



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_int_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017_int_peak = 416

CPU2017 License: 6488

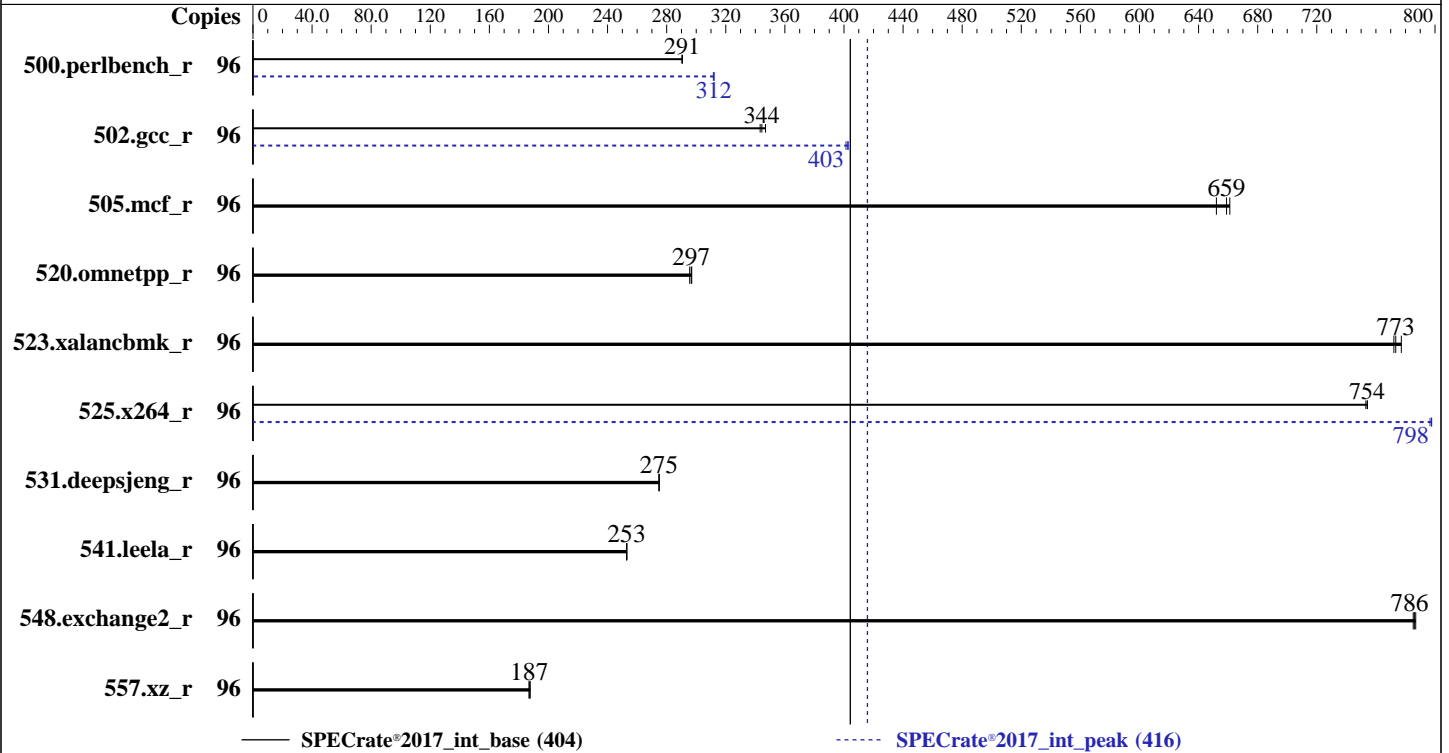
Test Sponsor: xFusion

Tested by: xFusion

Test Date: Aug-2023

Hardware Availability: Jan-2023

Software Availability: Dec-2022



Hardware

CPU Name: Intel Xeon Gold 5418N
 Max MHz: 3800
 Nominal: 1800
 Enabled: 48 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: 45 MB I+D on chip per chip
 Other: None
 Memory: 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R, running at 4000)
 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: No
 Firmware: Version 2.00.55 Released Mar-2023
 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 = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017_int_peak = 416

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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	96	526	290	526	291	526	291	96	490	312	491	312	490	312
502.gcc_r	96	395	344	396	343	392	347	96	339	401	338	403	337	403
505.mcf_r	96	238	652	235	661	235	659	96	238	652	235	661	235	659
520.omnetpp_r	96	424	297	426	296	425	297	96	424	297	426	296	425	297
523.xalancbmk_r	96	130	777	131	773	131	772	96	130	777	131	773	131	772
525.x264_r	96	223	754	223	753	223	754	96	211	798	211	798	211	797
531.deepsjeng_r	96	400	275	400	275	400	275	96	400	275	400	275	400	275
541.leela_r	96	629	253	628	253	629	253	96	629	253	628	253	629	253
548.exchange2_r	96	320	785	320	787	320	786	96	320	785	320	787	320	786
557.xz_r	96	552	188	554	187	555	187	96	552	188	554	187	555	187

SPECrate®2017_int_base = **404**

SPECrate®2017_int_peak = **416**

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), SPEC will no longer publish results using this optimization.

This result is left in the SPEC results database for historical reference.

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/spec2017-ic2023/lib/intel64:/home/spec2017-ic2023/lib/ia32:/home/spec2017-ic2023/je5.0.1-32"
MALLOC_CONF = "retain:true"
```



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_int_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017_int_peak = 416

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

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

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.
 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/spec2017-ic2023/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost.localdomain Wed Aug 16 03:54:16 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
-

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_int_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017_int_peak = 416

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

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

Platform Notes (Continued)

- ```

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

2. w
03:54:16 up 2 min, 1 user, load average: 0.20, 0.26, 0.11
USER TTY LOGIN@ IDLE JCPU PCPU WHAT
root tty1 03:53 1:04 1.37s 0.03s -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) 2060198
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) 2060198
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 --define default-platform-flags --copies 96 -c ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define
smt-on --define cores=48 --define physicalfirst --define invoke_with_interleave --define drop_caches
--tune base,peak --iterations 3 -o all intrate
runcpu --define default-platform-flags --copies 96 --configfile
ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=48 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak --iterations 3 --output_format all
--nopower --runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.209/templogs/preenv.intrate.209.0.log --lognum 209.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/spec2017-ic2023

6. /proc/cpuinfo
model name : Intel(R) Xeon(R) Gold 5418N
vendor_id : GenuineIntel
cpu family : 6
model : 143
stepping : 7
microcode : 0x2b000111

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017\_int\_peak = 416

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

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

### Platform Notes (Continued)

```
bugs : spectre_v1 spectre_v2 spec_store_bypass swappg
cpu cores : 24
siblings : 48
2 physical ids (chips)
96 processors (hardware threads)
physical id 0: core ids 0-23
physical id 1: core ids 0-23
physical id 0: apicids 0-47
physical id 1: apicids 128-175
```

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): 96
On-line CPU(s) list: 0-95
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel(R) Corporation
Model name: Intel(R) Xeon(R) Gold 5418N
BIOS Model name: Intel(R) Xeon(R) Gold 5418N
CPU family: 6
Model: 143
Thread(s) per core: 2
Core(s) per socket: 24
Socket(s): 2
Stepping: 7
BogoMIPS: 3600.00
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
 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: 2.3 MiB (48 instances)
L1i cache: 1.5 MiB (48 instances)
L2 cache: 96 MiB (48 instances)
L3 cache: 90 MiB (2 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-11,48-59
NUMA node1 CPU(s): 12-23,60-71
NUMA node2 CPU(s): 24-35,72-83
NUMA node3 CPU(s): 36-47,84-95
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017\_int\_peak = 416

**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 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 |
| 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      | 2.3M     | 12   | Data        | 1     | 64    | 1        | 64             |
| L1i  | 32K      | 1.5M     | 8    | Instruction | 1     | 64    | 1        | 64             |
| L2   | 2M       | 96M      | 16   | Unified     | 2     | 2048  | 1        | 64             |
| L3   | 45M      | 90M      | 15   | Unified     | 3     | 49152 | 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: 0-11,48-59
node 0 size: 128043 MB
node 0 free: 125476 MB
node 1 cpus: 12-23,60-71
node 1 size: 129018 MB
node 1 free: 128553 MB
node 2 cpus: 24-35,72-83
node 2 size: 129018 MB
node 2 free: 128570 MB
node 3 cpus: 36-47,84-95
node 3 size: 129007 MB
node 3 free: 125507 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: 527451460 kB

10. who -r

run-level 3 Aug 16 03:51

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 |

13. Services, from systemctl list-unit-files

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017\_int\_peak = 416

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

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

### Platform Notes (Continued)

| STATE           | UNIT FILES                                                                                                                                                                                                                                                                                                                                             |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enabled         | NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chronyd crond<br>dbus-broker firewalld getty@ irqbalance kdump lvm2-monitor mdmonitor microcode<br>nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sep5 sshd sssd sysstat<br>systemd-network-generator tuned udisks2 upower                                       |
| enabled-runtime | systemd-remount-fs                                                                                                                                                                                                                                                                                                                                     |
| disabled        | arp-ethers blk-availability canberra-system-bootup canberra-system-shutdown<br>canberra-system-shutdown-reboot chrony-wait console-getty cpupower debug-shell kvm_stat<br>man-db-restart-cache-update nftables powertop rdisc rhsm rhsm-facts rpmdb-rebuild<br>serial-getty@ sshd-keygen@ systemd-boot-check-no-failures systemd-pstore systemd-sysext |
| 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:  
 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+madvice [madvice] never  
 enabled [always] madvice never

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017\_int\_peak = 416

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

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

### Platform Notes (Continued)

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 74G 1.6T 5% /home  
-----

22. /sys/devices/virtual/dmi/id  
Vendor: XFUSION  
Product: 5288 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, configured at 4000  
-----

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 | 502.gcc\_r(peak)  
-----

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.  
-----

(Continued on next page)





# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017\_int\_peak = 416

**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)

=====  
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 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

=====  
C | 502.gcc\_r(peak)  
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

=====  
Fortran | 548.exchange2\_r(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



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017\_int\_peak = 416

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

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

## Base Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
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
```

## Base Optimization Flags

C benchmarks:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmallo
```

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmallo
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmallo
```

## 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 = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017\_int\_peak = 416

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

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

## 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/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmallocc
```

```
502.gcc_r: -m32
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/ia32_lin
-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 -ljemalloc
```

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/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmallocc
```

557.xz\_r: basepeak = yes

C++ benchmarks:

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_int\_base = 404

FusionServer 5288 V7 (Intel Xeon Gold 5418N)

SPECrate®2017\_int\_peak = 416

**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)

520.omnetpp\_r: basepeak = yes

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-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 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 2023-08-16 03:54:15-0400.

Report generated on 2024-01-29 18:07:55 by CPU2017 PDF formatter v6716.

Originally published on 2023-09-13.