



# SPEC CPU®2017 Integer Rate Result

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**Fusionstor**  
(Test Sponsor: Meganet)

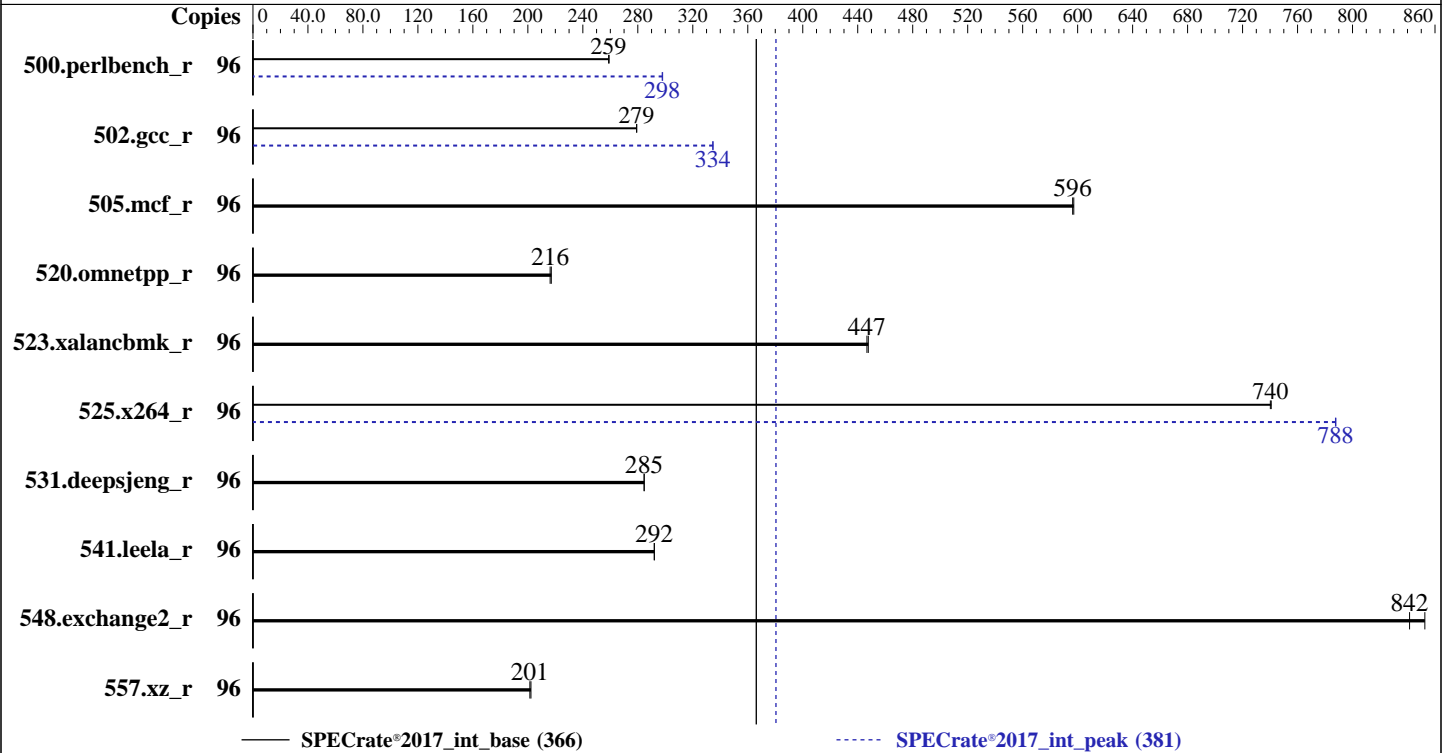
SPECrate®2017\_int\_base = 366

**Invento i6327 (Intel Xeon Gold 6342)**

SPECrate®2017\_int\_peak = 381

**CPU2017 License:** 6221  
**Test Sponsor:** Meganet  
**Tested by:** Fusionstor system

**Test Date:** May-2024  
**Hardware Availability:** Dec-2021  
**Software Availability:** Dec-2023



## Hardware

CPU Name: Intel Xeon Gold 6342  
Max MHz: 3500  
Nominal: 2800  
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: 1.25 MB I+D on chip per core  
L3: 36 MB I+D on chip per chip  
Other: 5 GB I+D on chip per chip  
Memory: 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R)  
Storage: 960 GB SATA SSD  
Other: CPU Cooling: Air

## Software

OS: Ubuntu 22.04.4 LTS  
6.5.0-28-generic  
Compiler: C/C++: Version 2023.2.3 of Intel oneAPI DPC++/C++ Compiler for Linux;  
Fortran: Version 2023.2.3 of Intel Fortran Compiler for Linux;  
Parallel: No  
Firmware: Version W25.33.03 5.22 released Nov-2023  
File System: ext4  
System State: Run level 5 (multi-user mode)  
Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other: jemalloc memory allocator V5.0.1  
Power Management: BIOS 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	96	590	259	<b><u>591</u></b>	<b><u>259</u></b>			96	<b><u>513</u></b>	<b><u>298</u></b>	513	298				
502.gcc_r	96	487	279	<b><u>487</u></b>	<b><u>279</u></b>			96	<b><u>406</u></b>	<b><u>334</u></b>	406	335				
505.mcf_r	96	<b><u>260</u></b>	<b><u>596</u></b>	260	597			96	<b><u>260</u></b>	<b><u>596</u></b>	260	597				
520.omnetpp_r	96	<b><u>583</u></b>	<b><u>216</u></b>	580	217			96	<b><u>583</u></b>	<b><u>216</u></b>	580	217				
523.xalancbmk_r	96	<b><u>227</u></b>	<b><u>447</u></b>	226	448			96	<b><u>227</u></b>	<b><u>447</u></b>	226	448				
525.x264_r	96	<b><u>227</u></b>	<b><u>740</u></b>	227	741			96	<b><u>213</u></b>	<b><u>788</u></b>	213	788				
531.deepsjeng_r	96	<b><u>387</u></b>	<b><u>285</u></b>	386	285			96	<b><u>387</u></b>	<b><u>285</u></b>	386	285				
541.leela_r	96	<b><u>545</u></b>	<b><u>292</u></b>	544	292			96	<b><u>545</u></b>	<b><u>292</u></b>	544	292				
548.exchange2_r	96	<b><u>299</u></b>	<b><u>842</u></b>	295	853			96	<b><u>299</u></b>	<b><u>842</u></b>	295	853				
557.xz_r	96	<b><u>515</u></b>	<b><u>201</u></b>	513	202			96	<b><u>515</u></b>	<b><u>201</u></b>	513	202				

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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"

## Environment Variables Notes

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

LD\_LIBRARY\_PATH =

"/home/speccpu/cpu2017/lib/intel64:/home/speccpu/cpu2017/lib/ia32:/home/speccpu/cpu2017/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>  
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>



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## Platform Notes

Sysinfo program /home/speccpu/cpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on intel Sat May 4 10:24:01 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 249 (249.11-0ubuntu3.12)
- 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. sysctl
- 16. /sys/kernel/mm/transparent\_hugepage
- 17. /sys/kernel/mm/transparent\_hugepage/khugepaged
- 18. OS release
- 19. Disk information
- 20. /sys/devices/virtual/dmi/id
- 21. dmidecode
- 22. BIOS

```
1. uname -a
Linux intel 6.5.0-28-generic #29~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Thu Apr 4 14:39:20 UTC 2 x86_64 x86_64
x86_64 GNU/Linux
```

```
2. w
10:24:01 up 7 min, 5 users, load average: 0.12, 0.10, 0.07
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
intel :l :l 10:17 ?xdm? 6:16 0.01s /usr/libexec/gdm-x-session --run-script env
GNOME_SHELL_SESSION_MODE=ubuntu /usr/bin/gnome-session --session=ubuntu
intel pts/0 172.16.254.20 10:17 7.00s 0.12s 0.00s screen
intel pts/1 :pts/0:S.0 10:23 7.00s 0.04s 0.00s SCREEN
intel pts/2 172.16.254.20 10:19 4:48 0.03s 0.03s -bash
intel pts/3 :pts/0:S.0 10:23 4.00s 1.05s 0.03s sudo
./reportable-ic2023.2.3-lin-core-avx512-rate-smt-off-20231121.sh
```

```
3. Username
From environment variable $USER: root
From the command 'logname': intel
```

```
4. ulimit -a
time(seconds) unlimited
file(blocks) unlimited
```

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## Platform Notes (Continued)

data(kbytes)	unlimited
stack(kbytes)	unlimited
coredump(blocks)	0
memory(kbytes)	unlimited
locked memory(kbytes)	132057376
process	4126493
nofiles	1024
vmemory(kbytes)	unlimited
locks	unlimited
rtprio	0

```

-----
5. sysinfo process ancestry
/sbin/init splash
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: intel [priv]
sshd: intel@pts/0
-bash
screen
SCREEN
/bin/bash
sudo ./reportable-ic2023.2.3-lin-core-avx512-rate-smt-off-20231121.sh
sudo ./reportable-ic2023.2.3-lin-core-avx512-rate-smt-off-20231121.sh
sh ./reportable-ic2023.2.3-lin-core-avx512-rate-smt-off-20231121.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=96 -c
ic2023.2.3-lin-core-avx512-rate-20231121.cfg --define cores=96 --define physicalfirst --define
invoke_with_interleave --define drop_caches --iterations 2 --tune base,peak -o all intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=96 --configfile
ic2023.2.3-lin-core-avx512-rate-20231121.cfg --define cores=96 --define physicalfirst --define
invoke_with_interleave --define drop_caches --iterations 2 --tune base,peak --output_format all --nopower
--runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.007/templogs/preenv.intrate.007.0.log --lognum 007.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpu/cpu2017

```

```

-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) Gold 6342 CPU @ 2.80GHz
vendor_id       : GenuineIntel
cpu family      : 6
model           : 106
stepping        : 6
microcode       : 0xd0003b9
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs mmio_stale_data eibrs_pbrsb gds
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 64-111
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 2.37.2:
Architecture:          x86_64

```

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## Platform Notes (Continued)

```

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
Model name:              Intel(R) Xeon(R) Gold 6342 CPU @ 2.80GHz
CPU family:              6
Model:                   106
Thread(s) per core:     2
Core(s) per socket:     24
Socket(s):               2
Stepping:                6
CPU max MHz:             3500.0000
CPU min MHz:             800.0000
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 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 invpcid_single
                        intel_ppin ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow
                        flexpriority ept vpid ept_ad fsgsbase tsc_adjust bml avx2 smep bmi2
                        erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma
                        clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt
                        xsaves xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
                        split_lock_detect wbnoinvd dtherm ida arat pln pts hwp hwp_act_window
                        hwp_epp hwp_pkg_req vnmi avx512vbmi umip pku ospke avx512_vbmi2 gfni
                        vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57
                        rdpid fsrm md_clear pconfig flush_lld arch_capabilities

Virtualization:          VT-x
L1d cache:               2.3 MiB (48 instances)
L1i cache:               1.5 MiB (48 instances)
L2 cache:                60 MiB (48 instances)
L3 cache:                72 MiB (2 instances)
NUMA node(s):            2
NUMA node0 CPU(s):      0-23,48-71
NUMA node1 CPU(s):      24-47,72-95
Vulnerability Gather data sampling: Mitigation; Microcode
Vulnerability Itlb multihit:       Not affected
Vulnerability Lltf:                Not affected
Vulnerability Mds:                  Not affected
Vulnerability Meltdown:             Not affected
Vulnerability Mmio stale data:      Mitigation; Clear CPU buffers; SMT vulnerable
Vulnerability Retbleed:             Not affected
Vulnerability Spec rstack overflow: 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 / Automatic 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      2.3M   12 Data          1     64      1             64
L1i   32K      1.5M    8 Instruction    1     64      1             64
L2    1.3M      60M    20 Unified       2    1024     1             64

```

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## Platform Notes (Continued)

L3 36M 72M 12 Unified 3 49152 1 64

8. numactl --hardware

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

```
available: 2 nodes (0-1)
node 0 cpus: 0-23,48-71
node 0 size: 515621 MB
node 0 free: 513699 MB
node 1 cpus: 24-47,72-95
node 1 size: 516076 MB
node 1 free: 514694 MB
node distances:
node  0  1
  0: 10  20
  1: 20  10
```

9. /proc/meminfo

```
MemTotal: 1056459020 kB
```

10. who -r

```
run-level 5 May 4 10:17
```

11. Systemd service manager version: systemd 249 (249.11-0ubuntu3.12)

```
Default Target Status
graphical degraded
```

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

```
UNIT                                LOAD    ACTIVE SUB    DESCRIPTION
* NetworkManager-wait-online.service loaded failed failed Network Manager Wait Online
```

13. Services, from systemctl list-unit-files

```
STATE      UNIT FILES
enabled    ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online
accounts-daemon anacron apparmor avahi-daemon bluetooth console-setup cron cups
cups-browsed dmesg e2scrub_reap getty@ gpu-manager grub-common grub-initrd-fallback
irqbalance kerneloops keyboard-setup networkd-dispatcher openvpn power-profiles-daemon
rsyslog secureboot-db setvtrgb snapd ssh switcheroo-control systemd-oond systemd-pstore
systemd-resolved systemd-timesyncd thermald ua-reboot-cmds ubuntu-advantage udisks2 ufw
unattended-upgrades wpa_supplicant
enabled-runtime netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
disabled    acpid brltty console-getty debug-shell nftables openvpn-client@ openvpn-server@ openvpn@
rsync rtkit-daemon serial-getty@ speech-dispatcherd systemd-boot-check-no-failures
systemd-network-generator systemd-networkd systemd-networkd-wait-online systemd-sysext
systemd-time-wait-sync upower wpa_supplicant-nl80211@ wpa_supplicant-wired@
wpa_supplicant@
generated   apport speech-dispatcher
indirect    saned@ spice-vdagentd uuidd
masked      alsactl cryptdisks cryptdisks-early hwclock pulseaudio-enable-autospawn rc rcS saned
screen-cleanup sudo x11-common
```

14. Linux kernel boot-time arguments, from /proc/cmdline

```
BOOT_IMAGE=/boot/vmlinuz-6.5.0-28-generic
root=UUID=eed05ad7-3678-4b37-aff7-318ba9064a38
```

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## Platform Notes (Continued)

```
ro
quiet
splash
vt.handoff=7
```

```
-----
15. sysctl
kernel.numa_balancing          1
kernel.randomize_va_space     2
vm.compaction_proactiveness    20
vm.dirty_background_bytes      0
vm.dirty_background_ratio      10
vm.dirty_bytes                 0
vm.dirty_expire_centisecs     3000
vm.dirty_ratio                 20
vm.dirty_writeback_centisecs   500
vm.dirtytime_expire_seconds    43200
vm.extfrag_threshold           500
vm.min_unmapped_ratio          1
vm.nr_hugepages                0
vm.nr_hugepages_mempolicy      0
vm.nr_overcommit_hugepages     0
vm.swappiness                   60
vm.watermark_boost_factor      15000
vm.watermark_scale_factor      10
vm.zone_reclaim_mode           0
```

```
-----
16. /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
```

```
-----
17. /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
```

```
-----
18. OS release
From /etc/*-release /etc/*-version
os-release Ubuntu 22.04.4 LTS
```

```
-----
19. Disk information
SPEC is set to: /home/speccpu/cpu2017
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext4  879G  168G  667G  21% /
```

```
-----
20. /sys/devices/virtual/dmi/id
Vendor:          Fusionstor
Product:         Invento i6327
Product Family:  Family
```

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## Platform Notes (Continued)

Serial: i6327240317

### 21. 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 NO DIMM NO DIMM  
16x Samsung M393A8G40CB4-CWE 64 GB 2 rank 3200

### 22. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor: American Megatrends International, LLC.  
BIOS Version: W25.33.03  
BIOS Date: 11/16/2023  
BIOS Revision: 5.22

## Compiler Version Notes

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x  
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 2023.2.3 Build x  
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 2023.2.3 Build x  
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 2023.2.3 Build x  
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 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

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## Compiler Version Notes (Continued)

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

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x  
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  
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 -xCORE-AVX512 -O3 -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-L/home/specdev/new\_compilers/ic2023.2.3/compiler/lib/intel64\_lin  
-lqkmallo

C++ benchmarks:  
-w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

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**Fusionstor**  
(Test Sponsor: Meganet)

SPECrate®2017\_int\_base = 366

**Invento i6327 (Intel Xeon Gold 6342)**

SPECrate®2017\_int\_peak = 381

**CPU2017 License:** 6221  
**Test Sponsor:** Meganet  
**Tested by:** Fusionstor system

**Test Date:** May-2024  
**Hardware Availability:** Dec-2021  
**Software Availability:** Dec-2023

## Base Optimization Flags (Continued)

C++ benchmarks (continued):

```
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin  
-lqkmallo
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-nostandard-realloc-lhs -align array32byte -auto  
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin  
-lqkmallo
```

## Peak Compiler Invocation

C benchmarks:

```
icx
```

C++ benchmarks:

```
icpx
```

Fortran benchmarks:

```
ifx
```

## 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:

(Continued on next page)



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## Peak Optimization Flags (Continued)

```
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/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

```
502.gcc_r: -m32
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/ia32_lin
-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 -ljemalloc
```

505.mcf\_r: basepeak = yes

```
525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

557.xz\_r: basepeak = yes

C++ benchmarks:

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-ic2023p2-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Fusionstor-Platform-Flags-Intel-ICX-rev3.html>



# SPEC CPU<sup>®</sup>2017 Integer Rate Result

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**Tested by:** Fusionstor system

**Test Date:** May-2024

**Hardware Availability:** Dec-2021

**Software Availability:** Dec-2023

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

<http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Fusionstor-Platform-Flags-Intel-ICX-rev3.xml>

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Tested with SPEC CPU<sup>®</sup>2017 v1.1.9 on 2024-05-04 00:54:00-0400.

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