**SPEC CPU®2017 Integer Speed Result**

New H3C Technologies Co., Ltd.
H3C UniServer R6900 G5 (Intel Xeon Platinum 8360HL)

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base</th>
<th>12.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_int_peak</td>
<td>12.4</td>
</tr>
</tbody>
</table>

---

**CPU2017 License:** 9066

**Test Sponsor:** New H3C Technologies Co., Ltd.

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

---

### Hardware

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU Name:</strong></td>
<td>Intel Xeon Platinum 8360HL</td>
</tr>
<tr>
<td><strong>Max MHz:</strong></td>
<td>4200</td>
</tr>
<tr>
<td><strong>Nominal:</strong></td>
<td>3000</td>
</tr>
<tr>
<td><strong>Enabled:</strong></td>
<td>96 cores, 4 chips</td>
</tr>
<tr>
<td><strong>Orderable:</strong></td>
<td>1,2,3,4 chips</td>
</tr>
<tr>
<td><strong>Cache L1:</strong></td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td><strong>L2:</strong></td>
<td>1 MB I+D on chip per core</td>
</tr>
<tr>
<td><strong>L3:</strong></td>
<td>33 MB I+D on chip per chip</td>
</tr>
<tr>
<td><strong>Other:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Memory:</strong></td>
<td>768 GB (48 x 16 GB 2Rx8 PC4-3200V-R)</td>
</tr>
<tr>
<td><strong>Storage:</strong></td>
<td>1 x 1.0 TB SATA SSD</td>
</tr>
<tr>
<td><strong>Other:</strong></td>
<td>None</td>
</tr>
</tbody>
</table>

---

### Software

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OS:</strong></td>
<td>Red Hat Enterprise Linux release 8.2 (Ootpa)</td>
</tr>
<tr>
<td></td>
<td>4.18.0-193.el8.x86_64</td>
</tr>
<tr>
<td><strong>Compiler:</strong></td>
<td>C/C++: Version 2021.1 of Intel oneAPI</td>
</tr>
<tr>
<td></td>
<td>DPC++/C++</td>
</tr>
<tr>
<td></td>
<td>Compiler Build 20201113 for Linux;</td>
</tr>
<tr>
<td></td>
<td>Fortran: Version 2021.1 of Intel Fortran</td>
</tr>
<tr>
<td></td>
<td>Compiler</td>
</tr>
<tr>
<td></td>
<td>Classic Build 20201112 for Linux;</td>
</tr>
<tr>
<td></td>
<td>C/C++: Version 2021.1 of Intel C/C++ Compiler</td>
</tr>
<tr>
<td></td>
<td>Classic Build 20201112 for Linux;</td>
</tr>
<tr>
<td><strong>Parallel:</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Firmware:</strong></td>
<td>Version 5.15 released Mar-2021 BIOS</td>
</tr>
<tr>
<td><strong>File System:</strong></td>
<td>xfs</td>
</tr>
<tr>
<td><strong>System State:</strong></td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td><strong>Base Pointers:</strong></td>
<td>64-bit</td>
</tr>
<tr>
<td><strong>Peak Pointers:</strong></td>
<td>64-bit</td>
</tr>
<tr>
<td><strong>Other:</strong></td>
<td>jemalloc memory allocator V5.0.1</td>
</tr>
<tr>
<td><strong>Power Management:</strong></td>
<td>BIOS set to prefer performance at the cost of</td>
</tr>
<tr>
<td></td>
<td>additional power usage.</td>
</tr>
</tbody>
</table>

---

**Threads**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed®2017_int_base</th>
<th>SPECspeed®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>perlbench</td>
<td>96</td>
<td>7.08</td>
<td>8.43</td>
</tr>
<tr>
<td>gcc</td>
<td>96</td>
<td>10.8</td>
<td>11.4</td>
</tr>
<tr>
<td>mcf</td>
<td>96</td>
<td>20.0</td>
<td>20.0</td>
</tr>
<tr>
<td>omnetpp</td>
<td>96</td>
<td>10.4</td>
<td>10.4</td>
</tr>
<tr>
<td>xalancbmk</td>
<td>96</td>
<td>14.8</td>
<td>14.8</td>
</tr>
<tr>
<td>x264</td>
<td>96</td>
<td>17.9</td>
<td>18.6</td>
</tr>
<tr>
<td>deepsjeng</td>
<td>96</td>
<td>6.26</td>
<td>6.26</td>
</tr>
<tr>
<td>leela</td>
<td>96</td>
<td>5.29</td>
<td>5.29</td>
</tr>
<tr>
<td>exchange2</td>
<td>96</td>
<td>18.1</td>
<td>18.1</td>
</tr>
<tr>
<td>xz</td>
<td>96</td>
<td>26.3</td>
<td>26.3</td>
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</table>
### New H3C Technologies Co., Ltd.

H3C UniServer R6900 G5 (Intel Xeon Platinum 8360HL)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>96</td>
<td>251</td>
<td>7.08</td>
<td>251</td>
<td>7.08</td>
<td>253</td>
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<td>602.gcc_s</td>
<td>96</td>
<td>373</td>
<td>10.7</td>
<td>363</td>
<td>11.0</td>
<td>370</td>
<td>10.8</td>
<td>96</td>
<td>348</td>
<td>11.5</td>
<td>350</td>
<td>11.4</td>
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<tr>
<td>605.mcf_s</td>
<td>96</td>
<td>236</td>
<td><strong>20.0</strong></td>
<td>236</td>
<td>20.0</td>
<td>237</td>
<td>19.9</td>
<td>96</td>
<td><strong>236</strong></td>
<td><strong>20.0</strong></td>
<td>236</td>
<td>20.0</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>96</td>
<td>156</td>
<td><strong>10.4</strong></td>
<td>156</td>
<td>10.5</td>
<td>160</td>
<td>10.2</td>
<td>96</td>
<td><strong>156</strong></td>
<td><strong>10.4</strong></td>
<td>156</td>
<td>10.5</td>
</tr>
<tr>
<td>623.xalancmk_s</td>
<td>96</td>
<td>95.5</td>
<td>14.8</td>
<td><strong>95.7</strong></td>
<td><strong>14.8</strong></td>
<td>95.8</td>
<td>14.8</td>
<td>96</td>
<td>95.5</td>
<td>14.8</td>
<td><strong>95.7</strong></td>
<td><strong>14.8</strong></td>
</tr>
<tr>
<td>625.x264_s</td>
<td>96</td>
<td>98.3</td>
<td>14.8</td>
<td>98.0</td>
<td>18.0</td>
<td><strong>98.3</strong></td>
<td><strong>17.9</strong></td>
<td>96</td>
<td><strong>98.3</strong></td>
<td><strong>17.9</strong></td>
<td>98.4</td>
<td>18.6</td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>96</td>
<td>229</td>
<td><strong>6.26</strong></td>
<td>229</td>
<td>6.27</td>
<td>229</td>
<td>6.25</td>
<td>96</td>
<td><strong>229</strong></td>
<td><strong>6.26</strong></td>
<td>229</td>
<td>6.27</td>
</tr>
<tr>
<td>641.leela_s</td>
<td>96</td>
<td>322</td>
<td>5.29</td>
<td>323</td>
<td>5.29</td>
<td><strong>322</strong></td>
<td><strong>5.29</strong></td>
<td>96</td>
<td>322</td>
<td>5.29</td>
<td>323</td>
<td>5.29</td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>96</td>
<td>163</td>
<td><strong>18.1</strong></td>
<td>164</td>
<td>18.0</td>
<td>163</td>
<td>18.1</td>
<td>96</td>
<td><strong>163</strong></td>
<td><strong>18.1</strong></td>
<td>164</td>
<td>18.0</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>96</td>
<td>236</td>
<td>26.2</td>
<td>235</td>
<td>26.3</td>
<td><strong>235</strong></td>
<td><strong>26.3</strong></td>
<td>96</td>
<td>236</td>
<td>26.2</td>
<td>235</td>
<td>26.3</td>
</tr>
</tbody>
</table>

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

### 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:

- **KMP_AFFINITY** = "granularity=fine,scatter"
- **LD_LIBRARY_PATH** = "/home/speccpu/lib/intel64:/home/speccpu/je5.0.1-64"
- **MALLOC_CONF** = "retain:true"
- **OMP_STACKSIZE** = "192M"

### 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
```

jemalloc, a general purpose malloc implementation

Built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

(Continued on next page)
New H3C Technologies Co., Ltd.
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SPECspeed®2017_int_base = 12.1
SPECspeed®2017_int_peak = 12.4

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

Test Date: Jun-2021
Hardware Availability: Sep-2020
Software Availability: Dec-2020

General Notes (Continued)

Platform Notes

BIOS Settings:
Set Hyper-Threading to Disabled
Set Power Performance Tuning to BIOS Controls EPB
Set Energy Performance BIAS to Performance
Set Patrol Scrub to Disabled

Sysinfo program /home/speccpu/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
running on localhost.localdomain Thu Jun  3 17:53:33 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 8360HL CPU @ 3.00GHz
  4 "physical id"s (chips)
  96 "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 : 24
siblings : 24
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29

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): 96
On-line CPU(s) list: 0-95
Thread(s) per core: 1
Core(s) per socket: 24
Socket(s): 4
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Platinum 8360HL CPU @ 3.00GHz
Stepping: 11

(Continued on next page)
SPEC CPU®2017 Integer Speed Result
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SPECspeed®2017_int_base = 12.1
SPECspeed®2017_int_peak = 12.4

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

Test Date: June-2021
Hardware Availability: Sep-2020
Software Availability: Dec-2020

Platform Notes (Continued)

CPU MHz: 1630.001
CPU max MHz: 4200.0000
CPU min MHz: 1200.0000
BogoMIPS: 6000.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 33792K
NUMA node0 CPU(s): 0-23
NUMA node1 CPU(s): 24-47
NUMA node2 CPU(s): 48-71
NUMA node3 CPU(s): 72-95

Flags: fpu vme de pse tsc msr pae mce cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx mdorners 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 abtm cmov pat preloadtl emt64 pdpte64 kvm invpcid rdtscp IOPL vpx dtes64_64bit tsc_adjust mda msr p腕x strict_fpu MMX256E2 xsaveopt xsave cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local avx512_bf16 dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req pku ospke avx512_vnni md_clear flush_lld arch_capabilities

From /proc/cpuinfo cache data
cache size : 33792 KB

WARNING: a numacl 'node' might or might not correspond to a physical chip.
available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
node 0 size: 191855 MB
node 0 free: 191855 MB
node 1 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
node 1 size: 191855 MB
node 1 free: 191855 MB
node 2 cpus: 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71
node 2 size: 191855 MB
node 2 free: 191855 MB
node 3 cpus: 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95
node 3 size: 191855 MB
node 3 free: 191855 MB
node distances:
node 0 node 1 node 2 node 3
0: 10 20 20 20
1: 20 10 20 20
2: 20 20 10 20
3: 20 20 20 10

(Continued on next page)
New H3C Technologies Co., Ltd.
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SPECspeed®2017_int_base = 12.1
SPECspeed®2017_int_peak = 12.4

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

Platform Notes (Continued)

1: 20 10 20 20
2: 20 20 10 20
3: 20 20 20 10

From /proc/meminfo
MemTotal: 790957244 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*
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:

CVE-2018-12207 (iTLB Multihit):
Not affected
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/swaps barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):
Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
New H3C Technologies Co., Ltd.  
H3C UniServer R6900 G5 (Intel Xeon Platinum 8360HL)  

**SPEC CPU®2017 Integer Speed Result**  

**Copyright 2017-2021 Standard Performance Evaluation Corporation**  

**SPECspeed®2017_int_base = 12.1**  
**SPECspeed®2017_int_peak = 12.4**  

<table>
<thead>
<tr>
<th>CPU2017 License: 9066</th>
<th>Test Date: Jun-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: New H3C Technologies Co., Ltd.</td>
<td>Hardware Availability: Sep-2020</td>
</tr>
<tr>
<td>Tested by: New H3C Technologies Co., Ltd.</td>
<td>Software Availability: Dec-2020</td>
</tr>
</tbody>
</table>

---

### Platform Notes (Continued)

CVE-2020-0543 (Special Register Buffer Data Sampling): No status reported
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 Jun 3 17:06

SPEC is set to: /home/speccpu

Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 876G 205G 672G 24% /home

From /sys/devices/virtual/dmi/id

Product Family: SYSTEM_FAMILY

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:
48x Micron 18ASF2G72PDZ-3G2E1 16 GB 2 rank 3200

BIOS:
- BIOS Vendor: American Megatrends International, LLC.
- BIOS Version: 5.15
- BIOS Date: 03/01/2021
- BIOS Revision: 5.19

(End of data from sysinfo program)

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### Compiler Version Notes

<table>
<thead>
<tr>
<th>C</th>
<th>600.perlbench_s(peak)</th>
</tr>
</thead>
</table>

Intel(R) C 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.

<table>
<thead>
<tr>
<th>C</th>
<th>600.perlbench_s(base) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak) 657.xz_s(base, peak)</th>
</tr>
</thead>
</table>

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

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New H3C Technologies Co., Ltd.
H3C UniServer R6900 G5 (Intel Xeon Platinum 8360HL)

SPEC CPU®2017 Integer Speed Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

SPECspeed®2017_int_base = 12.1
SPECspeed®2017_int_peak = 12.4

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

Compiler Version Notes (Continued)

==============================================================================
C       | 600.perlbench_s(peak)
------------------------------------------------------------------------------
Intel(R) C 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.
------------------------------------------------------------------------------

==============================================================================
C       | 600.perlbench_s(base) 602.gcc_s(base, peak) 605.mcf_s(base, peak)
| 625.x264_s(base, peak) 657.xz_s(base, peak)
------------------------------------------------------------------------------
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++     | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak)
| 631.deepsjeng_s(base, peak) 641.leela_s(base, peak)
------------------------------------------------------------------------------
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 | 648.exchange2_s(base, peak)
------------------------------------------------------------------------------
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
New H3C Technologies Co., Ltd.
H3C UniServer R6900 G5 (Intel Xeon Platinum 8360HL)

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

SPECspeed®2017_int_base = 12.1
SPECspeed®2017_int_peak = 12.4

Test Date: Jun-2021
Hardware Availability: Sep-2020
Software Availability: Dec-2020

Base Portability Flags

600.perlbench_s: -DSPEC_LP64 -DSPEC_LINUX_X64
602.gcc_s: -DSPEC_LP64
605.mcf_s: -DSPEC_LP64
620.omnetpp_s: -DSPEC_LP64
623.xalancbmk_s: -DSPEC_LP64 -DSPEC_LINUX
625.x264_s: -DSPEC_LP64
631.deepsjeng_s: -DSPEC_LP64
641.leela_s: -DSPEC_LP64
648.exchange2_s: -DSPEC_LP64
657.xz_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-DSPEC_OPENMP -std=c11 -m64 -fiopenmp -Wl,-z,muldefs -xCORE-AVX512
-O3 -ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

C++ benchmarks:
-DSPEC_OPENMP -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/
-1qkmalloc

Fortran benchmarks:
-m64 -xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-mbranches-within-32B-boundaries

Peak Compiler Invocation

C benchmarks (except as noted below):
icx

600.perlbench_s: icc

C++ benchmarks:
icpx

(Continued on next page)
New H3C Technologies Co., Ltd.  
H3C UniServer R6900 G5 (Intel Xeon Platinum 8360HL)  

SPECspeed®2017_int_base = 12.1  
SPECspeed®2017_int_peak = 12.4  

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

Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

600.perlbench_s: -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/jemalloc64-5.0.1/lib -ljemalloc

602.gcc_s: -m64 -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1)  
-fprofile-use=default.profdata(pass 2) -xCORE-AVX512 -flto  
-Ofast(pass 1) -O3 -ffast-math -qopt-mem-layout-trans=4  
-mbranches-within-32B-boundaries  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

605.mcf_s: basepeak = yes

625.x264_s: -DSPEC_OPENMP -fiopenmp -std=c11 -m64 -Wl,-z,muldefs  
-xCORE-AVX512 -flto -O3 -ffast-math  
-qopt-mem-layout-trans=4 -fno-alias  
-mbranches-within-32B-boundaries  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

657.xz_s: basepeak = yes

C++ benchmarks:

620.omnetpp_s: basepeak = yes

623.xalancbmk_s: basepeak = yes

631.deepsjeng_s: basepeak = yes

(Continued on next page)
### SPEC CPU®2017 Integer Speed Result

**New H3C Technologies Co., Ltd.**  
H3C UniServer R6900 G5 (Intel Xeon Platinum 8360HL)

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base</th>
<th>SPECspeed®2017_int_peak</th>
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<tbody>
<tr>
<td>12.1</td>
<td>12.4</td>
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**CPU2017 License:** 9066  
**Test Sponsor:** New H3C Technologies Co., Ltd.  
**Tested by:** New H3C Technologies Co., Ltd.  
**Test Date:** Jun-2021  
**Hardware Availability:** Sep-2020  
**Software Availability:** Dec-2020

#### Peak Optimization Flags (Continued)

<table>
<thead>
<tr>
<th>Fortran benchmarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>641.leela_s: basepeak = yes</td>
</tr>
<tr>
<td>648.exchange2_s: basepeak = yes</td>
</tr>
</tbody>
</table>

The flags files that were used to format this result can be browsed at:
- [Intel-ic2021-official-linux64_revA.html](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.html)
- [New_H3C-Platform-Settings-V1.0-CPX-RevC.html](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.0-CPX-RevC.html)

You can also download the XML flags sources by saving the following links:
- [Intel-ic2021-official-linux64_revA.xml](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml)
- [New_H3C-Platform-Settings-V1.0-CPX-RevC.xml](http://www.spec.org/cpu2017/flags/New_H3C-Platform-Settings-V1.0-CPX-RevC.xml)

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

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