SPEC CPU®2017 Integer Rate Result

New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 134

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

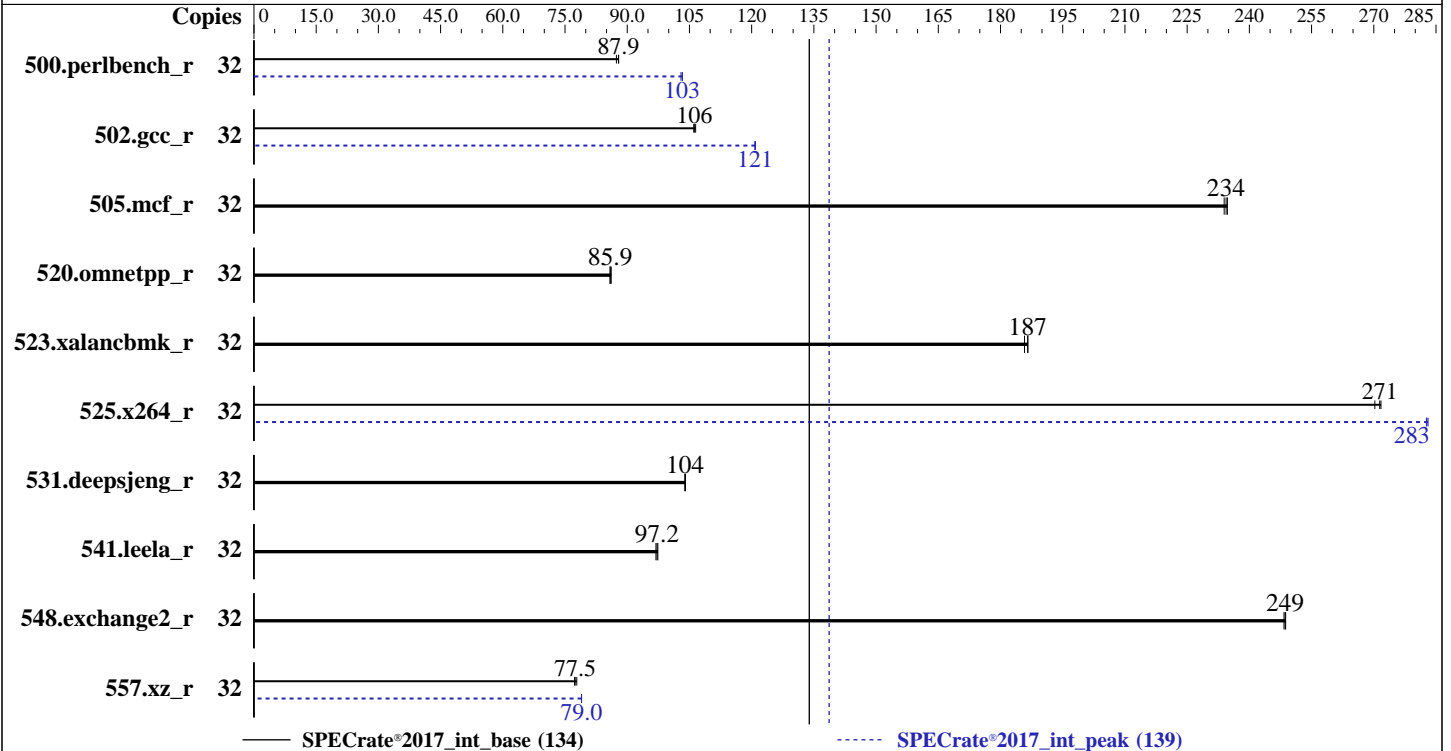SPECrate®2017_int_peak = 139

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

Test Date: Sep-2020
Hardware Availability: Mar-2019
Software Availability: Apr-2020

Copies scale: 0, 15.0, 30.0, 45.0, 60.0, 75.0, 90.0, 105, 120, 135, 150, 165, 180, 195, 210, 225, 240, 255, 270, 285

Benchmark	Copies	base	peak
500.perlbench_r	32	87.9	103
502.gcc_r	32	106	121
505.mcf_r	32	234	
520.omnetpp_r	32	85.9	
523.xalancbmk_r	32	187	
525.x264_r	32	271	283
531.deepsjeng_r	32	104	
541.leela_r	32	97.2	
548.exchange2_r	32	249	
557.xz_r	32	77.5	79.0

—— SPECrate®2017_int_base (134)   ------ SPECrate®2017_int_peak (139)

Hardware

CPU Name: Intel Xeon Gold 6234
 Max MHz: 4000
 Nominal: 3300
Enabled: 16 cores, 2 chips, 2 threads/core
Orderable: 1,2 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: 192 GB (12 x 16 GB 2Rx8 PC4-2933V-R)
Storage: 2 x 600 GB SAS HDD,10k RPM,RAID 1
Other: None

Software

OS: Red Hat Enterprise Linux release 8.2 (Ootpa) 4.18.0-193.el8.x86_64
Compiler: C/C++: Version 19.1.1.217 of Intel C/C++ Compiler Build 20200306 for Linux; Fortran: Version 19.1.1.217 of Intel Fortran Compiler Build 20200306 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: 32/64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS set to prefer performance at the cost of additional power usage

SPEC CPU®2017 Integer Rate Result

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New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

SPECrate®2017_int_base = 134

SPECrate®2017_int_peak = 139

CPU2017 License: 9066	**Test Date:** Sep-2020
Test Sponsor: New H3C Technologies Co., Ltd.	**Hardware Availability:** Mar-2019
Tested by: New H3C Technologies Co., Ltd.	**Software Availability:** Apr-2020

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	32	579	87.9	583	87.4	**580**	**87.9**	32	493	103	495	103	**493**	**103**
502.gcc_r	32	427	106	**427**	**106**	425	106	32	**375**	**121**	375	121	375	121
505.mcf_r	32	**221**	**234**	221	234	220	235	32	**221**	**234**	221	234	220	235
520.omnetpp_r	32	**489**	**85.9**	487	86.1	489	85.9	32	**489**	**85.9**	487	86.1	489	85.9
523.xalancbmk_r	32	181	187	**181**	**187**	182	186	32	181	187	**181**	**187**	182	186
525.x264_r	32	**206**	**271**	207	270	206	272	32	**198**	**283**	198	283	198	283
531.deepsjeng_r	32	353	104	**353**	**104**	352	104	32	353	104	**353**	**104**	352	104
541.leela_r	32	544	97.4	547	96.9	**545**	**97.2**	32	544	97.4	547	96.9	**545**	**97.2**
548.exchange2_r	32	**337**	**249**	337	249	338	248	32	**337**	**249**	337	249	338	248
557.xz_r	32	**446**	**77.5**	444	77.8	447	77.3	32	438	79.0	**438**	**79.0**	437	79.0
SPECrate®2017_int_base =		**134**												
SPECrate®2017_int_peak =		**139**												

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

Compiler Notes

```
The inconsistent Compiler version information under Compiler Version section is due to a discrepancy in Intel Compiler.
The correct version of C/C++ compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux
The correct version of Fortran compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux
```

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"
```

SPEC CPU®2017 Integer Rate Result

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New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

SPECrate®2017_int_base = 134

SPECrate®2017_int_peak = 139

CPU2017 License:	9066	**Test Date:**	Sep-2020
Test Sponsor:	New H3C Technologies Co., Ltd.	**Hardware Availability:**	Mar-2019
Tested by:	New H3C Technologies Co., Ltd.	**Software Availability:**	Apr-2020

General Notes

```
Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM
memory using Redhat Enterprise Linux 8.0
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.
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>
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 Enabled
Set XPT Prefetch to Enabled
Set IMC Interleaving to 1-way Interleave
Set Patrol Scrub to Disabled

Sysinfo program /home/speccpu/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edb1e6e46a485a0011
running on localhost.localdomain Fri Sep 11 17:42:25 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 6234 CPU @ 3.30GHz
      2  "physical id"s (chips)
     32 "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 9 20 24 25 27
      physical 1: cores 1 3 4 9 17 18 24 27

From lscpu:
```

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

SPECrate®2017_int_base = 134

SPECrate®2017_int_peak = 139

CPU2017 License: 9066	**Test Date:** Sep-2020
Test Sponsor: New H3C Technologies Co., Ltd.	**Hardware Availability:** Mar-2019
Tested by: New H3C Technologies Co., Ltd.	**Software Availability:** Apr-2020

Platform Notes (Continued)

```
        Architecture:          x86_64
        CPU op-mode(s):        32-bit, 64-bit
        Byte Order:            Little Endian
        CPU(s):                32
        On-line CPU(s) list:   0-31
        Thread(s) per core:    2
        Core(s) per socket:    8
        Socket(s):             2
        NUMA node(s):          4
        Vendor ID:             GenuineIntel
        CPU family:            6
        Model:                 85
        Model name:            Intel(R) Xeon(R) Gold 6234 CPU @ 3.30GHz
        Stepping:              7
        CPU MHz:               3392.763
        CPU max MHz:           4000.0000
        CPU min MHz:           1200.0000
        BogoMIPS:              6600.00
        Virtualization:        VT-x
        L1d cache:             32K
        L1i cache:             32K
        L2 cache:              1024K
        L3 cache:              25344K
        NUMA node0 CPU(s):     0,3,5,6,16,19,21,22
        NUMA node1 CPU(s):     1,2,4,7,17,18,20,23
        NUMA node2 CPU(s):     8,11,12,14,24,27,28,30
        NUMA node3 CPU(s):     9,10,13,15,25,26,29,31
        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 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 cdp_l3
        invpcid_single intel_ppin 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 intel_pt avx512cd
        avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
        cqm_mbm_local dtherm ida arat pln pts pku ospke avx512_vnni md_clear flush_l1d
        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: 4 nodes (0-3)
    node 0 cpus: 0 3 5 6 16 19 21 22
```

(Continued on next page)

SPEC CPU®2017 Integer Rate Result

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New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

$SPECrate^{®}2017\_int\_base = 134$

$SPECrate^{®}2017\_int\_peak = 139$

CPU2017 License: 9066   **Test Date:** Sep-2020
Test Sponsor: New H3C Technologies Co., Ltd.   **Hardware Availability:** Mar-2019
Tested by: New H3C Technologies Co., Ltd.   **Software Availability:** Apr-2020

Platform Notes (Continued)

```
   node 0 size: 46691 MB
   node 0 free: 45319 MB
   node 1 cpus: 1 2 4 7 17 18 20 23
   node 1 size: 48354 MB
   node 1 free: 47985 MB
   node 2 cpus: 8 11 12 14 24 27 28 30
   node 2 size: 48381 MB
   node 2 free: 47581 MB
   node 3 cpus: 9 10 13 15 25 26 29 31
   node 3 size: 48381 MB
   node 3 free: 48057 MB
   node distances:
   node   0   1   2   3
     0:  10  11  21  21
     1:  11  10  21  21
     2:  21  21  10  11
     3:  21  21  11  10

 From /proc/meminfo
    MemTotal:       196412896 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 From /etc/*release* /etc/*version*
    os-release:
       NAME="Red Hat Enterprise Linux"
       VERSION="8.2 (Ootpa)"
       ID="rhel"
       ID_LIKE="fedora"
       VERSION_ID="8.2"
       PLATFORM_ID="platform:el8"
       PRETTY_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"
       ANSI_COLOR="0;31"
    redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
    system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:8.2:ga

 uname -a:
    Linux localhost.localdomain 4.18.0-193.el8.x86_64 #1 SMP Fri Mar 27 14:35:58 UTC 2020
    x86_64 x86_64 x86_64 GNU/Linux

 Kernel self-reported vulnerability status:

 itlb_multihit:                        KVM: Mitigation: Split huge pages
 CVE-2018-3620 (L1 Terminal Fault):    Not affected
 Microarchitectural Data Sampling:     Not affected
 CVE-2017-5754 (Meltdown):             Not affected
```

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

$SPECrate^{®}2017\_int\_base = 134$

$SPECrate^{®}2017\_int\_peak = 139$

CPU2017 License: 9066		**Test Date:**	Sep-2020
Test Sponsor: New H3C Technologies Co., Ltd.		**Hardware Availability:** Mar-2019	
Tested by: New H3C Technologies Co., Ltd.		**Software Availability:** Apr-2020	

Platform Notes (Continued)

```
 CVE-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled
                                   via prctl and seccomp
 CVE-2017-5753 (Spectre variant 1):      Mitigation: usercopy/swapgs barriers and __user
                                   pointer sanitization
 CVE-2017-5715 (Spectre variant 2):      Mitigation: Enhanced IBRS, IBPB: conditional,
                                   RSB filling
 tsx_async_abort:                        Mitigation: Clear CPU buffers; SMT vulnerable

 run-level 3 Sep 11 17:39 last=5

 SPEC is set to: /home/speccpu
    Filesystem             Type  Size  Used Avail Use% Mounted on
    /dev/mapper/rhel-home xfs   503G   44G  459G   9% /home

 From /sys/devices/virtual/dmi/id
    BIOS:    American Megatrends Inc. 2.00.33 08/22/2019
    Vendor:  H3C
    Product: RS33M2C9S
    Product Family: Rack

 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:
       6x Hynix HMA82GR7CJR8N-WM 16 GB 2 rank 2933
       12x NO DIMM NO DIMM
       6x Samsung M393A2K43CB2-CVF 16 GB 2 rank 2933

 (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
C        | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
  Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
         | 525.x264_r(base, peak) 557.xz_r(base)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
```

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

CPU2017 License: 9066   **Test Date:**   Sep-2020
Test Sponsor: New H3C Technologies Co., Ltd.   **Hardware Availability:** Mar-2019
Tested by: New H3C Technologies Co., Ltd.   **Software Availability:** Apr-2020

Compiler Version Notes (Continued)

```
  NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(peak) 557.xz_r(peak)
------------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
  Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
         | 525.x264_r(base, peak) 557.xz_r(base)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
  NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(peak) 557.xz_r(peak)
------------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
  Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
```

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

SPECrate®2017_int_base = 134

SPECrate®2017_int_peak = 139

CPU2017 License: 9066   **Test Date:**   Sep-2020
Test Sponsor: New H3C Technologies Co., Ltd.   **Hardware Availability:** Mar-2019
Tested by: New H3C Technologies Co., Ltd.   **Software Availability:** Apr-2020

Compiler Version Notes (Continued)

```
          | 525.x264_r(base, peak) 557.xz_r(base)
---------------------------------------------------------------------------
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
  NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
---------------------------------------------------------------------------


==========================================================================
C        | 500.perlbench_r(peak) 557.xz_r(peak)
---------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
---------------------------------------------------------------------------


==========================================================================
C++      | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak)
         | 531.deepsjeng_r(base, peak) 541.leela_r(base, peak)
---------------------------------------------------------------------------
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
  NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
---------------------------------------------------------------------------


==========================================================================
Fortran | 548.exchange2_r(base, peak)
---------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
---------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

SPEC CPU®2017 Integer Rate Result

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New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

SPECrate®2017_int_base = 134

SPECrate®2017_int_peak = 139

CPU2017 License: 9066　　　　　　　　　　　　　　　　　　　　　　**Test Date:**　　　　　　Sep-2020
Test Sponsor: New H3C Technologies Co., Ltd.　　　　　　　**Hardware Availability:** Mar-2019
Tested by:　　　New H3C Technologies Co., Ltd.　　　　　　　**Software Availability:**　Apr-2020

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:
```
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-xCORE-AVX512 -O3 -ffast-math -flto -mfpmath=sse -funroll-loops
-fuse-ld=gold -qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```

C++ benchmarks:
```
-m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto -mfpmath=sse
-funroll-loops -fuse-ld=gold -qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```

Fortran benchmarks:
```
-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-mbranches-within-32B-boundaries
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```

Peak Compiler Invocation

C benchmarks:
```
icc
```

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

SPECrate®2017_int_base = 134

SPECrate®2017_int_peak = 139

CPU2017 License: 9066   **Test Date:** Sep-2020
Test Sponsor: New H3C Technologies Co., Ltd.   **Hardware Availability:** Mar-2019
Tested by: New H3C Technologies Co., Ltd.   **Software Availability:** Apr-2020

Peak Compiler Invocation (Continued)

C++ benchmarks:
```
icpc
```

Fortran benchmarks:
```
ifort
```

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`

Peak Optimization Flags

C benchmarks:

500.perlbench_r: `-Wl,-z,muldefs -prof-gen`(pass 1) `-prof-use`(pass 2)
`-xCORE-AVX512 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=4 -fno-strict-overflow`
`-mbranches-within-32B-boundaries`
`-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin`
`-lqkmalloc`

502.gcc_r: `-m32`
`-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/ia32_lin`
`-std=gnu89`
`-Wl,-plugin-opt=-x86-branches-within-32B-boundaries`
`-Wl,-z,muldefs -fprofile-generate`(pass 1)
`-fprofile-use=default.profdata`(pass 2) `-xCORE-AVX512 -flto`
`-Ofast`(pass 1) `-O3 -ffast-math -qnextgen -fuse-ld=gold`
`-qopt-mem-layout-trans=4 -L/usr/local/jemalloc32-5.0.1/lib`
`-ljemalloc`

505.mcf_r: `basepeak = yes`

(Continued on next page)

New H3C Technologies Co., Ltd.

H3C UniServer R4900 G3 (Intel Xeon Gold 6234)

SPECrate®2017_int_base = 134

SPECrate®2017_int_peak = 139

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

Test Date: Sep-2020
Hardware Availability: Mar-2019
Software Availability: Apr-2020

Peak Optimization Flags (Continued)

525.x264_r: `-m64 -qnextgen -std=c11`
`-Wl,-plugin-opt=-x86-branches-within-32B-boundaries`
`-Wl,-z,muldefs -xCORE-AVX512 -flto -O3 -ffast-math`
`-fuse-ld=gold -qopt-mem-layout-trans=4 -fno-alias`
`-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin`
`-lqkmalloc`

557.xz_r: `-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries`
`-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin`
`-lqkmalloc`

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-ic19.1u1-official-linux64_revA.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-ic19.1u1-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.4-CLX-RevB.xml

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

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