



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

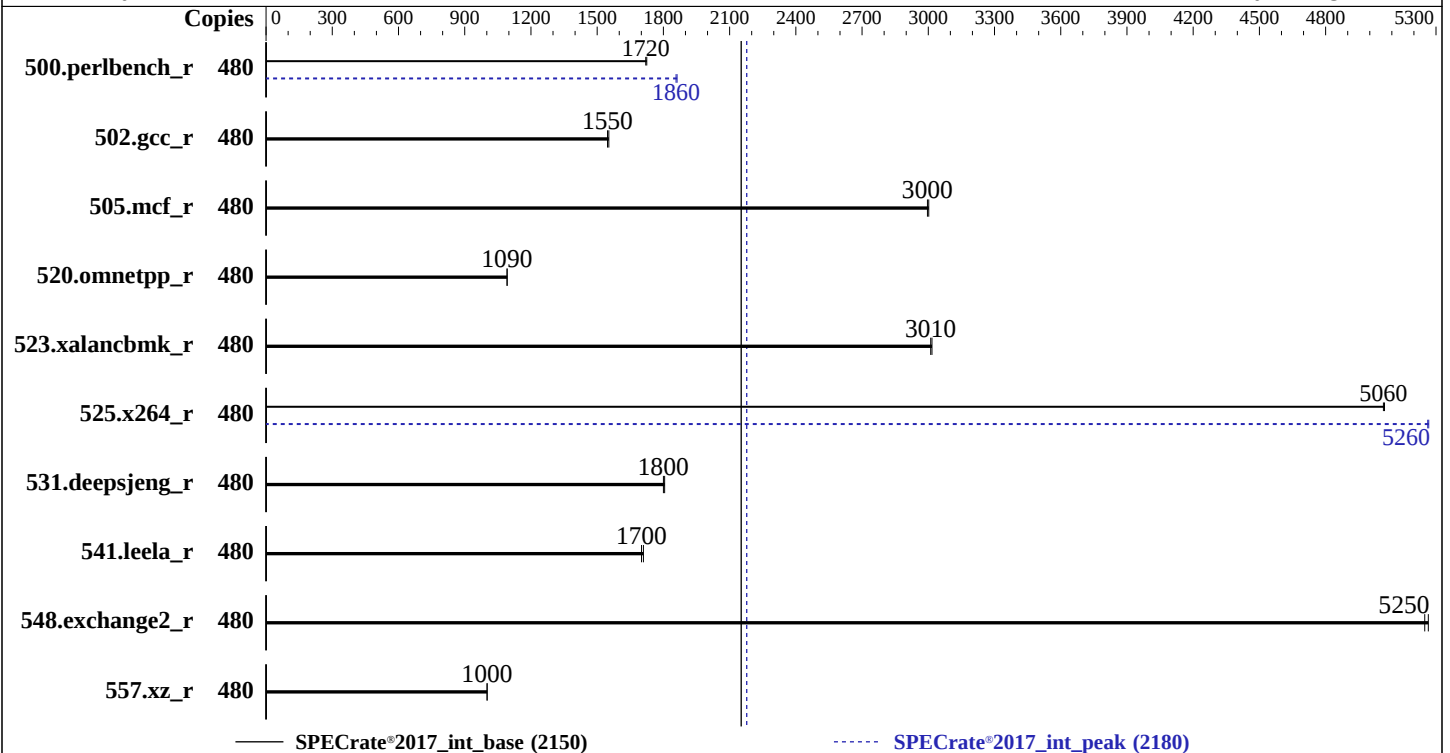
Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025



Hardware

CPU Name: Intel Xeon 6978P
Max MHz: 3900
Nominal: 2100
Enabled: 240 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: 230 GB on tmpfs
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 16.0
6.12.0-160000.20-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: No
Firmware: Version 1.1.6 released Nov-2025
File System: tmpfs
System State: Run level 5 (graphical multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: None
Power Management: BIOS set to prefer performance at the cost of
additional power usage.



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	480	443	1720	444	1720			480	410	1860	411	1860		
502.gcc_r	480	439	1550	438	1550			480	439	1550	438	1550		
505.mcf_r	480	259	3000	258	3000			480	259	3000	258	3000		
520.omnetpp_r	480	577	1090	577	1090			480	577	1090	577	1090		
523.xalancbmk_r	480	168	3010	168	3020			480	168	3010	168	3020		
525.x264_r	480	166	5060	166	5070			480	160	5270	160	5260		
531.deepsjeng_r	480	306	1800	305	1810			480	306	1800	305	1810		
541.leela_r	480	465	1710	467	1700			480	465	1710	467	1700		
548.exchange2_r	480	239	5270	240	5250			480	239	5270	240	5250		
557.xz_r	480	518	1000	518	1000			480	518	1000	518	1000		

SPECrate®2017_int_base = 2150

SPECrate®2017_int_peak = 2180

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 =

"/mnt/ramdisk/cpu2017-1.1.9-ic2025.2/lib/intel64:/mnt/ramdisk/cpu2017-1.1.9-ic2025.2/lib/ia32:/mnt/ramdisk/cpu2017-1.1.9-ic2025.2/je5.0.1-32"

MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
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>

Benchmark run from a 230 GB ramdisk created with the cmd: "mount -t tmpfs -o size=230G tmpfs /mnt/ramdisk"



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Platform Notes

BIOS Settings:

Sub NUMA Cluster : Enabled
SST-Performance Profile : Operating Point 2 | P1: 2.5 GHz, TDP:500w, Core Count:120

System Profile : Custom
CPU Power Management : Maximum Performance
C-States : Autonomous
Latency Optimized Mode : Enabled
Energy Efficient Policy : Performance

Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-ic2025.2/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on NDN1035-R770AP Fri Nov 21 05:11:01 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 NDN1035-R770AP 6.12.0-160000.20-default #1 SMP PREEMPT_DYNAMIC Mon Jul 21 10:20:07 UTC 2025 (b00eabe)
x86_64 x86_64 x86_64 GNU/Linux

2. w
05:11:01 up 1:05, 1 user, load average: 0.38, 0.15, 0.12
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 04:06 2.00s 0.99s 0.01s /bin/bash
/home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=6.4_T17 --output_format html,pdf,txt

3. Username
From environment variable \$USER: root

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Platform Notes (Continued)

```
4. ulimit -a
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) 6189327
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) 6189327
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_rate.sh
/bin/bash /home/DellFiles/bin/dell-run-main.sh rate
/bin/bash /home/DellFiles/bin/dell-run-main.sh rate
/bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=6.4_T17 --output_format
html, pdf, txt
/bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=6.4_T17 --output_format
html, pdf, txt
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=480 -c
ic2025.2-linux64-graniterapids-rate-20250605.cfg --define smt-on --define cores=240 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak -o all --iterations 2 --define
DL-VERS=6.4_T17 --output_format html, pdf, txt intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=480 --configfile
ic2025.2-linux64-graniterapids-rate-20250605.cfg --define smt-on --define cores=240 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --iterations 2
--define DL-VERS=6.4_T17 --output_format html, pdf, txt --nopower --runmode rate --tune base:peak --size
refrate intrate --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.001/templots/preenv.intrate.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) 6978P
vendor_id       : GenuineIntel
cpu family      : 6
model           : 173
stepping        : 1
microcode       : 0x10003f3
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi spectre_v2_user
cpu cores       : 120
siblings        : 240
2 physical ids (chips)
480 processors (hardware threads)
physical id 0:  core ids 0-39,64-103,128-167
physical id 1:  core ids 0-39,64-103,128-167
physical id 0:  apicids 0-79,128-207,256-335
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Platform Notes (Continued)

physical id 1: apicids 512-591,640-719,768-847

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

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):                480
On-line CPU(s) list:   0-479
Vendor ID:             GenuineIntel
Model name:            Intel(R) Xeon(R) 6978P
CPU family:            6
Model:                 173
Thread(s) per core:    2
Core(s) per socket:    120
Socket(s):             2
Stepping:              1
BogoMIPS:              5000.00
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 tsc_known_freq pni
                        pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma
                        cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt
                        tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm
                        3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin
                        cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow
                        flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep
                        bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
                        avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw
                        avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc
                        cqm_mbm_total cqm_mbm_local split_lock_detect user_shstk avx_vnni
                        avx512_bf16 wbnoinvd dtherm ida arat pln pts hfi vnni avx512vbmi
                        umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq
                        avx512_vnni avx512_bitalg avx512_vpopcntdq la57 rdpid
                        bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear
                        serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16
                        amx_tile amx_int8 flush_l1d arch_capabilities
Virtualization:        VT-x
L1d cache:             11.3 MiB (240 instances)
L1i cache:             15 MiB (240 instances)
L2 cache:              480 MiB (240 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, 240, 242, 244, 246, 2
                        48, 250, 252, 254, 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, 3
                        14, 316, 318
NUMA node1 CPU(s):     80, 82, 84, 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, 15
                        0, 152, 154, 156, 158, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342,
                        344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 37
                        6, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398
NUMA node2 CPU(s):     160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 19
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Platform Notes (Continued)

NUMA node3 CPU(s): 2, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 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
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, 241, 243, 245, 247, 249, 251, 253, 255, 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
NUMA node4 CPU(s): 81, 83, 85, 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, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341, 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
NUMA node5 CPU(s): 161, 163, 165, 167, 169, 171, 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, 401, 403, 405, 407, 409, 411, 413, 415, 417, 419, 421, 423, 425, 427, 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
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/swaps 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	11.3M	12	Data	1	64	1	64
L1i	64K	15M	16	Instruction	1	64	1	64
L2	2M	480M	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, 240, 242, 244, 246, 248, 250, 252, 254, 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

node 0 size: 257586 MB

node 0 free: 244084 MB

node 1 cpus:

80, 82, 84, 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, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 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

node 1 size: 258018 MB

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Platform Notes (Continued)

```
node 1 free: 257640 MB
node 2 cpus:
160,162,164,166,168,170,172,174,176,178,180,182,184,186,188,190,192,194,196,198,200,202,204,206,208,210,212
,214,216,218,220,222,224,226,228,230,232,234,236,238,400,402,404,406,408,410,412,414,416,418,420,422,424,42
6,428,430,432,434,436,438,440,442,444,446,448,450,452,454,456,458,460,462,464,466,468,470,472,474,476,478
node 2 size: 257977 MB
node 2 free: 257583 MB
node 3 cpus:
1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59,61,63,65,67,69,71,73,7
5,77,79,241,243,245,247,249,251,253,255,257,259,261,263,265,267,269,271,273,275,277,279,281,283,285,287,289
,291,293,295,297,299,301,303,305,307,309,311,313,315,317,319
node 3 size: 258018 MB
node 3 free: 257656 MB
node 4 cpus:
81,83,85,87,89,91,93,95,97,99,101,103,105,107,109,111,113,115,117,119,121,123,125,127,129,131,133,135,137,1
39,141,143,145,147,149,151,153,155,157,159,321,323,325,327,329,331,333,335,337,339,341,343,345,347,349,351,
353,355,357,359,361,363,365,367,369,371,373,375,377,379,381,383,385,387,389,391,393,395,397,399
node 4 size: 258018 MB
node 4 free: 257647 MB
node 5 cpus:
161,163,165,167,169,171,173,175,177,179,181,183,185,187,189,191,193,195,197,199,201,203,205,207,209,211,213
,215,217,219,221,223,225,227,229,231,233,235,237,239,401,403,405,407,409,411,413,415,417,419,421,423,425,42
7,429,431,433,435,437,439,441,443,445,447,449,451,453,455,457,459,461,463,465,467,469,471,473,475,477,479
node 5 size: 257939 MB
node 5 free: 257578 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:      1584700828 kB
```

'who -r' did not return a run level

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

```
-----
11. Services, from systemctl list-unit-files
STATE          UNIT FILES
enabled        NetworkManager NetworkManager-dispatcher NetworkManager-wait-online audit-rules auditd
               chronyd dbus-broker firewalld getty@ irqbalance issue-generator kbdsettings klog
               lvm2-monitor nvme-fc-boot-connections nvme-fc-autoconnect rollback rsyslog smartd
               soft-reboot-cleanup systemd-pstore wpa_supplicant wtmpdb-update-boot
enabled-runtime systemd-remount-fs
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
               kernel-sysctl kexec-load lastlog2-import lunmask lvm-devices-import man-db-create
               multipathd nftables nis-domainname rpmconfigcheck rsyncd serial-getty@
               setup-systemd-proxy-env smartd_generate_opts snmpd snmptrapd sshd
               systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-sysext
               systemd-time-wait-sync systemd-timesyncd systemd-udev-load-credentials udisks2
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Platform Notes (Continued)

indirect wpa_supplicant@
systemd-userdbd

12. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.12.0-160000.20-default
root=UUID=e849977e-7169-4917-b3d0-cfe8c813bf4d
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
max_ptes_none 511
max_ptes_shared 256
max_ptes_swap 64
pages_to_scan 4096
scan_sleep_millisecs 10000

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Platform Notes (Continued)

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 230G 5.8G 225G 3% /mnt/ramdisk

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

Vendor: Dell Inc.
Product: PowerEdge R770AP
Product Family: PowerEdge
Serial: NDN1035

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:
13x 002C069D002C MTC40F2046S1RC64BD1 USFF 64 GB 2 rank 6400
11x 00AD063200AD HMC94AHBRA277N 64 GB 2 rank 6400

21. BIOS

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

BIOS Vendor: Dell Inc.
BIOS Version: 1.1.6
BIOS Date: 11/06/2025
BIOS Revision: 1.1

Compiler Version Notes

```
=====  
C      | 500.perlbench_r(base, peak) 502.gcc_r(base, peak) 505.mcf_r(base, peak) 525.x264_r(base, peak)  
      | 557.xz_r(base, peak)  
=====
```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.

```
=====  
Fortran | 548.exchange2_r(base, peak)  
=====
```

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Compiler Version Notes (Continued)

Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

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 -xgraniterapids -O3 -ffast-math

-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

-L/home/specdev/intel-compilers/compiler/2025.2/lib -lqkmallo

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/home/specdev/intel-compilers/compiler/2025.2/lib -lqkmallo

Fortran benchmarks:

-w -m64 -Wl,-z,muldefs -xgraniterapids -O3 -ffast-math -flto

-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

-nostandard-realloc-lhs -align array32byte -auto
-L/home/specdev/intel-compilers/compiler/2025.2/lib -lqkmallo

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:

500.perlbench_r: -w -std=c11 -m64 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-fno-strict-overflow -fno-strict-aliasing
-L/home/specdev/intel-compilers/compiler/2025.2/lib
-lqkmallo

502.gcc_r: basepeak = yes

505.mcf_r: basepeak = yes

525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xgraniterapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/home/specdev/intel-compilers/compiler/2025.2/lib

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_int_base = 2150

PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2025

Hardware Availability: Nov-2025

Software Availability: Aug-2025

Peak Optimization Flags (Continued)

525.x264_r (continued):

-lqkmalloc

557.xz_r: basepeak = yes

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalancbmk_r: basepeak = yes

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes

Fortran benchmarks:

548.exchange2_r: basepeak = yes

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

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

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.18b2.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-v1.18b2.xml>

SPEC CPU and SPECrate are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU®2017 v1.1.9 on 2025-11-20 23:11:00-0500.

Report generated on 2025-12-16 21:35:55 by CPU2017 PDF formatter v6716.

Originally published on 2025-12-16.