



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 263

H3C UniServer R6700 G3 (Intel Xeon Gold 6244)

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9066

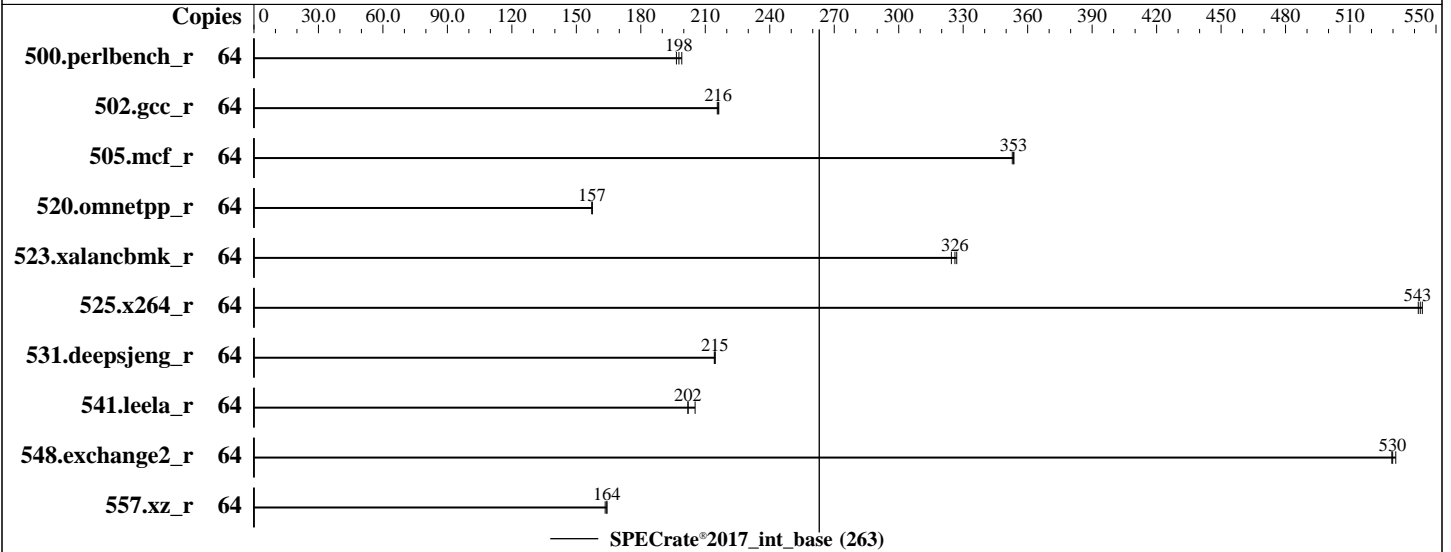
Test Date: Aug-2020

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2019

Tested by: New H3C Technologies Co., Ltd.

Software Availability: May-2019



Hardware

CPU Name: Intel Xeon Gold 6244
 Max MHz: 4400
 Nominal: 3600
 Enabled: 32 cores, 4 chips, 2 threads/core
 Orderable: 1,2,3,4 chips
 Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 1 MB I+D on chip per core
 L3: 24.75 MB I+D on chip per chip
 Other: None
 Memory: 384 GB (24 x 16 GB 2Rx8 PC4-2933V-R)
 Storage: 1 x 800 GB SATA SSD
 Other: None

Software

OS: Red Hat Enterprise Linux Server release 7.6 (Maipo)
 3.10.0-957.el7.x86_64
 Compiler: C/C++: Version 19.0.4.227 of Intel C/C++ Compiler Build 20190416 for Linux;
 Fortran: Version 19.0.4.227 of Intel Fortran Compiler Build 20190416 for Linux
 Parallel: No
 Firmware: Version 2.00.33 released Aug-2019 BIOS
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: Not Applicable
 Other: None
 Power Management: BIOS set to prefer performance at the cost of additional power usage



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 263

H3C UniServer R6700 G3 (Intel Xeon Gold 6244)

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9066

Test Date: Aug-2020

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2019

Tested by: New H3C Technologies Co., Ltd.

Software Availability: May-2019

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	64	512	199	518	197	515	198							
502.gcc_r	64	419	216	420	216	420	216							
505.mcf_r	64	293	353	293	354	293	353							
520.omnetpp_r	64	534	157	533	157	534	157							
523.xalancbmk_r	64	207	326	207	327	208	325							
525.x264_r	64	206	544	206	543	207	542							
531.deepsjeng_r	64	342	215	342	214	342	215							
541.leela_r	64	525	202	525	202	516	205							
548.exchange2_r	64	316	530	317	529	316	531							
557.xz_r	64	421	164	423	163	421	164							

SPECrate®2017_int_base = 263

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"
```

General Notes

Binaries compiled on a system with 1x Intel Core i9-7900X CPU + 32GB RAM memory using Redhat Enterprise Linux 7.5

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)

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 263

H3C UniServer R6700 G3 (Intel Xeon Gold 6244)

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-2020

Hardware Availability: Mar-2019

Software Availability: May-2019

General Notes (Continued)

is mitigated in the system as tested and documented.
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

Platform Notes

BIOS Settings:

Set SNC to Enabled
Set IMC Interleaving to 1-way Interleave
Set XPT Prefetcher to Enabled

Sysinfo program /home/speccpu/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011
running on localhost.localdomain Thu Aug 20 22:20:35 2020

SUT (System Under Test) info as seen by some common utilities.
For more information on this section, see
<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

From /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) Gold 6244 CPU @ 3.60GHz
 4 "physical id"s (chips)
 64 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following
excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores      : 8
siblings       : 16
physical 0:    cores 2 3 4 11 16 17 27
physical 1:    cores 1 2 4 9 18 19 25 27
physical 2:    cores 2 3 9 16 17 20 26 27
physical 3:    cores 2 3 4 9 17 18 25 27
```

From lscpu:

```
Architecture:    x86_64
CPU op-mode(s):  32-bit, 64-bit
Byte Order:      Little Endian
CPU(s):          64
On-line CPU(s) list:  0-63
Thread(s) per core:  2
Core(s) per socket:  8
Socket(s):       4
NUMA node(s):    8
Vendor ID:       GenuineIntel
CPU family:      6
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 263

H3C UniServer R6700 G3 (Intel Xeon Gold 6244)

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9066

Test Date: Aug-2020

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2019

Tested by: New H3C Technologies Co., Ltd.

Software Availability: May-2019

Platform Notes (Continued)

```

Model: 85
Model name: Intel(R) Xeon(R) Gold 6244 CPU @ 3.60GHz
Stepping: 6
CPU MHz: 3601.000
CPU max MHz: 3601.0000
CPU min MHz: 1200.0000
BogoMIPS: 7200.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 25344K
NUMA node0 CPU(s): 0,1,5,6,32,33,37,38
NUMA node1 CPU(s): 2-4,7,34-36,39
NUMA node2 CPU(s): 8,9,11,14,40,41,43,46
NUMA node3 CPU(s): 10,12,13,15,42,44,45,47
NUMA node4 CPU(s): 16,18-20,48,50-52
NUMA node5 CPU(s): 17,21-23,49,53-55
NUMA node6 CPU(s): 24,27,28,30,56,59,60,62
NUMA node7 CPU(s): 25,26,29,31,57,58,61,63
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
aperfmpperf eagerfpu 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 epb cat_l3 cdp_l3 intel_ppin
intel_pt ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept
vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a
avx512f avx512dq rdseed adx smap clflushopt clwb avx512cd avx512bw avx512vl xsaveopt
xsavc xgetbv1 cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local dtherm ida arat pln
pts pku ospke avx512_vnni spec_ctrl intel_stibp flush_lld arch_capabilities

```

```

/proc/cpuinfo cache data
cache size : 25344 KB

```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a physical chip.

```

available: 8 nodes (0-7)
node 0 cpus: 0 1 5 6 32 33 37 38
node 0 size: 47761 MB
node 0 free: 46291 MB
node 1 cpus: 2 3 4 7 34 35 36 39
node 1 size: 49152 MB
node 1 free: 47857 MB
node 2 cpus: 8 9 11 14 40 41 43 46
node 2 size: 49152 MB
node 2 free: 47973 MB

```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 263

H3C UniServer R6700 G3 (Intel Xeon Gold 6244)

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-2020

Hardware Availability: Mar-2019

Software Availability: May-2019

Platform Notes (Continued)

```

node 3 cpus: 10 12 13 15 42 44 45 47
node 3 size: 49152 MB
node 3 free: 47938 MB
node 4 cpus: 16 18 19 20 48 50 51 52
node 4 size: 49152 MB
node 4 free: 47985 MB
node 5 cpus: 17 21 22 23 49 53 54 55
node 5 size: 49152 MB
node 5 free: 47947 MB
node 6 cpus: 24 27 28 30 56 59 60 62
node 6 size: 49152 MB
node 6 free: 47954 MB
node 7 cpus: 25 26 29 31 57 58 61 63
node 7 size: 49152 MB
node 7 free: 47925 MB
node distances:
node  0  1  2  3  4  5  6  7
  0: 10 11 21 21 21 21 21 21
  1: 11 10 21 21 21 21 21 21
  2: 21 21 10 11 21 21 21 21
  3: 21 21 11 10 21 21 21 21
  4: 21 21 21 21 10 11 21 21
  5: 21 21 21 21 11 10 21 21
  6: 21 21 21 21 21 21 10 11
  7: 21 21 21 21 21 21 11 10

```

From /proc/meminfo

```

MemTotal:      394617092 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

From /etc/*release* /etc/*version*

```

os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.6 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VARIANT="Server"
VARIANT_ID="server"
VERSION_ID="7.6"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.6 (Maipo)"
redhat-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.6:ga:server

```

uname -a:

Linux localhost.localdomain 3.10.0-957.el7.x86_64 #1 SMP Thu Oct 4 20:48:51 UTC 2018

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 263

H3C UniServer R6700 G3 (Intel Xeon Gold 6244)

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-2020

Hardware Availability: Mar-2019

Software Availability: May-2019

Platform Notes (Continued)

x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-3620 (L1 Terminal Fault):	Not affected
Microarchitectural Data Sampling:	No status reported
CVE-2017-5754 (Meltdown):	Not affected
CVE-2018-3639 (Speculative Store Bypass):	Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2017-5753 (Spectre variant 1):	Mitigation: Load fences, __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):	Mitigation: Enhanced IBRS

run-level 3 Aug 20 22:07

SPEC is set to: /home/speccpu

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-home	xfs	690G	14G	677G	2%	/home

From /sys/devices/virtual/dmi/id

BIOS: American Megatrends Inc. 2.00.33 08/22/2019
 Vendor: New H3C Technologies Co., Ltd.
 Product: UniServer R6700 G3
 Serial: 210200A01SH18B000020

Additional information from dmidecode 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:
 24x Hynix HMA82GR7CJR8N-WM 16 GB 2 rank 2933
 24x NO DIMM NO DIMM

(End of data from sysinfo program)

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) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
=====

```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 263

H3C UniServer R6700 G3 (Intel Xeon Gold 6244)

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9066

Test Date: Aug-2020

Test Sponsor: New H3C Technologies Co., Ltd.

Hardware Availability: Mar-2019

Tested by: New H3C Technologies Co., Ltd.

Software Availability: May-2019

Compiler Version Notes (Continued)

```

=====
C++      | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base)
         | 541.leela_r(base)
=====

```

```

-----
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
-----

```

```

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

```

```

-----
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
-----

```

Base Compiler Invocation

C benchmarks:

icc -m64 -std=c11

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

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

```



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 263

H3C UniServer R6700 G3 (Intel Xeon Gold 6244)

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-2020

Hardware Availability: Mar-2019

Software Availability: May-2019

Base Optimization Flags

C benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmallocc
```

C++ benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmallocc
```

Fortran benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmallocc
```

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/Intel-ic19.0u1-official-linux64.2019-07-09.html>
http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.4-CLX-RevB.html

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2017/flags/Intel-ic19.0u1-official-linux64.2019-07-09.xml>
http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.4-CLX-RevB.xml

SPEC CPU and SPECrate 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 v1.1.0 on 2020-08-20 10:20:34-0400.

Report generated on 2020-09-15 14:34:04 by CPU2017 PDF formatter v6255.

Originally published on 2020-09-15.