



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 16.1

### FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

CPU2017 License: 6488

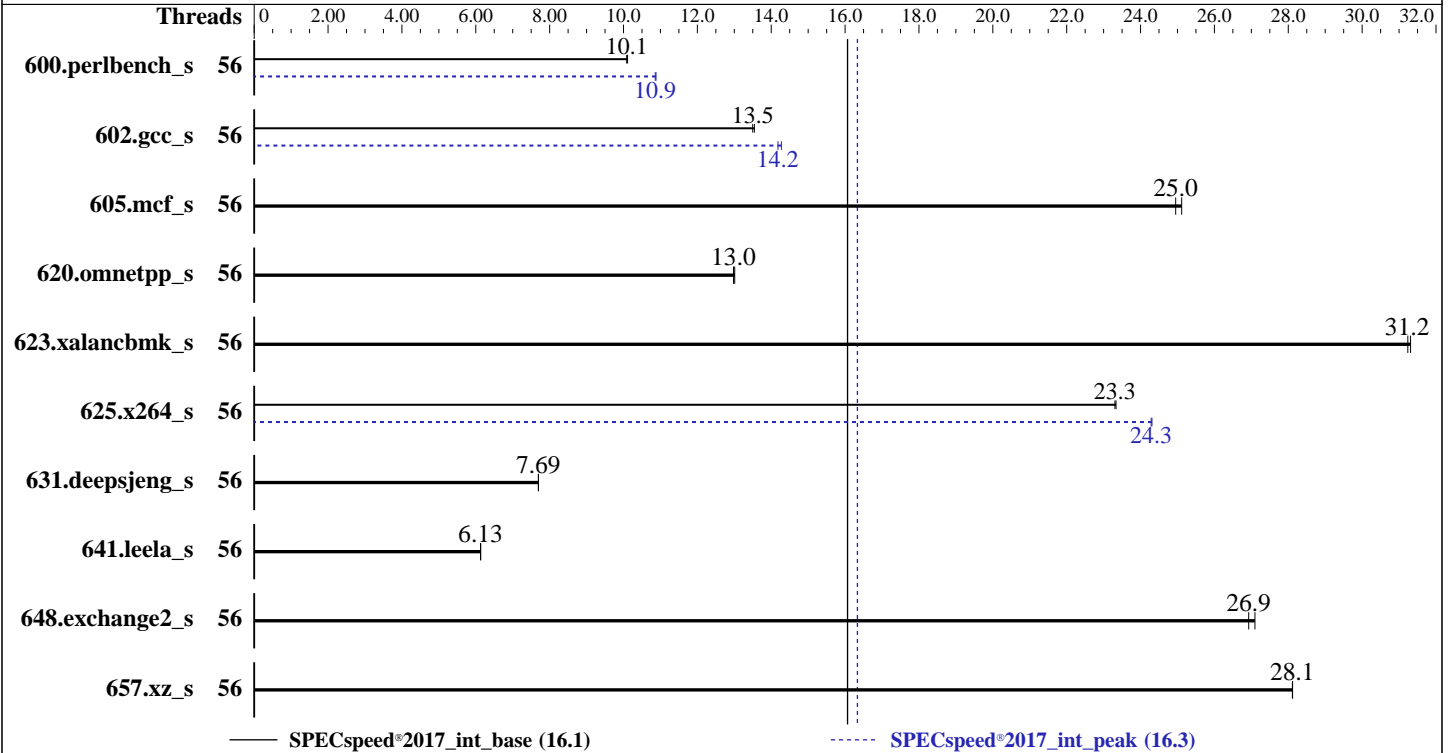
Test Sponsor: xFusion

Tested by: xFusion

Test Date: Aug-2023

Hardware Availability: Jan-2023

Software Availability: Dec-2022



### Hardware

CPU Name: Intel Xeon Gold 5420+  
 Max MHz: 4100  
 Nominal: 2000  
 Enabled: 56 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: 52.5 MB I+D on chip per chip  
 Other: None  
 Memory: 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R, running at 4400)  
 Storage: 1 x 1920 GB SATA SSD  
 Other: None

### Software

OS: Red Hat Enterprise Linux release 9.0 (Plow)  
 5.14.0-70.13.1.el9\_0.x86\_64  
 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: Version 2.00.55 Released Mar-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: 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

## xFusion

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

CPU2017 License: 6488  
Test Sponsor: xFusion  
Tested by: xFusion

Test Date: Aug-2023  
Hardware Availability: Jan-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	56	<b>176</b>	<b>10.1</b>	176	10.1			56	163	10.9	<b>163</b>	<b>10.9</b>		
602.gcc_s	56	<b>295</b>	<b>13.5</b>	294	13.5			56	<b>281</b>	<b>14.2</b>	279	14.3		
605.mcf_s	56	188	25.1	<b>189</b>	<b>25.0</b>			56	188	25.1	<b>189</b>	<b>25.0</b>		
620.omnetpp_s	56	<b>126</b>	<b>13.0</b>	125	13.0			56	<b>126</b>	<b>13.0</b>	125	13.0		
623.xalancbmk_s	56	45.3	31.3	<b>45.4</b>	<b>31.2</b>			56	45.3	31.3	<b>45.4</b>	<b>31.2</b>		
625.x264_s	56	<b>75.7</b>	<b>23.3</b>	75.6	23.3			56	<b>72.6</b>	<b>24.3</b>	72.6	24.3		
631.deepsjeng_s	56	<b>186</b>	<b>7.69</b>	186	7.70			56	<b>186</b>	<b>7.69</b>	186	7.70		
641.leela_s	56	<b>278</b>	<b>6.13</b>	278	6.13			56	<b>278</b>	<b>6.13</b>	278	6.13		
648.exchange2_s	56	<b>109</b>	<b>26.9</b>	108	27.1			56	<b>109</b>	<b>26.9</b>	108	27.1		
657.xz_s	56	220	28.1	<b>220</b>	<b>28.1</b>			56	220	28.1	<b>220</b>	<b>28.1</b>		

SPECspeed®2017\_int\_base = **16.1**

SPECspeed®2017\_int\_peak = **16.3**

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 = "/spec2017-icc2023.0/lib/intel64:/spec2017-icc2023.0/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 Red Hat Enterprise Linux 8.4  
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

## xFusion

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Aug-2023  
**Hardware Availability:** Jan-2023  
**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:  
Performance Profile Set to Load Balance  
Enable LP [Global] Set to Single LP  
  
Sysinfo program /spec2017-icc2023.0/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost.localdomain Mon Aug 14 11:20:05 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 250 (250-6.e19\_0)
12. Failed units, from systemctl list-units --state=failed
13. Services, from systemctl list-unit-files
14. Linux kernel boot-time arguments, from /proc/cmdline
15. cpupower frequency-info
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 localhost.localdomain 5.14.0-70.13.1.e19\_0.x86\_64 #1 SMP PREEMPT Thu Apr 14 12:42:38 EDT 2022 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

## xFusion

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Aug-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Dec-2022

### Platform Notes (Continued)

```
11:20:05 up 0 min, 1 user, load average: 0.59, 0.17, 0.06
USER      TTY      LOGIN@   IDLE   JCPU   PCPU   WHAT
root      tty1     11:19   13.00s 0.84s  0.00s  -bash
```

-----  
3. Username

From environment variable \$USER: root

-----  
4. ulimit -a

```
real-time non-blocking time (microseconds, -R) unlimited
core file size              (blocks, -c) 0
data seg size                (kbytes, -d) unlimited
scheduling priority         (-e) 0
file size                    (blocks, -f) unlimited
pending signals              (-i) 2060164
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) 2060164
virtual memory               (kbytes, -v) unlimited
file locks                   (-x) unlimited
```

-----  
5. sysinfo process ancestry

```
/usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31
login -- root
-bash
-bash
runcpu --define default-platform-flags -c ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=56
--tune base,peak --iterations 2 -o all --define intspeedaffinity --define drop_caches intspeed
runcpu --define default-platform-flags --configfile ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define
cores=56 --tune base,peak --iterations 2 --output_format all --define intspeedaffinity --define
drop_caches --nopower --runmode speed --tune base:peak --size refspeed intspeed --nopreenv --note-preenv
--logfile $SPEC/tmp/CPU2017.146/temlogs/preenv.intspeed.146.0.log --lognum 146.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /spec2017-icc2023.0
```

-----  
6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) Gold 5420+
vendor_id       : GenuineIntel
cpu family      : 6
model           : 143
stepping        : 7
microcode       : 0x2b000111
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapsg
cpu cores       : 28
siblings        : 28
2 physical ids (chips)
56 processors (hardware threads)
physical id 0:  core ids 0-27
physical id 1:  core ids 0-27
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
physical id 1:  apicids
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Aug-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Dec-2022

### Platform Notes (Continued)

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

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 2.37.4:

```

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):                 56
On-line CPU(s) list:   0-55
Vendor ID:              GenuineIntel
BIOS Vendor ID:         Intel(R) Corporation
Model name:             Intel(R) Xeon(R) Gold 5420+
BIOS Model name:       Intel(R) Xeon(R) Gold 5420+
CPU family:             6
Model:                  143
Thread(s) per core:    1
Core(s) per socket:    28
Socket(s):              2
Stepping:               7
Frequency boost:        enabled
CPU max MHz:            2001.0000
CPU min MHz:            800.0000
BogoMIPS:               4000.00
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 intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced
                        tpr_shadow vnmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust bml avx2
                        smep bmi2 erms invpcid 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_vpoperndq 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:              2.6 MiB (56 instances)
L1i cache:              1.8 MiB (56 instances)
L2 cache:               112 MiB (56 instances)
L3 cache:               105 MiB (2 instances)
NUMA node(s):          2
NUMA node0 CPU(s):     0-27
NUMA node1 CPU(s):     28-55
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
Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and __user pointer sanitization

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Aug-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Dec-2022

### Platform Notes (Continued)

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	2.6M	12	Data	1	64	1	64
L1i	32K	1.8M	8	Instruction	1	64	1	64
L2	2M	112M	16	Unified	2	2048	1	64
L3	52.5M	105M	15	Unified	3	57344	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: 0-27  
node 0 size: 257103 MB  
node 0 free: 255931 MB  
node 1 cpus: 28-55  
node 1 size: 257994 MB  
node 1 free: 257429 MB  
node distances:  
node 0 1  
0: 10 21  
1: 21 10

9. /proc/meminfo

MemTotal: 527460900 kB

10. who -r

run-level 3 Aug 14 11:19

11. Systemd service manager version: systemd 250 (250-6.el9\_0)

Default Target Status  
multi-user degraded

12. Failed units, from systemctl list-units --state=failed

UNIT LOAD ACTIVE SUB DESCRIPTION  
\* sep5.service loaded failed failed systemd script to load sep5 driver at boot time

13. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon atd auditd avahi-daemon bluetooth chronyd crond cups dbus-broker gdm getty@ insights-client-boot irqbalance iscsi iscsi-onboot kdump libstoragemgmt low-memory-monitor lvm2-monitor mcelog mdmonitor microcode multipathd nis-domainname nvme-fc-boot-connections ostree-remount power-profiles-daemon qemu-guest-agent rhsmcertd rsyslog rtkit-daemon selinux-autorelabel-mark sep5 smartd sshd sssd switcheroo-control sysstat systemd-network-generator udisks2 upower vgauthd vmtoolsd
enabled-runtime	systemd-remount-fs
disabled	arp-ethers blk-availability brltty canberra-system-bootup canberra-system-shutdown canberra-system-shutdown-reboot chrony-wait cni-dhcp console-getty cpupower cups-browsed dbus-daemon debug-shell dnsmasq firewalld iprdump iprinit iprupdate iscsid iscsiui kpatch kvm_stat ledmon man-db-restart-cache-update nftables nvme-autoconnect podman podman-auto-update podman-restart psacct ras-mc-ctl rasdaemon rdisc rhcd rhsm rhsm-facts

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Aug-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Dec-2022

### Platform Notes (Continued)

```
rpmdb-rebuild serial-getty@ speech-dispatcherd sshd-keygen@ systemd-boot-check-no-failures
systemd-pstore systemd-sysextr wpa_supplicant
indirect spice-vdagentd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo
```

```
-----
14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd0,gpt3)/boot/vmlinuz-5.14.0-70.13.1.el9_0.x86_64
root=UUID=cc4bab05-907e-44ef-b818-2b2874390234
ro
crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M
resume=UUID=5ba347ca-8beb-4f6e-9c11-de63dc4ddf5f
rhgb
quiet
```

```
-----
15. cpupower frequency-info
analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 2.00 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

  boost state support:
    Supported: yes
    Active: yes
```

```
-----
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+madvice [madvice] never
enabled         [always] madvice 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
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Aug-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Dec-2022

### Platform Notes (Continued)

pages\_to\_scan 4096  
scan\_sleep\_millisecs 10000

-----  
19. OS release  
From /etc/\*-release /etc/\*-version  
os-release Red Hat Enterprise Linux 9.0 (Plow)  
redhat-release Red Hat Enterprise Linux release 9.0 (Plow)  
system-release Red Hat Enterprise Linux release 9.0 (Plow)  
-----

20. Disk information  
SPEC is set to: /spec2017-icc2023.0  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda3 xfs 420G 50G 371G 12% /  
-----

21. /sys/devices/virtual/dmi/id  
Vendor: XFUSION  
Product: 5288 V7  
Product Family: Eagle Stream  
Serial: serial  
-----

22. dmidecode  
Additional information from dmidecode 3.3 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 Samsung M321R4GA3BB6-CQKDG 32 GB 2 rank 4800, configured at 4400  
-----

23. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: XFUSION  
BIOS Version: 2.00.55  
BIOS Date: 03/07/2023  
BIOS Revision: 0.55  
-----

### 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 2023.0.0 Build 20221201  
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 2023.0.0 Build 20221201  
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

## xFusion

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Aug-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Dec-2022

### Compiler Version Notes (Continued)

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

-----  
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.  
-----

### 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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**xFusion**

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Aug-2023  
**Hardware Availability:** Jan-2023  
**Software Availability:** Dec-2022

## Base Optimization Flags (Continued)

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
```

## 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-AVX2(pass 1)
-flto -Ofast(pass 1) -xCORE-AVX512 -O3 -ffast-math
-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-AVX2(pass 1)
-flto -Ofast(pass 1) -xCORE-AVX512 -O3 -ffast-math
-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

xFusion

SPECspeed®2017\_int\_base = 16.1

FusionServer 5288 V7 (Intel Xeon Gold 5420+)

SPECspeed®2017\_int\_peak = 16.3

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Aug-2023

Hardware Availability: Jan-2023

Software Availability: Dec-2022

## Peak Optimization Flags (Continued)

605.mcf\_s: basepeak = yes

```
625.x264_s: -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -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-ic2023-official-linux64.html>

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-SPR-V1.1-revC.html>

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

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

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-SPR-V1.1-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 2023-08-14 11:20:05-0400.

Report generated on 2024-01-29 18:07:13 by CPU2017 PDF formatter v6716.

Originally published on 2023-09-13.