SPEC CPU®2026 Integer Rate Result

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Lenovo Global Technology

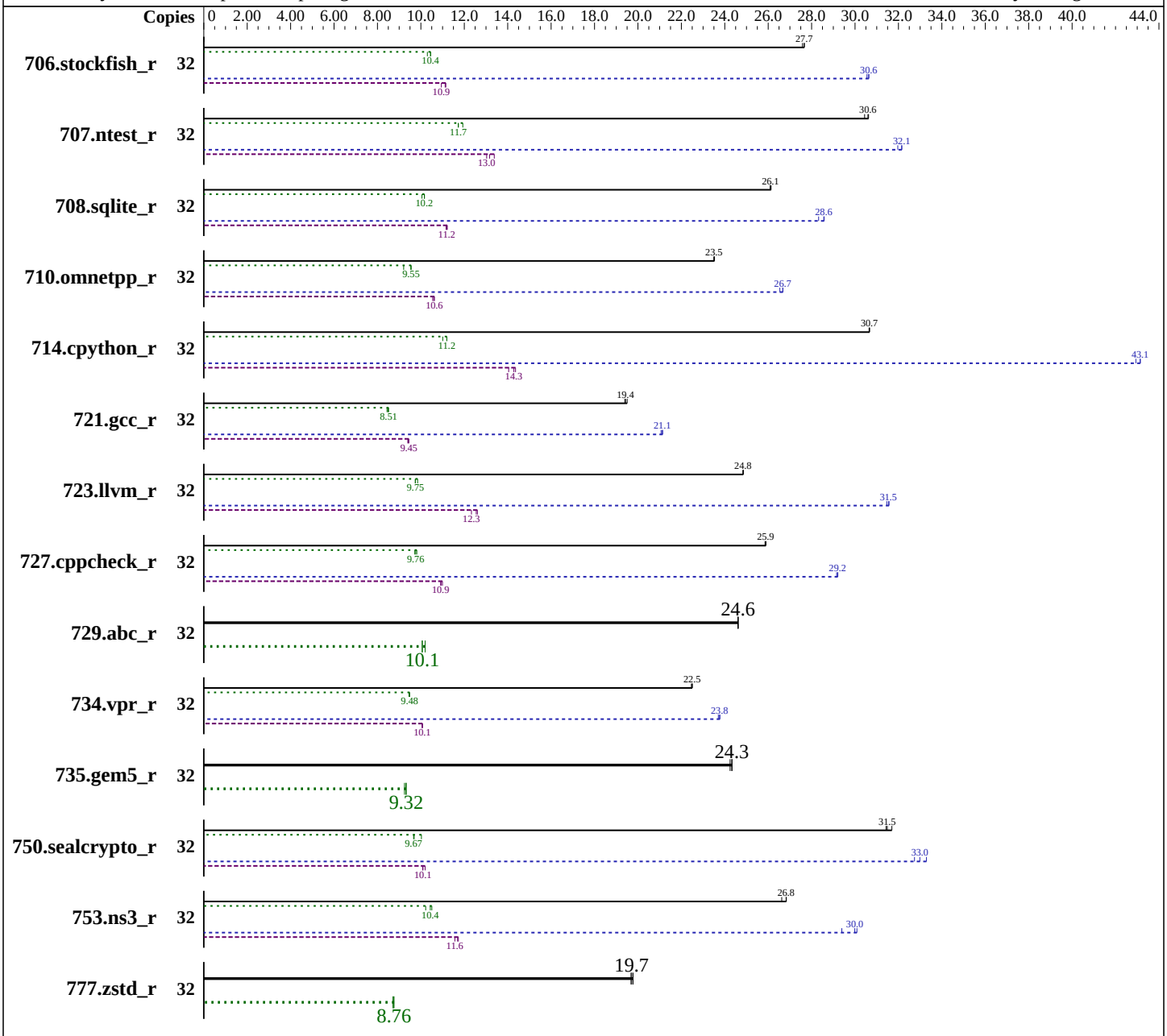
(Test Sponsor: Ampere Computing, Inc.)

ThinkSystem HR330A
(3.00 GHz Ampere eMAG 8180)

SPECrate®2026_int_base =	25.3
SPECrate®2026_int_energy_base =	9.88
SPECrate®2026_int_peak =	27.9
SPECrate®2026_int_energy_peak =	10.8

CPU2026 License: 6412
Test Sponsor: Ampere Computing, Inc.
Tested by: Ampere Computing, Inc.

Test Date: Apr-2026
Hardware Availability: Apr-2019
Software Availability: Aug-2025



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Hardware

CPU Name:	Ampere eMAG 8180
Max MHz:	3300
Nominal:	3000
Enabled:	32 cores, 1 chip
Orderable:	1 chips
Cache L1:	32 KB I + 32 KB D on chip per core
L2:	4 MB I+D on chip per chip (256 KB shared / 2 cores)
L3:	32 MB I+D on chip per chip
Other:	None
Memory:	128 GB (8 x 16 GB 2Rx4 PC4-2666V-R)
Storage:	1 x 480 GB SATA SSD
Cooling:	Air
Other:	None

Software

OS:	Ubuntu 24.04.1 LTS kernel 6.8.0 (64KB pages)
Compiler:	C/C++/Fortran: Version 15.2.0 of GCC
Compiler Category:	Community
Firmware:	Version 1.12 released Nov-2019
File System:	ext4
System State:	Run level 5 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	jemalloc v5.3+, commit hash 1972241
Power Management:	OS CPU governor set to "performance"

Power

Max. Power (W):	301.01
Idle Power (W):	78.33
Min. Temperature (C):	22.00
Elevation (m):	60
Line Standard:	120 V / 60 Hz / 1 phase / 2 wire
Provisioning:	Line powered

Power Settings

Management FW:	Version 11.05.111 of Falcon BMC
Memory Mode:	Normal

Power-Relevant Hardware

Power Supply:	1 x 550 W (non-redundant)
Details:	Lenovo 03LD785 550 Watt High Efficiency Platinum AC Power Supply
Backplane:	N/A
Other Storage:	N/A
Storage Model #s:	1 x Lenovo 01PE965 (480GB SATA SSD) connected to on-board HBA
NICs Installed:	1 x Lenovo 01PE857 @ 10 GbE (2 ports ethernet)
NICs Enabled (FW/OS):	2 / 1
NICs Connected/Speed:	1 @ 1 Gbps
Other HW Model #s:	--

Power Analyzer

Power Analyzer:	cpu-reference-ptd:8000
Hardware Vendor:	Yokogawa
Model:	WT-310
Serial Number:	T11733285
Input Connection:	Serial over USB
Metrology Institute:	NIST
Calibration By:	Yokogawa USA
Calibration Label:	T126622
Calibration Date:	13-Aug-2025
PTDaemon® Version:	1.11.3 (0c074d7d; 2025-10-15)
Setup Description:	Directly connected

(Continued on next page)

Temperature Meter

Temperature Meter:	cpu-reference-ptd:9000
Hardware Vendor:	PCSensor
Model:	USB9097+DS18B20
Serial Number:	--
Input Connection:	USB
PTDaemon Version:	1.11.3 (0c074d7d; 2025-10-15)
Setup Description:	In front of SUT front panel primary air inlet

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CPU2026 License: 6412
Test Sponsor: Ampere Computing, Inc.
Tested by: Ampere Computing, Inc.

Test Date: Apr-2026
Hardware Availability: Apr-2019
Software Availability: Aug-2025

Power Analyzer (Continued)

Current Ranges Used: 2A
Voltage Range Used: 150V

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
706.stockfish_r	32	1462	27.6	332	10.3	227	245	1457	27.7	328	10.4	225	241	**1458**	**27.7**	**328**	**10.4**	**225**	**236**
707.ntest_r	32	619	30.6	133	11.9	215	267	622	30.4	135	11.7	218	265	**619**	**30.6**	**135**	**11.7**	**219**	**265**
708.sqlite_r	32	648	26.1	139	10.2	215	293	647	26.1	141	10.0	218	292	**647**	**26.1**	**140**	**10.2**	**216**	**290**
710.omnetpp_r	32	661	23.5	137	9.54	208	271	**662**	**23.5**	**137**	**9.55**	**207**	**271**	662	23.5	142	9.21	215	274
714.cpython_r	32	**500**	**30.7**	**114**	**11.2**	**229**	**290**	500	30.7	114	11.2	229	290	500	30.6	116	11.0	233	288
721.gcc_r	32	**1130**	**19.4**	**217**	**8.51**	**192**	**279**	1132	19.4	219	8.44	194	276	1126	19.5	218	8.49	194	275
723.llvm_r	32	**653**	**24.8**	**140**	**9.75**	**214**	**279**	653	24.9	138	9.85	212	279	653	24.8	140	9.74	214	279
727.cppcheck_r	32	444	25.9	98.3	9.81	222	283	**444**	**25.9**	**98.8**	**9.76**	**223**	**284**	444	25.9	99.3	9.72	223	282
729.abc_r	32	597	24.6	121	10.2	202	262	597	24.6	122	10.1	205	273	**597**	**24.6**	**122**	**10.1**	**205**	**270**
734.vpr_r	32	**656**	**22.5**	**130**	**9.48**	**199**	**288**	657	22.5	130	9.48	198	284	656	22.5	131	9.45	199	283
735.gem5_r	32	640	24.3	140	9.32	219	271	**641**	**24.3**	**140**	**9.32**	**218**	**269**	643	24.2	141	9.25	219	269
750.sealcrypto_r	32	541	31.7	144	10.0	267	290	**545**	**31.5**	**150**	**9.67**	**275**	**291**	546	31.4	149	9.69	274	290
753.ns3_r	32	737	26.6	157	10.5	213	271	**731**	**26.8**	**158**	**10.4**	**216**	**275**	731	26.8	161	10.2	221	276
777.zstd_r	32	**1045**	**19.7**	**197**	**8.76**	**189**	**240**	1047	19.7	198	8.72	189	252	1042	19.8	198	8.72	190	259

SPECrate®2026_int_base = 25.3

SPECrate®2026_int_energy_base = 9.88

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
706.stockfish_r	32	1316	30.6	308	11.1	234	289	1320	30.6	307	11.1	233	248	**1316**	**30.6**	**313**	**10.9**	**238**	**252**
707.ntest_r	32	**589**	**32.1**	**122**	**13.0**	**207**	**254**	593	32.0	119	13.4	200	223	589	32.2	121	13.2	205	253
708.sqlite_r	32	591	28.6	126	11.2	214	292	597	28.3	127	11.2	213	293	**592**	**28.6**	**127**	**11.2**	**214**	**291**
710.omnetpp_r	32	583	26.7	124	10.6	212	284	586	26.5	124	10.5	212	282	**583**	**26.7**	**123**	**10.6**	**211**	**282**
714.cpython_r	32	357	42.9	91.2	14.0	256	300	355	43.1	89.2	14.4	251	295	**355**	**43.1**	**89.7**	**14.3**	**252**	**301**
721.gcc_r	32	1039	21.1	197	9.42	189	276	**1039**	**21.1**	**196**	**9.45**	**188**	**273**	1042	21.1	197	9.40	189	274
723.llvm_r	32	**514**	**31.5**	**110**	**12.3**	**215**	**277**	514	31.6	108	12.6	211	270	516	31.5	108	12.6	209	276
727.cppcheck_r	32	**393**	**29.2**	**88.4**	**10.9**	**225**	**287**	394	29.2	87.8	11.0	223	285	393	29.2	88.3	10.9	225	286
729.abc_r	32	597	24.6	121	10.2	202	262	597	24.6	122	10.1	205	273	**597**	**24.6**	**122**	**10.1**	**205**	**270**
734.vpr_r	32	**621**	**23.8**	**123**	**10.1**	**198**	**286**	620	23.8	123	10.1	198	283	622	23.7	123	10.1	197	282
735.gem5_r	32	640	24.3	140	9.32	219	271	**641**	**24.3**	**140**	**9.32**	**218**	**269**	643	24.2	141	9.25	219	269
750.sealcrypto_r	32	524	32.7	144	10.1	274	289	**520**	**33.0**	**143**	**10.1**	**276**	**289**	515	33.3	142	10.2	276	289
753.ns3_r	32	652	30.1	141	11.7	216	272	**654**	**30.0**	**142**	**11.6**	**218**	**269**	667	29.4	141	11.7	211	270
777.zstd_r	32	**1045**	**19.7**	**197**	**8.76**	**189**	**240**	1047	19.7	198	8.72	189	252	1042	19.8	198	8.72	190	259

SPECrate®2026_int_peak = 27.9

SPECrate®2026_int_energy_peak = 10.8

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

Submit Notes

```
The config file option 'submit' was used.
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/usr/lib64/:/usr/lib/:/lib64:/home/mjm/jemalloc/lib"
```

General Notes

```
jemalloc is a general purpose malloc(3) implementation that emphasizes
fragmentation avoidance and scalable concurrency support.
sources available from https://github.com/jemalloc/jemalloc/tree/1972241
and built via "./configure --with-lg-quantum=3" which used system gcc-14 -O3

This benchmark result is intended to provide perspective on
past power and/or performance using the historical hardware
and/or software described on this result page.

The system as described on this result page was formerly
generally available. At the time of this publication, it may
not be shipping, and/or may not be supported, and/or may fail
to meet other tests of General Availability described in the
SPEC OSG Policy document, http://www.spec.org/osg/policy.html

This measured result may not be representative of the result
that would be measured were this benchmark run with hardware
and software available as of the publication date.
```

Platform Notes

```
 Sysinfo program /home/mjm/RC2/bin/sysinfo
 Rev: 779ab21020787073335a329f3a45e2cd
 running on emag Thu Apr  9 13:14:49 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
```

(Continued on next page)

Platform Notes (Continued)

```
 6. /proc/cpuinfo
 7. lscpu
 8. numactl --hardware
 9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.14)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
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 -srvm
  Linux 6.8.0 #1 SMP PREEMPT_DYNAMIC Fri Feb 28 00:25:30 UTC 2025 aarch64

------------------------------------------------------------
2. w
   13:14:49 up 21 days, 21:45,  1 user,  load average: 3.07, 2.03, 2.00
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT

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

------------------------------------------------------------
4. ulimit -a
  time(seconds)        unlimited
  file(blocks)         unlimited
  data(kbytes)         unlimited
  stack(kbytes)        unlimited
  coredump(blocks)     0
  memory(kbytes)       unlimited
  locked memory(kbytes) 16691648
  process              128681
  nofiles              1024
  vmemory(kbytes)      unlimited
  locks                unlimited
  rtprio               0
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --system --deserialize=73
 SCREEN
 -bin/tcsh
runcpu --flagsurl=$SPEC/config/flags/gcc.xml -c emag-golden --reportable -n 3 --tune=base,peak --power -C 32
   intrate
runcpu --flagsurl $SPEC/config/flags/gcc.xml --configfile emag-golden --reportable --iterations 3 --tune
  base,peak --power --copies 32 --runmode rate --tune base:peak --size refrate intrate --nopreenv
  --note-preenv --logfile $SPEC/tmp/CPU2026.098/templogs/preenv.intrate.098.0.log --lognum 098.0
  --from_runcpu 2
 specperl $SPEC/bin/sysinfo -f
$SPEC = /home/mjm/RC2

------------------------------------------------------------
6. /proc/cpuinfo
    CPU implementer : 0x50
    CPU architecture: 8
    CPU variant     : 0x3
    CPU part        : 0x000
    CPU revision    : 2
    Features        : fp asimd evtstrm aes pmull sha1 sha2 crc32 cpuid

------------------------------------------------------------
7. lscpu

From lscpu from util-linux 2.39.3:
  Architecture:                       aarch64
  CPU op-mode(s):                     32-bit, 64-bit
  Byte Order:                         Little Endian
  CPU(s):                             32
  On-line CPU(s) list:                0-31
  Vendor ID:                          APM
  Model name:                         -
  Model:                              2
  Thread(s) per core:                 1
  Core(s) per socket:                 32
  Socket(s):                          1
  Stepping:                           0x3
  Frequency boost:                    disabled
  CPU(s) scaling MHz:                 100%
  CPU max MHz:                        2911.7639
  CPU min MHz:                        363.9700
  BogoMIPS:                           80.00
```

(Continued on next page)

Platform Notes (Continued)

```
  Flags:                           fp asimd evtstrm aes pmull sha1 sha2 crc32 cpuid
  L1d cache:                       1 MiB (32 instances)
  L1i cache:                       1 MiB (32 instances)
  L2 cache:                        4 MiB (16 instances)
  NUMA node(s):                    1
  NUMA node0 CPU(s):               0-31
  Vulnerability Gather data sampling: Not affected
  Vulnerability Itlb multihit:     Not affected
  Vulnerability L1tf:              Not affected
  Vulnerability Mds:               Not affected
  Vulnerability Meltdown:          Mitigation; PTI
  Vulnerability Mmio stale data:   Not affected
  Vulnerability Retbleed:          Not affected
  Vulnerability Spec rstack overflow: Not affected
  Vulnerability Spec store bypass: Vulnerable
  Vulnerability Spectre v1:        Mitigation; __user pointer sanitization
  Vulnerability Spectre v2:        Vulnerable
  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       32K       1M    8 Data            1
     L1i       32K       1M    8 Instruction     1
     L2       256K       4M   32 Unified         2

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 1 nodes (0)
  node 0 cpus: 0-31
  node 0 size: 130403 MB
  node 0 free: 48756 MB
  node distances:
  node   0
    0:  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       133533376 kB

------------------------------------------------------------
10. who -r
  run-level 5 Mar 18 15:29
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.14)
  Default Target  Status
  graphical       running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          ModemManager apparmor apport blk-availability cloud-config cloud-final cloud-init
                   cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ grub-common
                 grub-initrd-fallback keyboard-setup lvm2-monitor multipathd networkd-dispatcher open-iscsi
                 open-vm-tools pollinate power-profiles-daemon rsyslog secureboot-db setvtrgb snapd sysstat
                   systemd-networkd systemd-networkd-wait-online systemd-pstore systemd-resolved
                 systemd-timesyncd ua-reboot-cmds ubuntu-advantage udisks2 ufw unattended-upgrades vgauth
  enabled-runtime  netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
  disabled         console-getty debug-shell ipmievd iscsid nftables rsync ssh systemd-boot-check-no-failures
                     systemd-confext systemd-network-generator systemd-networkd-wait-online@
                 systemd-pcrlock-file-system systemd-pcrlock-firmware-code systemd-pcrlock-firmware-config
                     systemd-pcrlock-machine-id systemd-pcrlock-make-policy
                  systemd-pcrlock-secureboot-authority systemd-pcrlock-secureboot-policy systemd-sysext
                     systemd-time-wait-sync
  generated        openipmi perlbal
  indirect         serial-getty@ systemd-sysupdate systemd-sysupdate-reboot uuidd
  masked           cryptdisks cryptdisks-early hwclock multipath-tools-boot screen-cleanup sudo x11-common

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.8.0
  root=UUID=16268541-06d0-4374-97ca-2d512d4db26f
  ro
  cma=1024M
  iommu.passthrough=1

------------------------------------------------------------
14. sysctl
  kernel.numa_balancing               0
  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
```

(Continued on next page)

Platform Notes (Continued)

```
  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  536870912
  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            8191
  max_ptes_shared          4096
  max_ptes_swap            1024
  pages_to_scan           65536
  scan_sleep_millisecs    10000

------------------------------------------------------------
17. OS release
  From /etc/*-release /etc/*-version
  os-release Ubuntu 24.04.1 LTS

------------------------------------------------------------
18. Disk information
SPEC is set to: /home/mjm/RC2
  Filesystem     Type  Size  Used Avail Use% Mounted on
  /dev/sda2      ext4  439G  304G  113G  74% /

------------------------------------------------------------
19. /sys/devices/virtual/dmi/id
    Vendor:         Lenovo
    Product:        HR330A            7X33CTO1WW
    Product Family: Lenovo ThinkSystem HR330A/HR350A

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

(Continued on next page)

Platform Notes (Continued)

```
20. dmidecode
  Additional information from dmidecode 3.5 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:
     8x Samsung M393A2K43CB2-CTD 16 GB 2 rank 2667


------------------------------------------------------------
21. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       LENOVO
   BIOS Version:      HVE104N-1.12
   BIOS Date:         11/29/2019
   BIOS Revision:     1.12
   Firmware Revision: 1.7
```

Power Settings Notes

```
OS CPU governor was set using the command:
echo performance | tee /sys/devices/system/cpu/cpu*/cpufreq/scaling_governor
```

Compiler Version Notes

```
==============================================================================
C      | 708.sqlite_r(base, peak) 714.cpython_r(base, peak) 777.zstd_r(base,
       | peak)
------------------------------------------------------------------------------
gcc (GCC) 15.2.0
Copyright (C) 2025 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------

==============================================================================
C++    | 706.stockfish_r(base, peak) 707.ntest_r(base, peak)
       | 727.cppcheck_r(base, peak) 753.ns3_r(base, peak)
------------------------------------------------------------------------------
g++ (GCC) 15.2.0
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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

(Continued on next page)

Compiler Version Notes (Continued)

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

==============================================================================
C++, C | 710.omnetpp_r(base pass 0, peak pass 1, peak pass 2) 721.gcc_r(base
       | pass 0, peak pass 1, peak pass 2) 723.llvm_r(base pass 0, peak pass
       | 1, peak pass 2) 729.abc_r(base pass 0, peak pass 0) 734.vpr_r(base
       | pass 0, peak pass 1, peak pass 2) 735.gem5_r(base pass 0, peak pass
       | 0) 750.sealcrypto_r(base pass 0, peak pass 1, peak pass 2)
------------------------------------------------------------------------------
g++ (GCC) 15.2.0
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------------------------------------------------------------------------------

==============================================================================
C++, C | 710.omnetpp_r(base pass 0, peak pass 1, peak pass 2) 721.gcc_r(base
       | pass 0, peak pass 1, peak pass 2) 723.llvm_r(base pass 0, peak pass
       | 1, peak pass 2) 729.abc_r(base pass 0, peak pass 0) 734.vpr_r(base
       | pass 0, peak pass 1, peak pass 2) 735.gem5_r(base pass 0, peak pass
       | 0) 750.sealcrypto_r(base pass 0, peak pass 1, peak pass 2)
------------------------------------------------------------------------------
gcc (GCC) 15.2.0
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This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------

==============================================================================
C++, C | 710.omnetpp_r(base pass 0, peak pass 1, peak pass 2) 721.gcc_r(base
       | pass 0, peak pass 1, peak pass 2) 723.llvm_r(base pass 0, peak pass
       | 1, peak pass 2) 729.abc_r(base pass 0, peak pass 0) 734.vpr_r(base
       | pass 0, peak pass 1, peak pass 2) 735.gem5_r(base pass 0, peak pass
       | 0) 750.sealcrypto_r(base pass 0, peak pass 1, peak pass 2)
------------------------------------------------------------------------------
g++ (GCC) 15.2.0
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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------

==============================================================================
C++, C | 710.omnetpp_r(base pass 0, peak pass 1, peak pass 2) 721.gcc_r(base
       | pass 0, peak pass 1, peak pass 2) 723.llvm_r(base pass 0, peak pass
       | 1, peak pass 2) 729.abc_r(base pass 0, peak pass 0) 734.vpr_r(base
```

(Continued on next page)

Compiler Version Notes (Continued)

```
      | pass 0, peak pass 1, peak pass 2) 735.gem5_r(base pass 0, peak pass
      | 0) 750.sealcrypto_r(base pass 0, peak pass 1, peak pass 2)
------------------------------------------------------------------------------
gcc (GCC) 15.2.0
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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
gcc

C++ benchmarks:
g++

Benchmarks using both C and C++:
g++ gcc

Base Portability Flags

706.stockfish_r: -DSPEC_LP64
707.ntest_r: -DSPEC_LP64
708.sqlite_r: -DSPEC_LP64
710.omnetpp_r: -fno-finite-math-only -DSPEC_LP64
714.cpython_r: -DSPEC_LP64
721.gcc_r: -DSPEC_LP64
723.llvm_r: -DSPEC_LP64
727.cppcheck_r: -DSPEC_LP64
729.abc_r: -DSPEC_LP64
734.vpr_r: -fno-finite-math-only -DSPEC_LP64
735.gem5_r: -fno-finite-math-only -DSPEC_LP64
750.sealcrypto_r: -DSPEC_LP64
753.ns3_r: -DSPEC_LP64
777.zstd_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
`-mabi=lp64 -std=c18 -g -O3 -ffast-math -mcpu=native -flto=16 -L/home/mjm/jemalloc/lib -ljemalloc`

C++ benchmarks:

706.stockfish_r: `-mabi=lp64 -std=c++17 -g -O3 -ffast-math -mcpu=native -flto=16 -pthread -L/home/mjm/jemalloc/lib -ljemalloc`

707.ntest_r: `-mabi=lp64 -std=c++17 -g -O3 -ffast-math -mcpu=native -flto=16 -L/home/mjm/jemalloc/lib -ljemalloc`

727.cppcheck_r: `Same as 707.ntest_r`

753.ns3_r: `Same as 707.ntest_r`

Benchmarks using both C and C++:

710.omnetpp_r: `-mabi=lp64 -std=c++17 -std=c18 -g -O3 -ffast-math -mcpu=native -flto=16 -L/home/mjm/jemalloc/lib -ljemalloc`

721.gcc_r: `Same as 710.omnetpp_r`

723.llvm_r: `-mabi=lp64 -std=c++17 -std=c18 -g -O3 -ffast-math -mcpu=native -flto=16 -pthread -L/home/mjm/jemalloc/lib -ljemalloc`

729.abc_r: `Same as 710.omnetpp_r`

734.vpr_r: `Same as 710.omnetpp_r`

735.gem5_r: `Same as 723.llvm_r`

750.sealcrypto_r: `Same as 710.omnetpp_r`

Peak Compiler Invocation

C benchmarks:
`gcc`

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Peak Compiler Invocation (Continued)

C++ benchmarks:
g++

Benchmarks using both C and C++:
g++ gcc

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

708.sqlite_r: -mabi=lp64 -std=c18 -fprofile-generate -fprofile-use -g -Ofast -mcpu=native -flto=16 -L/home/mjm/jemalloc/lib -ljemalloc

714.cpython_r: Same as 708.sqlite_r

777.zstd_r: basepeak = yes

C++ benchmarks:

706.stockfish_r: -mabi=lp64 -std=c++17 -fprofile-generate -fprofile-use -g -Ofast -mcpu=native -flto=16 -pthread -L/home/mjm/jemalloc/lib -ljemalloc

707.ntest_r: -mabi=lp64 -std=c++17 -fprofile-generate -fprofile-use -g -Ofast -mcpu=native -flto=16 -L/home/mjm/jemalloc/lib -ljemalloc

727.cppcheck_r: Same as 707.ntest_r

753.ns3_r: Same as 707.ntest_r

Benchmarks using both C and C++:

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Peak Optimization Flags (Continued)

710.omnetpp_r: `-mabi=lp64 -std=c++17 -std=c18 -fprofile-generate -fprofile-use -g -Ofast -mcpu=native -flto=16 -L/home/mjm/jemalloc/lib -ljemalloc`

721.gcc_r: `Same as 710.omnetpp_r`

723.llvm_r: `-mabi=lp64 -std=c++17 -std=c18 -fprofile-generate -fprofile-use -g -Ofast -mcpu=native -flto=16 -pthread -L/home/mjm/jemalloc/lib -ljemalloc`

729.abc_r: `basepeak = yes`

734.vpr_r: `Same as 710.omnetpp_r`

735.gem5_r: `basepeak = yes`

750.sealcrypto_r: `Same as 710.omnetpp_r`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2026/results/flags/gcc-rev-A2.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2026/results/flags/gcc-rev-A2.xml`

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