SPEC CPU®2026 Floating Point Rate Result

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Dell Inc.

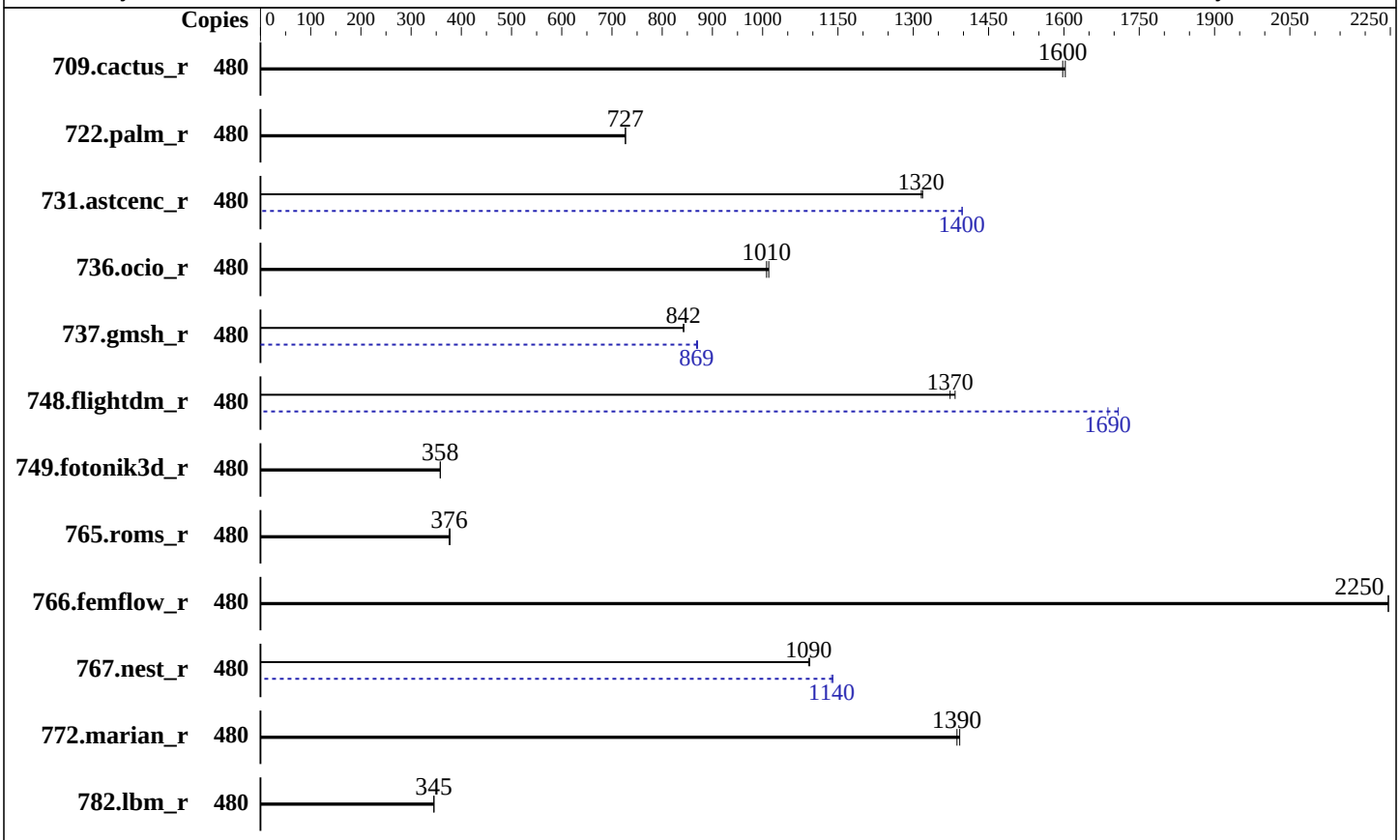
PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2026_fp_base = 900

SPECrate®2026_fp_peak = 925

CPU2026 License: 6573
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

Test Date: Feb-2026
Hardware Availability: Dec-2025
Software Availability: Nov-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:	240 GB on tmpfs
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 16.0 6.12.0-160000.5-default
Compiler:	C/C++: Version 2025.3 of Intel oneAPI DPC++/C++ Compiler for Linux; Fortran: Version 2025.3 of Intel Fortran Compiler for Linux
Compiler Category:	Vendor
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:	jemalloc memory allocator v5.3
Power Management:	BIOS set to prefer performance at the cost of additional power usage.

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
709.cactus_r	480	**258**	**1600**	257	1600			480	**258**	**1600**	257	1600		
722.palm_r	480	871	727	**872**	**727**			480	871	727	**872**	**727**		
731.astcenc_r	480	**306**	**1320**	306	1320			480	**289**	**1400**	288	1400		
736.ocio_r	480	415	1010	**417**	**1010**			480	415	1010	**417**	**1010**		
737.gmsh_r	480	**262**	**842**	261	843			480	**254**	**869**	253	870		
748.flightdm_r	480	248	1380	**250**	**1370**			480	**204**	**1690**	201	1710		
749.fotonik3d_r	480	**1550**	**358**	1550	358			480	**1550**	**358**	1550	358		
765.roms_r	480	**2011**	**376**	2002	378			480	**2011**	**376**	2002	378		
766.femflow_r	480	313	2250	**314**	**2250**			480	313	2250	**314**	**2250**		
767.nest_r	480	**349**	**1090**	348	1090			480	**335**	**1140**	334	1140		
772.marian_r	480	**546**	**1390**	544	1390			480	**546**	**1390**	544	1390		
782.lbm_r	480	**796**	**345**	796	346			480	**796**	**345**	796	346		

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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/cpu2026rc2/lib"
MALLOC_CONF = "retain:true"
```

General Notes

```
Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using CentOS Stream 9.
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
```

(Continued on next page)

General Notes (Continued)

```
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
jemalloc, a general purpose malloc implementation
built with the CentOS Stream 9, and the system compiler gcc 11.5.0
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

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

Sysinfo program /mnt/ramdisk/cpu2026rc2/bin/sysinfo
Rev: 069f95da7e7f5d81b2ce48a82150e54f
running on R7701AP-R770AP Thu Feb  5 16:41:32 2026

SUT (System Under Test) info as seen by some common utilities.

------------------------------------------------------------
Table of contents
------------------------------------------------------------
 1. uname -srvm
 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
```

(Continued on next page)

Platform Notes (Continued)

```
19. /sys/devices/virtual/dmi/id
20. dmidecode
21. BIOS
------------------------------------------------------------

------------------------------------------------------------
1. uname -srvm
  Linux 6.12.0-160000.5-default #1 SMP PREEMPT_DYNAMIC Wed Sep 10 15:26:25 UTC 2025 (3545bbd) x86_64

------------------------------------------------------------
2. w
   16:41:32 up  5:06,  1 user,  load average: 186.84, 391.74, 433.35
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  root     tty1     -                11:37    5:02m  1.44s   ?    /bin/bash
  /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=7.0_T01 --output_format html,pdf,txt

------------------------------------------------------------
3. Username
  From environment variable $USER:  root

------------------------------------------------------------
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
```

(Continued on next page)

Platform Notes (Continued)

```
 /bin/bash /home/DellFiles/bin/dell-run-main.sh rate
/bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=7.0_T01 --output_format
   html,pdf,txt
/bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=7.0_T01 --output_format
   html,pdf,txt
runcpu --nobuild --reportable --action validate --define default-platform-flags --copies 480 -c
  ic2025.3-graniterapids-cpu2026-0.902-rate-20260121.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=7.0_T01 --output_format html,pdf,txt fprate
runcpu --nobuild --reportable --action validate --define default-platform-flags --copies 480 --configfile
  ic2025.3-graniterapids-cpu2026-0.902-rate-20260121.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=7.0_T01 --output_format html,pdf,txt --nopower --runmode rate --tune
   base:peak --size refrate fprate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2026.002/templogs/preenv.fprate.002.0.log --lognum 002.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2026rc2

------------------------------------------------------------
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
    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
```

(Continued on next page)

Platform Notes (Continued)

```
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:                             4200.00
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 vnmi 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
```

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Platform Notes (Continued)

```
                                  2,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222,224,
                                  226,228,230,232,234,236,238,400,402,404,406,408,410,412,414,416,41
                                  8,420,422,424,426,428,430,432,434,436,438,440,442,444,446,448,450,
                                  452,454,456,458,460,462,464,466,468,470,472,474,476,478
  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
                                  ,49,51,53,55,57,59,61,63,65,67,69,71,73,75,77,79,241,243,245,247,2
                                  49,251,253,255,257,259,261,263,265,267,269,271,273,275,277,279,281
                                  ,283,285,287,289,291,293,295,297,299,301,303,305,307,309,311,313,3
                                  15,317,319
  NUMA node4 CPU(s):              81,83,85,87,89,91,93,95,97,99,101,103,105,107,109,111,113,115,117,
                                  119,121,123,125,127,129,131,133,135,137,139,141,143,145,147,149,15
                                  1,153,155,157,159,321,323,325,327,329,331,333,335,337,339,341,343,
                                  345,347,349,351,353,355,357,359,361,363,365,367,369,371,373,375,37
                                  7,379,381,383,385,387,389,391,393,395,397,399
  NUMA node5 CPU(s):              161,163,165,167,169,171,173,175,177,179,181,183,185,187,189,191,19
                                  3,195,197,199,201,203,205,207,209,211,213,215,217,219,221,223,225,
                                  227,229,231,233,235,237,239,401,403,405,407,409,411,413,415,417,41
                                  9,421,423,425,427,429,431,433,435,437,439,441,443,445,447,449,451,
                                  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/swapgs barriers and __user pointer
                                            sanitization
   Vulnerability Spectre v2:                Mitigation; Enhanced / Automatic IBRS; IBPB conditional;
                                            PBRSB-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
```

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Platform Notes (Continued)

```
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 6 nodes (0-5)
  node 0 cpus:
0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,7
4,76,78,240,242,244,246,248,250,252,254,256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286,288
 ,290,292,294,296,298,300,302,304,306,308,310,312,314,316,318
  node 0 size: 257586 MB
  node 0 free: 227975 MB
  node 1 cpus:
80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,132,134,136,1
38,140,142,144,146,148,150,152,154,156,158,320,322,324,326,328,330,332,334,336,338,340,342,344,346,348,350,
 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
  node 1 free: 255356 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: 258018 MB
  node 2 free: 255423 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: 255485 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: 257977 MB
  node 4 free: 254894 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: 255166 MB
  node distances:
  node     0    1    2    3    4    5
     0:   10   15   17   29   29   29
     1:   15   10   15   29   29   29
     2:   17   15   10   29   29   29
     3:   29   29   29   10   15   17
     4:   29   29   29   15   10   15
     5:   29   29   29   17   15   10
```

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Platform Notes (Continued)

```
------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1584700804 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 nvmefc-boot-connections nvmf-autoconnect rollback rsyslog smartd
                   soft-reboot-cleanup sshd 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
                   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-sysext 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=187f5822-5433-42e1-bee8-2e104457c7c5
  mitigations=auto
  quiet
  security=selinux
  selinux=1

------------------------------------------------------------
13. cpupower frequency-info
  analyzing CPU 378:
    Unable to determine current policy
    boost state support:
      Supported: yes
      Active: yes

------------------------------------------------------------
```

(Continued on next page)

Platform Notes (Continued)

```
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+madvise [madvise] never
  enabled         [always] madvise 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

------------------------------------------------------------
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/cpu2026rc2
  Filesystem     Type   Size  Used Avail Use% Mounted on
```

(Continued on next page)

Platform Notes (Continued)

```
   tmpfs           tmpfs  240G   13G  228G   6% /mnt/ramdisk

 ------------------------------------------------------------
 19. /sys/devices/virtual/dmi/id
     Vendor:         Dell Inc.
     Product:        PowerEdge R770AP
     Product Family: PowerEdge
     Serial:         R7701AP

 ------------------------------------------------------------
 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 00CE063200CE M321R8GA0PB1-CCPQC 64 GB 2 rank 6400
      11x 00CE063200CE M321R8GA0PB2-CCPKC 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       | 782.lbm_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2025.3.0 Build 20251010
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++     | 731.astcenc_r(base, peak) 736.ocio_r(base, peak)
        | 748.flightdm_r(base, peak) 766.femflow_r(base, peak)
        | 767.nest_r(base, peak) 772.marian_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2025.3.0 Build 20251010
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
```

(Continued on next page)

Compiler Version Notes (Continued)

```
------------------------------------------------------------------------------

==============================================================================
C++, C  | 709.cactus_r(base, peak) 737.gmsh_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2025.3.0 Build 20251010
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
Fortran | 722.palm_r(base, peak) 749.fotonik3d_r(base, peak) 765.roms_r(base,
        | peak)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version
  2025.3.0 Build 20251010
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

Benchmarks using both C and C++:
icpx icx

Base Portability Flags

709.cactus_r: -DSPEC_LP64
722.palm_r: -DSPEC_LP64
731.astcenc_r: -DSPEC_LP64
736.ocio_r: -DSPEC_LP64
737.gmsh_r: -DSPEC_LP64 -fno-associative-math
748.flightdm_r: -DSPEC_LP64
749.fotonik3d_r: -DSPEC_LP64
765.roms_r: -DSPEC_LP64

(Continued on next page)

Base Portability Flags (Continued)

766.femflow_r: `-DSPEC_LP64`
767.nest_r: `-DSPEC_LP64`
772.marian_r: `-DSPEC_LP64`
782.lbm_r: `-DSPEC_LP64`

Base Optimization Flags

C benchmarks:
`-m64 -std=c18 -Wl,-z,muldefs -xgraniterapids -mprefer-vector-width=512 -O3 -ffp-model=fast -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

C++ benchmarks:
`-m64 -std=c++17 -Wl,-z,muldefs -xgraniterapids -mprefer-vector-width=512 -O3 -ffp-model=fast -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

Fortran benchmarks:
`-m64 -stand f18 -Wl,-z,muldefs -xgraniterapids -mprefer-vector-width=512 -O3 -ffp-model=fast -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte -auto -L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

Benchmarks using both C and C++:
`-m64 -std=c++17 -std=c18 -Wl,-z,muldefs -xgraniterapids -mprefer-vector-width=512 -O3 -ffp-model=fast -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

Peak Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

(Continued on next page)

Peak Compiler Invocation (Continued)

Benchmarks using both C and C++:
icpx icx

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

782.lbm_r: basepeak = yes

C++ benchmarks:

731.astcenc_r: -m64 -std=c++17 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xHost(pass 1)
-ffp-model=fast -xgraniterapids(pass 2) -flto
-mprefer-vector-width=512 -qopt-mem-layout-trans=4 -O3
-mfpmath=sse -funroll-loops
-L/usr/local/jemalloc-5.3.0/lib -ljemalloc

736.ocio_r: basepeak = yes

748.flightdm_r: Same as 731.astcenc_r

766.femflow_r: basepeak = yes

767.nest_r: Same as 731.astcenc_r

772.marian_r: basepeak = yes

Fortran benchmarks:

722.palm_r: basepeak = yes

749.fotonik3d_r: basepeak = yes

765.roms_r: basepeak = yes

Benchmarks using both C and C++:

(Continued on next page)

Peak Optimization Flags (Continued)

709.cactus_r: `basepeak = yes`

737.gmsh_r: `-m64 -std=c++17 -std=c18 -Wl,-z,muldefs`
`-fprofile-generate`(pass 1)
`-fprofile-use=default.profdata`(pass 2) `-xHost`(pass 1)
`-ffp-model=fast -xgraniterapids`(pass 2) `-flto`
`-mprefer-vector-width=512 -qopt-mem-layout-trans=4 -O3`
`-mfpmath=sse -funroll-loops`
`-L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2026/results/flags/Intel-ic2025-official-linux64-cpu2026-0.902.html`
`http://www.spec.org/cpu2026/results/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.19.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2026/results/flags/Intel-ic2025-official-linux64-cpu2026-0.902.xml`
`http://www.spec.org/cpu2026/results/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.19.xml`

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