



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_base = 13.5

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 9017

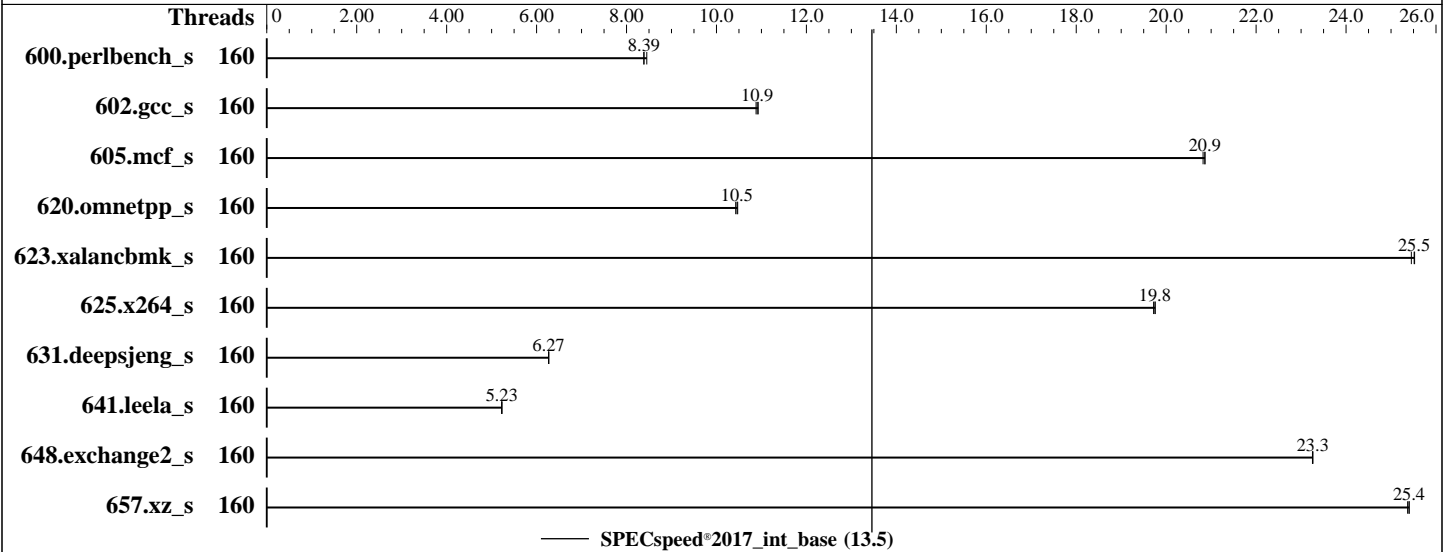
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: May-2023

Hardware Availability: May-2023

Software Availability: Dec-2022



### Hardware

CPU Name: Intel Xeon Max 9460  
 Max MHz: 3500  
 Nominal: 2200  
 Enabled: 80 cores, 2 chips, 2 threads/core  
 Orderable: 1,2 chips  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 2 MB I+D on chip per core  
 L3: 97.5 MB I+D on chip per chip  
 Other: None  
 Memory: 640 GB (16 x 32 GB 2Rx8 PC5-4800B-R +  
 2 x 64 GB HBM)  
 Storage: 1 x 960 GB SATA SSD  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP4 (x86\_64)  
 Kernel 5.14.21-150400.22-default  
 Compiler: C/C++: Version 2023.0 of Intel oneAPI DPC++/C++  
 Compiler for Linux;  
 Fortran: Version 2023.0 of Intel Fortran Compiler  
 for Linux;  
 Parallel: Yes  
 Firmware: Lenovo BIOS Version USE117T 3.10 released Apr-2023  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: Not Applicable  
 Other: jemalloc memory allocator V5.0.1  
 Power Management: BIOS and OS set to prefer performance at the cost  
 of additional power usage



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_base = 13.5

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology

**Test Date:** May-2023  
**Hardware Availability:** May-2023  
**Software Availability:** Dec-2022

## Results Table

Benchmark	Base								Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
600.perlbench_s	160	210	8.45	<u>212</u>	<u>8.39</u>	212	8.38									
602.gcc_s	160	364	10.9	<u>365</u>	<u>10.9</u>	366	10.9									
605.mcf_s	160	<u>226</u>	<u>20.9</u>	226	20.9	227	20.8									
620.omnetpp_s	160	<u>156</u>	<u>10.5</u>	156	10.4	156	10.5									
623.xalancbmk_s	160	55.5	25.5	55.7	25.5	<u>55.5</u>	<u>25.5</u>									
625.x264_s	160	89.5	19.7	89.3	19.8	<u>89.3</u>	<u>19.8</u>									
631.deepsjeng_s	160	<u>229</u>	<u>6.27</u>	229	6.27	229	6.27									
641.leela_s	160	<u>326</u>	<u>5.23</u>	326	5.23	326	5.23									
648.exchange2_s	160	126	23.3	126	23.3	<u>126</u>	<u>23.3</u>									
657.xz_s	160	244	25.4	<u>243</u>	<u>25.4</u>	243	25.4									

SPECspeed®2017\_int\_base = 13.5

SPECspeed®2017\_int\_peak = Not Run

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

## Compiler Notes

SPEC has ruled that the compiler used for this result was performing a compilation that specifically improves the performance of the 523.xalancbmk\_r / 623.xalancbmk\_s benchmarks using a priori knowledge of the SPEC code and dataset to perform a transformation that has narrow applicability.

In order to encourage optimizations that have wide applicability (see rule 1.4 [https://www.spec.org/cpu2017/Docs/runrules.html#rule\\_1.4](https://www.spec.org/cpu2017/Docs/runrules.html#rule_1.4)), SPEC will no longer publish results using this optimization.

This result is left in the SPEC results database for historical reference.

## 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:

KMP\_AFFINITY = "granularity=fine,scatter"  
LD\_LIBRARY\_PATH = "/home/cpu2017-1.1.9-ic2023.0/lib/intel64:/home/cpu2017-1.1.9-ic2023.0/je5.0.1-64"  
MALLOC\_CONF = "retain:true"  
OMP\_STACKSIZE = "192M"

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM  
memory using Redhat Enterprise Linux 8.0  
Transparent Huge Pages enabled by default  
Prior to runcpu invocation

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed®2017\_int\_base = 13.5

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 9017

**Test Date:** May-2023

**Test Sponsor:** Lenovo Global Technology

**Hardware Availability:** May-2023

**Tested by:** Lenovo Global Technology

**Software Availability:** Dec-2022

### General Notes (Continued)

Filesystem page cache synced and cleared with:

```
sync; echo 3> /proc/sys/vm/drop_caches
```

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.

jemalloc, a general purpose malloc implementation

built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

### Platform Notes

BIOS configuration:

Choose Operating Mode set to Custom Mode

CPU P-state Control set to Cooperative with Legacy

Sysinfo program /home/cpu2017-1.1.9-ic2023.0/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on Perf-Seoul2-L Fri May 19 06:34:46 2023

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

-----  
Table of contents  
-----

1. uname -a
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 249 (249.11+suse.124.g2bc0b2c447)
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 -a  
Linux Perf-Seoul2-L 5.14.21-150400.22-default #1 SMP PREEMPT\_DYNAMIC Wed May 11 06:57:18 UTC 2022 (49db222)  
x86\_64 x86\_64 x86\_64 GNU/Linux

-----

2. w

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed®2017\_int\_base = 13.5

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology

**Test Date:** May-2023  
**Hardware Availability:** May-2023  
**Software Availability:** Dec-2022

### Platform Notes (Continued)

```
06:34:46 up 1 min, 1 user, load average: 13.74, 7.02, 2.65
USER      TTY      FROM          LOGIN@      IDLE        JCPU        PCPU        WHAT
root      tty1     -             06:34      6.00s      1.05s      0.01s      -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) 2062455  
max locked memory (kbytes, -l) 64  
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) 2062455  
virtual memory (kbytes, -v) unlimited  
file locks (-x) unlimited

5. sysinfo process ancestry  
/usr/lib/systemd/systemd --switched-root --system --deserialize 30  
login -- root  
-bash  
-bash  
-bash  
runcpu --nobuild --action validate --define default-platform-flags -c  
ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=80 --tune base -o all --define  
intspeedaffinity --define smt-on --define drop\_caches intspeed  
runcpu --nobuild --action validate --define default-platform-flags --configfile  
ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=80 --tune base --output\_format all --define  
intspeedaffinity --define smt-on --define drop\_caches --nopower --runmode speed --tune base --size  
refspeed intspeed --nopreenv --note-preenv --logfile  
\$SPEC/tmp/CPU2017.125/templogs/preenv.intspeed.125.0.log --lognum 125.0 --from\_runcpu 2  
specperl \$SPEC/bin/sysinfo  
\$SPEC = /home/cpu2017-1.1.9-ic2023.0

6. /proc/cpuinfo  
model name : Intel (R) Xeon (R) CPU Max 9460  
vendor\_id : GenuineIntel  
cpu family : 6  
model : 143  
stepping : 8  
microcode : 0x2c0001d1  
bugs : spectre\_v1 spectre\_v2 spec\_store\_bypass swapgs  
cpu cores : 40  
siblings : 80  
2 physical ids (chips)  
160 processors (hardware threads)  
physical id 0: core ids 0-39  
physical id 1: core ids 0-39

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed®2017\_int\_base = 13.5

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology

**Test Date:** May-2023  
**Hardware Availability:** May-2023  
**Software Availability:** Dec-2022

### Platform Notes (Continued)

physical id 0: apicids 0-79  
physical id 1: apicids 128-207

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 2.37.2:

```

Architecture:                x86_64
CPU op-mode(s):              32-bit, 64-bit
Address sizes:                46 bits physical, 57 bits virtual
Byte Order:                  Little Endian
CPU(s):                       160
On-line CPU(s) list:         0-159
Vendor ID:                   GenuineIntel
Model name:                   Intel(R) Xeon(R) CPU Max 9460
CPU family:                   6
Model:                        143
Thread(s) per core:          2
Core(s) per socket:          40
Socket(s):                    2
Stepping:                     8
CPU max MHz:                  3500.0000
CPU min MHz:                  800.0000
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 pebs bts rep_good nopl xtopology
                                nonstop_tsc cpuid aperfperf tsc_known_freq pni pclmulqdq dtes64 monitor
                                ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4_1
                                sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand
                                lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3
                                invpcid_single intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced
                                tpr_shadow vnmi flexpriority ept vpid ept_ad 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 avx_vnni avx512_bf16 wbnoinvd dtherm ida
                                arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req 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 avx512_fp16
                                amx_tile flush_lld arch_capabilities
Virtualization:              VT-x
L1d cache:                   3.8 MiB (80 instances)
L1i cache:                   2.5 MiB (80 instances)
L2 cache:                    160 MiB (80 instances)
L3 cache:                    195 MiB (2 instances)
NUMA node(s):                2
NUMA node0 CPU(s):           0-39,80-119
NUMA node1 CPU(s):           40-79,120-159
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:          Not affected
Vulnerability Mds:           Not affected
Vulnerability Meltdown:     Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1:    Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:    Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbds:         Not affected

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_base = 13.5

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology

**Test Date:** May-2023  
**Hardware Availability:** May-2023  
**Software Availability:** Dec-2022

### Platform Notes (Continued)

Vulnerability Tsx async abort: Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	3.8M	12	Data	1	64	1	64
L1i	32K	2.5M	8	Instruction	1	64	1	64
L2	2M	160M	16	Unified	2	2048	1	64
L3	97.5M	195M	15	Unified	3	106496	1	64

8. numactl --hardware

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

```

available: 2 nodes (0-1)
node 0 cpus: 0-39,80-119
node 0 size: 257691 MB
node 0 free: 255787 MB
node 1 cpus: 40-79,120-159
node 1 size: 257946 MB
node 1 free: 255654 MB
node distances:
node  0  1
  0:  10  21
  1:  21  10

```

9. /proc/meminfo

MemTotal: 528013136 kB

10. who -r

run-level 3 May 19 06:34

11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)

```

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@ haveged
irqbalance issue-generator kbdsettings klog lvm2-monitor nscd postfix purge-kernels
rollback rsyslog smartd sshd 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 ebttables exchange-bmc-os-info
firewalld gpm grub2-once haveged-switch-root ipmi ipmievdev issue-add-ssh-keys kexec-load
lunmask man-db-create multipathd nfs nfs-blkmap rdisc rpcbind rpmconfigcheck rsyncd
serial-getty@ smartd_generate_opts snmpd snmptrapd systemd-boot-check-no-failures
systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd tuned
indirect wickedd

```

13. Linux kernel boot-time arguments, from /proc/cmdline

```

BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
root=UUID=5f8bfd2f-a83f-41d5-8917-33e974e2f5bd
splash=silent
mitigations=auto
quiet

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed®2017\_int\_base = 13.5

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 9017

**Test Date:** May-2023

**Test Sponsor:** Lenovo Global Technology

**Hardware Availability:** May-2023

**Tested by:** Lenovo Global Technology

**Software Availability:** Dec-2022

### Platform Notes (Continued)

security=apparmor

-----  
14. cpupower frequency-info

analyzing CPU 0:

current policy: frequency should be within 800 MHz and 3.50 GHz.

The governor "performance" may decide which speed to use within this range.

boost state support:

Supported: yes

Active: yes

-----  
15. tuned-adm active

It seems that tuned daemon is not running, preset profile is not activated.

Preset profile: powersave

-----  
16. 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

-----  
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 SUSE Linux Enterprise Server 15 SP4

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_base = 13.5

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology

**Test Date:** May-2023  
**Hardware Availability:** May-2023  
**Software Availability:** Dec-2022

### Platform Notes (Continued)

-----  
20. Disk information

SPEC is set to: /home/cpu2017-1.1.9-ic2023.0  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda3 xfs 889G 42G 848G 5% /

-----  
21. /sys/devices/virtual/dmi/id

Vendor: Lenovo  
Product: ThinkSystem SD650 V3  
Product Family: ThinkSystem  
Serial: 9999999999

-----  
22. dmidecode

Additional information from dmidecode 3.2 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 Intel 16 GB 1 rank 3200  
16x Samsung M321R4GA3BB0-CQKVG 32 GB 2 rank 4800

-----  
23. BIOS

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

BIOS Vendor: Lenovo  
BIOS Version: USE117T-3.10  
BIOS Date: 04/17/2023  
BIOS Revision: 3.10  
Firmware Revision: 2.10

Each Intel Xeon CPU Max processor is configured with 64 GB of High Bandwidth Memory (HBM) in-package. dmidecode is additionally reporting the capacity of the CPU in-package HBM stack as: '8x Intel 16 GB 1 rank 3200'

### Compiler Version Notes

=====  
C | 600.perlbench\_s(base) 602.gcc\_s(base) 605.mcf\_s(base) 625.x264\_s(base) 657.xz\_s(base)

-----  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.  
-----

=====  
C++ | 620.omnetpp\_s(base) 623.xalancbmk\_s(base) 631.deepsjeng\_s(base) 641.leela\_s(base)

-----  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.  
-----

=====  
Fortran | 648.exchange2\_s(base)

-----  
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.  
-----





# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

SPECspeed®2017\_int\_base = 13.5

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 9017

**Test Date:** May-2023

**Test Sponsor:** Lenovo Global Technology

**Hardware Availability:** May-2023

**Tested by:** Lenovo Global Technology

**Software Availability:** Dec-2022

## Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

## Base Portability Flags

```
600.perlbench_s: -DSPEC_LP64 -DSPEC_LINUX_X64
602.gcc_s: -DSPEC_LP64
605.mcf_s: -DSPEC_LP64
620.omnetpp_s: -DSPEC_LP64
623.xalancbmk_s: -DSPEC_LP64 -DSPEC_LINUX
625.x264_s: -DSPEC_LP64
631.deepsjeng_s: -DSPEC_LP64
641.leela_s: -DSPEC_LP64
648.exchange2_s: -DSPEC_LP64
657.xz_s: -DSPEC_LP64
```

## Base Optimization Flags

C benchmarks:

```
-m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

C++ benchmarks:

```
-m64 -std=c++14 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Fortran benchmarks:

```
-m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SD650 V3  
(2.20 GHz, Intel Xeon Max 9460)

SPECspeed®2017\_int\_base = 13.5

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 9017

**Test Sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test Date:** May-2023

**Hardware Availability:** May-2023

**Software Availability:** Dec-2022

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

<http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Eaglestream-P.html>

<http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.html>

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

<http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Eaglestream-P.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.xml>

SPEC CPU and SPECspeed 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](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2023-05-18 18:34:46-0400.

Report generated on 2024-01-29 17:49:28 by CPU2017 PDF formatter v6716.

Originally published on 2023-06-13.