SPEC CPU®2026 Floating Point Rate Result

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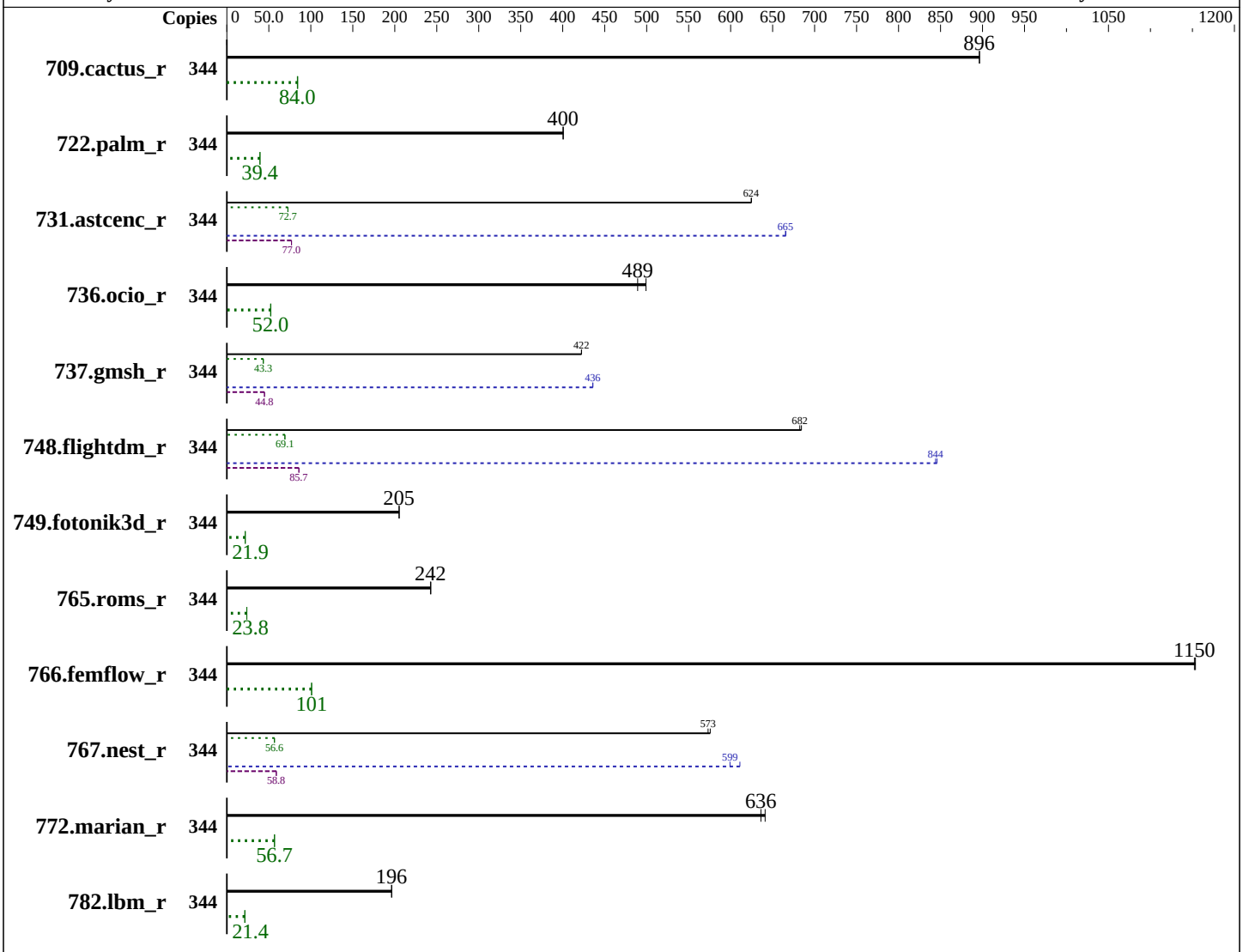
Dell Inc.

PowerEdge R770 (Intel Xeon 6787P)

SPECrate®2026_fp_base =	474
SPECrate®2026_fp_energy_base =	47.6
SPECrate®2026_fp_peak =	488
SPECrate®2026_fp_energy_peak =	49.0

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

Test Date: Feb-2026
Hardware Availability: Mar-2025
Software Availability: Nov-2025



Hardware

CPU Name: Intel Xeon 6787P
Max MHz: 3800
Nominal: 2000
Enabled: 172 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: 336 MB I+D on chip per chip

(Continued on next page)

Software

OS: SUSE Linux Enterprise Server 15 SP6
6.4.0-150600.21-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 1.6.4 released Nov-2025

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Hardware (Continued)

Other: None
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-6400B-R, running at 5200)
Storage: 190 GB on tmpfs
Cooling: Air
Other: CPU Cooling : Air

Software (Continued)

File System: tmpfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: jemalloc memory allocator v5.3
Power Management: BIOS and OS set to balanced performance

Power

Max. Power (W): 1065.2
Idle Power (W): 217.13
Min. Temperature (C): 22.31
Elevation (m): 255
Line Standard: 220 V / 50 Hz / 1 phase / 3 wires
Provisioning: Line-powered

Power Settings

Management FW: Version 1.20.80.50 of IDRAC
Memory Mode: Normal

Power-Relevant Hardware

Power Supply: 1 x 1500 W (non-redundant)
Details: 1500W Titanium Power supply DPN 1PKMH
Backplane: 8 x EDSFF E3.S NVMe
Other Storage: 1 x NVMe E3 Drive
Storage Model #s: NVMe PM1745 MU E3.S 3.2TB
NICs Installed: 1 x Intel E610-XT2 @ 10 Gbps (Dell P/N FC0HK)
NICs Enabled (FW/OS): 2 / 1
NICs Connected/Speed: 1 @ 10 Gb
Other HW Model #s: 6 x performance fans

Power Analyzer

Power Analyzer: 192.168.0.5:8888
Hardware Vendor: Yokogawa Meters and Instruments Corporation
Model: YokogawaWT310E
Serial Number: T11733386
Input Connection: Default
Metrology Institute: Tescom
Calibration By: NIST
Calibration Label: T126623
Calibration Date: 13-Aug-2025
PTDaemon® Version: 1.11.4 (5bcc369b; 2026-01-19)
Setup Description: Connected to PSU1
Current Ranges Used: 10A
Voltage Range Used: 300V

Temperature Meter

Temperature Meter: 192.168.0.5:8889
Hardware Vendor: Digi International Inc.
Model: DigiWATCHPORT_H
Serial Number: W13370940
Input Connection: USB
PTDaemon Version: 1.11.4 (5bcc369b; 2026-01-19)
Setup Description: 25 mm in front of SUT main airflow intake

Base Results Table

Benchmark	Copies	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power
709.cactus_r	344	329	897	297	84.5	902	983	**329**	**896**	**299**	**84.0**	**907**	**983**						
722.palm_r	344	1133	401	977	39.4	863	930	**1134**	**400**	**977**	**39.4**	**862**	**924**						
731.astcenc_r	344	**463**	**624**	**331**	**72.7**	**716**	**756**	462	625	331	72.7	717	758						

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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Hardware Availability: Mar-2025
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Base Results Table (Continued)

Benchmark	Copies	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power
736.ocio_r	344	603	499	481	52.4	797	875	**615**	**489**	**484**	**52.0**	**787**	**878**						
737.gmsh_r	344	**374**	**422**	**305**	**43.3**	**817**	**889**	374	422	304	43.5	814	884						
748.flightdm_r	344	360	684	299	69.2	831	855	**361**	**682**	**299**	**69.1**	**830**	**856**						
749.fotonik3d_r	344	1936	205	1550	21.9	799	817	**1940**	**205**	**1550**	**21.9**	**800**	**1010**						
765.roms_r	344	**2234**	**242**	**1990**	**23.8**	**891**	**909**	2229	243	1990	23.8	892	1070						
766.femflow_r	344	437	1150	424	101	968	1000	**438**	**1150**	**423**	**101**	**967**	**1000**						
767.nest_r	344	474	576	401	56.7	845	913	**476**	**573**	**401**	**56.6**	**843**	**913**						
772.marian_r	344	**854**	**636**	**805**	**56.7**	**943**	**1000**	847	641	803	56.8	947	998						
782.lbm_r	344	**1005**	**196**	**819**	**21.4**	**815**	**825**	1004	196	819	21.4	816	826						

SPECrate®2026_fp_base = 474

SPECrate®2026_fp_energy_base = 47.6

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

Peak Results Table

Benchmark	Copies	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power
709.cactus_r	344	329	897	297	84.5	902	983	**329**	**896**	**299**	**84.0**	**907**	**983**						
722.palm_r	344	1133	401	977	39.4	863	930	**1134**	**400**	**977**	**39.4**	**862**	**924**						
731.astcenc_r	344	434	666	313	77.0	721	752	**434**	**665**	**313**	**77.0**	**721**	**752**						
736.ocio_r	344	603	499	481	52.4	797	875	**615**	**489**	**484**	**52.0**	**787**	**878**						
737.gmsh_r	344	362	436	295	44.8	815	884	**362**	**436**	**296**	**44.8**	**816**	**884**						
748.flightdm_r	344	291	846	241	85.9	827	846	**292**	**844**	**241**	**85.7**	**828**	**846**						
749.fotonik3d_r	344	1936	205	1550	21.9	799	817	**1940**	**205**	**1550**	**21.9**	**800**	**1010**						
765.roms_r	344	**2234**	**242**	**1990**	**23.8**	**891**	**909**	2229	243	1990	23.8	892	1070						
766.femflow_r	344	437	1150	424	101	968	1000	**438**	**1150**	**423**	**101**	**967**	**1000**						
767.nest_r	344	**455**	**599**	**387**	**58.8**	**850**	**935**	446	611	385	59.0	862	934						
772.marian_r	344	**854**	**636**	**805**	**56.7**	**943**	**1000**	847	641	803	56.8	947	998						
782.lbm_r	344	**1005**	**196**	**819**	**21.4**	**815**	**825**	1004	196	819	21.4	816	826						

SPECrate®2026_fp_peak = 488

SPECrate®2026_fp_energy_peak = 49.0

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"
```

(Continued on next page)

Environment Variables Notes (Continued)

```
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
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 190 GB ramdisk created with the cmd: "mount -t tmpfs -o size=190G tmpfs /mnt/ramdisk"
```

Platform Notes

```
BIOS Settings:
BIOS System profile set to Performance per watt (OS)
Memory Frequency set to 5200

Sysinfo program /mnt/ramdisk/cpu2026rc2/bin/sysinfo
Rev: 069f95da7e7f5d81b2ce48a82150e54f
running on B2KQ54-R770 Sun Feb  8 12:00:05 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
```

(Continued on next page)

Platform Notes (Continued)

```
 10. who -r
 11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
 12. Services, from systemctl list-unit-files
 13. Linux kernel boot-time arguments, from /proc/cmdline
 14. cpupower frequency-info
 15. sysctl
 16. /sys/kernel/mm/transparent_hugepage
 17. /sys/kernel/mm/transparent_hugepage/khugepaged
 18. OS release
 19. Disk information
 20. /sys/devices/virtual/dmi/id
 21. dmidecode
 22. BIOS
------------------------------------------------------------

------------------------------------------------------------
 1. uname -srvm
   Linux 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09) x86_64

------------------------------------------------------------
 2. w
    12:00:05 up 13 min,  1 user,  load average: 0.71, 0.59, 0.75
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1     -                11:48   60.00s  3.77s  0.05s /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
   core file size          (blocks, -c) unlimited
   data seg size           (kbytes, -d) unlimited
   scheduling priority             (-e) 0
   file size               (blocks, -f) unlimited
   pending signals                 (-i) 4126008
   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
```

(Continued on next page)

Platform Notes (Continued)

```
   max user processes              (-u) 4126008
   virtual memory          (kbytes, -v) unlimited
   file locks                      (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 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=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 344 -c
   ic2025.3-graniterapids-cpu2026-0.902-rate-20260121.cfg --define smt-on --define cores=172 --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 344 --configfile
   ic2025.3-graniterapids-cpu2026-0.902-rate-20260121.cfg --define smt-on --define cores=172 --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 --runmode rate --tune base:peak
    --size refrate fprate --nopreenv --note-preenv --logfile
    $SPEC/tmp/CPU2026.001/templogs/preenv.fprate.001.0.log --lognum 001.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2026rc2

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6787P
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 173
    stepping        : 1
    microcode       : 0x10003f3
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
    cpu cores       : 86
    siblings        : 172
    2 physical ids (chips)
    344 processors (hardware threads)
    physical id 0: core ids 0-42,64-106
    physical id 1: core ids 0-42,64-106
    physical id 0: apicids 0-85,128-213
```

(Continued on next page)

Platform Notes (Continued)

```
     physical id 1: apicids 256-341,384-469
  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 2.39.3:
  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):                               344
  On-line CPU(s) list:                  0-343
  Vendor ID:                            GenuineIntel
  BIOS Vendor ID:                       Intel
  Model name:                           Intel(R) Xeon(R) 6787P
  BIOS Model name:                      Intel(R) Xeon(R) 6787P  CPU @ 2.0GHz
  BIOS CPU family:                      179
  CPU family:                           6
  Model:                                173
  Thread(s) per core:                   2
  Core(s) per socket:                   86
  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
                                        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 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 fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms
                                        invpcid rtm 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 arat pln pts avx512vbmi umip pku ospke waitpkg
                                        avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme
                                        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
```

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Platform Notes (Continued)

```
  L1d cache:                             8.1 MiB (172 instances)
  L1i cache:                             10.8 MiB (172 instances)
  L2 cache:                              344 MiB (172 instances)
  L3 cache:                              672 MiB (2 instances)
  NUMA node(s):                          4
  NUMA node0 CPU(s):                     0-42,172-214
  NUMA node1 CPU(s):                     43-85,215-257
  NUMA node2 CPU(s):                     86-128,258-300
  NUMA node3 CPU(s):                     129-171,301-343
  Vulnerability Gather data sampling:    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; RSB filling;
                                         PBRSB-eIBRS Not affected; BHI BHI_DIS_S
  Vulnerability Srbds:                   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     8.1M   12 Data            1     64        1             64
     L1i       64K    10.8M   16 Instruction     1     64        1             64
     L2         2M     344M   16 Unified         2   2048        1             64
     L3       336M     672M   16 Unified         3 344064        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 4 nodes (0-3)
  node 0 cpus: 0-42,172-214
  node 0 size: 257568 MB
  node 0 free: 229993 MB
  node 1 cpus: 43-85,215-257
  node 1 size: 258025 MB
  node 1 free: 256986 MB
  node 2 cpus: 86-128,258-300
  node 2 size: 257986 MB
  node 2 free: 257191 MB
```

(Continued on next page)

Platform Notes (Continued)

```
  node 3 cpus: 129-171,301-343
  node 3 size: 257947 MB
  node 3 free: 257221 MB
  node distances:
  node   0   1   2   3
    0:  10  12  21  21
    1:  12  10  21  21
    2:  21  21  10  12
    3:  21  21  12  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1056285056 kB

------------------------------------------------------------
10. who -r
  run-level 3 Feb 8 11:48

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
  Default Target  Status
  multi-user      running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager getty@ irqbalance
                     issue-generator kbdsettings klog lvm2-monitor nscd nvmefc-boot-connections
                   nvmf-autoconnect postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked
                     wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
  enabled-runtime  systemd-remount-fs
  disabled         autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
                    chronyd console-getty cups cups-browsed debug-shell ebtables exchange-bmc-os-info
                   firewalld fsidd gpm grub2-once haveged ipmi ipmievd issue-add-ssh-keys kexec-load lunmask
                    man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd serial-getty@
                    smartd_generate_opts snmpd snmptrapd systemd-boot-check-no-failures systemd-confext
                   systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd udisks2
                     vncserver@
  indirect         systemd-userdbd wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
  root=UUID=02b3adac-b4ec-425b-b06d-e66675474f80
  splash=silent
```

(Continued on next page)

Platform Notes (Continued)

```
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 231:
    Unable to determine current policy
    boost state support:
      Supported: no
      Active: no

------------------------------------------------------------
15. 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

------------------------------------------------------------
16. /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

------------------------------------------------------------
17. /sys/kernel/mm/transparent_hugepage/khugepaged
  alloc_sleep_millisecs   60000
  defrag                      1
```

(Continued on next page)

Platform Notes (Continued)

```
  max_ptes_none             511
  max_ptes_shared           256
  max_ptes_swap              64
  pages_to_scan            4096
  scan_sleep_millisecs    10000

------------------------------------------------------------
18. OS release
  From /etc/*-release /etc/*-version
  os-release SUSE Linux Enterprise Server 15 SP6

------------------------------------------------------------
19. Disk information
SPEC is set to: /mnt/ramdisk/cpu2026rc2
  Filesystem     Type   Size  Used Avail Use% Mounted on
  tmpfs          tmpfs  190G   13G  178G   7% /mnt/ramdisk

------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:          Dell Inc.
    Product:         PowerEdge R770
    Product Family:  PowerEdge
    Serial:          5B2KQ54

------------------------------------------------------------
21. dmidecode
  Additional information from dmidecode 3.4 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:
    16x 002C069D002C MTC40F2046S1RC64BD2 QSFF 64 GB 2 rank 6400, configured at 5200


------------------------------------------------------------
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       Dell Inc.
   BIOS Version:      1.6.4
   BIOS Date:         11/02/2025
   BIOS Revision:     1.6
```

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
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------------------------------------------------------------------------------

==============================================================================
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

(Continued on next page)

Base Compiler Invocation (Continued)

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
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

(Continued on next page)

Base Optimization Flags (Continued)

Fortran benchmarks (continued):
`-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`

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)

(Continued on next page)

Peak Optimization Flags (Continued)

731.astcenc_r (continued):
-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++:

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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Tested with SPEC CPU®2026 v0.902.0 on 2026-02-08 13:00:03-0500.
Report generated on 2026-08-11 15:12:27 by CPU2026 PDF formatter (unknown).
Originally published on 2026-05-05.