



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6990E+)

SPECrate®2026_int_base = 1380

SPECrate®2026_int_peak = 1450

CPU2026 License: 001176

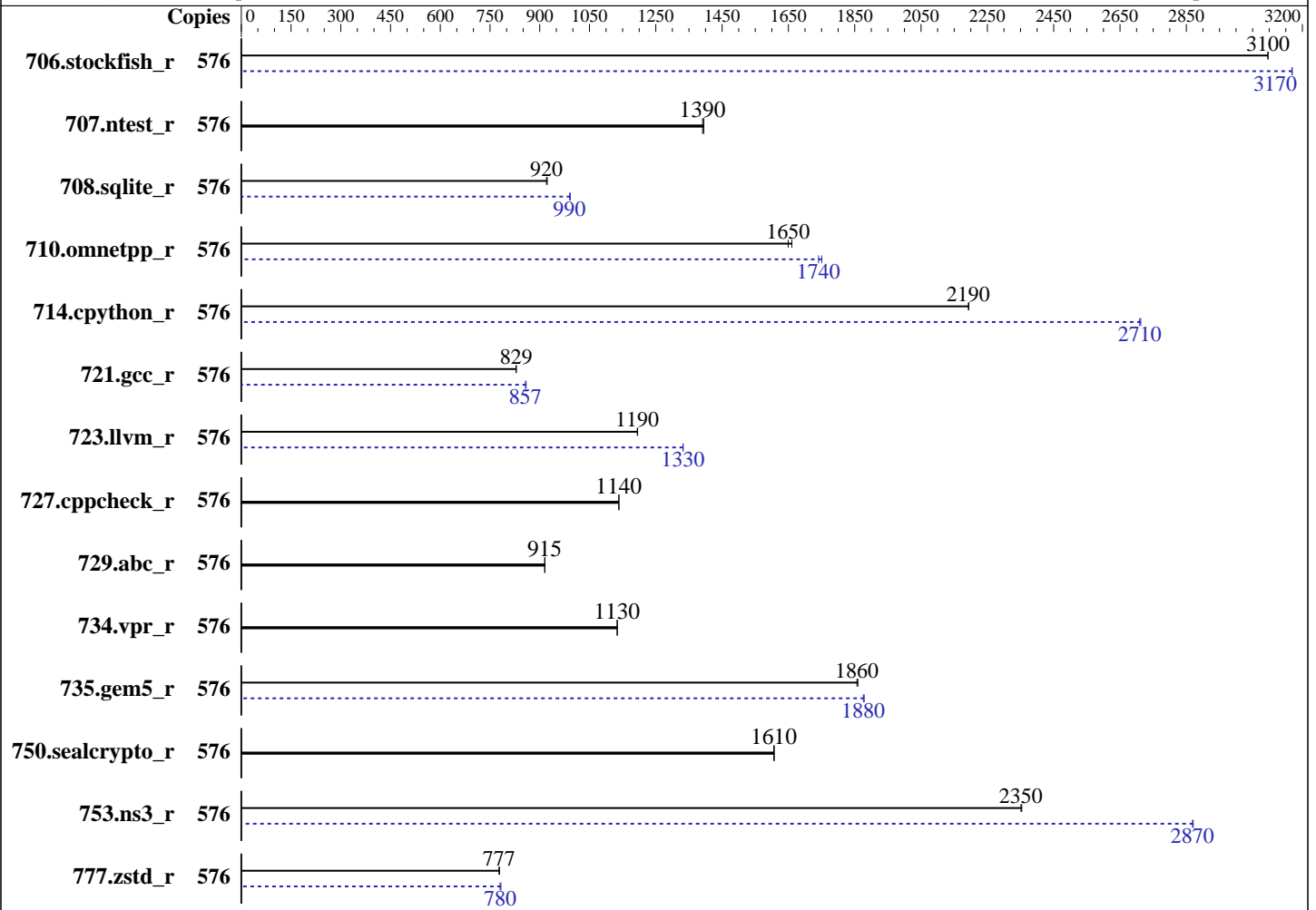
Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: May-2026

Hardware Availability: Jun-2026

Software Availability: Apr-2026



Hardware

CPU Name: Intel Xeon 6990E+
 Max MHz: 3200
 Nominal: 2200
 Enabled: 576 cores, 2 chips
 Orderable: 1, 2 chips
 Cache L1: 64 KB I + 32 KB D on chip per core
 L2: 4 MB I+D on chip per core
 L3: 576 MB I+D on chip per chip
 Other: None
 Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-8000B-R)
 Storage: 1 x 1.92TB NVMe SSD
 Cooling: DLC
 Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP7
 6.4.0-150700.51-default
 Compiler: C/C++: Version 2026.0 of Intel oneAPI DPC++/C++
 Compiler for Linux;
 Fortran: Version 2026.0 of Intel Fortran
 Compiler for Linux
 Compiler Category: Vendor
 Firmware: Version 2.0 released May-2026
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: None
 Power Management: BIOS set to prefer performance at the cost of
 additional power usage.



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
706.stockfish_r	576	234	3100	234	3100			576	229	3170	229	3170		
707.ntest_r	576	245	1390	244	1390			576	245	1390	244	1390		
708.sqlite_r	576	330	920	330	923			576	307	992	307	990		
710.omnetpp_r	576	169	1660	170	1650			576	160	1750	161	1740		
714.cpython_r	576	126	2190	126	2190			576	102	2710	102	2710		
721.gcc_r	576	477	829	476	829			576	461	857	460	859		
723.llvm_r	576	244	1200	245	1190			576	219	1330	219	1330		
727.cppcheck_r	576	182	1140	182	1140			576	182	1140	182	1140		
729.abc_r	576	289	915	289	915			576	289	915	289	915		
734.vpr_r	576	234	1130	234	1130			576	234	1130	234	1130		
735.gem5_r	576	151	1860	151	1860			576	150	1880	149	1880		
750.sealcrypto_r	576	192	1610	192	1610			576	192	1610	192	1610		
753.ns3_r	576	150	2350	150	2350			576	123	2870	123	2870		
777.zstd_r	576	476	779	477	777			576	474	783	475	780		

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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 = "/home/cpu2026/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

(Continued on next page)



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General Notes (Continued)

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>

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 Settings:

Power Performance Tuning = BIOS Controls EPB
ENERGY_PERF_BIAS_CFG mode = Extreme Performance

Sysinfo program /home/cpu2026/bin/sysinfo
Rev: 779ab21020787073335a329f3a45e2cd
running on Wed May 13 16:06:31 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 254 (254.24+suse.148.g83b9060b6e)
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

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Platform Notes (Continued)

20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS

1. uname -srvm
Linux 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611) x86_64

2. w
16:06:31 up 2 min, 1 user, load average: 0.43, 0.38, 0.16
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 16:05 7.00s 1.70s 0.03s -bash

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) 6189164
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) 6189164
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
-bash
runcpu --nobuild --reportable --action validate --define default-platform-flags --copies 576 -c
ic2026.0-clearwaterforest-cpu2026-1.0.1-rate-20260429.cfg --define smt-on --define cores=576 --define
physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base,peak -o all

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Platform Notes (Continued)

intrate

```
runccpu --nobuild --reportable --action validate --define default-platform-flags --copies 576 --configfile
ic2026.0-clearwaterforest-cpu2026-1.0.1-rate-20260429.cfg --define smt-on --define cores=576 --define
physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base,peak
--output_format all --nopower --runmode rate --tune base:peak --size refrate intrate --nopreenv
--note-preenv --logfile $SPEC/tmp/CPU2026.003/templogs/preenv.intrate.003.0.log --lognum 003.0
--from_runccpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026
```

6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6990E+
vendor_id      : GenuineIntel
cpu family     : 6
model          : 221
stepping      : 1
microcode     : 0x1000120
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores     : 288
siblings      : 288
```

2 physical ids (chips)

576 processors (hardware threads)

physical id 0: core ids 0-95,128-223,256-351

physical id 1: core ids 0-95,128-223,256-351

physical id 0: apicids

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, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 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, 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, 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, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638, 640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702

physical id 1: apicids

1024, 1026, 1028, 1030, 1032, 1034, 1036, 1038, 1040, 1042, 1044, 1046, 1048, 1050, 1052, 1054, 1056, 1058, 1060, 1062, 1064, 1066, 1068, 1070, 1072, 1074, 1076, 1078, 1080, 1082, 1084, 1086, 1088, 1090, 1092, 1094, 1096, 1098, 1100, 1102, 1104, 1106, 1108, 1110, 1112, 1114, 1116, 1118, 1120, 1122, 1124, 1126, 1128, 1130, 1132, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, 1160, 1162, 1164, 1166, 1168, 1170, 1172, 1174, 1176, 1178, 1180, 1182, 1184, 1186, 1188, 1190, 1192, 1194, 1196, 1198, 1200, 1202, 1204, 1206, 1208, 1210, 1212, 1214, 1216, 1218, 1220, 1222, 1224, 1226, 1228, 1230, 1232, 1234, 1236, 1238, 1240, 1242, 1244, 1246, 1248, 1250, 1252, 1254, 1256, 1258, 1260, 1262, 1264, 1266, 1268, 1270, 1272, 1274, 1276, 1278, 1280, 1282, 1284, 1286, 1288, 1290, 1292, 1294, 1296, 1298, 1300, 1302, 1304, 1306, 1308, 1310, 1312, 1314, 1316, 1318, 1320, 1322, 1324, 1326, 1328, 1330, 1332, 1334, 1336, 1338, 1340, 1342, 1344, 1346, 1348, 1350, 1352, 1354, 1356, 1358, 1360, 1362, 1364, 1366, 1368, 1370, 1372, 1374, 1376, 1378, 1380, 1382, 1384, 1386, 1388, 1390, 1392, 1394, 1396, 1398, 1400, 1402, 1404, 1406, 1408, 1410, 1412, 1414, 1416, 1418, 1420, 1422, 1424, 1426, 1428, 1430, 1432, 1434, 1436, 1438, 1440, 1442, 1444, 1446, 1448, 1450, 1452, 1454, 1456, 1458, 1460, 1462, 1464,

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Platform Notes (Continued)

1466,1468,1470,1536,1538,1540,1542,1544,1546,1548,1550,1552,1554,1556,1558,1560,1562,1564,1566,1568,1570,1572,1574,1576,1578,1580,1582,1584,1586,1588,1590,1592,1594,1596,1598,1600,1602,1604,1606,1608,1610,1612,1614,1616,1618,1620,1622,1624,1626,1628,1630,1632,1634,1636,1638,1640,1642,1644,1646,1648,1650,1652,1654,1656,1658,1660,1662,1664,1666,1668,1670,1672,1674,1676,1678,1680,1682,1684,1686,1688,1690,1692,1694,1696,1698,1700,1702,1704,1706,1708,1710,1712,1714,1716,1718,1720,1722,1724,1726

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 2.40.4:

```
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:         52 bits physical, 48 bits virtual
Byte Order:            Little Endian
CPU(s):                576
On-line CPU(s) list:   0-575
Vendor ID:             GenuineIntel
Model name:            Intel(R) Xeon(R) 6990E+
CPU family:            6
Model:                 221
Thread(s) per core:    1
Core(s) per socket:    288
Socket(s):             2
Stepping:              1
BogoMIPS:              4400.00
```

```
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 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 fl6c 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 rdseed adx smap
                        clflushopt clwb intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves
                        cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect
                        user_shstk avx_vnni lam wbnoinvd dtherm ida arat pln pts vnmi umip
                        pku ospke waitpkg gfni vaes vpclmulqdq tme rdpid bus_lock_detect
                        cldemote movdiri movdir64b enqcmd fsrm md_clear serialize pconfig
                        arch_lbr ibt flush_lld arch_capabilities
```

```
Virtualization:        VT-x
L1d cache:             18 MiB (576 instances)
L1i cache:             36 MiB (576 instances)
L2 cache:              576 MiB (144 instances)
```

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Platform Notes (Continued)

```

L3 cache:                1.1 GiB (2 instances)
NUMA node(s):            6
NUMA node0 CPU(s):      0-95
NUMA node1 CPU(s):      96-191
NUMA node2 CPU(s):      192-287
NUMA node3 CPU(s):      288-383
NUMA node4 CPU(s):      384-479
NUMA node5 CPU(s):      480-575
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/swappgs barriers and __user pointer sanitization
Vulnerability Spectre v2:           Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling;
                                      PBR SB-eIBRS Not affected; BHI Not affected
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	18M	8	Data	1	64	1	64
L1i	64K	36M	8	Instruction	1	128	1	64
L2	4M	576M	16	Unified	2	4096	1	64
L3	576M	1.1G	16	Unified	3	589824	1	64

8. numactl --hardware

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

```

available: 6 nodes (0-5)
node 0 cpus: 0-95
node 0 size: 257400 MB
node 0 free: 256325 MB
node 1 cpus: 96-191
node 1 size: 258022 MB
node 1 free: 256506 MB
node 2 cpus: 192-287
node 2 size: 258022 MB
node 2 free: 256996 MB
node 3 cpus: 288-383
node 3 size: 257983 MB
node 3 free: 257377 MB

```

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Platform Notes (Continued)

```

node 4 cpus: 384-479
node 4 size: 258022 MB
node 4 free: 257285 MB
node 5 cpus: 480-575
node 5 size: 257867 MB
node 5 free: 257316 MB
node distances:
node  0  1  2  3  4  5
  0:  10  15  17  21  28  26
  1:  15  10  15  23  26  23
  2:  17  15  10  26  23  21
  3:  21  28  26  10  15  17
  4:  23  26  23  15  10  15
  5:  26  23  21  17  15  10

```

```

-----
9. /proc/meminfo
   MemTotal:          15844455504 kB

```

```

-----
10. who -r
    run-level 3 May 13 16:05

```

```

-----
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
    Default Target   Status
    multi-user       running

```

```

-----
12. Services, from systemctl list-unit-files
    STATE          UNIT FILES
enabled           YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd bluetooth cron
                  display-manager getty@ irqbalance issue-generator kbdsettings klog lvm2-monitor nscd
                  nvme-fc-boot-connections nvmmf-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         accounts-daemon autofs autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl
                  ca-certificates chrony-wait chronyd console-getty cups cups-browsed debug-shell ebttables
                  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 nmb
                  ostree-remount ostree-state-overlay@ rpcbind rpmconfigcheck rsyncd rtkit-daemon samba-bgqd
                  serial-getty@ smartd_generate_opts smb snmpd snmptrapd speech-dispatcherd
                  systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-sysext
                  systemd-time-wait-sync systemd-timesyncd udisks2 update-system-flatpaks upower vncserver@
indirect         systemd-userdbd wickedd

```

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Platform Notes (Continued)

13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
root=UUID=a01dde6d-ca13-4c27-8508-91fa7301d7f7
splash=silent
mitigations=auto
quiet
security=apparmor

14. cpupower frequency-info
analyzing CPU 162:
Unable to determine current policy
boost state support:
Supported: yes
Active: yes

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+madvice [madvice] never
enabled [always] madvice never
hpage_pmd_size 2097152
shmem_enabled always within_size advise [never] deny force

17. /sys/kernel/mm/transparent_hugepage/khugepaged

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SPEC CPU®2026 Integer Rate Result

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SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6990E+)

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Test Date: May-2026
Hardware Availability: Jun-2026
Software Availability: Apr-2026

Platform Notes (Continued)

```

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

```

18. OS release

From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP7

19. Disk information

SPEC is set to: /home/cpu2026
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p3 xfs 800G 101G 700G 13% /home

20. /sys/devices/virtual/dmi/id

Vendor: Supermicro
Product: Super Server
Product Family: Family
Serial: 0123456789

21. 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:
 24x Samsung MDRR644QEBC2-5R000 64 GB 2 rank 8000

22. BIOS

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

BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 2.0
BIOS Date: 05/06/2026
BIOS Revision: 5.35



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Compiler Version Notes

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2026.0.0 Build 20260331
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=====

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2026.0.0 Build 20260331
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=====

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

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=====

Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Benchmarks using both C and C++:

icpx icx

Base Optimization Flags

C benchmarks:

-m64 -std=c18 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500
-xclearwaterforest -O3 -ffp-model=fast -flto -mfpmath=sse

(Continued on next page)



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Base Optimization Flags (Continued)

C benchmarks (continued):

```
-funroll-loops -qopt-mem-layout-trans=4 -fno-strict-aliasing  
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc
```

C++ benchmarks:

```
-m64 -std=c++17 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500  
-xclearwaterforest -O3 -ffp-model=fast -flto -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4  
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc
```

Benchmarks using both C and C++:

```
-m64 -std=c++17 -std=c18 -Wl,-z,muldefs  
-Wl,-plugin-opt=-inline-threshold=1500 -xclearwaterforest -O3  
-ffp-model=fast -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fno-strict-aliasing  
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc
```

Peak Compiler Invocation

C benchmarks:

```
icx
```

C++ benchmarks:

```
icpx
```

Benchmarks using both C and C++:

```
icpx icx
```

Peak Optimization Flags

C benchmarks:

```
-m64 -std=c18 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500  
-fprofile-generate(pass 1) -fprofile-use=default.profdata(pass 2)  
-xCORE-AVX2(pass 1) -ffp-model=fast -xclearwaterforest(pass 2) -flto  
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops  
-fno-strict-aliasing -L/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc
```

C++ benchmarks:

```
706.stockfish_r: -m64 -std=c++17 -Wl,-z,muldefs  
-Wl,-plugin-opt=-inline-threshold=1500  
-fprofile-generate(pass 1)
```

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Peak Optimization Flags (Continued)

706.stockfish_r (continued):

```
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xclearwaterforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmallo
```

707.ntest_r: basepeak = yes

727.cppcheck_r: basepeak = yes

753.ns3_r: Same as 706.stockfish_r

Benchmarks using both C and C++:

```
710.omnetpp_r: -m64 -std=c++17 -std=c18 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xclearwaterforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-fno-strict-aliasing
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmallo
```

```
721.gcc_r: -m64 -std=c++17 -std=c18 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xclearwaterforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-fno-strict-aliasing
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmallo
```

723.llvm_r: Same as 721.gcc_r

729.abc_r: basepeak = yes

734.vpr_r: basepeak = yes

735.gem5_r: Same as 710.omnetpp_r

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/Supermicro-Platform-Settings-V1.2-CWF-revC.html>
<http://www.spec.org/cpu2026/results/flags/Intel-ic2025-official-linux64.html>



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

<http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-CWF-revC.xml>

<http://www.spec.org/cpu2026/results/flags/Intel-ic2025-official-linux64.xml>

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Tested with SPEC CPU®2026 v1.0.1 on 2026-05-13 19:06:30-0400.

Report generated on 2026-06-04 10:14:40 by CPU2026 PDF formatter (unknown).

Originally published on 2026-06-04.