



# SPEC CPU®2017 Integer Rate Result

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## xFusion

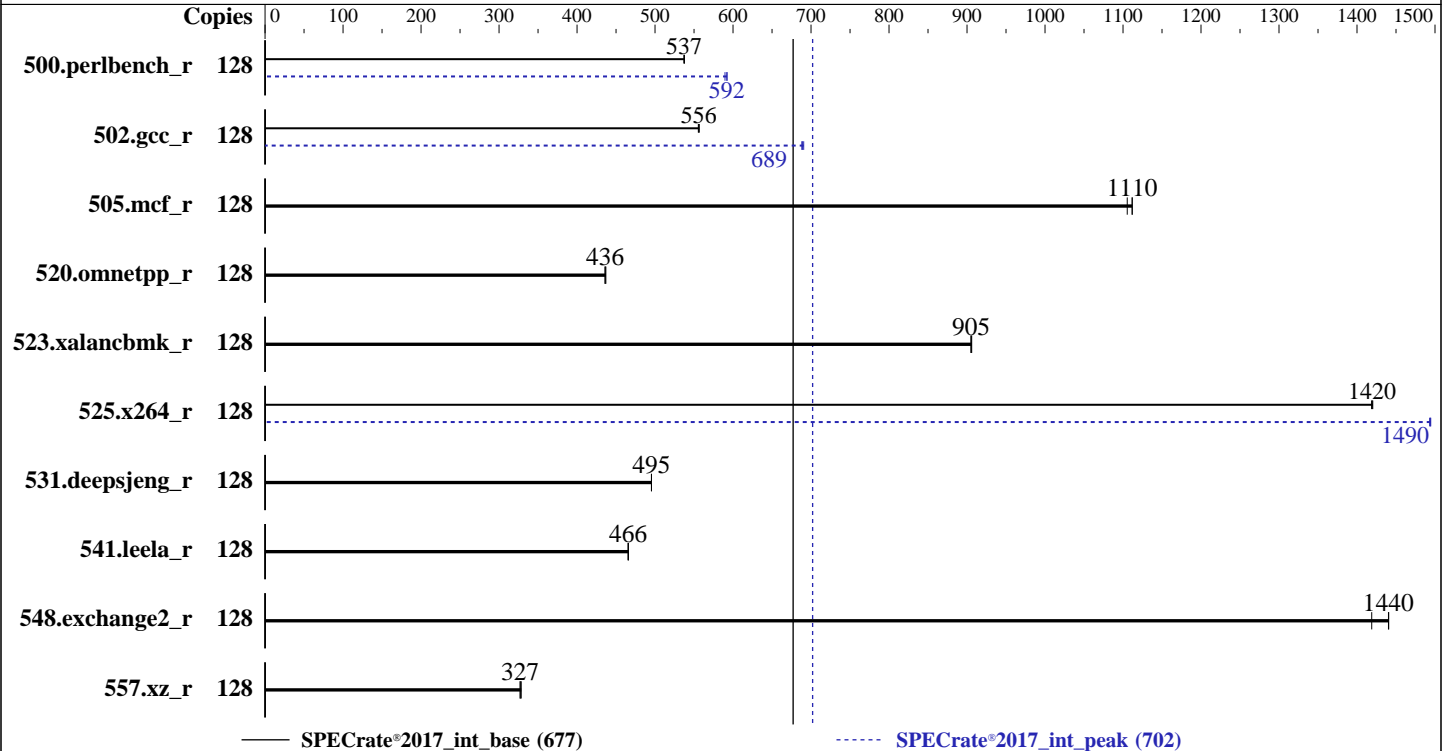
SPECrate®2017\_int\_base = 677

FusionServer 1288H V7 (Intel Xeon Gold 6548Y+)

SPECrate®2017\_int\_peak = 702

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

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



### Hardware

CPU Name: Intel Xeon Gold 6548Y+  
 Max MHz: 4100  
 Nominal: 2500  
 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, running at 5200)  
 Storage: 1 x 960 GB 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.



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	128	379	538	<b><u>379</u></b>	<b><u>537</u></b>	379	537	128	<b><u>344</u></b>	<b><u>592</u></b>	346	590	344	592
502.gcc_r	128	326	556	<b><u>326</u></b>	<b><u>556</u></b>	326	557	128	263	688	262	691	<b><u>263</u></b>	<b><u>689</u></b>
505.mcf_r	128	186	1110	<b><u>186</u></b>	<b><u>1110</u></b>	187	1110	128	186	1110	<b><u>186</u></b>	<b><u>1110</u></b>	187	1110
520.omnetpp_r	128	<b><u>385</u></b>	<b><u>436</u></b>	385	436	384	437	128	<b><u>385</u></b>	<b><u>436</u></b>	385	436	384	437
523.xalancbmk_r	128	149	905	<b><u>149</u></b>	<b><u>905</u></b>	149	906	128	149	905	<b><u>149</u></b>	<b><u>905</u></b>	149	906
525.x264_r	128	158	1420	158	1420	<b><u>158</u></b>	<b><u>1420</u></b>	128	<b><u>150</u></b>	<b><u>1490</u></b>	150	1490	150	1490
531.deepsjeng_r	128	296	495	296	495	<b><u>296</u></b>	<b><u>495</u></b>	128	296	495	296	495	<b><u>296</u></b>	<b><u>495</u></b>
541.leela_r	128	455	465	455	466	<b><u>455</u></b>	<b><u>466</u></b>	128	455	465	455	466	<b><u>455</u></b>	<b><u>466</u></b>
548.exchange2_r	128	233	1440	236	1420	<b><u>233</u></b>	<b><u>1440</u></b>	128	233	1440	236	1420	<b><u>233</u></b>	<b><u>1440</u></b>
557.xz_r	128	421	328	423	327	<b><u>423</u></b>	<b><u>327</u></b>	128	421	328	423	327	<b><u>423</u></b>	<b><u>327</u></b>

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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"  
Kernel Boot Parameter set with : nohz\_full=1-127

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH = "/home/cpu2017\_2024/lib/intel64:/home/cpu2017\_2024/lib/ia32:/home/cpu2017\_2024/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.  
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)

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### General Notes (Continued)

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)  
LLC Prefetch Set to Disabled  
LLC dead line alloc Set to Disabled  
Stale AtoS Set to Disabled

Sysinfo program /home/cpu2017\_2024/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost.localdomain Tue Jul 16 17:58:07 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. 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 5.14.0-284.11.1.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  
17:58:07 up 15 min, 1 user, load average: 0.18, 0.18, 0.33  
USER TTY LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 17:57 7.00s 1.12s 0.03s sh run\_rate.sh

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### 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) 2060171
   max locked memory           (kbytes, -l) 8192
   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) 2060171
   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
   sh run_rate.sh
   runcpu --nobuild --action validate --define default-platform-flags --define numcopies=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 --nobuild --action validate --define default-platform-flags --define numcopies=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/CPU2017.001/templogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
   specperl $SPEC/bin/sysinfo
   $SPEC = /home/cpu2017_2024

-----
6. /proc/cpuinfo
   model name      : INTEL(R) XEON(R) GOLD 6548Y+
   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

```

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### 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) GOLD 6548Y+
BIOS Model name:      INTEL(R) XEON(R) GOLD 6548Y+
CPU family:            6
Model:                 207
Thread(s) per core:    2
Core(s) per socket:    32
Socket(s):             2
Stepping:              2
Frequency boost:       enabled
CPU max MHz:           2501.0000
CPU min MHz:           800.0000
BogoMIPS:              5000.00
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 bmil 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_l1d arch_capabilities

```

```

Virtualization:        VT-x
L1d cache:             3 MiB (64 instances)
L1i cache:             2 MiB (64 instances)
L2 cache:              128 MiB (64 instances)
L3 cache:              120 MiB (2 instances)
NUMA node(s):         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

```

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### Platform Notes (Continued)

Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and \_\_user pointer sanitization  
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBR SB-eIBRS SW sequence  
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: 127561 MB
node 1 cpus: 16-31,80-95
node 1 size: 129016 MB
node 1 free: 128459 MB
node 2 cpus: 32-47,96-111
node 2 size: 129016 MB
node 2 free: 128565 MB
node 3 cpus: 48-63,112-127
node 3 size: 128972 MB
node 3 free: 128552 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: 527443432 kB

10. who -r

run-level 3 Jul 16 17:42

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 chronyd crond dbus-broker firewalld getty@ insights-client-boot irqbalance kdump low-memory-monitor mdmonitor microcode nis-domainname rhsmcertd rsyslog rtkit-daemon selinux-autorelabel-mark

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### Platform Notes (Continued)

```

enabled-runtime  sep5 smartd sshd sssd sysstat systemd-boot-update systemd-network-generator tuned udisks2
disabled         upower
                 systemd-remount-fs
                 canberra-system-bootup canberra-system-shutdown canberra-system-shutdown-reboot
                 chrony-wait console-getty cpupower debug-shell dnf-system-upgrade kvm_stat
                 man-db-restart-cache-update nftables pesign rdisc rhcd rhsm rhsm-facts rpmdb-rebuild
                 selinux-check-proper-disable 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 systemd-sysupdate
                 systemd-sysupdate-reboot

```

```

-----
14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd0,gpt5)/boot/vmlinuz-5.14.0-284.11.1.el9_2.x86_64
root=UUID=e7cc1b7d-5946-4ed4-8306-b2d382dc5709
ro
crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M
resume=UUID=937c2e4e-930c-4489-9a6c-cd05c9a2c08a
nohz_full=1-127

```

```

-----
15. cpupower frequency-info
analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 2.50 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

```

```

-----
18. /sys/kernel/mm/transparent_hugepage
defrag      always defer defer+madvice [madvice] never
enabled     [always] madvice never

```

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### 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 9.2 (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/cpu2017\_2024  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda5 xfs 690G 129G 562G 19% /

-----  
22. /sys/devices/virtual/dmi/id  
Product: 1288H V7  
Product Family: Eagle Stream

-----  
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:  
6x Samsung M321R4GA3PB0-CWMCH 32 GB 2 rank 5600, configured at 5200  
8x Samsung M321R4GA3PB0-CWMJH 32 GB 2 rank 5600, configured at 5200  
2x Samsung M321R4GA3PB0-CWMKH 32 GB 2 rank 5600, configured at 5200

-----  
24. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: INSYDE Corp.  
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.  
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### 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 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  
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=====  
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  
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=====  
Fortran | 548.exchange2\_r(base, peak)  
=====

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
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### Base Compiler Invocation

C benchmarks:  
icx

C++ benchmarks:  
icpx

Fortran benchmarks:  
ifx



# SPEC CPU®2017 Integer Rate Result

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## xFusion

SPECrate®2017\_int\_base = 677

FusionServer 1288H V7 (Intel Xeon Gold 6548Y+)

SPECrate®2017\_int\_peak = 702

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

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

## 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/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc

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/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc

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/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

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## xFusion

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FusionServer 1288H V7 (Intel Xeon Gold 6548Y+)

SPECrate®2017\_int\_peak = 702

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

**Test Date:** Jul-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.profdata(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.profdata(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

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## xFusion

SPECrate®2017\_int\_base = 677

FusionServer 1288H V7 (Intel Xeon Gold 6548Y+)

SPECrate®2017\_int\_peak = 702

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

**Test Date:** Jul-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/xFusion-Platform-Settings-EMR-V1.1.html>

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

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

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-EMR-V1.1.xml>

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

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