



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

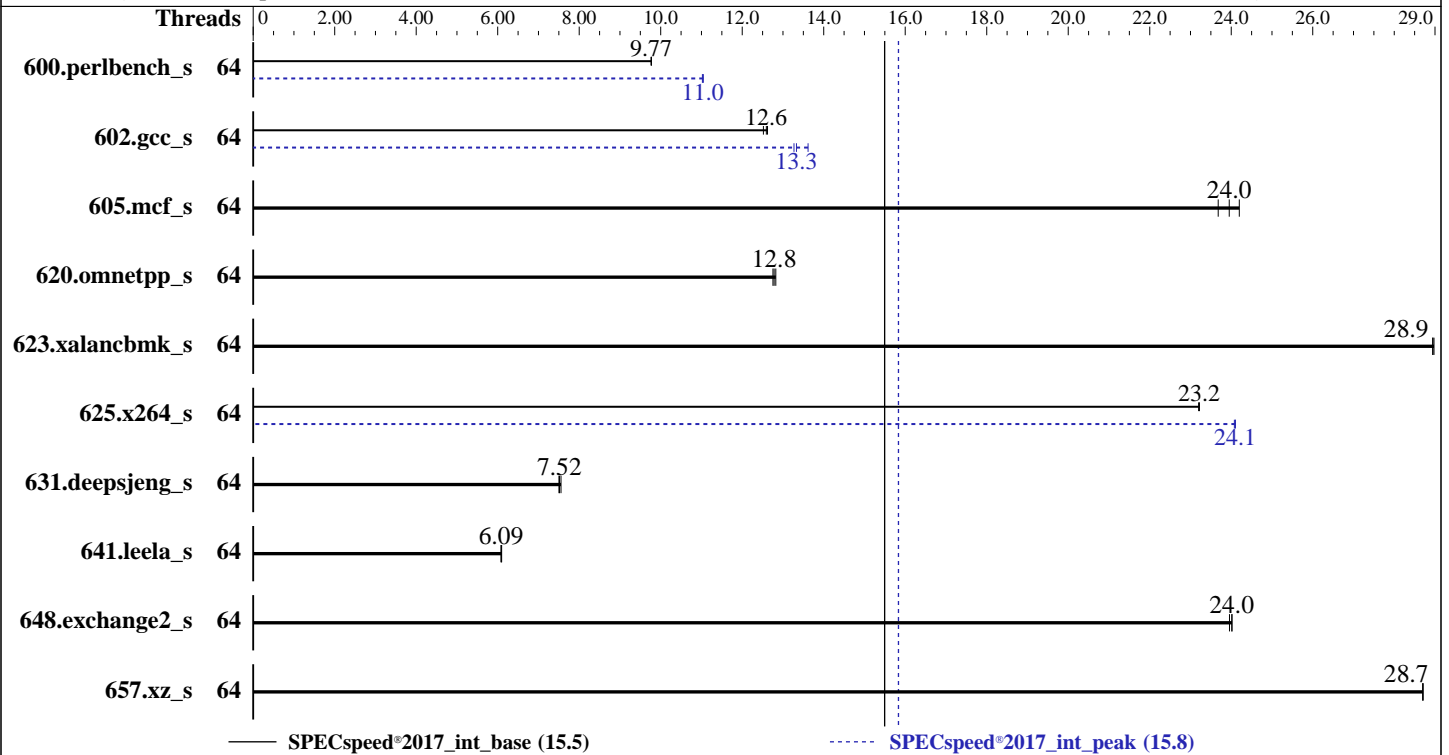
SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

CPU2017 License: 001176  
Test Sponsor: Supermicro  
Tested by: Supermicro

Test Date: Jan-2023  
Hardware Availability: Jan-2023  
Software Availability: Jun-2022



### Hardware

CPU Name: Intel Xeon Platinum 8462Y+  
Max MHz: 4100  
Nominal: 2800  
Enabled: 64 cores, 2 chips  
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: 60 MB I+D on chip per chip  
Other: None  
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-4800B-R)  
Storage: 1 x 1.92 TB NVME SSD  
Other: None

### Software

OS: SUSE Linux Enterprise High Performance Computing 15 SP4 5.14.21-150400.22-default  
Compiler: C/C++: Version 2022.1 of Intel oneAPI DPC++/C++ Compiler for Linux;  
Fortran: Version 2022.1 of Intel Fortran Compiler for Linux;  
Parallel: Yes  
Firmware: Version 1.1 released Feb-2023  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other: jemalloc memory allocator V5.0.1  
Power Management: BIOS set to prefer performance at the cost of additional power usage.



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

CPU2017 License: 001176  
Test Sponsor: Supermicro  
Tested by: Supermicro

Test Date: Jan-2023  
Hardware Availability: Jan-2023  
Software Availability: Jun-2022

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	64	182	9.77	<b><u>182</u></b>	<b><u>9.77</u></b>	182	9.76	64	161	11.0	161	11.0	<b><u>161</u></b>	<b><u>11.0</u></b>
602.gcc_s	64	318	12.5	316	12.6	<b><u>316</u></b>	<b><u>12.6</u></b>	64	<b><u>299</u></b>	<b><u>13.3</u></b>	292	13.6	300	13.3
605.mcf_s	64	195	24.2	<b><u>197</u></b>	<b><u>24.0</u></b>	199	23.7	64	195	24.2	<b><u>197</u></b>	<b><u>24.0</u></b>	199	23.7
620.omnetpp_s	64	127	12.8	<b><u>128</u></b>	<b><u>12.8</u></b>	128	12.8	64	127	12.8	<b><u>128</u></b>	<b><u>12.8</u></b>	128	12.8
623.xalancbmk_s	64	49.0	28.9	48.9	29.0	<b><u>48.9</u></b>	<b><u>28.9</u></b>	64	49.0	28.9	48.9	29.0	<b><u>48.9</u></b>	<b><u>28.9</u></b>
625.x264_s	64	76.0	23.2	76.0	23.2	<b><u>76.0</u></b>	<b><u>23.2</u></b>	64	73.3	24.1	<b><u>73.2</u></b>	<b><u>24.1</u></b>	73.2	24.1
631.deepsjeng_s	64	191	7.50	<b><u>191</u></b>	<b><u>7.52</u></b>	190	7.55	64	191	7.50	<b><u>191</u></b>	<b><u>7.52</u></b>	190	7.55
641.leela_s	64	280	6.08	<b><u>280</u></b>	<b><u>6.09</u></b>	280	6.10	64	280	6.08	<b><u>280</u></b>	<b><u>6.09</u></b>	280	6.10
648.exchange2_s	64	123	24.0	<b><u>122</u></b>	<b><u>24.0</u></b>	122	24.0	64	123	24.0	<b><u>122</u></b>	<b><u>24.0</u></b>	122	24.0
657.xz_s	64	<b><u>215</u></b>	<b><u>28.7</u></b>	215	28.7	215	28.7	64	<b><u>215</u></b>	<b><u>28.7</u></b>	215	28.7	215	28.7

SPECspeed®2017\_int\_base = **15.5**

SPECspeed®2017\_int\_peak = **15.8**

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/lib/intel64:/home/cpu2017/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

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Jun-2022

### 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.  
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 Settings:  
Hyper-Threading [ALL] = Disable  
Power Technology = Custom  
Power Performance Tuning = BIOS Controls EPB  
ENERGY\_PERF\_BIAS\_CFG mode = Performance  
  
Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on 165-76 Mon Jan 9 11:58:04 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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Jun-2022

### Platform Notes (Continued)

Linux 165-76 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  
11:58:04 up 3 min, 1 user, load average: 0.03, 0.06, 0.02  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - 11:57 2.00s 0.83s 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) 4125336  
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) 4125336  
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  
runcpu --nobuild --action validate --define default-platform-flags -c  
ic2022.1-lin-core-avx512-speed-20220316.cfg --define cores=64 --tune base,peak -o all --define  
intspeedaffinity --define drop\_caches intspeed  
runcpu --nobuild --action validate --define default-platform-flags --configfile  
ic2022.1-lin-core-avx512-speed-20220316.cfg --define cores=64 --tune base,peak --output\_format all  
--define intspeedaffinity --define drop\_caches --nopower --runmode speed --tune base:peak --size refspeed  
intspeed --nopreenv --note-preenv --logfile \$SPEC/tmp/CPU2017.013/templogs/preenv.intspeed.013.0.log  
--lognum 013.0 --from\_runcpu 2  
specperl \$SPEC/bin/sysinfo  
\$SPEC = /home/cpu2017

6. /proc/cpuinfo  
model name : Intel(R) Xeon(R) Platinum 8462Y+  
vendor\_id : GenuineIntel  
cpu family : 6  
model : 143  
stepping : 7  
microcode : 0x2b000161  
bugs : spectre\_v1 spectre\_v2 spec\_store\_bypass swapgs  
cpu cores : 32  
siblings : 32

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Jun-2022

### Platform Notes (Continued)

2 physical ids (chips)  
64 processors (hardware threads)  
physical id 0: core ids 0-31  
physical id 1: core ids 0-31  
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  
physical id 1: apicids  
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  
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):                64
On-line CPU(s) list:   0-63
Vendor ID:             GenuineIntel
Model name:            Intel(R) Xeon(R) Platinum 8462Y+
CPU family:            6
Model:                 143
Thread(s) per core:   1
Core(s) per socket:   32
Socket(s):             2
Stepping:              7
Frequency boost:       enabled
CPU max MHz:           2801.0000
CPU min MHz:           800.0000
BogoMIPS:              5600.00
Flags:                 fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36
                        clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp
                        lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology
                        nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor
                        ds_cpl 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 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 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_l1d arch_capabilities
Virtualization:        VT-x
L1d cache:             3 MiB (64 instances)
L1i cache:             2 MiB (64 instances)
L2 cache:              128 MiB (64 instances)
L3 cache:              120 MiB (2 instances)
NUMA node(s):         2
NUMA node0 CPU(s):    0-31
NUMA node1 CPU(s):    32-63
Vulnerability Itlb multihit: Not affected
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Jun-2022

### Platform Notes (Continued)

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/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2:	Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbds:	Not affected
Vulnerability Tsx async abort:	Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	3M	12	Data	1	64	1	64
L1i	32K	2M	8	Instruction	1	64	1	64
L2	2M	128M	16	Unified	2	2048	1	64
L3	60M	120M	15	Unified	3	65536	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: 0-31
node 0 size: 515619 MB
node 0 free: 513588 MB
node 1 cpus: 32-63
node 1 size: 515738 MB
node 1 free: 514547 MB
node distances:
node  0  1
  0: 10 21
  1: 21 10
```

9. /proc/meminfo

MemTotal: 1056110492 kB

10. who -r

run-level 3 Jan 9 11:55

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 firewalld getty@ haveged irqbalance issue-generator kbdsettings kdump kdump-early klog lvm2-monitor nscd nvme-fc-boot-connections 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 gpm grub2-once haveged-switch-root ipmi ipmievd issue-add-ssh-keys kexec-load lunmask man-db-create multipathd nfs nfs-blkmap nvme-autoconnect 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 udisks2
indirect	wickedd

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Jun-2022

### Platform Notes (Continued)

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
root=UUID=08300cd0-4901-419a-8ad6-76b0b6fc220f
splash=silent
resume=/dev/disk/by-uuid/39fb07a6-9b70-4901-aaca-462813fc7067
mitigations=auto
quiet
security=apparmor
crashkernel=320M,high
crashkernel=72M,low

```

```

-----
14. cpupower frequency-info
analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 2.80 GHz.
                   The governor "ondemand" 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: throughput-performance

```

```

-----
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

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Jun-2022

### Platform Notes (Continued)

```

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 High Performance Computing 15 SP4

```

```

-----
20. Disk information
SPEC is set to: /home/cpu2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p4 xfs 738G 143G 595G 20% /home

```

```

-----
21. /sys/devices/virtual/dmi/id
Vendor: Supermicro
Product: Super Server
Product Family: Family
Serial: 0123456789

```

```

-----
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:
  16x Micron Technology MTC40F2046S1RC48BA1 64 GB 2 rank 4800

```

```

-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 1.1
BIOS Date: 12/31/2022
BIOS Revision: 5.29

```

### Compiler Version Notes

```

=====
C      | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak)
      | 657.xz_s(base, peak)

```

```

-----
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

```

```

=====
C++   | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak)
      | 641.leela_s(base, peak)

```

```

-----
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

```

(Continued on next page)





# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Jun-2022

## Compiler Version Notes (Continued)

-----  
Fortran | 648.exchange2\_s(base, peak)  
-----

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.  
-----

## 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 -xCORE-AVX512 -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 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Jun-2022

## Base Optimization Flags (Continued)

C++ benchmarks (continued):

```
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Fortran benchmarks:

```
-m64 -Wl,-z,muldefs -xCORE-AVX512 -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
```

## Peak Compiler Invocation

C benchmarks:

```
icx
```

C++ benchmarks:

```
icpx
```

Fortran benchmarks:

```
ifx
```

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
600.perlbench_s: -m64 -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1)  
-fprofile-use=default.profddata(pass 2) -xCORE-AVX512 -O3  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP  
-fno-strict-overflow -L/usr/local/jemalloc64-5.0.1/lib  
-ljemalloc
```

```
602.gcc_s: -m64 -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1)  
-fprofile-use=default.profddata(pass 2) -xCORE-AVX512 -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
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-221H-TN24R  
(X13DEM , Intel Xeon Platinum 8462Y+)

SPECspeed®2017\_int\_base = 15.5

SPECspeed®2017\_int\_peak = 15.8

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Jun-2022

## Peak Optimization Flags (Continued)

605.mcf\_s: basepeak = yes

```
625.x264_s: -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -O3
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-fno-alias -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

657.xz\_s: basepeak = yes

C++ benchmarks:

620.omnetpp\_s: basepeak = yes

623.xalancbmk\_s: basepeak = yes

631.deepsjeng\_s: basepeak = yes

641.leela\_s: basepeak = yes

Fortran benchmarks:

648.exchange2\_s: basepeak = yes

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

<http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64-revB.html>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-SPR-revC.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64-revB.xml>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-SPR-revC.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 2023-01-09 14:58:03-0500.  
Report generated on 2024-01-29 17:24:20 by CPU2017 PDF formatter v6716.  
Originally published on 2023-03-01.