



SPEC CPU®2017 Integer Rate Result

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xFusion

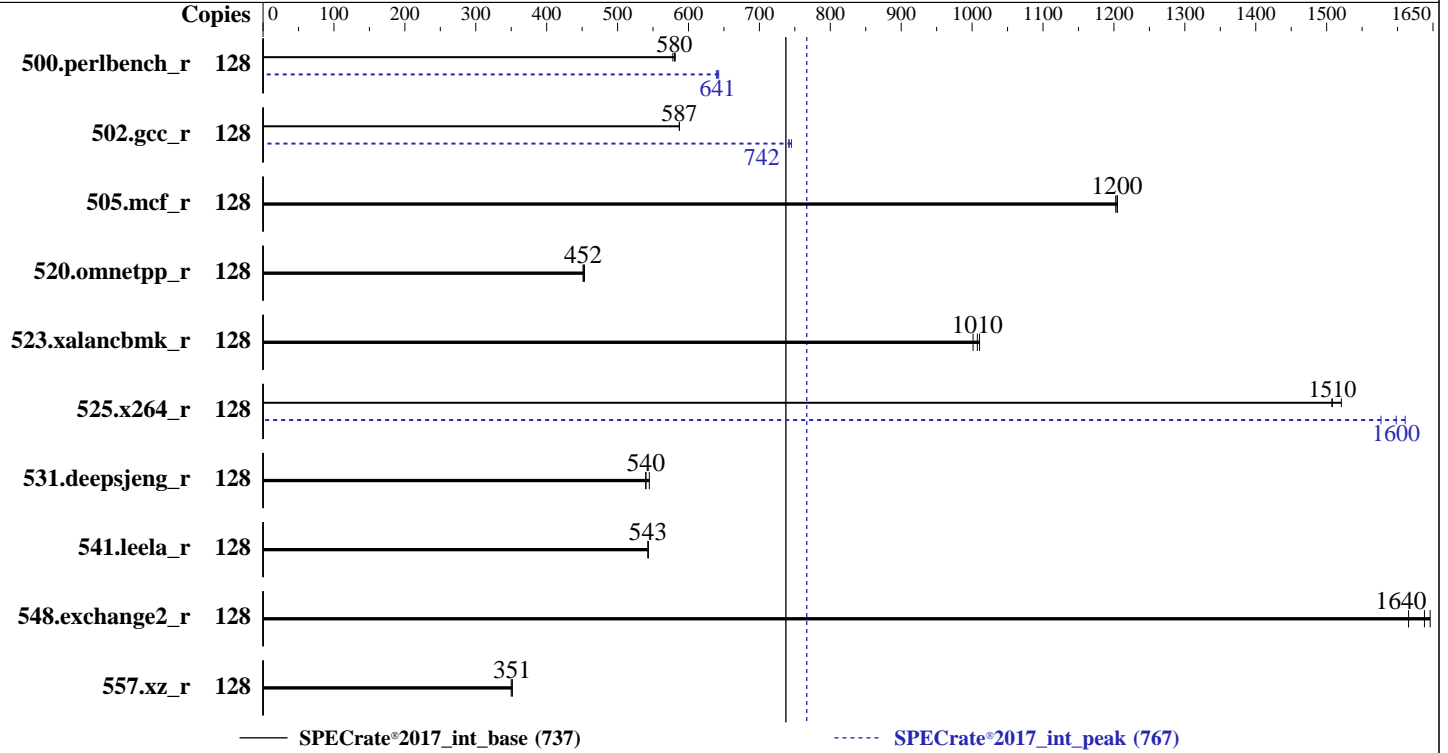
SPECrate®2017_int_base = 737

FusionServer 2288H V7 (Intel Xeon Gold 6558Q)

SPECrate®2017_int_peak = 767

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

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



Hardware

CPU Name: Intel Xeon Gold 6558Q
 Max MHz: 4100
 Nominal: 3200
 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 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.



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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	351	581	<u>351</u>	<u>580</u>	353	578	128	319	639	317	643	<u>318</u>	<u>641</u>
502.gcc_r	128	309	587	309	587	<u>309</u>	<u>587</u>	128	243	745	244	742	<u>244</u>	<u>742</u>
505.mcf_r	128	<u>172</u>	<u>1200</u>	172	1200	172	1200	128	<u>172</u>	<u>1200</u>	172	1200	172	1200
520.omnetpp_r	128	372	451	370	453	<u>372</u>	<u>452</u>	128	372	451	370	453	<u>372</u>	<u>452</u>
523.xalancbmk_r	128	134	1010	135	1000	<u>134</u>	<u>1010</u>	128	134	1010	135	1000	<u>134</u>	<u>1010</u>
525.x264_r	128	147	1520	149	1510	<u>149</u>	<u>1510</u>	128	142	1580	139	1610	<u>140</u>	<u>1600</u>
531.deepsjeng_r	128	269	545	<u>272</u>	<u>540</u>	272	540	128	269	545	<u>272</u>	<u>540</u>	272	540
541.leela_r	128	390	543	<u>390</u>	<u>543</u>	390	543	128	390	543	<u>390</u>	<u>543</u>	390	543
548.exchange2_r	128	<u>205</u>	<u>1640</u>	208	1620	204	1650	128	<u>205</u>	<u>1640</u>	208	1620	204	1650
557.xz_r	128	<u>393</u>	<u>351</u>	393	351	395	350	128	<u>393</u>	<u>351</u>	393	351	395	350

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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/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.

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

Sysinfo program /home/Uniautos/speccpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost.localdomain Wed Jul 3 05:16:20 2024

SUT (System Under Test) info as seen by some common utilities.

Table of contents

1. uname -a
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10. who -r
11. Systemd service manager version: systemd 252 (252-13.el9_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
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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.el9_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
05:16:20 up 1 min, 1 user, load average: 0.60, 0.30, 0.11
USER TTY LOGIN@ IDLE JCPU PCPU WHAT

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Platform Notes (Continued)

```
root      tty1      05:15      6.00s  0.98s  0.04s  sh rate.sh
```

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
sh rate.sh
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/CPU2017.151/templogs/preenv.intrate.151.0.log --lognum 151.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/Uniautos/speccpu2017
```

6. /proc/cpuinfo

```
model name      : INTEL(R) XEON(R) GOLD 6558Q
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
```

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Platform Notes (Continued)

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):               128
On-line CPU(s) list: 0-127
Vendor ID:            GenuineIntel
BIOS Vendor ID:       Intel(R) Corporation
Model name:           INTEL(R) XEON(R) GOLD 6558Q
BIOS Model name:     INTEL(R) XEON(R) GOLD 6558Q
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:          3201.0000
CPU min MHz:          800.0000
BogoMIPS:             6400.00
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 bmlil 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

```

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Platform Notes (Continued)

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, 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: 128035 MB
node 0 free: 119147 MB
node 1 cpus: 16-31,80-95
node 1 size: 129016 MB
node 1 free: 128525 MB
node 2 cpus: 32-47,96-111
node 2 size: 129016 MB
node 2 free: 128531 MB
node 3 cpus: 48-63,112-127
node 3 size: 129012 MB
node 3 free: 128498 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: 527443184 kB

10. who -r

run-level 3 Jul 3 05:15

11. Systemd service manager version: systemd 252 (252-13.e19_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

```

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Platform Notes (Continued)

```

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 firewallld kvm_stat
                    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
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,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:
  current policy: frequency should be within 800 MHz and 3.20 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/Uniautos/speccpu2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 1.7T 242G 1.5T 15% /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:
2x Samsung M321R4GA3PB0-CWMCH 32 GB 2 rank 5600, configured at 5200
14x Samsung M321R4GA3PB0-CWMXH 32 GB 2 rank 5600, configured at 5200

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.

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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
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
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Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx



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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

SPECrate®2017_int_base = 737

FusionServer 2288H V7 (Intel Xeon Gold 6558Q)

SPECrate®2017_int_peak = 767

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

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

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

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Software Availability: Apr-2024

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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