xeon 6740E
 Max MHz: 3200
 Nominal: 2400
Enabled: 192 cores, 2 chips
Orderable: 1,2 chips
Cache L1: 64 KB I + 32 KB D on chip per core
 L2: 4 MB I+D on chip per core
 L3: 96 MB I+D on chip per chip
 Other: None
Memory: 512 GB (16 x 32 GB 2Rx8 PC5-6400B-R)
Storage: 1 x 1.92 TB NVME SSD
Other: CPU Cooling: Air

Software

OS: Red Hat Enterprise Linux 9.4 (Plow)
 5.14.0-427.13.1.el9_4.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 7.00.02 released Sep-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.

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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	192	376	814	379	806	**377**	**811**							
502.gcc_r	192	**437**	**622**	439	619	435	625							
505.mcf_r	192	**220**	**1410**	220	1410	220	1410							
520.omnetpp_r	192	506	498	504	500	**504**	**500**							
523.xalancbmk_r	192	153	1320	**154**	**1320**	154	1320							
525.x264_r	192	144	2340	**144**	**2340**	143	2350							
531.deepsjeng_r	192	**216**	**1020**	216	1020	216	1020							
541.leela_r	192	**388**	**820**	388	819	387	822							
548.exchange2_r	192	**147**	**3430**	162	3110	146	3440							
557.xz_r	192	472	439	471	440	**472**	**439**							

SPECrate®2017_int_base =	**1030**
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:
 LLC dead line alloc = Disabled
 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 Mon Sep 23 07:35:22 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. who -r
 11. Systemd service manager version: systemd 252 (252-32.el9_4)
 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.localdomain 5.14.0-427.13.1.el9_4.x86_64 #1 SMP PREEMPT_DYNAMIC Wed Apr 10 10:29:16 EDT
   2024 x86_64 x86_64 x86_64 GNU/Linux


 ------------------------------------------------------------
 2. w
   07:35:22 up 20 min,  2 users,  load average: 0.08, 0.02, 0.01
   USER     TTY        LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1       07:34   15.00s  1.54s  0.02s sh intrate.sh
   root     pts/0      07:18   23.00s  0.03s  0.03s -bash


 ------------------------------------------------------------
 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) 2059658
  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) 2059658
  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=192 -c
   ic2024.1-lin-sierraforest-rate-20240308.cfg --define smt-on --define cores=192 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --reportable --tune base -o all intrate
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=192 --configfile
   ic2024.1-lin-sierraforest-rate-20240308.cfg --define smt-on --define cores=192 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --reportable --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) 6740E
   vendor_id        : GenuineIntel
   cpu family       : 6
   model            : 175
   stepping         : 3
   microcode        : 0x13000211
   bugs             : spectre_v1 spectre_v2 spec_store_bypass swapgs
   cpu cores        : 96
   siblings         : 96
   2 physical ids (chips)
   192 processors (hardware threads)
   physical id 0: core ids 0-95
   physical id 1: core ids 0-95
   physical id 0: apicids
   0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72
   ,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,1
   32,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180,182,18
   4,186,188,190
   physical id 1: apicids
   512,514,516,518,520,522,524,526,528,530,532,534,536,538,540,542,544,546,548,550,552,554,556,558,560,562,5
   64,566,568,570,572,574,576,578,580,582,584,586,588,590,592,594,596,598,600,602,604,606,608,610,612,614,61
   6,618,620,622,624,626,628,630,632,634,636,638,640,642,644,646,648,650,652,654,656,658,660,662,664,666,668
   ,670,672,674,676,678,680,682,684,686,688,690,692,694,696,698,700,702
   Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
   virtualized systems.  Use the above data carefully.
```

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Platform Notes (Continued)

```
  ---------------------------------------------------------------
7. lscpu

From lscpu from util-linux 2.37.4:
  Architecture:               x86_64
  CPU op-mode(s):             32-bit, 64-bit
  Address sizes:              52 bits physical, 48 bits virtual
  Byte Order:                 Little Endian
  CPU(s):                     192
  On-line CPU(s) list:        0-191
  Vendor ID:                  GenuineIntel
  BIOS Vendor ID:             Intel(R) Corporation
  Model name:                 Intel(R) Xeon(R) 6740E
  BIOS Model name:            Intel(R) Xeon(R) 6740E
  CPU family:                 6
  Model:                      175
  Thread(s) per core:         1
  Core(s) per socket:         96
  Socket(s):                  2
  Stepping:                   3
  CPU(s) scaling MHz:         100%
  CPU max MHz:                3200.0000
  CPU min MHz:                800.0000
  BogoMIPS:                   4800.00
  Flags:                      fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36
                              clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb
                              rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl
                              xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq
                              dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm
                              pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
                              avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cat_l2
                              cdp_l3 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 rdseed adx smap clflushopt clwb intel_pt sha_ni
                              xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
                              cqm_mbm_local split_lock_detect avx_vnni lam wbnoinvd dtherm ida arat
                              pln pts hwp hwp_act_window hwp_epp hwp_pkg_req vnmi umip pku ospke
                              waitpkg gfni vaes vpclmulqdq tme rdpid bus_lock_detect cldemote movdiri
                              movdir64b enqcmd fsrm md_clear serialize pconfig arch_lbr ibt flush_l1d
                              arch_capabilities
  Virtualization:             VT-x
  L1d cache:                  6 MiB (192 instances)
  L1i cache:                  12 MiB (192 instances)
  L2 cache:                   192 MiB (48 instances)
  L3 cache:                   192 MiB (2 instances)
  NUMA node(s):               2
  NUMA node0 CPU(s):          0-95
  NUMA node1 CPU(s):          96-191
  Vulnerability Gather data sampling: Not affected
  Vulnerability Itlb multihit:        Not affected
  Vulnerability L1tf:                 Not affected
  Vulnerability Mds:                  Not affected
  Vulnerability Meltdown:             Not affected
  Vulnerability Mmio stale data:      Not affected
  Vulnerability 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
```

(Continued on next page)

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Platform Notes (Continued)

```
  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       32K       6M   8 Data            1      64      1               64
    L1i       64K      12M   8 Instruction     1     128      1               64
    L2         4M     192M  16 Unified         2    4096      1               64
    L3        96M     192M  12 Unified         3  131072      1               64

-------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 2 nodes (0-1)
  node 0 cpus: 0-95
  node 0 size: 257009 MB
  node 0 free: 255732 MB
  node 1 cpus: 96-191
  node 1 size: 257969 MB
  node 1 free: 256868 MB
  node distances:
  node   0   1
    0:  10  21
    1:  21  10

-------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       527337580 kB

-------------------------------------------------------------
10. who -r
   run-level 3 Sep 23 07:15

-------------------------------------------------------------
11. Systemd service manager version: systemd 252 (252-32.el9_4)
  Default Target  Status
  multi-user      running

-------------------------------------------------------------
12. 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-onboot iscsi-starter 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 virtqemud 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 chronyd-restricted cni-dhcp console-getty
                   cpupower cups-browsed dbus-daemon debug-shell dnf-system-upgrade dnsmasq dovecot
                   fancontrol fcoe grafana-server gssproxy httpd httpd@ ibacm iprdump iprinit iprupdate ipsec
                   iscsi-init iscsid iscsiuio kpatch kvm_stat ledmon libvirt-guests libvirtd lldpad
                   man-db-restart-cache-update named named-chroot netavark-dhcp-proxy
                   netavark-firewalld-reload nfs-blkmap nfs-server nftables nmb numad nvmf-autoconnect
                   ostree-readonly-sysroot-migration ostree-state-overlay@ 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
```

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Platform Notes (Continued)

```
                    rpmdb-rebuild rrdcached saslauthd selinux-check-proper-disable serial-getty@ smb snmpd
                    snmptrapd spamassassin speech-dispatcherd srp_daemon srp_daemon_port@ sshd-keygen@
                    systemd-boot-check-no-failures systemd-nspawn@ systemd-pstore systemd-sysext target
                    targetclid tog-pegasus trace-cmd virtinterfaced virtlockd virtlogd virtnetworkd
                    virtnodedevd virtnwfilterd virtproxyd virtsecretd virtstoraged vsftpd wpa_supplicant
      indirect      iscsi pcscd spice-vdagentd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh
                    sssd-sudo systemd-sysupdate systemd-sysupdate-reboot vsftpd@

    ----------------------------------------------------------
    13. Linux kernel boot-time arguments, from /proc/cmdline
      BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-427.13.1.el9_4.x86_64
      root=/dev/mapper/rhel-root
      ro
      crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M
      resume=/dev/mapper/rhel-swap
      rd.lvm.lv=rhel/root
      rd.lvm.lv=rhel/swap
      rhgb
      quiet

    ----------------------------------------------------------
    14. cpupower frequency-info
      analyzing CPU 24:
        current policy: frequency should be within 800 MHz and 3.20 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                   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

    ----------------------------------------------------------
    17. /sys/kernel/mm/transparent_hugepage
      defrag        always defer defer+madvise [madvise] never
      enabled       [always] madvise never
```

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Platform Notes (Continued)

```
    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     Red Hat Enterprise Linux 9.4 (Plow)
   redhat-release Red Hat Enterprise Linux release 9.4 (Plow)
   system-release Red Hat Enterprise Linux release 9.4 (Plow)


   ----------------------------------------------------------------
20. Disk information
SPEC is set to: /home/speccpu
   Filesystem             Type  Size  Used Avail Use% Mounted on
   /dev/mapper/rhel-home xfs   1.8T  247G  1.6T  14% /home


   ----------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
      Vendor:         New H3C Technologies Co., Ltd.
      Product:        H3C UniServer R4900 G7
      Serial:         210235A51GH249000025


   ----------------------------------------------------------------
22. dmidecode
   Additional information from dmidecode 3.5 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 HMCG88AHBRA290N 32 GB 2 rank 6400



   ----------------------------------------------------------------
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       American Megatrends International, LLC.
   BIOS Version:      7.00.02
   BIOS Date:         09/14/2024
   BIOS Revision:     5.35
   Firmware Revision: 1.16
```

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.
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```

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

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Compiler Version Notes (Continued)

```
==============================================================================
C++     | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_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.
------------------------------------------------------------------------------


==============================================================================
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 -xsierraforest -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G7 (Intel Xeon 6740E)

SPECrate®2017_int_base = 1030

SPECrate®2017_int_peak = Not Run

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Base Optimization Flags (Continued)

C benchmarks (continued):
```
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc
```

C++ benchmarks:
```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsierraforest -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 -xsierraforest -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.

Tested with SPEC CPU®2017 v1.1.9 on 2024-09-23 07:35:21-0400.
Report generated on 2024-10-09 14:03:46 by CPU2017 PDF formatter v6716.
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