



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 14.1

PowerEdge R770AP (Intel Xeon 6980P)

SPECspeed®2017\_int\_peak = 14.4

CPU2017 License: 6573

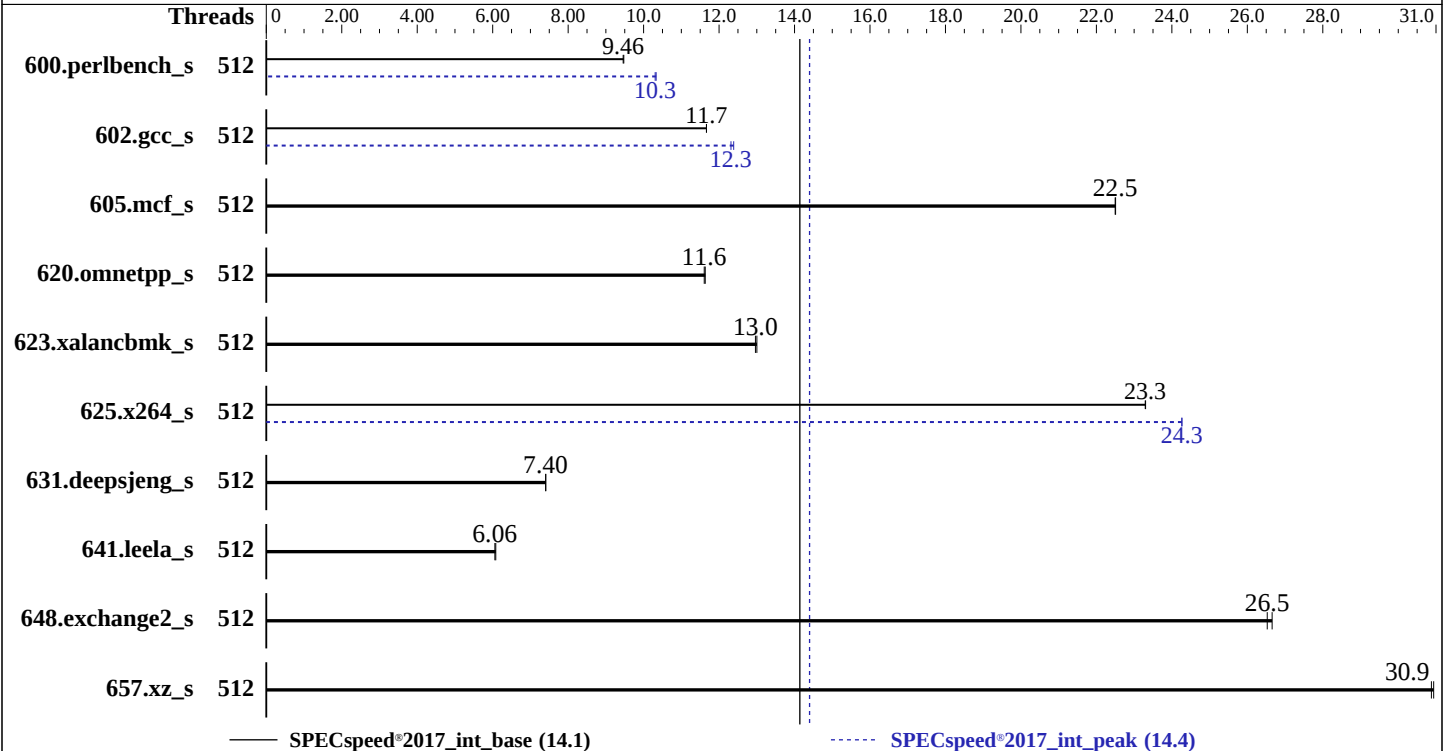
Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2025

Hardware Availability: Dec-2025

Software Availability: Sep-2025



## Hardware

CPU Name: Intel Xeon 6980P  
Max MHz: 3900  
Nominal: 2000  
Enabled: 256 cores, 2 chips, 2 threads/core  
Orderable: 1,2 chips  
Cache L1: 64 KB I + 48 KB D on chip per core  
L2: 2 MB I+D on chip per core  
L3: 504 MB I+D on chip per chip  
Other: None  
Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)  
Storage: 240 GB on tmpfs  
Other: CPU Cooling: Air

## Software

OS: SUSE Linux Enterprise Server 16.0  
6.12.0-160000.5-default  
Compiler: C/C++: Version 2025.2 of Intel oneAPI DPC++/C++  
Compiler for Linux;  
Fortran: Version 2025.2 of Intel Fortran Compiler  
for Linux;  
Parallel: Yes  
Firmware: Version 1.1.5 released Oct-2025  
File System: tmpfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other: jemalloc memory allocator V5.0.1  
Power Management: BIOS set to prefer performance at the cost of  
additional power usage.



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## Results Table

| Benchmark       | Base    |            |             |             |             |         |       | Peak    |             |             |            |             |         |       |
|-----------------|---------|------------|-------------|-------------|-------------|---------|-------|---------|-------------|-------------|------------|-------------|---------|-------|
|                 | Threads | Seconds    | Ratio       | Seconds     | Ratio       | Seconds | Ratio | Threads | Seconds     | Ratio       | Seconds    | Ratio       | Seconds | Ratio |
| 600.perlbench_s | 512     | <b>188</b> | <b>9.46</b> | 187         | 9.48        |         |       | 512     | 172         | 10.3        | <b>172</b> | <b>10.3</b> |         |       |
| 602.gcc_s       | 512     | 341        | 11.7        | <b>341</b>  | <b>11.7</b> |         |       | 512     | 321         | 12.4        | <b>323</b> | <b>12.3</b> |         |       |
| 605.mcf_s       | 512     | 210        | 22.5        | <b>210</b>  | <b>22.5</b> |         |       | 512     | 210         | 22.5        | <b>210</b> | <b>22.5</b> |         |       |
| 620.omnetpp_s   | 512     | 140        | 11.6        | <b>141</b>  | <b>11.6</b> |         |       | 512     | 140         | 11.6        | <b>141</b> | <b>11.6</b> |         |       |
| 623.xalancbmk_s | 512     | <b>109</b> | <b>13.0</b> | 109         | 13.0        |         |       | 512     | <b>109</b>  | <b>13.0</b> | 109        | 13.0        |         |       |
| 625.x264_s      | 512     | 75.7       | 23.3        | <b>75.7</b> | <b>23.3</b> |         |       | 512     | <b>72.7</b> | <b>24.3</b> | 72.7       | 24.3        |         |       |
| 631.deepsjeng_s | 512     | 193        | 7.41        | <b>194</b>  | <b>7.40</b> |         |       | 512     | 193         | 7.41        | <b>194</b> | <b>7.40</b> |         |       |
| 641.leela_s     | 512     | 280        | 6.08        | <b>282</b>  | <b>6.06</b> |         |       | 512     | 280         | 6.08        | <b>282</b> | <b>6.06</b> |         |       |
| 648.exchange2_s | 512     | <b>111</b> | <b>26.5</b> | 110         | 26.7        |         |       | 512     | <b>111</b>  | <b>26.5</b> | 110        | 26.7        |         |       |
| 657.xz_s        | 512     | 200        | 30.9        | <b>200</b>  | <b>30.9</b> |         |       | 512     | 200         | 30.9        | <b>200</b> | <b>30.9</b> |         |       |

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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 =  
"/mnt/ramdisk/cpu2017-1.1.9-ic2025.2/lib/intel64:/mnt/ramdisk/cpu2017-1.1.9-ic2025.2/je5.0.1-64"  
MALLOC\_CONF = "retain:true"  
OMP\_STACKSIZE = "192M"

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM  
memory using Redhat Enterprise Linux 8.0  
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  
sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

Benchmark run from a 240 GB ramdisk created with the cmd: "mount -t tmpfs -o size=240G tmpfs /mnt/ramdisk"

## Platform Notes

BIOS Settings:  
Sub NUMA Cluster : Enabled

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## Platform Notes (Continued)

System Profile : Custom  
CPU Power Management : Maximum Performance  
C1E : Disabled  
C-States : Autonomous  
Latency Optimized Mode : Enabled  
Energy Efficient Policy : Performance  
DIMM Self Healing -  
on Uncorrectable Memory Error : Disabled

Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-ic2025.2/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on R7702AP-R770AP Fri Oct 31 09:10:14 2025

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. Systemd service manager version: systemd 257 (257.7+suse.19.ga0dfd5de4c)
11. Services, from systemctl list-unit-files
12. Linux kernel boot-time arguments, from /proc/cmdline
13. cpupower frequency-info
14. sysctl
15. /sys/kernel/mm/transparent\_hugepage
16. /sys/kernel/mm/transparent\_hugepage/khugepaged
17. OS release
18. Disk information
19. /sys/devices/virtual/dmi/id
20. dmidecode
21. BIOS

1. uname -a  
Linux R7702AP-R770AP 6.12.0-160000.5-default #1 SMP PREEMPT\_DYNAMIC Wed Sep 10 15:26:25 UTC 2025 (3545bbd)  
x86\_64 x86\_64 x86\_64 GNU/Linux

2. w  
09:10:14 up 6 min, 2 users, load average: 0.51, 4.69, 3.49  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - 09:09 30.00s 0.86s ? /bin/bash  
/home/DellFiles/bin/Intel/dell-run-speccpu.sh speed --define DL-VERS=6.4\_T17 --output\_format html,pdf,txt  
root tty2 - 09:09 41.00s 0.01s 0.01s -bash

3. Username  
From environment variable \$USER: root

4. ulimit -a

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## Platform Notes (Continued)

real-time non-blocking time (microseconds, -R) unlimited  
core file size (blocks, -c) unlimited  
data seg size (kbytes, -d) unlimited  
scheduling priority (-e) 0  
file size (blocks, -f) unlimited  
pending signals (-i) 6188992  
max locked memory (kbytes, -l) 8192  
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) 6188992  
virtual memory (kbytes, -v) unlimited  
file locks (-x) unlimited

### 5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize=47
login -- root
-bash
/bin/bash /home/DellFiles/bin/DELL_speed.sh
/bin/bash /home/DellFiles/bin/dell-run-main.sh speed
/bin/bash /home/DellFiles/bin/dell-run-main.sh speed
/bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh speed --define DL-VERS=6.4_T17 --output_format
html,pdf,txt
/bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh speed --define DL-VERS=6.4_T17 --output_format
html,pdf,txt
runcpu --nobuild --action validate --define default-platform-flags -c
ic2025.2-linux64-graniterapids-speed-20250605.cfg --define cores=256 --tune base,peak -o all --define
intspeedaffinity --define smt-on --define drop_caches --iterations 2 --define DL-VERS=6.4_T17
--output_format html,pdf,txt intspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
ic2025.2-linux64-graniterapids-speed-20250605.cfg --define cores=256 --tune base,peak --output_format all
--define intspeedaffinity --define smt-on --define drop_caches --iterations 2 --define DL-VERS=6.4_T17
--output_format html,pdf,txt --nopower --runmode speed --tune base:peak --size refspeed intspeed
--nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.001/temlogs/preenv.intspeed.001.0.log --lognum 001.0
--from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2017-1.1.9-ic2025.2
```

### 6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6980P
vendor_id       : GenuineIntel
cpu family      : 6
model           : 173
stepping        : 1
microcode       : 0x10003f3
bugs            : spectre_v1 spectre_v2 spec_store_bypass swaps bhi spectre_v2_user
cpu cores       : 128
siblings        : 256
2 physical ids (chips)
512 processors (hardware threads)
physical id 0:  core ids 0-42,64-106,128-169
physical id 1:  core ids 0-42,64-106,128-169
physical id 0:  apicids 0-85,128-213,256-339
physical id 1:  apicids 512-597,640-725,768-851
```

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## Platform Notes (Continued)

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

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7. lscpu

From lscpu from util-linux 2.41.1:

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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):              | 512                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| On-line CPU(s) list: | 0-511                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Vendor ID:           | GenuineIntel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Model name:          | Intel(R) Xeon(R) 6980P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CPU family:          | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Model:               | 173                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Thread(s) per core:  | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Core(s) per socket:  | 128                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Socket(s):           | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Stepping:            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| BogoMIPS:            | 4000.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Flags:               | fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat<br>pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx<br>pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good<br>nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni<br>pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma<br>cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt<br>tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm<br>3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin<br>cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow<br>flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep<br>bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap<br>avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw<br>avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc<br>cqm_mbm_total cqm_mbm_local split_lock_detect user_shstk avx_vnni<br>avx512_bf16 wbnoinvd dtherm ida arat pln pts vnmi avx512vbmi umip<br>pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni<br>avx512_bitalg avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote<br>movdiri movdir64b enqcmd fsrm md_clear serialize tsxldtrk pconfig<br>arch_lbr ibt amx_bf16 avx512_fp16 amx_tile amx_int8 flush_l1d<br>arch_capabilities |
| Virtualization:      | VT-x                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| L1d cache:           | 12 MiB (256 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| L1i cache:           | 16 MiB (256 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| L2 cache:            | 512 MiB (256 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| L3 cache:            | 1008 MiB (2 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NUMA node(s):        | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| NUMA node0 CPU(s):   | 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NUMA node1 CPU(s):   | 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NUMA node2 CPU(s):   | 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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4, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510

NUMA node3 CPU(s): 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 257, 259, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341

NUMA node4 CPU(s): 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 403, 405, 407, 409, 411, 413, 415, 417, 419, 421, 423, 425, 427

NUMA node5 CPU(s): 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237, 239, 241, 243, 245, 247, 249, 251, 253, 255, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, 451, 453, 455, 457, 459, 461, 463, 465, 467, 469, 471, 473, 475, 477, 479, 481, 483, 485, 487, 489, 491, 493, 495, 497, 499, 501, 503, 505, 507, 509, 511

Vulnerability Gather data sampling: Not affected  
Vulnerability Indirect target selection: Not affected  
Vulnerability Itlb multihit: Not affected  
Vulnerability L1tf: Not affected  
Vulnerability Mds: Not affected  
Vulnerability Meltdown: Not affected  
Vulnerability Mmio stale data: Not affected  
Vulnerability Reg file data sampling: Not affected  
Vulnerability Retbleed: Not affected  
Vulnerability Spec rstack overflow: Not affected  
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl  
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and \_\_user pointer sanitization  
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; PBRSE-eIBRS Not affected; BHI BHI\_DIS\_S  
Vulnerability Srbds: Not affected  
Vulnerability Tsa: 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      | 12M      | 12   | Data        | 1     | 64     | 1        | 64             |
| L1i  | 64K      | 16M      | 16   | Instruction | 1     | 64     | 1        | 64             |
| L2   | 2M       | 512M     | 16   | Unified     | 2     | 2048   | 1        | 64             |
| L3   | 504M     | 1008M    | 16   | Unified     | 3     | 516096 | 1        | 64             |

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

available: 6 nodes (0-5)

node 0 cpus:

0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340

node 0 size: 257584 MB

node 0 free: 244070 MB

node 1 cpus:

86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

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Dell Inc.

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PowerEdge R770AP (Intel Xeon 6980P)

SPECspeed®2017\_int\_peak = 14.4

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2025

Hardware Availability: Dec-2025

Software Availability: Sep-2025

## Platform Notes (Continued)

2, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426  
node 1 size: 257975 MB  
node 1 free: 257657 MB  
node 2 cpus:  
172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510  
node 2 size: 258017 MB  
node 2 free: 257707 MB  
node 3 cpus:  
1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 257, 259, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341  
node 3 size: 258016 MB  
node 3 free: 257708 MB  
node 4 cpus:  
87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 403, 405, 407, 409, 411, 413, 415, 417, 419, 421, 423, 425, 427  
node 4 size: 258016 MB  
node 4 free: 257699 MB  
node 5 cpus:  
173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237, 239, 241, 243, 245, 247, 249, 251, 253, 255, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, 451, 453, 455, 457, 459, 461, 463, 465, 467, 469, 471, 473, 475, 477, 479, 481, 483, 485, 487, 489, 491, 493, 495, 497, 499, 501, 503, 505, 507, 509, 511  
node 5 size: 257866 MB  
node 5 free: 257575 MB  
node distances:  
node    0    1    2    3    4    5  
0:    10   15   17   21   28   26  
1:    15   10   15   23   26   23  
2:    17   15   10   26   23   21  
3:    21   28   26   10   15   17  
4:    23   26   23   15   10   15  
5:    26   23   21   17   15   10

9. /proc/meminfo  
MemTotal: 1584614992 kB

'who -r' did not return a run level

10. Systemd service manager version: systemd 257 (257.7+suse.19.ga0dfd5de4c)  
Default Target Status  
multi-user running

11. Services, from systemctl list-unit-files  
STATE UNIT FILES  
enabled NetworkManager NetworkManager-dispatcher NetworkManager-wait-online audit-rules auditd  
chronyd dbus-broker firewallld getty@ irqbalance issue-generator kbdsettings klog  
lvm2-monitor nvme-fc-boot-connections nvme-autoconnect rollback rsyslog smartd  
soft-reboot-cleanup sshd systemd-pstore wpa\_supplicant wtmpdb-update-boot  
enabled-runtime systemd-remount-fs

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

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PowerEdge R770AP (Intel Xeon 6980P)

SPECspeed®2017\_int\_peak = 14.4

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2025

Hardware Availability: Dec-2025

Software Availability: Sep-2025

## Platform Notes (Continued)

disabled blk-availability boot-sysctl ca-certificates ca-certificates-setup chrony-wait  
console-getty debug-shell dnsmasq gpm grub2-once hwloc-dump-hwdata issue-add-ssh-keys  
kea-ctrl-agent kea-dhcp-ddns kea-dhcp4 kea-dhcp6 kernel-sysctl kexec-load lastlog2-import  
lunmask lvm-devices-import man-db-create multipathd named nftables nis-domainname  
rpmconfigcheck rsyncd serial-getty@ setup-systemd-proxy-env smartd\_generate\_opts snmpd  
snmptrapd systemd-boot-check-no-failures systemd-confext systemd-network-generator  
systemd-sysextd systemd-time-wait-sync systemd-timesyncd systemd-udev-load-credentials  
udisks2 wpa\_supplicant@  
indirect systemd-userdbd

-----  
12. Linux kernel boot-time arguments, from /proc/cmdline  
BOOT\_IMAGE=/boot/vmlinuz-6.12.0-160000.5-default  
root=UUID=38d2445f-8102-410c-a807-c44ce3225f10  
mitigations=auto  
quiet  
security=selinux  
selinux=1  
-----

-----  
13. cpupower frequency-info  
analyzing CPU 0:  
Unable to determine current policy  
boost state support:  
Supported: yes  
Active: yes  
-----

-----  
14. 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 20  
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  
-----

-----  
15. /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  
-----

-----  
16. /sys/kernel/mm/transparent\_hugepage/khugepaged  
alloc\_sleep\_millisecs 60000  
defrag 1  
-----

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## Platform Notes (Continued)

max\_ptes\_none 511  
max\_ptes\_shared 256  
max\_ptes\_swap 64  
pages\_to\_scan 4096  
scan\_sleep\_millisecs 10000

### 17. OS release

From /etc/\*-release /etc/\*-version  
os-release SUSE Linux Enterprise Server 16.0

### 18. Disk information

SPEC is set to: /mnt/ramdisk/cpu2017-1.1.9-ic2025.2  
Filesystem Type Size Used Avail Use% Mounted on  
tmpfs tmpfs 240G 5.8G 235G 3% /mnt/ramdisk

### 19. /sys/devices/virtual/dmi/id

Vendor: Dell Inc.  
Product: PowerEdge R770AP  
Product Family: PowerEdge  
Serial: R7702AP

### 20. dmidecode

Additional information from dmidecode 3.6 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 002C069D002C MTC40F2046S1RC64BD2 QSFF 64 GB 2 rank 6400

### 21. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor: Dell Inc.  
BIOS Version: 1.1.5  
BIOS Date: 10/22/2025  
BIOS Revision: 1.1

## Compiler Version Notes

C | 600.perlbench\_s(base, peak) 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 2025.2.0 Build 20250605  
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C++ | 620.omnetpp\_s(base, peak) 623.xalancbmk\_s(base, peak) 631.deepsjeng\_s(base, peak)  
| 641.leela\_s(base, peak)

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# SPEC CPU®2017 Integer Speed Result

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SPECspeed®2017\_int\_peak = 14.4

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2025

Hardware Availability: Dec-2025

Software Availability: Sep-2025

## Compiler Version Notes (Continued)

=====

Fortran | 648.exchange2\_s(base, peak)

-----

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605  
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-----

## Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

## 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:

-w -std=c11 -m64 -Wl,-z,muldefs -xgraniterapids -O3 -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp  
-DSPEC\_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

C++ benchmarks:

-w -std=c++14 -m64 -Wl,-z,muldefs -xgraniterapids -O3 -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-fdelayed-template-parsing -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

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SPECspeed®2017\_int\_peak = 14.4

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2025

Hardware Availability: Dec-2025

Software Availability: Sep-2025

## Base Optimization Flags (Continued)

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xgraniterapids -O3 -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-nostandard-realloc-lhs -align array32byte  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

## Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
600.perlbench_s: -w -m64 -std=c11 -Wl,-z,muldefs  
-fprofile-generate(pass 1)  
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)  
-flto -Ofast(pass 1) -xCORE-AVX512 -O3 -ffast-math  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-fiopenmp -DSPEC_OPENMP -fno-strict-overflow  
-fno-strict-aliasing -L/usr/local/jemalloc64-5.0.1/lib  
-ljemalloc
```

```
602.gcc_s: -w -m64 -std=c11 -Wl,-z,muldefs  
-fprofile-generate(pass 1)  
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)  
-flto -Ofast(pass 1) -xCORE-AVX512 -O3 -ffast-math
```

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# SPEC CPU®2017 Integer Speed Result

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CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2025

Hardware Availability: Dec-2025

Software Availability: Sep-2025

## Peak Optimization Flags (Continued)

602.gcc\_s (continued):

-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-fiopenmp -DSPEC\_OPENMP -L/usr/local/jemalloc64-5.0.1/lib  
-ljemalloc

605.mcf\_s: basepeak = yes

625.x264\_s: -w -std=c11 -m64 -Wl,-z,muldefs -xgraniterapids -O3  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC\_OPENMP  
-fno-alias -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

641.leela\_s: basepeak = yes

Fortran benchmarks:

648.exchange2\_s: basepeak = yes

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

<http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.18.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.18.xml>

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