



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

CPU2017 License: 6488

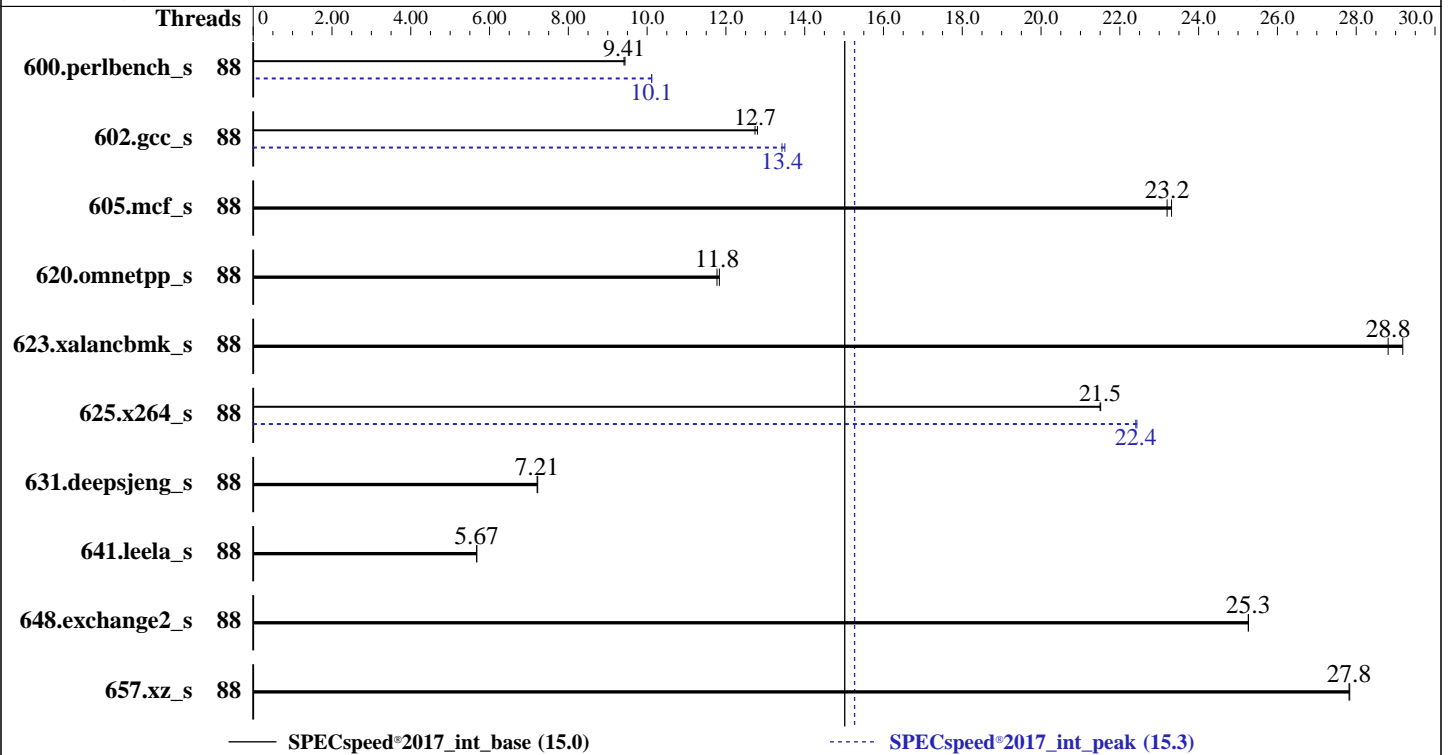
Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2023

Hardware Availability: Jan-2023

Software Availability: Dec-2022



### Hardware

CPU Name: Intel Xeon Platinum 8458P  
 Max MHz: 3800  
 Nominal: 2700  
 Enabled: 88 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: 82.5 MB I+D on chip per chip  
 Other: None  
 Memory: 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)  
 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 = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

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

Test Date: Jun-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	88	<b>189</b>	<b>9.41</b>	188	9.44			88	175	10.1	<b>175</b>	<b>10.1</b>		
602.gcc_s	88	311	12.8	<b>313</b>	<b>12.7</b>			88	<b>297</b>	<b>13.4</b>	295	13.5		
605.mcf_s	88	203	23.3	<b>203</b>	<b>23.2</b>			88	203	23.3	<b>203</b>	<b>23.2</b>		
620.omnetpp_s	88	<b>139</b>	<b>11.8</b>	138	11.8			88	<b>139</b>	<b>11.8</b>	138	11.8		
623.xalancbmk_s	88	48.6	29.2	<b>49.2</b>	<b>28.8</b>			88	48.6	29.2	<b>49.2</b>	<b>28.8</b>		
625.x264_s	88	<b>82.1</b>	<b>21.5</b>	82.0	21.5			88	<b>78.7</b>	<b>22.4</b>	78.6	22.4		
631.deepsjeng_s	88	198	7.22	<b>199</b>	<b>7.21</b>			88	198	7.22	<b>199</b>	<b>7.21</b>		
641.leela_s	88	301	5.68	<b>301</b>	<b>5.67</b>			88	301	5.68	<b>301</b>	<b>5.67</b>		
648.exchange2_s	88	<b>116</b>	<b>25.3</b>	116	25.3			88	<b>116</b>	<b>25.3</b>	116	25.3		
657.xz_s	88	<b>222</b>	<b>27.8</b>	222	27.8			88	<b>222</b>	<b>27.8</b>	222	27.8		

SPECspeed®2017\_int\_base = **15.0**

SPECspeed®2017\_int\_peak = **15.3**

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 = "/home/spec2017-ic2023/lib/intel64:/home/spec2017-ic2023/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 = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

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

**Test Date:** Jun-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  
SNC Set to Enable SNC2 (2-clusters)

Sysinfo program /home/spec2017-ic2023/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost.localdomain Wed Jun 14 03:57:45 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.el9\_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. tuned-adm active
17. sysctl
18. /sys/kernel/mm/transparent\_hugepage
19. /sys/kernel/mm/transparent\_hugepage/khugepaged
20. OS release
21. Disk information
22. /sys/devices/virtual/dmi/id
23. dmidecode
24. BIOS

-----  
1. uname -a  
Linux localhost.localdomain 5.14.0-70.13.1.el9\_0.x86\_64 #1 SMP PREEMPT Thu Apr 14 12:42:38 EDT 2022 x86\_64  
x86\_64 x86\_64 GNU/Linux  
-----

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

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

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

### Platform Notes (Continued)

```

2. w
   03:57:45 up 3 min,  2 users,  load average: 0.11, 0.22, 0.10
USER      TTY      LOGIN@  IDLE   JCPU   PCPU   WHAT
root      tty1    03:56   1:05   0.90s  0.00s  -bash
root      pts/0   03:54   1:52   0.04s  0.04s  -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) 2060206
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) 2060206
virtual memory                (kbytes, -v) unlimited
file locks                   (-x) unlimited

```

```

5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize 28
login -- root
-bash
-bash
runcpu --define default-platform-flags -c ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=88
--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=88 --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/CPU2017.037/temlogs/preenv.intspeed.037.0.log --lognum 037.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/spec2017-ic2023

```

```

6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) Platinum 8458P
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping       : 8
microcode      : 0x2b000111
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores      : 44
siblings       : 44
2 physical ids (chips)
88 processors (hardware threads)
physical id 0: core ids 0-43

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

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

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

### Platform Notes (Continued)

physical id 1: core ids 0-43  
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  
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, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214  
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): 88
On-line CPU(s) list: 0-87
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel(R) Corporation
Model name: Intel(R) Xeon(R) Platinum 8458P
BIOS Model name: Intel(R) Xeon(R) Platinum 8458P
CPU family: 6
Model: 143
Thread(s) per core: 1
Core(s) per socket: 44
Socket(s): 2
Stepping: 8
Frequency boost: enabled
CPU max MHz: 2701.0000
CPU min MHz: 800.0000
BogoMIPS: 5400.00
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 bmi1 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_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: 4.1 MiB (88 instances)
L1i cache: 2.8 MiB (88 instances)
L2 cache: 176 MiB (88 instances)
L3 cache: 165 MiB (2 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-21
NUMA node1 CPU(s): 22-43
NUMA node2 CPU(s): 44-65
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

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

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

### Platform Notes (Continued)

```

NUMA node3 CPU(s):          66-87
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/swapgs 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	4.1M	12	Data	1	64	1	64
L1i	32K	2.8M	8	Instruction	1	64	1	64
L2	2M	176M	16	Unified	2	2048	1	64
L3	82.5M	165M	15	Unified	3	90112	1	64

8. numactl --hardware

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

```

available: 4 nodes (0-3)
node 0 cpus: 0-21
node 0 size: 128080 MB
node 0 free: 127402 MB
node 1 cpus: 22-43
node 1 size: 129019 MB
node 1 free: 128577 MB
node 2 cpus: 44-65
node 2 size: 129019 MB
node 2 free: 128693 MB
node 3 cpus: 66-87
node 3 size: 128971 MB
node 3 free: 123632 MB
node distances:
node  0  1  2  3
 0:  10  12  21  21
 1:  12  10  21  21
 2:  21  21  10  12
 3:  21  21  12  10

```

9. /proc/meminfo

MemTotal: 527453340 kB

10. who -r

run-level 3 Jun 14 03:54

11. Systemd service manager version: systemd 250 (250-6.e19\_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

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

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

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

### Platform Notes (Continued)

13. Services, from `systemctl list-unit-files`

STATE	UNIT FILES
enabled	NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chronyd crond dbus-broker firewalld getty@ irqbalance kdump lvm2-monitor mdmonitor microcode nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sep5 sshd sssd sysstat systemd-network-generator tuned udisks2 upower
enabled-runtime	systemd-remount-fs
disabled	arp-ethers blk-availability canberra-system-bootup canberra-system-shutdown canberra-system-shutdown-reboot chrony-wait console-getty cpupower debug-shell kvm_stat man-db-restart-cache-update nftables powertop rdisc rhsm rhsm-facts rpmdb-rebuild serial-getty@ sshd-keygen@ systemd-boot-check-no-failures systemd-pstore systemd-sysex indirect 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,gpt2)/vmlinuz-5.14.0-70.13.1.el9_0.x86_64
root=/dev/mapper/rhel-root
ro
crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M
resume=/dev/mapper/rhel-swap
rd.lvm.lv=rhel/root
rd.lvm.lv=rhel/swap

```

15. `cpupower frequency-info`

```

analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 2.70 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

boost state support:
  Supported: yes
  Active: yes

```

16. `tuned-adm active`

Current active profile: `throughput-performance`

17. `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                  40
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                   10
vm.watermark_boost_factor      15000
vm.watermark_scale_factor      10
vm.zone_reclaim_mode           0

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

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

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

### Platform Notes (Continued)

```
18. /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
```

```
-----
19. /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
```

```
-----
20. 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)
```

```
-----
21. Disk information
    SPEC is set to: /home/spec2017-ic2023
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/mapper/rhel-home xfs   1.7T  280G  1.4T  17% /home
```

```
-----
22. /sys/devices/virtual/dmi/id
    Vendor:      XFUSION
    Product:     2288H V7
    Product Family: Eagle Stream
    Serial:      serial
```

```
-----
23. 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
```

```
-----
24. 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)
```

(Continued on next page)





# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

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

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

### Compiler Version Notes (Continued)

-----  
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.  
-----

=====  
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



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECSpeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECSpeed®2017\_int\_peak = 15.3

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

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

## 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
```

## 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
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

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

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

## Peak Optimization Flags (Continued)

600.perlbench\_s (continued):

```
-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
```

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®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 15.0

FusionServer 2288H V7 (Intel Xeon Platinum 8458P)

SPECspeed®2017\_int\_peak = 15.3

**CPU2017 License:** 6488

**Test Sponsor:** xFusion

**Tested by:** xFusion

**Test Date:** Jun-2023

**Hardware Availability:** Jan-2023

**Software Availability:** Dec-2022

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 2023-06-14 03:57:45-0400.  
Report generated on 2024-01-29 17:55:57 by CPU2017 PDF formatter v6716.  
Originally published on 2023-07-19.