



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

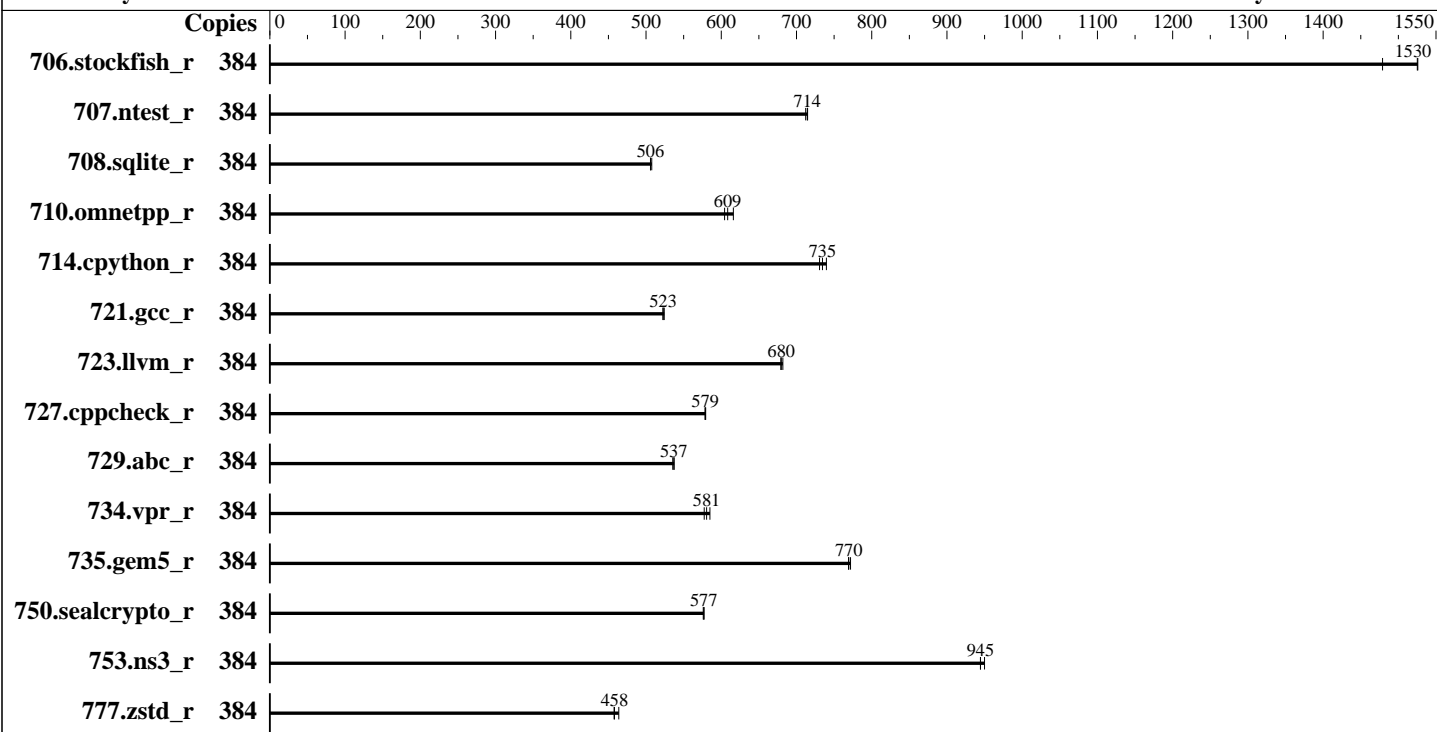
Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026



Hardware

CPU Name: AMD EPYC 9654
 Max MHz: 3700
 Nominal: 2400
 Enabled: 192 cores, 2 chips, 2 threads/core
 Orderable: 1,2 chips
 Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 1 MB I+D on chip per core
 L3: 384 MB I+D on chip per chip,
 32 MB shared / 8 cores
 Other: None
 Memory: 768 GB (24 x 32 GB 2Rx8 PC5-4800B-R)
 Storage: 1 x 480 GB NVMe SSD
 Cooling: DLC
 Other: None

Software

OS: Ubuntu 24.04.3 LTS
 Kernel 6.8.0-90-generic
 Compiler: C/C++/Fortran: Version 5.1.0 of AOCC
 Compiler Category: Vendor
 Firmware: HPE BIOS Version v2.90
 released Jan-2026
 File System: ext4
 System State: Run level 5 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: None
 Power Management: BIOS and OS is set to prefer performance at the cost of additional power usage



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Jan-2026
Hardware Availability: Dec-2022
Software Availability: Jan-2026

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
706.stockfish_r	384	317	1530	327	1480	317	1530	384	317	1530	327	1480	317	1530
707.ntest_r	384	318	714	319	712	318	715	384	318	714	319	712	318	715
708.sqlite_r	384	401	506	399	508	401	506	384	401	506	399	508	401	506
710.omnetpp_r	384	309	604	303	616	307	609	384	309	604	303	616	307	609
714.cpython_r	384	250	735	249	740	252	731	384	250	735	249	740	252	731
721.gcc_r	384	504	522	504	523	503	524	384	504	522	504	523	503	524
723.llvm_r	384	287	679	286	682	286	680	384	287	679	286	682	286	680
727.cppcheck_r	384	238	579	238	578	238	579	384	238	579	238	578	238	579
729.abc_r	384	328	537	329	536	328	537	384	328	537	329	536	328	537
734.vpr_r	384	305	581	307	577	303	585	384	305	581	307	577	303	585
735.gem5_r	384	243	769	242	772	243	770	384	243	769	242	772	243	770
750.sealcrypto_r	384	357	577	357	577	357	576	384	357	577	357	577	357	576
753.ns3_r	384	248	950	249	945	249	944	384	248	950	249	945	249	944
777.zstd_r	384	533	464	541	458	540	458	384	533	464	541	458	540	458

SPECrate®2026_int_base = **661**

SPECrate®2026_int_peak = **661**

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

Compiler Notes

The AMD64 AOCC Compiler Suite is available at <http://developer.amd.com/amd-aocc/>

Submit Notes

The config file option 'submit' was used.
'numactl' was used to bind copies to the cores.
See the configuration file for details.

Operating System Notes

'ulimit -s unlimited' was used to set environment stack size limit
'ulimit -l 2097152' was used to set environment locked pages in memory limit

runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>

To limit dirty cache to 8% of memory, 'sysctl -w vm.dirty_ratio=8' run as root.
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=1' run as root.

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Operating System Notes (Continued)

To free node-local memory and avoid remote memory usage,
 'sysctl -w vm.zone_reclaim_mode=1' run as root.
 To clear filesystem caches, 'sync; sysctl -w vm.drop_caches=3' run as root.
 To disable address space layout randomization (ASLR) to reduce run-to-run
 variability, 'sysctl -w kernel.randomize_va_space=0' run as root.
 To enable Transparent Hugepages (THP) for all allocations,
 'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and
 'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
 LD_LIBRARY_PATH =
 "/home/cpu2026/amd_rate_aocc510_znver5_A_lib/lib:/home/cpu2026/amd_rate_
 aocc510_znver5_A_lib/lib32:"
 MALLOC_CONF = "retain:true"

General Notes

Binaries were compiled on a system with 2x AMD EPYC Venice256 CPU + 2TiB
 Memory using Ubuntu 24.04
 NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
 is mitigated in the system as tested and documented.
 Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
 is mitigated in the system as tested and documented.
 Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
 is mitigated in the system as tested and documented.

Platform Notes

BIOS Configurations : Parameters are selected in the order shown below
 Workload Profile set to General Throughput Compute
 Determinism Control set to Manual
 Performance Determinism set to Power Deterministic
 Last-Level Cache (LLC) as NUMA Node set to Enabled
 NUMA memory domains per socket set to Four memory domains per socket
 ACPI CST C2 Latency set to 18 microseconds
 Thermal Configuration set to Maximum Cooling
 Workload Profile set to Custom
 Power Regulator set to OS Control Mode

Sysinfo program /home/cpu2026/bin/sysinfo
 Rev: 069f95da7e7f5d81b2ce48a82150e54f

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Platform Notes (Continued)

running on admin1 Wed Jan 28 13:38:57 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. who -r
- 11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.12)
- 12. Services, from systemctl list-unit-files
- 13. Linux kernel boot-time arguments, from /proc/cmdline
- 14. cpupower frequency-info
- 15. tuned-adm active
- 16. sysctl
- 17. /sys/kernel/mm/transparent_hugepage
- 18. /sys/kernel/mm/transparent_hugepage/khugepaged
- 19. OS release
- 20. Disk information
- 21. /sys/devices/virtual/dmi/id
- 22. dmidecode
- 23. BIOS

1. uname -srvm
Linux 6.8.0-90-generic #91-Ubuntu SMP PREEMPT_DYNAMIC Tue Nov 18 14:14:30 UTC 2025 x86_64

2. w
13:38:57 up 2:02, 6 users, load average: 0.35, 0.08, 0.03

USER	TTY	FROM	LOGIN@	IDLE	JCPU	PCPU	WHAT
admin1		10.30.195.96	13:38	1:06m	0.00s	0.02s	sshd: admin1 [priv]
admin1		10.30.195.96	13:38	1:06m	0.00s	0.02s	sshd: admin1 [priv]
admin1		10.30.195.96	13:38	1:06m	0.00s	0.02s	sshd: admin1 [priv]
admin1		10.30.195.96	13:38	1:06m	0.00s	0.02s	sshd: admin1 [priv]
admin1		10.30.195.94	12:52	1:06m	0.00s	0.03s	sshd: admin1 [priv]
admin1		10.30.195.94	12:13	1:06m	0.00s	0.05s	sshd: admin1 [priv]

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Platform Notes (Continued)

3. Username

From environment variable \$USER: root
From the command 'logname': admin1

4. ulimit -a

```
time(seconds)          unlimited
file(blocks)           unlimited
data(kbytes)           unlimited
stack(kbytes)          unlimited
coredump(blocks)       0
memory(kbytes)         unlimited
locked memory(kbytes) 2097152
process                3093786
nofiles                1024
vmemory(kbytes)        unlimited
locks                  unlimited
rtprio                 0
```

5. sysinfo process ancestry

```
/sbin/init
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: admin1 [priv]
sshd: admin1@notty
sudo $SPEC/intrate.sh
/bin/bash $SPEC/intrate.sh
sudo ./run_amd_rate_aocc510_znver5_A1.py
python3 ./run_amd_rate_aocc510_znver5_A1.py
/bin/bash ./amd_rate_aocc510_znver5_A1.sh
runcpu --config amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 intrate
runcpu --configfile amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 --nopower
--runmode rate --tune base --size test:train:refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2026.001/templogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026
```

6. /proc/cpuinfo

```
model name      : AMD EPYC 9654 96-Core Processor
vendor_id       : AuthenticAMD
cpu family      : 25
model           : 17
stepping        : 1
microcode       : 0xa101158
bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso vmscape
```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Platform Notes (Continued)

```

TLB size      : 3584 4K pages
cpu cores     : 96
siblings      : 192
2 physical ids (chips)
384 processors (hardware threads)
physical id 0: core ids 0-95
physical id 1: core ids 0-95
physical id 0: apicids 0-191
physical id 1: apicids 256-447

```

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):                      384
On-line CPU(s) list:        0-383
Vendor ID:                   AuthenticAMD
BIOS Vendor ID:              Advanced Micro Devices, Inc.
Model name:                  AMD EPYC 9654 96-Core Processor
BIOS Model name:             AMD EPYC 9654 96-Core Processor          CPU @ 2.4GHz
BIOS CPU family:             107
CPU family:                  25
Model:                       17
Thread(s) per core:         2
Core(s) per socket:         96
Socket(s):                   2
Stepping:                    1
Frequency boost:             enabled
CPU(s) scaling MHz:         100%
CPU max MHz:                 2400.0000
CPU min MHz:                 1500.0000
BogoMIPS:                    4792.82
Flags:                       fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
                             pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb
                             rdtscp lm constant_tsc rep_good amd_lbr_v2 nopl nonstop_tsc cpuid
                             extd_apicid aperfmpperf rapl pni pclmulqdq monitor ssse3 fma cx16 pcid
                             sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx f16c rdrand lahf_lm
                             cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
                             osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
                             perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate ssbd mba perfmon_v2
                             ibrs ibpb stibp ibrs_enhanced vmmcall fsgsbase bmi1 avx2 smep bmi2

```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Jan-2026
Hardware Availability: Dec-2022
Software Availability: Jan-2026

Platform Notes (Continued)

```
erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma
cflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec
xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
user_shstk avx512_bf16 clzero irperf xsaveerptr rdpru wbnoinvd
amd_ppin cpc amd_ibpb_ret arat npt lbrv svm_lock nrip_save tsc_scale
vmcb_clean flushbyasid decodeassists pausefilter pfthreshold avic
v_vmsave_vmload vgif x2avic v_spec_ctrl vnmi avx512vbmi umip pku
ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg
avx512_vpopcntdq la57 rdpid overflow_recov succor smca fsrm flush_lld
debug_swap ibpb_exit_to_user
```

```
Virtualization: AMD-V
L1d cache: 6 MiB (192 instances)
L1i cache: 6 MiB (192 instances)
L2 cache: 192 MiB (192 instances)
L3 cache: 768 MiB (24 instances)
NUMA node(s): 24
NUMA node0 CPU(s): 0-7,192-199
NUMA node1 CPU(s): 8-15,200-207
NUMA node2 CPU(s): 16-23,208-215
NUMA node3 CPU(s): 24-31,216-223
NUMA node4 CPU(s): 32-39,224-231
NUMA node5 CPU(s): 40-47,232-239
NUMA node6 CPU(s): 48-55,240-247
NUMA node7 CPU(s): 56-63,248-255
NUMA node8 CPU(s): 64-71,256-263
NUMA node9 CPU(s): 72-79,264-271
NUMA node10 CPU(s): 80-87,272-279
NUMA node11 CPU(s): 88-95,280-287
NUMA node12 CPU(s): 96-103,288-295
NUMA node13 CPU(s): 104-111,296-303
NUMA node14 CPU(s): 112-119,304-311
NUMA node15 CPU(s): 120-127,312-319
NUMA node16 CPU(s): 128-135,320-327
NUMA node17 CPU(s): 136-143,328-335
NUMA node18 CPU(s): 144-151,336-343
NUMA node19 CPU(s): 152-159,344-351
NUMA node20 CPU(s): 160-167,352-359
NUMA node21 CPU(s): 168-175,360-367
NUMA node22 CPU(s): 176-183,368-375
NUMA node23 CPU(s): 184-191,376-383
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
```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Platform Notes (Continued)

Vulnerability Retbleed: Not affected
 Vulnerability Spec rstack overflow: Mitigation; Safe RET
 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; STIBP
 always-on; RSB filling; PBRSE-eIBRS Not affected; BHI Not affected
 Vulnerability Srbds: Not affected
 Vulnerability Tsx async abort: Not affected
 Vulnerability Vmscape: Mitigation; IBPB before exit to userspace

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	32K	6M	8	Data	1	64	1	64
L1i	32K	6M	8	Instruction	1	64	1	64
L2	1M	192M	8	Unified	2	2048	1	64
L3	32M	768M	16	Unified	3	32768	1	64

8. numactl --hardware

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

```

available: 24 nodes (0-23)
node 0 cpus: 0-7,192-199
node 0 size: 31871 MB
node 0 free: 31169 MB
node 1 cpus: 8-15,200-207
node 1 size: 32250 MB
node 1 free: 32067 MB
node 2 cpus: 16-23,208-215
node 2 size: 32250 MB
node 2 free: 32064 MB
node 3 cpus: 24-31,216-223
node 3 size: 32250 MB
node 3 free: 32046 MB
node 4 cpus: 32-39,224-231
node 4 size: 32250 MB
node 4 free: 32066 MB
node 5 cpus: 40-47,232-239
node 5 size: 32207 MB
node 5 free: 32039 MB
node 6 cpus: 48-55,240-247
node 6 size: 32250 MB
node 6 free: 32043 MB
node 7 cpus: 56-63,248-255
node 7 size: 32250 MB
node 7 free: 32068 MB
node 8 cpus: 64-71,256-263
node 8 size: 32250 MB

```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Platform Notes (Continued)

```

node 8 free: 32045 MB
node 9 cpus: 72-79,264-271
node 9 size: 32250 MB
node 9 free: 32073 MB
node 10 cpus: 80-87,272-279
node 10 size: 32250 MB
node 10 free: 32060 MB
node 11 cpus: 88-95,280-287
node 11 size: 32250 MB
node 11 free: 32044 MB
node 12 cpus: 96-103,288-295
node 12 size: 32250 MB
node 12 free: 32071 MB
node 13 cpus: 104-111,296-303
node 13 size: 32250 MB
node 13 free: 32044 MB
node 14 cpus: 112-119,304-311
node 14 size: 32250 MB
node 14 free: 32052 MB
node 15 cpus: 120-127,312-319
node 15 size: 32250 MB
node 15 free: 32048 MB
node 16 cpus: 128-135,320-327
node 16 size: 32250 MB
node 16 free: 32040 MB
node 17 cpus: 136-143,328-335
node 17 size: 32250 MB
node 17 free: 32041 MB
node 18 cpus: 144-151,336-343
node 18 size: 32250 MB
node 18 free: 32015 MB
node 19 cpus: 152-159,344-351
node 19 size: 32250 MB
node 19 free: 32041 MB
node 20 cpus: 160-167,352-359
node 20 size: 32250 MB
node 20 free: 32052 MB
node 21 cpus: 168-175,360-367
node 21 size: 32250 MB
node 21 free: 32040 MB
node 22 cpus: 176-183,368-375
node 22 size: 32250 MB
node 22 free: 32063 MB
node 23 cpus: 184-191,376-383
node 23 size: 32189 MB
node 23 free: 31974 MB
node distances:

```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Platform Notes (Continued)

node	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
0:	10	11	11	12	12	12	12	12	12	12	12	12	32	32	32	32	32	32	32	32	32	32	32	32
1:	11	10	11	12	12	12	12	12	12	12	12	12	32	32	32	32	32	32	32	32	32	32	32	32
2:	11	11	10	12	12	12	12	12	12	12	12	12	32	32	32	32	32	32	32	32	32	32	32	32
3:	12	12	12	10	11	11	12	12	12	12	12	12	32	32	32	32	32	32	32	32	32	32	32	32
4:	12	12	12	11	10	11	12	12	12	12	12	12	32	32	32	32	32	32	32	32	32	32	32	32
5:	12	12	12	11	11	10	12	12	12	12	12	12	32	32	32	32	32	32	32	32	32	32	32	32
6:	12	12	12	12	12	12	10	11	11	12	12	12	32	32	32	32	32	32	32	32	32	32	32	32
7:	12	12	12	12	12	12	11	10	11	12	12	12	32	32	32	32	32	32	32	32	32	32	32	32
8:	12	12	12	12	12	12	11	11	10	12	12	12	32	32	32	32	32	32	32	32	32	32	32	32
9:	12	12	12	12	12	12	12	12	12	10	11	11	32	32	32	32	32	32	32	32	32	32	32	32
10:	12	12	12	12	12	12	12	12	12	11	10	11	32	32	32	32	32	32	32	32	32	32	32	32
11:	12	12	12	12	12	12	12	12	12	11	11	10	32	32	32	32	32	32	32	32	32	32	32	32
12:	32	32	32	32	32	32	32	32	32	32	32	32	10	11	11	12	12	12	12	12	12	12	12	12
13:	32	32	32	32	32	32	32	32	32	32	32	32	11	10	11	12	12	12	12	12	12	12	12	12
14:	32	32	32	32	32	32	32	32	32	32	32	32	11	11	10	12	12	12	12	12	12	12	12	12
15:	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	10	11	11	12	12	12	12	12	12
16:	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	11	10	11	12	12	12	12	12	12
17:	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	11	11	10	12	12	12	12	12	12
18:	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	12	12	10	11	11	12	12	12	12
19:	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	12	12	11	10	11	12	12	12	12
20:	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	12	12	11	11	10	12	12	12	12
21:	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	12	12	12	12	12	10	11	11	11
22:	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	12	12	12	12	12	11	10	11	11
23:	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	12	12	12	12	12	11	11	10	10

```

9. /proc/meminfo
   MemTotal:          792091132 kB

```

```

10. who -r
    run-level 5 Jan 28 11:36

```

```

11. Systemd service manager version: systemd 255 (255.4-lubuntu8.12)
    Default Target   Status
    graphical        running

```

```

12. Services, from systemctl list-unit-files
    STATE          UNIT FILES
    enabled        ModemManager apparmor appport blk-availability cloud-config cloud-final cloud-init
                  cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ gpu-manager
                  grub-common grub-initrd-fallback keyboard-setup lvm2-monitor multipathd
                  networkd-dispatcher open-iscsi open-vm-tools pollinate rsyslog secureboot-db setvtrgb
                  snapd sysstat systemd-networkd systemd-networkd-wait-online systemd-pstore

```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Platform Notes (Continued)

```

systemd-resolved thermald tuned 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 iscsid nftables rsync serial-getty@ ssh
systemd-boot-check-no-failures systemd-conftxt 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
indirect systemd-time-wait-sync systemd-timesyncd upower
masked systemd-sysupdate systemd-sysupdate-reboot uidd
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-6.8.0-90-generic
root=UUID=60685607-d408-4b5d-9478-a6a431e11442
ro

```

14. cpupower frequency-info

```

analyzing CPU 115:
  current policy: frequency should be within 1.50 GHz and 2.40 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

boost state support:
  Supported: yes
  Active: yes
  Boost States: 0
  Total States: 3
  Pstate-P0: 2400MHz

```

15. tuned-adm active

Current active profile: balanced

16. sysctl

```

kernel.numa_balancing 1
kernel.randomize_va_space 0
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 8
vm.dirty_writeback_centisecs 500
vm.dirtytime_expire_seconds 43200

```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

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                 1
vm.watermark_boost_factor    15000
vm.watermark_scale_factor    10
vm.zone_reclaim_mode         1

```

```

-----
17. /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

```

```

-----
18. /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

```

```

-----
19. OS release
From /etc/*-release /etc/*-version
os-release Ubuntu 24.04.3 LTS

```

```

-----
20. Disk information
SPEC is set to: /home/cpu2026
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext4  439G   86G  331G  21% /

```

```

-----
21. /sys/devices/virtual/dmi/id
Vendor:          HPE
Product:         ProLiant DL385 Gen11
Product Family: ProLiant
Serial:          DL385G11-003

```

```

-----
22. dmidecode

```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Platform Notes (Continued)

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:

2x Hynix HMCG88AEBRA115N 32 GB 2 rank 4800

22x Hynix HMCG88MEBRA113N 32 GB 2 rank 4800

23. BIOS

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

BIOS Vendor: HPE
BIOS Version: 2.90
BIOS Date: 01/09/2026
BIOS Revision: 2.90
Firmware Revision: 1.63

Compiler Version Notes

=====
C | 708.sqlite_r(base) 714.cpython_r(base) 777.zstd_r(base)
=====

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
=====

=====
C++ | 706.stockfish_r(base) 707.ntest_r(base) 727.cppcheck_r(base)
| 753.ns3_r(base)
=====

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
=====

=====
C++, C | 710.omnetpp_r(base) 721.gcc_r(base) 723.llvm_r(base) 729.abc_r(base)
| 734.vpr_r(base) 735.gem5_r(base) 750.sealcrypto_r(base)
=====

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate®2026_int_base = 661

SPECrate®2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Compiler Version Notes (Continued)

InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Benchmarks using both C and C++:

clang++ clang

Base Portability Flags

706.stockfish_r: -DSPEC_LP64
707.ntest_r: -DSPEC_LP64
708.sqlite_r: -DSPEC_LP64
710.omnetpp_r: -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: -DSPEC_LP64
735.gem5_r: -DSPEC_LP64
750.sealcrypto_r: -DSPEC_LP64
753.ns3_r: -DSPEC_LP64
777.zstd_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:

-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather
-Wl,-mllvm -Wl,-extra-inliner -O3 -march=znver5 -fveclib=AMDLIBM
-fno-PIE -no-pie -flto -fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lflang

(Continued on next page)



SPEC CPU[®]2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate[®]2026_int_base = 661

SPECrate[®]2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Base Optimization Flags (Continued)

C benchmarks (continued):

-lamdalloc

C++ benchmarks:

```
-m64 -std=c++17 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver5  
-fveclib=AMDLIBM -flto -mllvm -unroll-threshold=100  
-mllvm -loop-unswitch-threshold=200000  
-mllvm -reduce-array-computations=3 -zopt -fno-PIE -no-pie  
-fvirtual-function-elimination -fvisibility=hidden -lamdlibm -lflang  
-lamdalloc
```

Benchmarks using both C and C++:

```
-m64 -std=c++17 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver5  
-fveclib=AMDLIBM -fno-PIE -no-pie -flto -fstruct-layout=7  
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000  
-fremap-arrays -fstrip-mining -mllvm -reduce-array-computations=3  
-zopt -mllvm -unroll-threshold=100  
-mllvm -loop-unswitch-threshold=200000 -fvirtual-function-elimination  
-fvisibility=hidden -lamdlibm -lflang -lamdalloc
```

Peak Optimization Flags

C benchmarks:

708.sqlite_r: basepeak = yes

714.cpython_r: basepeak = yes

777.zstd_r: basepeak = yes

C++ benchmarks:

706.stockfish_r: basepeak = yes

707.ntest_r: basepeak = yes

727.cppcheck_r: basepeak = yes

753.ns3_r: basepeak = yes

Benchmarks using both C and C++:

(Continued on next page)



SPEC CPU[®]2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen11

(2.40 GHz, AMD EPYC 9654)

SPECrate[®]2026_int_base = 661

SPECrate[®]2026_int_peak = 661

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jan-2026

Hardware Availability: Dec-2022

Software Availability: Jan-2026

Peak Optimization Flags (Continued)

710.omnetpp_r: basepeak = yes

721.gcc_r: basepeak = yes

723.llvm_r: basepeak = yes

729.abc_r: basepeak = yes

734.vpr_r: basepeak = yes

735.gem5_r: basepeak = yes

750.sealcrypto_r: basepeak = yes

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

<http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Turin-rev1.11.html>

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.html>

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

<http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Turin-rev1.11.xml>

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.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[®]2026 v0.902.0 on 2026-01-28 08:38:57-0500.

Report generated on 2026-05-11 16:38:12 by CPU2026 PDF formatter (unknown).

Originally published on 2026-05-05.