



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

CPU2017 License: 6488

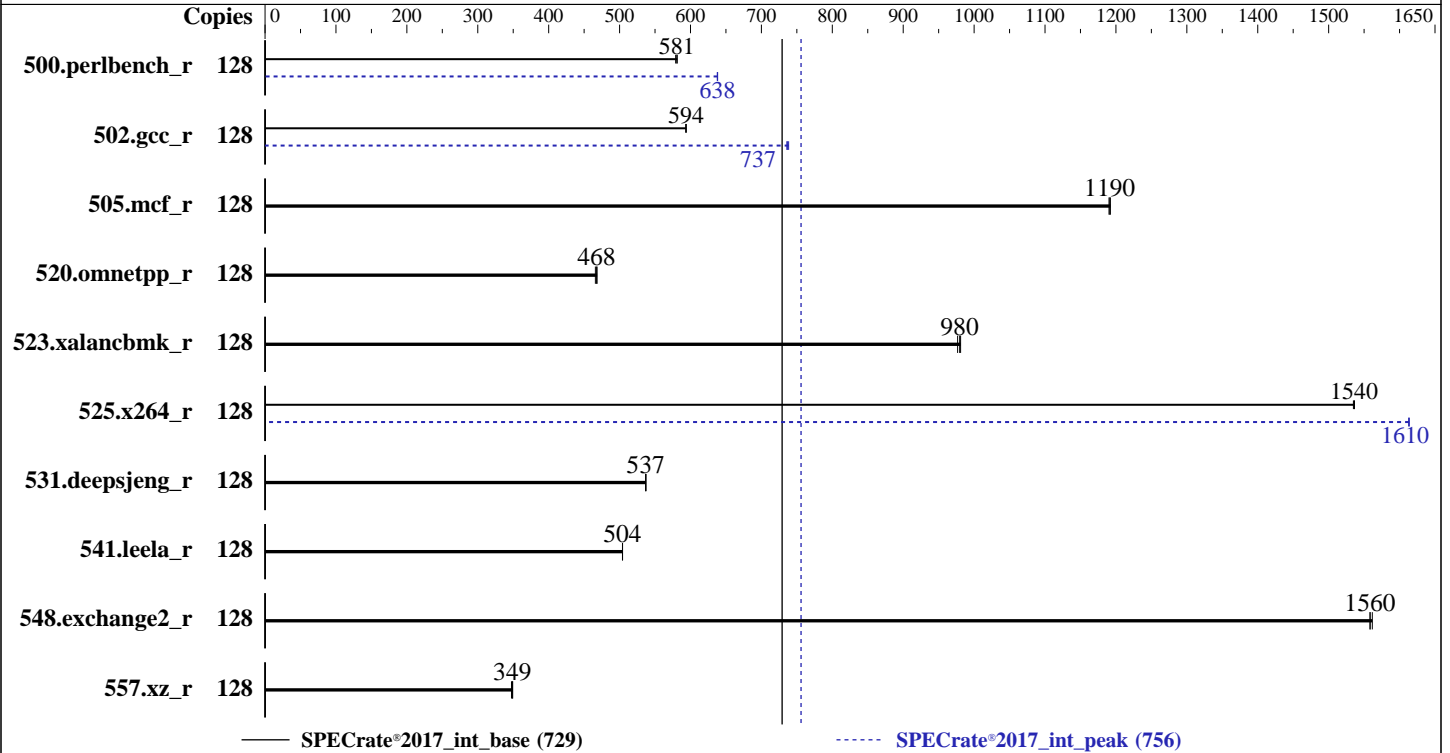
Test Sponsor: xFusion

Tested by: xFusion

Test Date: May-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023



### Hardware

CPU Name: Intel Xeon Platinum 8562Y+  
 Max MHz: 4100  
 Nominal: 2800  
 Enabled: 64 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: 60 MB I+D on chip per chip  
 Other: None  
 Memory: 512 GB (16 x 32 GB 2Rx8 PC5-5600B-R)  
 Storage: 1 x 1.92 TB SATA SSD  
 Other: CPU Cooling: Air

### Software

OS: Red Hat Enterprise Linux 9.2 (Plow)  
 5.14.0-284.11.1.el9\_2.x86\_64  
 Compiler: C/C++: Version 2024.0.2 of Intel oneAPI DPC++/C++  
 Compiler for Linux;  
 Fortran: Version 2024.0.2 of Intel Fortran  
 Compiler for Linux;  
 Parallel: No  
 Firmware: Version 01.01.03.05 Released Apr-2024  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 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 Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

Test Date: May-2024  
Hardware Availability: Dec-2023  
Software Availability: Dec-2023

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	128	352	579	<b><u>351</u></b>	<b><u>581</u></b>	351	581	128	<b><u>319</u></b>	<b><u>638</u></b>	319	638	320	638
502.gcc_r	128	305	594	305	593	<b><u>305</u></b>	<b><u>594</u></b>	128	245	738	<b><u>246</u></b>	<b><u>737</u></b>	246	736
505.mcf_r	128	<b><u>174</u></b>	<b><u>1190</u></b>	174	1190	174	1190	128	<b><u>174</u></b>	<b><u>1190</u></b>	174	1190	174	1190
520.omnetpp_r	128	359	468	<b><u>359</u></b>	<b><u>468</u></b>	360	466	128	359	468	<b><u>359</u></b>	<b><u>468</u></b>	360	466
523.xalancbmk_r	128	<b><u>138</u></b>	<b><u>980</u></b>	138	977	138	981	128	<b><u>138</u></b>	<b><u>980</u></b>	138	977	138	981
525.x264_r	128	146	1530	<b><u>146</u></b>	<b><u>1540</u></b>	146	1540	128	<b><u>139</u></b>	<b><u>1610</u></b>	139	1610	139	1610
531.deepsjeng_r	128	<b><u>273</u></b>	<b><u>537</u></b>	273	537	273	537	128	<b><u>273</u></b>	<b><u>537</u></b>	273	537	273	537
541.leela_r	128	421	504	420	504	<b><u>420</u></b>	<b><u>504</u></b>	128	421	504	420	504	<b><u>420</u></b>	<b><u>504</u></b>
548.exchange2_r	128	<b><u>215</u></b>	<b><u>1560</u></b>	215	1560	215	1560	128	<b><u>215</u></b>	<b><u>1560</u></b>	215	1560	215	1560
557.xz_r	128	396	349	398	348	<b><u>396</u></b>	<b><u>349</u></b>	128	396	349	398	348	<b><u>396</u></b>	<b><u>349</u></b>

SPECrate®2017\_int\_base = 729

SPECrate®2017\_int\_peak = 756

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

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:

```
LD_LIBRARY_PATH =
  "/home/Uniautos/speccpu2017/lib/intel64:/home/Uniautos/speccpu2017/lib/ia32:/home/Uniautos/speccpu2017/je5.0.1-32"
MALLOC_CONF = "retain:true"
```

## 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  
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.

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

**Test Date:** May-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

### General Notes (Continued)

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 Performance  
SNC Set to Enable SNC2 (2-clusters)

Sysinfo program /home/Uniautos/speccpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost.localdomain Tue May 28 18:03:52 2024

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 252 (252-13.e19\_2)
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. systemctl
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 5.14.0-284.11.1.e19\_2.x86\_64 #1 SMP PREEMPT\_DYNAMIC Wed Apr 12 10:45:03 EDT 2023 x86\_64 x86\_64 x86\_64 GNU/Linux  
-----

2. w  
18:03:52 up 3 min, 3 users, load average: 0.45, 1.30, 0.66  
USER TTY LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 18:03 8.00s 1.14s 0.06s -bash  
root pts/0 18:01 2:16 0.03s 0.03s -bash  
root pts/1 18:01 40.00s 0.03s 0.03s -bash

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

**Test Date:** May-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

```

-----
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) 2060154
   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) 2060154
   virtual memory              (kbytes, -v) unlimited
   file locks                  (-x) unlimited

-----
5. sysinfo process ancestry
   /usr/lib/systemd/systemd --switched-root --system --deserialize 31
   login -- root
   -bash
   -bash
   runcpu --define default-platform-flags --copies 128 -c ic2024.0.2-lin-sapphirerapids-rate-20231213.cfg
     --define smt-on --define cores=64 --define physicalfirst --define invoke_with_interleave --define
     drop_caches --tune base,peak -o all intrate
   runcpu --define default-platform-flags --copies 128 --configfile
     ic2024.0.2-lin-sapphirerapids-rate-20231213.cfg --define smt-on --define cores=64 --define physicalfirst
     --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
     --runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
     $SPEC/tmp/CPU2017.043/templogs/preenv.intrate.043.0.log --lognum 043.0 --from_runcpu 2
   specperl $SPEC/bin/sysinfo
   $SPEC = /home/Uniautos/speccpu2017

-----
6. /proc/cpuinfo
   model name      : INTEL(R) XEON(R) PLATINUM 8562Y+
   vendor_id      : GenuineIntel
   cpu family     : 6
   model          : 207
   stepping       : 2
   microcode      : 0x21000200
   bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
   cpu cores      : 32
   siblings       : 64
   2 physical ids (chips)
   128 processors (hardware threads)
   physical id 0: core ids 0-31
   physical id 1: core ids 0-31
   physical id 0: apicids 0-63
   physical id 1: apicids 128-191
   Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

**Test Date:** May-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

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):                 128
On-line CPU(s) list:   0-127
Vendor ID:              GenuineIntel
BIOS Vendor ID:        Intel(R) Corporation
Model name:             INTEL(R) XEON(R) PLATINUM 8562Y+
BIOS Model name:       INTEL(R) XEON(R) PLATINUM 8562Y+
CPU family:             6
Model:                  207
Thread(s) per core:    2
Core(s) per socket:    32
Socket(s):              2
Stepping:               2
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 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 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 avx_vnni avx512_bf16 wbnoinvd
                        dtherm ida arat pln pts hfi 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 ibt amx_bf16 avx512_fp16 amx_tile
                        amx_int8 flush_lld 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):          4
NUMA node0 CPU(s):     0-15,64-79
NUMA node1 CPU(s):     16-31,80-95
NUMA node2 CPU(s):     32-47,96-111
NUMA node3 CPU(s):     48-63,112-127
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:     Not affected
Vulnerability Mds:      Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Retbleed: 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, PBRSE-eIBRS SW
                        sequence

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

**Test Date:** May-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

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: 4 nodes (0-3)
node 0 cpus: 0-15,64-79
node 0 size: 128074 MB
node 0 free: 121421 MB
node 1 cpus: 16-31,80-95
node 1 size: 129016 MB
node 1 free: 128404 MB
node 2 cpus: 32-47,96-111
node 2 size: 128977 MB
node 2 free: 126392 MB
node 3 cpus: 48-63,112-127
node 3 size: 129012 MB
node 3 free: 128554 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: 527443192 kB

10. who -r

run-level 3 May 28 18:00

11. Systemd service manager version: systemd 252 (252-13.el9\_2)

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	NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd crond dbus-broker getty@ insights-client-boot irqbalance kdump lvm2-monitor mdmonitor microcode nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sep5 sshd sssd systemd-boot-update systemd-network-generator tuned udisks2
enabled-runtime	systemd-remount-fs
disabled	blk-availability console-getty cpupower debug-shell dnf-system-upgrade firewalld kvm_stat

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

**Test Date:** May-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

indirect  
man-db-restart-cache-update nftables rdisc rhcd rhsm rhsm-facts rpmdb-rebuild  
selinux-check-proper-disable serial-getty@ sshd-keygen@ systemd-boot-check-no-failures  
systemd-pstore systemd-sysext  
sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo systemd-sysupdate  
systemd-sysupdate-reboot

-----  
14. Linux kernel boot-time arguments, from /proc/cmdline  
BOOT\_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-284.11.1.el9\_2.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:  
Unable to determine current policy  
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

-----  
18. /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

-----  
19. /sys/kernel/mm/transparent\_hugepage/khugepaged  
alloc\_sleep\_millisecs 60000

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

**Test Date:** May-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

### 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

```

```

-----
20. OS release
From /etc/*-release /etc/*-version
os-release           Red Hat Enterprise Linux 9.2 (Plow)
redhat-release       Red Hat Enterprise Linux release 9.2 (Plow)
system-release       Red Hat Enterprise Linux release 9.2 (Plow)

```

```

-----
21. Disk information
SPEC is set to: /home/Uniautos/speccpu2017
Filesystem           Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs   1.7T  177G  1.5T  11% /home

```

```

-----
22. /sys/devices/virtual/dmi/id
Vendor:              XFUSION
Product:             2288H V7
Product Family:     Eagle Stream
Serial:              2106182101X3N8000001

```

```

-----
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:
  8x Hynix HMC88AGBRA190N 32 GB 2 rank 5600
  8x Hynix HMC88AGBRA191N 32 GB 2 rank 5600

```

```

-----
24. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:         XFUSION
BIOS Version:        01.01.03.05
BIOS Date:           04/12/2024
BIOS Revision:       3.5

```

### Compiler Version Notes

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

C | 500.perlbench\_r(base, peak) 502.gcc\_r(base) 505.mcf\_r(base, peak) 525.x264\_r(base, peak)  
| 557.xz\_r(base, peak)

(Continued on next page)





# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

**Test Date:** May-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

### Compiler Version Notes (Continued)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

C | 500.perlbench\_r(base, peak) 502.gcc\_r(base) 505.mcf\_r(base, peak) 525.x264\_r(base, peak)  
| 557.xz\_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

C++ | 520.omnetpp\_r(base, peak) 523.xalancbmk\_r(base, peak) 531.deepsjeng\_r(base, peak)  
| 541.leela\_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

Fortran | 548.exchange2\_r(base, peak)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

### Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

### Base Portability Flags

500.perlbench\_r: -DSPEC\_LP64 -DSPEC\_LINUX\_X64  
502.gcc\_r: -DSPEC\_LP64  
505.mcf\_r: -DSPEC\_LP64

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

Test Date: May-2024  
Hardware Availability: Dec-2023  
Software Availability: Dec-2023

## Base Portability Flags (Continued)

520.omnetpp\_r: -DSPEC\_LP64  
523.xalancbmk\_r: -DSPEC\_LP64 -DSPEC\_LINUX  
525.x264\_r: -DSPEC\_LP64  
531.deepsjeng\_r: -DSPEC\_LP64  
541.leela\_r: -DSPEC\_LP64  
548.exchange2\_r: -DSPEC\_LP64  
557.xz\_r: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-w -std=c11 -m64 -Wl,-z,muldefs -xsaphirerapids -O3 -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc

C++ benchmarks:

-w -std=c++14 -m64 -Wl,-z,muldefs -xsaphirerapids -O3 -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc

Fortran benchmarks:

-w -m64 -Wl,-z,muldefs -xsaphirerapids -O3 -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-nostandard-realloc-lhs -align array32byte -auto  
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc

## Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

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

**Test Date:** May-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

## Peak Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64
```

## Peak Optimization Flags

C benchmarks:

```
500.perlbench_r: -w -std=c11 -m64 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-fno-strict-overflow
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmallo

502.gcc_r: -m32 -L/opt/intel/oneapi/compiler/2024.0/lib32 -std=gnu89
-Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc32-5.0.1/lib -ljemallo

505.mcf_r: basepeak = yes

525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmallo

557.xz_r: basepeak = yes
```

C++ benchmarks:

```
520.omnetpp_r: basepeak = yes
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 729

FusionServer 2288H V7 (Intel Xeon Platinum 8562Y+)

SPECrate®2017\_int\_peak = 756

**CPU2017 License:** 6488

**Test Sponsor:** xFusion

**Tested by:** xFusion

**Test Date:** May-2024

**Hardware Availability:** Dec-2023

**Software Availability:** Dec-2023

## Peak Optimization Flags (Continued)

523.xalancbmk\_r: basepeak = yes

531.deepsjeng\_r: basepeak = yes

541.leela\_r: basepeak = yes

Fortran benchmarks:

548.exchange2\_r: basepeak = yes

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

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html>

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-EMR-V1.0.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-EMR-V1.0.xml>

SPEC CPU and SPECrate 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 2024-05-28 06:03:51-0400.

Report generated on 2024-06-24 10:36:53 by CPU2017 PDF formatter v6716.

Originally published on 2024-06-18.