



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2017\_int\_base = 40.9

H3C UniServer R4900 G6 (Intel Xeon Bronze 3408U)

SPECrate®2017\_int\_peak = 41.9

CPU2017 License: 9066

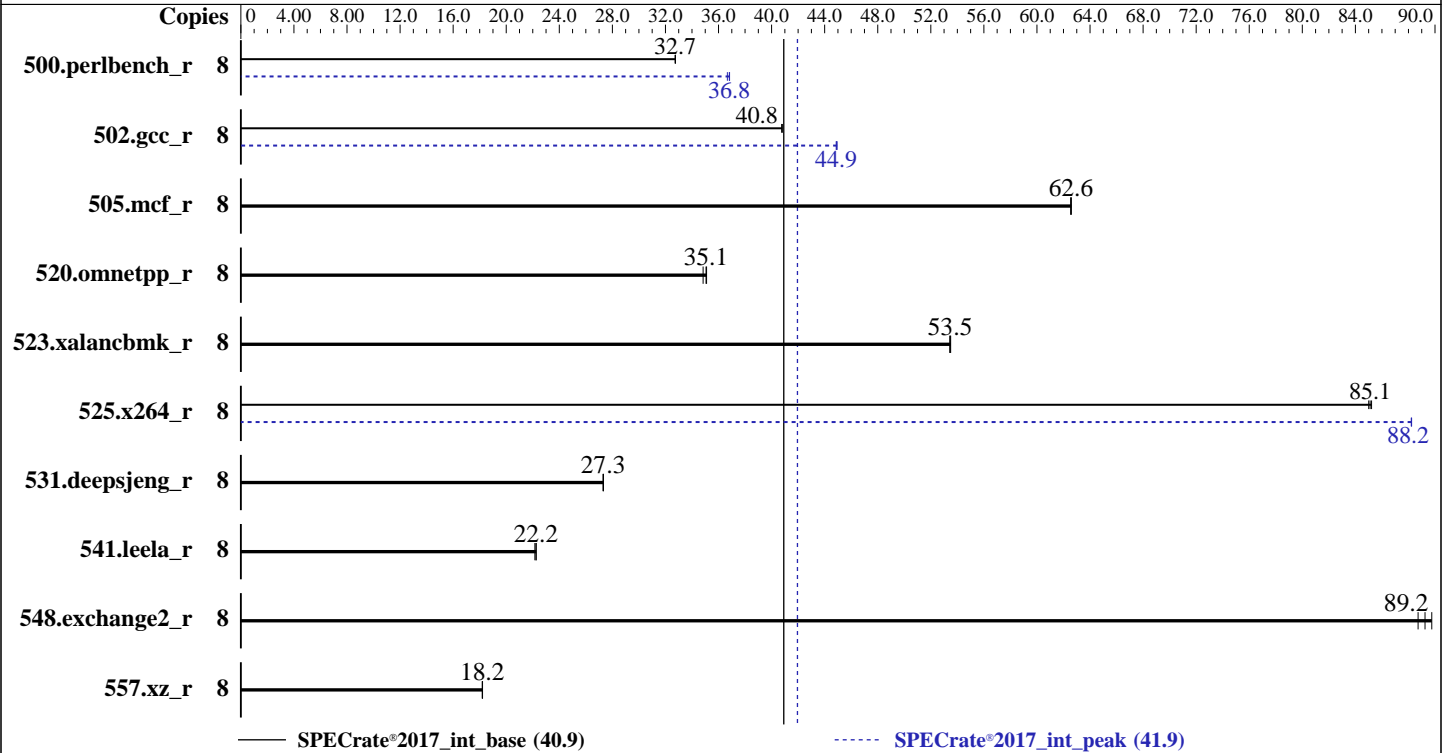
Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2024

Hardware Availability: Oct-2023

Software Availability: Apr-2024



## Hardware

CPU Name: Intel Xeon Bronze 3408U  
 Max MHz: 1900  
 Nominal: 1800  
 Enabled: 8 cores, 1 chip  
 Orderable: 1 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: 512 GB (8 x 64 GB 2Rx4 PC5-4800B-R, running at 4000)  
 Storage: 1 x 1.92 TB SSD  
 Other: CPU Cooling: Air

## Software

OS: SUSE Linux Enterprise Server 15 SP5  
 5.14.21-150500.53-default  
 Compiler: C/C++: Version 2024.0.2 of Intel oneAPI DPC++/C++  
 Compiler for Linux;  
 Fortran: Version 2024.0.2 of Intel Fortran  
 Compiler for Linux;  
 Parallel: No  
 Firmware: Version 5.31 released Dec-2023 BIOS  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other: jemalloc memory allocator V5.0.1  
 Power Management: BIOS and OS set to prefer performance at the cost  
 of additional power usage.



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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	8	<b>389</b>	<b>32.7</b>	389	32.7	389	32.8	8	<b>346</b>	<b>36.8</b>	347	36.7	346	36.8
502.gcc_r	8	278	40.8	278	40.8	<b>278</b>	<b>40.8</b>	8	252	44.9	252	44.9	<b>252</b>	<b>44.9</b>
505.mcf_r	8	207	62.6	207	62.5	<b>207</b>	<b>62.6</b>	8	207	62.6	207	62.5	<b>207</b>	<b>62.6</b>
520.omnetpp_r	8	<b>299</b>	<b>35.1</b>	301	34.8	299	35.1	8	<b>299</b>	<b>35.1</b>	301	34.8	299	35.1
523.xalancbmk_r	8	158	53.4	158	53.5	<b>158</b>	<b>53.5</b>	8	158	53.4	158	53.5	<b>158</b>	<b>53.5</b>
525.x264_r	8	164	85.2	<b>165</b>	<b>85.1</b>	165	85.0	8	159	88.2	159	88.2	<b>159</b>	<b>88.2</b>
531.deepsjeng_r	8	336	27.3	<b>336</b>	<b>27.3</b>	335	27.3	8	336	27.3	<b>336</b>	<b>27.3</b>	335	27.3
541.leela_r	8	595	22.3	<b>595</b>	<b>22.2</b>	598	22.2	8	595	22.3	<b>595</b>	<b>22.2</b>	598	22.2
548.exchange2_r	8	<b>235</b>	<b>89.2</b>	236	88.7	234	89.8	8	<b>235</b>	<b>89.2</b>	236	88.7	234	89.8
557.xz_r	8	474	18.2	475	18.2	<b>475</b>	<b>18.2</b>	8	474	18.2	475	18.2	<b>475</b>	<b>18.2</b>

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH = "/home/speccpu/lib/intel64:/home/speccpu/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.

(Continued on next page)



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## General Notes (Continued)

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:

Set SNC to Enable SNC2 (2-clusters)  
Set Power Performance Tuning to BIOS Controls EFB  
Set ENERGY\_PERF\_BIAS\_CFG mode to Performance

Sysinfo program /home/speccpu/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost Wed Apr 10 22:41:13 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 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
22:41:13 up 4 min,  2 users,  load average: 0.09, 0.20, 0.11
USER  TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
root  tty1    -             22:37   16.00s  1.59s  0.00s  /bin/sh
./reportable-ic2024.0.2-lin-sapphirerapids-rate-smt-on-20231213.sh
root  pts/0   172.16.53.190  22:38   2:49   0.04s  0.04s  -bash

```

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## Platform Notes (Continued)

### 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) 2060665
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) 2060665
virtual memory         (kbytes, -v) unlimited
file locks             (-x) unlimited

```

### 5. sysinfo process ancestry

```

/usr/lib/systemd/systemd --switched-root --system --deserialize 29
login -- root
-bash
/bin/sh ./reportable-ic2024.0.2-lin-sapphirerapids-rate-smt-on-20231213.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=8 -c
  ic2024.0.2-lin-sapphirerapids-rate-20231213.cfg --define smt-on --define cores=4 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base,peak -o all intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=8 --configfile
  ic2024.0.2-lin-sapphirerapids-rate-20231213.cfg --define smt-on --define cores=4 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
  --runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
  $SPEC/tmp/CPU2017.021/templogs/preenv.intrate.021.0.log --lognum 021.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpu

```

### 6. /proc/cpuinfo

```

model name      : Intel(R) Xeon(R) Bronze 3408U
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping       : 8
microcode      : 0x2b0004d0
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores      : 8
siblings       : 8
1 physical ids (chips)
8 processors (hardware threads)
physical id 0: core ids 0-7
physical id 0: apicids 0,2,4,6,8,10,12,14
Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
virtualized systems. Use the above data carefully.

```

### 7. lscpu

(Continued on next page)



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## Platform Notes (Continued)

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
CPU(s):                8
On-line CPU(s) list:   0-7
Vendor ID:             GenuineIntel
Model name:            Intel(R) Xeon(R) Bronze 3408U
CPU family:            6
Model:                 143
Thread(s) per core:   1
Core(s) per socket:   8
Socket(s):             1
Stepping:              8
CPU max MHz:           1900.0000
CPU min MHz:           800.0000
BogoMIPS:              3600.00
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 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 intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced
                        tpr_shadow vnmi flexpriority ept vpid ept_ad 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 split_lock_detect 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
                        flush_lld arch_capabilities

```

```

Virtualization:        VT-x
L1d cache:             384 KiB (8 instances)
L1i cache:             256 KiB (8 instances)
L2 cache:              16 MiB (8 instances)
L3 cache:              22.5 MiB (1 instance)
NUMA node(s):         2
NUMA node0 CPU(s):    0-3
NUMA node1 CPU(s):    4-7
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, PBRSE-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	384K	12	Data	1	64	1	64

(Continued on next page)



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## Platform Notes (Continued)

L1i	32K	256K	8 Instruction	1	64	1	64
L2	2M	16M	16 Unified	2	2048	1	64
L3	22.5M	22.5M	15 Unified	3	24576	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: 0-3
node 0 size: 257521 MB
node 0 free: 256777 MB
node 1 cpus: 4-7
node 1 size: 257668 MB
node 1 free: 257137 MB
node distances:
node  0  1
   0: 10 12
   1: 12 10

```

9. /proc/meminfo

MemTotal: 527554568 kB

10. who -r

run-level 3 Apr 10 22:36

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    apparmor auditd cron firewalld getty@ irqbalance issue-generator kbdsettings kdump
           kdump-early postfix purge-kernels rollback sshd systemd-pstore wicked wickedd-auto4
           wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime  systemd-remount-fs
disabled        boot-sysctl ca-certificates chrony-wait chronyd console-getty debug-shell ebttables
           grub2-once haveged haveged-switch-root issue-add-ssh-keys kexec-load lunmask nfs
           nfs-blkmap rpcbind rpmconfigcheck serial-getty@ systemd-boot-check-no-failures
           systemd-network-generator systemd-sysexit systemd-time-wait-sync systemd-timesyncd tuned
indirect      wickedd

```

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

```

BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
root=UUID=8941a345-b7dd-4a3e-98f3-0af9eb97f32e
splash=silent
resume=/dev/disk/by-uuid/06a94d0a-0f9e-4e93-848f-045322d8f16d
mitigations=auto
quiet
security=apparmor
crashkernel=373M,high
crashkernel=72M,low
transparent_hugepage=always

```

14. cpupower frequency-info

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## Platform Notes (Continued)

analyzing CPU 0:

current policy: frequency should be within 800 MHz and 1.90 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 1  
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

-----  
17. /sys/kernel/mm/transparent\_hugepage  
defrag always defer defer+madvice [madvice] never  
enabled [always] madvice 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/speccpu  
Filesystem Type Size Used Avail Use% Mounted on

(Continued on next page)



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## Platform Notes (Continued)

/dev/sda3      xfs    1.5T    22G    1.5T    2% /home

```

-----
21. /sys/devices/virtual/dmi/id
Vendor:      New H3C Technologies Co., Ltd.
Product:    H3C UniServer R4900 G6 Ultra
Product Family: Rack
Serial:     210235A4CJ5232C00005
-----

```

```

-----
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:
  8x Micron MTC40F2046S1RC48BA1 64 GB 2 rank 4800, configured at 4000
-----

```

```

-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
  BIOS Vendor:   American Megatrends International, LLC.
  BIOS Version:  6.00.34
  BIOS Date:    12/19/2023
  BIOS Revision: 5.31
-----

```

## Compiler Version Notes

```

=====
C | 502.gcc_r(peak)
-----

```

```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.0.2 Build 20231213
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
-----

```

```

=====
C | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak)
  | 557.xz_r(base, peak)
-----

```

```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
-----

```

```

=====
C | 502.gcc_r(peak)
-----

```

```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.0.2 Build 20231213
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```

```

=====
C | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak)
  | 557.xz_r(base, peak)
-----

```

```

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-----

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## Compiler Version Notes (Continued)

-----  
C++ | 520.omnetpp\_r(base, peak) 523.xalancbmk\_r(base, peak) 531.deepsjeng\_r(base, peak)  
541.leela\_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
-----

-----  
Fortran | 548.exchange2\_r(base, peak)  
-----

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 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

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

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New H3C Technologies Co., Ltd.

SPECrate®2017\_int\_base = 40.9

H3C UniServer R4900 G6 (Intel Xeon Bronze 3408U)

SPECrate®2017\_int\_peak = 41.9

CPU2017 License: 9066

Test Sponsor: New H3C Technologies Co., Ltd.

Tested by: New H3C Technologies Co., Ltd.

Test Date: Apr-2024

Hardware Availability: Oct-2023

Software Availability: Apr-2024

## Base Optimization Flags (Continued)

C benchmarks (continued):

`-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc`

C++ benchmarks:

`-w -std=c++14 -m64 -Wl,-z,muldefs -xsaphirerapids -O3 -ffast-math`

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

`-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc`

Fortran benchmarks:

`-w -m64 -Wl,-z,muldefs -xsaphirerapids -O3 -ffast-math -flto`

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

`-nostandard-realloc-lhs -align array32byte -auto`

`-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc`

## Peak Compiler Invocation

C benchmarks:

`icx`

C++ benchmarks:

`icpx`

Fortran benchmarks:

`ifx`

## Peak Portability Flags

500.perlbench\_r: `-DSPEC_LP64 -DSPEC_LINUX_X64`

502.gcc\_r: `-D_FILE_OFFSET_BITS=64`

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`



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## Peak Optimization Flags

C benchmarks:

```
500.perlbench_r: -w -std=c11 -m64 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-fno-strict-overflow
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc
```

```
502.gcc_r: -m32 -L/opt/intel/oneapi/compiler/2024.0/lib32 -std=gnu89
-Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc
```

505.mcf\_r: basepeak = yes

```
525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc
```

557.xz\_r: basepeak = yes

C++ benchmarks:

520.omnetpp\_r: basepeak = yes

523.xalancbmk\_r: basepeak = yes

531.deepsjeng\_r: basepeak = yes

541.leela\_r: basepeak = yes

Fortran benchmarks:

548.exchange2\_r: 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-V1.0-SPR-RevD.html](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.0-SPR-RevD.html)



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**Tested by:** New H3C Technologies Co., Ltd.

**Test Date:** Apr-2024

**Hardware Availability:** Oct-2023

**Software Availability:** Apr-2024

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-RevD.xml](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.0-SPR-RevD.xml)

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