



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7 (Intel Xeon Gold 6542Y, 2.90GHz)

SPECrate®2017\_int\_base = 512

SPECrate®2017\_int\_peak = 527

CPU2017 License: 9019

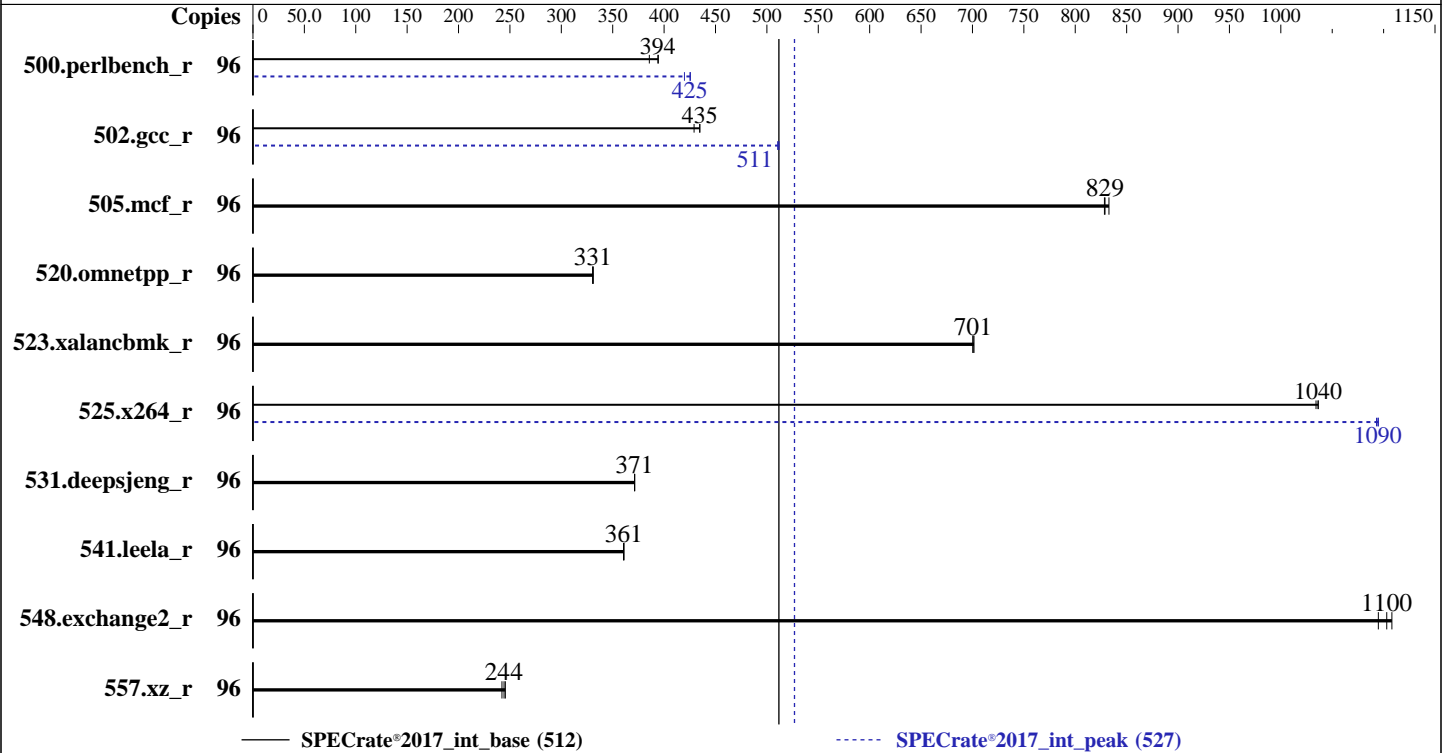
Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Feb-2024

Hardware Availability: Feb-2024

Software Availability: Dec-2023



### Hardware

CPU Name: Intel Xeon Gold 6542Y  
 Max MHz: 4100  
 Nominal: 2900  
 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: 60 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-5600B-R, running at 5200)  
 Storage: 1 TB SATA SSDs 6Gb/s  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP4  
 5.14.21-150400.22-default  
 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 4.3.3a released Jan-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	96	<b>388</b>	<b>394</b>	396	386	388	394	96	<b>359</b>	<b>425</b>	359	426	364	420
502.gcc_r	96	<b>313</b>	<b>435</b>	317	429	313	435	96	266	512	266	511	<b>266</b>	<b>511</b>
505.mcf_r	96	<b>187</b>	<b>829</b>	186	833	187	828	96	<b>187</b>	<b>829</b>	186	833	187	828
520.omnetpp_r	96	<b>381</b>	<b>331</b>	381	331	381	331	96	<b>381</b>	<b>331</b>	381	331	381	331
523.xalancbmk_r	96	145	700	145	701	<b>145</b>	<b>701</b>	96	145	700	145	701	<b>145</b>	<b>701</b>
525.x264_r	96	163	1030	<b>162</b>	<b>1040</b>	162	1040	96	154	1090	<b>154</b>	<b>1090</b>	154	1090
531.deepsjeng_r	96	<b>296</b>	<b>371</b>	296	371	296	371	96	<b>296</b>	<b>371</b>	296	371	296	371
541.leela_r	96	440	361	<b>441</b>	<b>361</b>	441	361	96	440	361	<b>441</b>	<b>361</b>	441	361
548.exchange2_r	96	227	1110	230	1090	<b>228</b>	<b>1100</b>	96	227	1110	230	1090	<b>228</b>	<b>1100</b>
557.xz_r	96	422	246	<b>424</b>	<b>244</b>	428	242	96	422	246	<b>424</b>	<b>244</b>	428	242

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

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) 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-2017-5753 (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.

## Platform Notes

### BIOS Settings:

Sub NUMA Clustering set to Enable SNC2(2-clusters)  
Adjacent cache line prefetcher set to Enabled  
DCU streamer prefetch set to Disabled  
Enhanced CPU performance set to Auto  
LLC Dead Line set to Disabled  
Processor C6 Report set to Enabled  
ADDDC Sparing set to Disabled

Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on srv3-EMR Sat Feb 24 07:03:13 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+suse.124.g2bc0b2c447)
  - 12. Services, from systemctl list-unit-files
  - 13. Linux kernel boot-time arguments, from /proc/cmdline
  - 14. cpupower frequency-info
  - 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 srv3-EMR 5.14.21-150400.22-default #1 SMP PREEMPT\_DYNAMIC Wed May 11 06:57:18 UTC 2022 (49db222)  
x86\_64 x86\_64 x86\_64 GNU/Linux
- 
- 2. w  
07:03:13 up 1 day, 3:49, 1 user, load average: 0.15, 0.18, 0.08  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT

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### Platform Notes (Continued)

```
root      tty1      -                Fri03    6:02    0.17s  0.17s  -bash
```

-----  
3. Username

From environment variable \$USER: root

-----  
4. ulimit -a

```
core file size          (blocks, -c) unlimited
data seg size           (kbytes, -d) unlimited
scheduling priority     (-e) 0
file size                (blocks, -f) unlimited
pending signals         (-i) 4126908
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) 4126908
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
```

-----  
5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize 30
sh runrate.ic2023.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=96 -c
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --reportable --iterations 3 --define smt-on --define
cores=48 --define physicalfirst --define invoke_with_interleave --define drop_caches --tune all -o all
intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=96 --configfile
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --reportable --iterations 3 --define smt-on --define
cores=48 --define physicalfirst --define invoke_with_interleave --define drop_caches --tune all
--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/cpu2017
```

-----  
6. /proc/cpuinfo

```
model name      : INTEL(R) XEON(R) GOLD 6542Y
vendor_id       : GenuineIntel
cpu family      : 6
model           : 207
stepping        : 2
microcode       : 0x21000200
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
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

(Continued on next page)



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### Platform Notes (Continued)

virtualized systems. Use the above data carefully.

-----  
7. lscpu

From lscpu from util-linux 2.37.2:

```

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
Model name:            INTEL(R) XEON(R) GOLD 6542Y
CPU family:            6
Model:                 207
Thread(s) per core:    2
Core(s) per socket:    24
Socket(s):             2
Stepping:              2
CPU max MHz:           4100.0000
CPU min MHz:           800.0000
BogoMIPS:              5800.00
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 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 cat_l2 cdp_l3
                      invpcid_single cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow
                      vmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 hle avx2 smep
                      bmi2 erms invpcid rtm 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 hwp
                      hwp_act_window hwp_epp hwp_pkg_req 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_lld 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:              120 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
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 and seccomp
Vulnerability Spectre v1: Mitigation; usercopy/swapgs 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

```

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### Platform Notes (Continued)

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	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: 0-11,48-59
node 0 size: 257654 MB
node 0 free: 256328 MB
node 1 cpus: 12-23,60-71
node 1 size: 258041 MB
node 1 free: 257232 MB
node 2 cpus: 24-35,72-83
node 2 size: 258041 MB
node 2 free: 257288 MB
node 3 cpus: 36-47,84-95
node 3 size: 258012 MB
node 3 free: 257247 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: 1056512960 kB

10. who -r

run-level 3 Feb 23 03:14

11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)

```

Default Target Status
multi-user      running

```

12. Services, from systemctl list-unit-files

```

STATE UNIT FILES
enabled YaST2-Firstboot YaST2-Second-Stage auditd cron getty@ haveged irqbalance issue-generator kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections postfix purge-kernels rollback rsyslog smartd sshd wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime systemd-remount-fs
disabled autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait chronyd console-getty cups cups-browsed debug-shell ebttables exchange-bmc-os-info firewallld gpm grub2-once haveged-switch-root ipmi ipmievd issue-add-ssh-keys kexec-load lunmask man-db-create multipathd nfs nfs-blkmap nvme-fc-autoconnect rdisc rpcbind rpmconfigcheck rsyncd serial-getty@ smartd_generate_opts snmpd snmptrapd svnservice systemd-boot-check-no-failures systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd udisks2
indirect wickedd

```

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### Platform Notes (Continued)

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

```
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
root=UUID=16c71aca-e386-4aa5-8e77-e7c816146b7c
splash=silent
mitigations=auto
quiet
security=
```

-----  
14. cpupower frequency-info

```
analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 4.10 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

  boost state support:
    Supported: yes
    Active: yes
```

-----  
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                   1
vm.watermark_boost_factor      15000
vm.watermark_scale_factor      10
vm.zone_reclaim_mode           0
```

-----  
16. /sys/kernel/mm/transparent\_hugepage

```
defrag          [always] defer+madvise madvise never
enabled         [always] madvise 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

(Continued on next page)



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### Platform Notes (Continued)

From /etc/\*-release /etc/\*-version  
os-release SUSE Linux Enterprise Server 15 SP4

-----  
19. Disk information

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sdb2	xfs	891G	22G	870G	3%	/

-----  
20. /sys/devices/virtual/dmi/id

Vendor:	Cisco Systems Inc
Product:	UCSX-210C-M7
Serial:	FCH270978F4

-----  
21. dmidecode

Additional information from dmidecode 3.2 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 0xCE00 M321R8GA0PB0-CWMCH 64 GB 2 rank 5600, configured at 5200

-----  
22. BIOS

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

BIOS Vendor:	Cisco Systems, Inc.
BIOS Version:	X210M7.4.3.3a.0.0118241337
BIOS Date:	01/18/2024
BIOS Revision:	5.32

### 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)

(Continued on next page)





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## Compiler Version Notes (Continued)

| 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.  
-----

=====  
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



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## Cisco Systems

Cisco UCS X210 M7 (Intel Xeon Gold 6542Y, 2.90GHz)

SPECrate®2017\_int\_base = 512

SPECrate®2017\_int\_peak = 527

**CPU2017 License:** 9019

**Test Sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test Date:** Feb-2024

**Hardware Availability:** Feb-2024

**Software Availability:** Dec-2023

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

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

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

## 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
```

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# SPEC CPU®2017 Integer Rate Result

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## Peak Portability Flags (Continued)

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/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.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/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

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## Peak Optimization Flags (Continued)

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/Cisco-Platform-Settings-V1.0-EMR-revB.html>

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/Cisco-Platform-Settings-V1.0-EMR-revB.xml>

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For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

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