# SPEC CPU®2017 Integer Rate Result

## New H3C Technologies Co., Ltd.

$SPECrate®2017\_int\_base =$  1410

H3C UniServer R8900 G3 (Intel Xeon Platinum 8280)

$SPECrate®2017\_int\_peak =$ Not Run
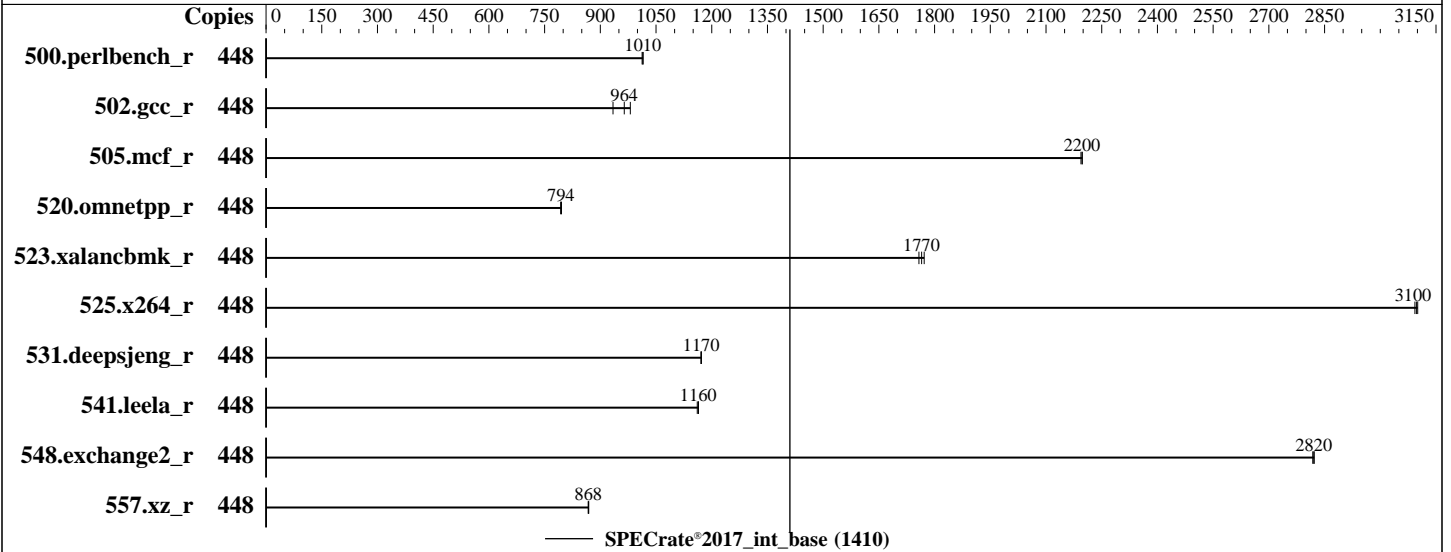
**CPU2017 License:** 9066
**Test Sponsor:** New H3C Technologies Co., Ltd.
**Tested by:** New H3C Technologies Co., Ltd.

**Test Date:** Dec-2021
**Hardware Availability:** Jun-2019
**Software Availability:** Dec-2020

**Copies** (scale: 0 150 300 450 600 750 900 1050 1200 1350 1500 1650 1800 1950 2100 2250 2400 2550 2700 2850 3150)

| Benchmark | Copies | Result |
|---|---|---|
| 500.perlbench_r | 448 | 1010 |
| 502.gcc_r | 448 | 964 |
| 505.mcf_r | 448 | 2200 |
| 520.omnetpp_r | 448 | 794 |
| 523.xalancbmk_r | 448 | 1770 |
| 525.x264_r | 448 | 3100 |
| 531.deepsjeng_r | 448 | 1170 |
| 541.leela_r | 448 | 1160 |
| 548.exchange2_r | 448 | 2820 |
| 557.xz_r | 448 | 868 |

—— **SPECrate®2017_int_base (1410)**

## Hardware

CPU Name: Intel Xeon Platinum 8280
 Max MHz: 4000
 Nominal: 2700
Enabled: 224 cores, 8 chips, 2 threads/core
Orderable: 1,2,3,4,5,6,7,8 chips
Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 1 MB I+D on chip per core
 L3: 38.5 MB I+D on chip per chip
 Other: None
Memory: 1536 GB (48 x 32 GB 2Rx4 PC4-2933Y-R)
Storage: 1 x 3.2 TB NVME SSD
Other: None

## Software

OS: Red Hat Enterprise Linux release 8.3 (Ootpa)
4.18.0-240.el8.x86_64
Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++
Compiler Build 20201113 for Linux;
Fortran: Version 2021.1 of Intel Fortran Compiler
Classic Build 20201112 for Linux;
Parallel: No
Firmware: Version 2.00.55 released Nov-2021 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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## Results Table

| Benchmark | Base Copies | Base Seconds | Base Ratio | Base Seconds | Base Ratio | Base Seconds | Base Ratio | Peak Copies | Peak Seconds | Peak Ratio | Peak Seconds | Peak Ratio | Peak Seconds | Peak Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 500.perlbench_r | 448 | **703** | **1010** | 704 | 1010 | 703 | 1020 | | | | | | | |
| 502.gcc_r | 448 | 647 | 981 | 679 | 934 | **658** | **964** | | | | | | | |
| 505.mcf_r | 448 | **330** | **2200** | 329 | 2200 | 330 | 2190 | | | | | | | |
| 520.omnetpp_r | 448 | 741 | 793 | 739 | 795 | **740** | **794** | | | | | | | |
| 523.xalancbmk_r | 448 | **268** | **1770** | 269 | 1760 | 267 | 1770 | | | | | | | |
| 525.x264_r | 448 | 254 | 3090 | **253** | **3100** | 253 | 3100 | | | | | | | |
| 531.deepsjeng_r | 448 | **438** | **1170** | 438 | 1170 | 438 | 1170 | | | | | | | |
| 541.leela_r | 448 | 639 | 1160 | 637 | 1160 | **637** | **1160** | | | | | | | |
| 548.exchange2_r | 448 | 416 | 2820 | **416** | **2820** | 416 | 2820 | | | | | | | |
| 557.xz_r | 448 | 558 | 868 | **558** | **868** | 557 | 869 | | | | | | | |

**SPECrate®2017_int_base =** 1410

**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 1x Intel Core i9-7980XE CPU + 64GB RAM
memory using Red Hat Enterprise Linux 8.1
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.

**(Continued on next page)**

## New H3C Technologies Co., Ltd.

H3C UniServer R8900 G3 (Intel Xeon Platinum 8280)

| | | | |
|---|---|---|---|
| **SPECrate®2017_int_base =** | 1410 | | |
| **SPECrate®2017_int_peak = Not Run** | | | |

| | | | |
|---|---|---|---|
| **CPU2017 License:** 9066 | | **Test Date:** | Dec-2021 |
| **Test Sponsor:** New H3C Technologies Co., Ltd. | | **Hardware Availability:** Jun-2019 |
| **Tested by:** New H3C Technologies Co., Ltd. | | **Software Availability:** Dec-2020 |

## General Notes (Continued)

```
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>
```

## Platform Notes

```
BIOS Settings:
 Set Sub NUMA Cluster to Enabled
 Set XPT Prefetch to Enabled
 Set Energy Performance BIAS to Performance


 Sysinfo program /home/speccpu/bin/sysinfo
 Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
 running on localhost.localdomain Thu Dec  2 21:25:32 2021

 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) Platinum 8280 CPU @ 2.70GHz
       8  "physical id"s (chips)
       448 "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 : 28
       siblings  : 56
       physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
       28 29 30
       physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
       28 29 30
       physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
       28 29 30
       physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
       28 29 30
       physical 4: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
       28 29 30
       physical 5: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
       28 29 30
       physical 6: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
       28 29 30
```

**(Continued on next page)**

## New H3C Technologies Co., Ltd.

SPECrate®2017_int_base = 1410

H3C UniServer R8900 G3 (Intel Xeon Platinum 8280)

SPECrate®2017_int_peak = Not Run

| | | | |
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## Platform Notes (Continued)

```
      physical 7: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
      28 29 30

  From lscpu from util-linux 2.32.1:
      Architecture:          x86_64
      CPU op-mode(s):        32-bit, 64-bit
      Byte Order:            Little Endian
      CPU(s):                448
      On-line CPU(s) list:   0-447
      Thread(s) per core:    2
      Core(s) per socket:    28
      Socket(s):             8
      NUMA node(s):          16
      Vendor ID:             GenuineIntel
      CPU family:            6
      Model:                 85
      Model name:            Intel(R) Xeon(R) Platinum 8280 CPU @ 2.70GHz
      Stepping:              7
      CPU MHz:               3300.004
      CPU max MHz:           4000.0000
      CPU min MHz:           1000.0000
      BogoMIPS:              5400.00
      Virtualization:        VT-x
      L1d cache:             32K
      L1i cache:             32K
      L2 cache:              1024K
      L3 cache:              39424K
      NUMA node0 CPU(s):     0-3,7-9,14-17,21-23,224-227,231-233,238-241,245-247
      NUMA node1 CPU(s):     4-6,10-13,18-20,24-27,228-230,234-237,242-244,248-251
      NUMA node2 CPU(s):     28-31,35-37,42-45,49-51,252-255,259-261,266-269,273-275
      NUMA node3 CPU(s):     32-34,38-41,46-48,52-55,256-258,262-265,270-272,276-279
      NUMA node4 CPU(s):     56-59,63-65,70-73,77-79,280-283,287-289,294-297,301-303
      NUMA node5 CPU(s):     60-62,66-69,74-76,80-83,284-286,290-293,298-300,304-307
      NUMA node6 CPU(s):     84-87,91-93,98-101,105-107,308-311,315-317,322-325,329-331
      NUMA node7 CPU(s):     88-90,94-97,102-104,108-111,312-314,318-321,326-328,332-335
      NUMA node8 CPU(s):     112-115,119-121,126-129,133-135,336-339,343-345,350-353,357-359
      NUMA node9 CPU(s):     116-118,122-125,130-132,136-139,340-342,346-349,354-356,360-363
      NUMA node10 CPU(s):    140-143,147-149,154-157,161-163,364-367,371-373,378-381,385-387
      NUMA node11 CPU(s):    144-146,150-153,158-160,164-167,368-370,374-377,382-384,388-391
      NUMA node12 CPU(s):    168-171,175-177,182-185,189-191,392-395,399-401,406-409,413-415
      NUMA node13 CPU(s):    172-174,178-181,186-188,192-195,396-398,402-405,410-412,416-419
      NUMA node14 CPU(s):    196-199,203-205,210-213,217-219,420-423,427-429,434-437,441-443
      NUMA node15 CPU(s):    200-202,206-209,214-216,220-223,424-426,430-433,438-440,444-447
      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 ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm
```

**(Continued on next page)**

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## Platform Notes (Continued)

```
     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 ept_ad fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid 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 : 39424 KB


 From numactl --hardware
 WARNING: a numactl 'node' might or might not correspond to a physical chip.
   available: 16 nodes (0-15)
   node 0 cpus: 0 1 2 3 7 8 9 14 15 16 17 21 22 23 224 225 226 227 231 232 233 238 239 240
   241 245 246 247
   node 0 size: 93336 MB
   node 0 free: 94453 MB
   node 1 cpus: 4 5 6 10 11 12 13 18 19 20 24 25 26 27 228 229 230 234 235 236 237 242 243
   244 248 249 250 251
   node 1 size: 95546 MB
   node 1 free: 96399 MB
   node 2 cpus: 28 29 30 31 35 36 37 42 43 44 45 49 50 51 252 253 254 255 259 260 261 266
   267 268 269 273 274 275
   node 2 size: 95831 MB
   node 2 free: 96505 MB
   node 3 cpus: 32 33 34 38 39 40 41 46 47 48 52 53 54 55 256 257 258 262 263 264 265 270
   271 272 276 277 278 279
   node 3 size: 95609 MB
   node 3 free: 96464 MB
   node 4 cpus: 56 57 58 59 63 64 65 70 71 72 73 77 78 79 280 281 282 283 287 288 289 294
   295 296 297 301 302 303
   node 4 size: 95859 MB
   node 4 free: 96569 MB
   node 5 cpus: 60 61 62 66 67 68 69 74 75 76 80 81 82 83 284 285 286 290 291 292 293 298
   299 300 304 305 306 307
   node 5 size: 95755 MB
   node 5 free: 96599 MB
   node 6 cpus: 84 85 86 87 91 92 93 98 99 100 101 105 106 107 308 309 310 311 315 316 317
   322 323 324 325 329 330 331
   node 6 size: 95749 MB
   node 6 free: 96002 MB
   node 7 cpus: 88 89 90 94 95 96 97 102 103 104 108 109 110 111 312 313 314 318 319 320
   321 326 327 328 332 333 334 335
   node 7 size: 95879 MB
   node 7 free: 96393 MB
   node 8 cpus: 112 113 114 115 119 120 121 126 127 128 129 133 134 135 336 337 338 339
```

**(Continued on next page)**

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## Platform Notes (Continued)

```
      343 344 345 350 351 352 353 357 358 359
      node 8 size: 95767 MB
      node 8 free: 96588 MB
      node 9 cpus: 116 117 118 122 123 124 125 130 131 132 136 137 138 139 340 341 342 346
      347 348 349 354 355 356 360 361 362 363
      node 9 size: 95785 MB
      node 9 free: 96389 MB
      node 10 cpus: 140 141 142 143 147 148 149 154 155 156 157 161 162 163 364 365 366 367
      371 372 373 378 379 380 381 385 386 387
      node 10 size: 95773 MB
      node 10 free: 96597 MB
      node 11 cpus: 144 145 146 150 151 152 153 158 159 160 164 165 166 167 368 369 370 374
      375 376 377 382 383 384 388 389 390 391
      node 11 size: 95791 MB
      node 11 free: 96596 MB
      node 12 cpus: 168 169 170 171 175 176 177 182 183 184 185 189 190 191 392 393 394 395
      399 400 401 406 407 408 409 413 414 415
      node 12 size: 95883 MB
      node 12 free: 96601 MB
      node 13 cpus: 172 173 174 178 179 180 181 186 187 188 192 193 194 195 396 397 398 402
      403 404 405 410 411 412 416 417 418 419
      node 13 size: 95803 MB
      node 13 free: 96601 MB
      node 14 cpus: 196 197 198 199 203 204 205 210 211 212 213 217 218 219 420 421 422 423
      427 428 429 434 435 436 437 441 442 443
      node 14 size: 95811 MB
      node 14 free: 96243 MB
      node 15 cpus: 200 201 202 206 207 208 209 214 215 216 220 221 222 223 424 425 426 430
      431 432 433 438 439 440 444 445 446 447
      node 15 size: 95893 MB
      node 15 free: 96535 MB
      node distances:
      node   0   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15
        0:  10  11  21  21  21  21  31  31  21  21  31  31  31  31  31  31
        1:  11  10  21  21  21  21  31  31  21  21  31  31  31  31  31  31
        2:  21  21  10  11  31  31  21  21  31  31  21  21  31  31  31  31
        3:  21  21  11  10  31  31  21  21  31  31  21  21  31  31  31  31
        4:  21  21  31  31  10  11  21  21  31  31  31  31  21  21  31  31
        5:  21  21  31  31  11  10  21  21  31  31  31  31  21  21  31  31
        6:  31  31  21  21  21  21  10  11  31  31  31  31  31  31  21  21
        7:  31  31  21  21  21  21  11  10  31  31  31  31  31  31  21  21
        8:  21  21  31  31  31  31  31  31  10  11  21  21  31  31  21  21
        9:  21  21  31  31  31  31  31  31  11  10  21  21  31  31  21  21
       10:  31  31  21  21  31  31  31  31  21  21  10  11  21  21  31  31
       11:  31  31  21  21  31  31  31  31  21  21  11  10  21  21  31  31
       12:  31  31  31  31  21  21  31  31  31  31  21  21  10  11  21  21
       13:  31  31  31  31  21  21  31  31  31  31  21  21  11  10  21  21
```

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## Platform Notes (Continued)

```
   14:  31  31  31  31  31  31  21  21  21  21  31  31  21  21  10  11
   15:  31  31  31  31  31  31  21  21  21  21  31  31  21  21  11  10

 From /proc/meminfo
    MemTotal:       1583301360 kB
    HugePages_Total:        0
    Hugepagesize:       2048 kB

 /sbin/tuned-adm active
     Current active profile: throughput-performance

 /sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has
    performance

 From /etc/*release* /etc/*version*
    os-release:
       NAME="Red Hat Enterprise Linux"
       VERSION="8.3 (Ootpa)"
       ID="rhel"
       ID_LIKE="fedora"
       VERSION_ID="8.3"
       PLATFORM_ID="platform:el8"
       PRETTY_NAME="Red Hat Enterprise Linux 8.3 (Ootpa)"
       ANSI_COLOR="0;31"
    redhat-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
    system-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:8.3:ga

 uname -a:
    Linux localhost.localdomain 4.18.0-240.el8.x86_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020
    x86_64 x86_64 x86_64 GNU/Linux

 Kernel self-reported vulnerability status:

 CVE-2018-12207 (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
 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
    CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
```

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## Platform Notes (Continued)

```
 CVE-2019-11135 (TSX Asynchronous Abort):                Mitigation: TSX disabled


 run-level 3 Dec 2 21:22 last=5

 SPEC is set to: /home/speccpu
    Filesystem               Type  Size  Used Avail Use% Mounted on
    /dev/mapper/rhel-home xfs   2.9T  142G  2.7T   5% /home

 From /sys/devices/virtual/dmi/id
     Vendor:          New H3C Technologies Co., Ltd.
     Product:         H3C UniServer R8900 G3
     Product Family: Rack
     Serial:          210200A01YH192000009


 Additional information from dmidecode 3.2 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:
     14x Hynix HMA84GR7CJR4N-WM 32 GB 2 rank 2933
     34x Micron 36ASF4G72PZ-2G9E2 32 GB 2 rank 2933
     48x NO DIMM NO DIMM

 BIOS:
    BIOS Vendor:       American Megatrends Inc.
    BIOS Version:      2.00.55
    BIOS Date:         11/20/2021
    BIOS Revision:     5.14

 (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) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2021.1 Build 20201113
Copyright (C) 1985-2020 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)**

## New H3C Technologies Co., Ltd.

SPECrate®2017_int_base =    1410

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## Compiler Version Notes (Continued)

```
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------


==============================================================================
Fortran | 548.exchange2_r(base)
------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
  Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------
```

## Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifort

## 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 -xCORE-AVX512 -O3 -ffast-math

**(Continued on next page)**

## New H3C Technologies Co., Ltd.

SPECrate®2017_int_base =     1410

H3C UniServer R8900 G3 (Intel Xeon Platinum 8280)

SPECrate®2017_int_peak = Not Run

| | | | |
|---|---|---|---|
| **CPU2017 License:** | 9066 | **Test Date:** | Dec-2021 |
| **Test Sponsor:** | New H3C Technologies Co., Ltd. | **Hardware Availability:** | Jun-2019 |
| **Tested by:** | New H3C Technologies Co., Ltd. | **Software Availability:** | Dec-2020 |

# Base Optimization Flags (Continued)

C benchmarks (continued):

```
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc
```

C++ benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc
```

Fortran benchmarks:

```
-w -m64 -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/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc
```

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

http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.html
http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.4-CLX-RevC.html

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

http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.4-CLX-RevC.xml

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

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