



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019

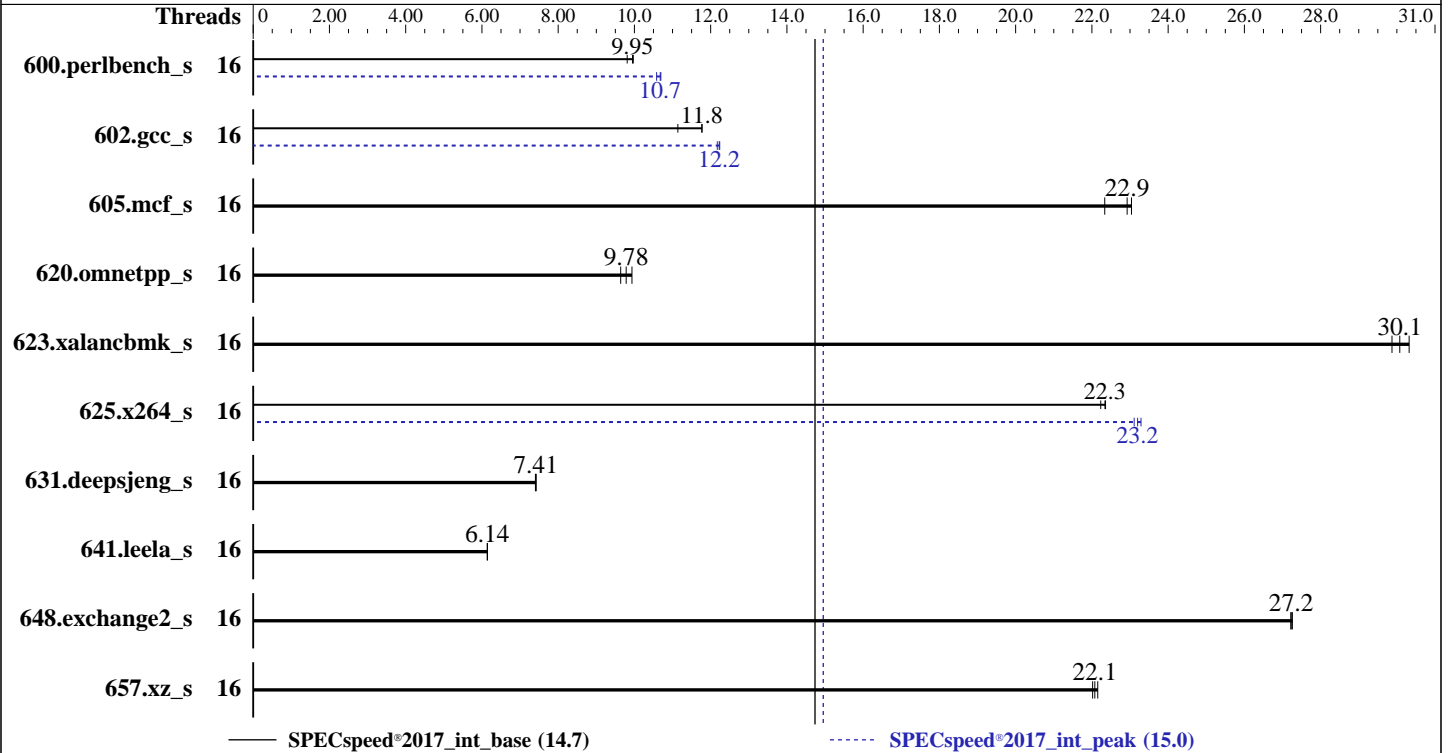
Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Mar-2023

Hardware Availability: Mar-2023

Software Availability: Dec-2022



Hardware

CPU Name: Intel Xeon Gold 5415+
 Max MHz: 4100
 Nominal: 2900
 Enabled: 16 cores, 2 chips
 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: 22.5 MB I+D on chip per chip
 Other: None
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-4800B-R, running at 4400)
 Storage: 1 x 960 GB M.2 SSD SATA
 Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP4
 5.14.21-150400.22-default
 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: Yes
 Firmware: Version 4.3.1a released Feb-2023
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: jemalloc memory allocator V5.0.1
 Power Management: BIOS set to prefer performance at the cost of additional power usage



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Tested by: Cisco Systems

Test Date: Mar-2023
Hardware Availability: Mar-2023
Software Availability: Dec-2022

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	16	178	9.97	181	9.81	178	9.95	16	168	10.6	166	10.7	166	10.7
602.gcc_s	16	338	11.8	338	11.8	357	11.1	16	326	12.2	327	12.2	325	12.2
605.mcf_s	16	206	22.9	205	23.0	211	22.3	16	206	22.9	205	23.0	211	22.3
620.omnetpp_s	16	167	9.78	164	9.94	169	9.64	16	167	9.78	164	9.94	169	9.64
623.xalancbmk_s	16	47.1	30.1	47.4	29.9	46.7	30.3	16	47.1	30.1	47.4	29.9	46.7	30.3
625.x264_s	16	79.3	22.2	78.9	22.4	78.9	22.3	16	75.7	23.3	76.3	23.1	76.0	23.2
631.deepsjeng_s	16	193	7.42	193	7.41	194	7.40	16	193	7.42	193	7.41	194	7.40
641.leela_s	16	278	6.15	278	6.14	278	6.14	16	278	6.15	278	6.14	278	6.14
648.exchange2_s	16	108	27.2	108	27.2	108	27.3	16	108	27.2	108	27.2	108	27.3
657.xz_s	16	281	22.0	279	22.2	280	22.1	16	281	22.0	279	22.2	280	22.1

SPECspeed®2017_int_base = **14.7**

SPECspeed®2017_int_peak = **15.0**

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.

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:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-64"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"

General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM memory using Redhat Enterprise Linux 8.0
Transparent Huge Pages enabled by default
Prior to runcpu invocation

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Mar-2023

Hardware Availability: Mar-2023

Software Availability: Dec-2022

General Notes (Continued)

Filesystem page cache synced and cleared with:

```
sync; echo 3> /proc/sys/vm/drop_caches
```

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 Settings:

Intel Hyper-Threading Technology set to Disabled

Sub NUMA Clustering set to Disabled

LLC Dead Line set to Disabled

ADDDC Sparing set to Disabled

Processor C6 Report set to Enabled

UPI Link Enablement 1

UPI Power Management Enabled

Sysinfo program /home/cpu2017/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on srv04 Sun Jul 23 11:36:25 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 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 srv04 5.14.21-150400.22-default #1 SMP PREEMPT_DYNAMIC Wed May 11 06:57:18 UTC 2022 (49db222) x86_64

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Mar-2023

Hardware Availability: Mar-2023

Software Availability: Dec-2022

Platform Notes (Continued)

x86_64 x86_64 GNU/Linux

```

-----
2. w
  11:36:25 up 11 min,  1 user,  load average: 0.00, 0.05, 0.07
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1    -             11:35    9.00s  1.37s  0.14s -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) 4127049
  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) 4127049
  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 -c ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=16
  --tune all -o all --define drop_caches intspeed
  runcpu --define default-platform-flags --configfile ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define
  cores=16 --tune all --output_format all --define drop_caches --nopower --runmode speed --tune base:peak
  --size refspeed intspeed --nopreenv --note-preenv --logfile
  $$SPEC/tmp/CPU2017.219/templogs/preenv.intspeed.219.0.log --lognum 219.0 --from_runcpu 2
  specperl $$SPEC/bin/sysinfo
  $SPEC = /home/cpu2017

```

```

-----
6. /proc/cpuinfo
  model name      : Intel(R) Xeon(R) Gold 5415+
  vendor_id      : GenuineIntel
  cpu family     : 6
  model          : 143
  stepping       : 8
  microcode      : 0x2b000161
  bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
  cpu cores      : 8
  siblings       : 8
  2 physical ids (chips)
  16 processors (hardware threads)
  physical id 0: core ids 0-7

```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Tested by: Cisco Systems

Test Date: Mar-2023
Hardware Availability: Mar-2023
Software Availability: Dec-2022

Platform Notes (Continued)

physical id 1: core ids 0-7
physical id 0: apicids 0,2,4,6,8,10,12,14
physical id 1: apicids 128,130,132,134,136,138,140,142
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
CPU op-mode(s):              32-bit, 64-bit
Address sizes:                46 bits physical, 57 bits virtual
Byte Order:                   Little Endian
CPU(s):                       16
On-line CPU(s) list:         0-15
Vendor ID:                    GenuineIntel
Model name:                   Intel(R) Xeon(R) Gold 5415+
CPU family:                   6
Model:                        143
Thread(s) per core:          1
Core(s) per socket:          8
Socket(s):                    2
Stepping:                     8
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 intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced
                                tpr_shadow vnmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmil 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 split_lock_detect 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:                    768 KiB (16 instances)
L1i cache:                    512 KiB (16 instances)
L2 cache:                     32 MiB (16 instances)
L3 cache:                     45 MiB (2 instances)
NUMA node(s):                 4
NUMA node0 CPU(s):            0-3
NUMA node1 CPU(s):            4-7
NUMA node2 CPU(s):            8-11
NUMA node3 CPU(s):            12-15
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

```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Tested by: Cisco Systems

Test Date: Mar-2023
Hardware Availability: Mar-2023
Software Availability: Dec-2022

Platform Notes (Continued)

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	768K	12	Data	1	64	1	64
L1i	32K	512K	8	Instruction	1	64	1	64
L2	2M	32M	16	Unified	2	2048	1	64
L3	22.5M	45M	15	Unified	3	24576	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: 0-3
node 0 size: 258011 MB
node 0 free: 257158 MB
node 1 cpus: 4-7
node 1 size: 257697 MB
node 1 free: 257381 MB
node 2 cpus: 8-11
node 2 size: 258046 MB
node 2 free: 257691 MB
node 3 cpus: 12-15
node 3 size: 258031 MB
node 3 free: 257707 MB
node distances:
node  0  1  2  3
0:  10  20  20  20
1:  20  10  20  20
2:  20  20  10  20
3:  20  20  20  10

```

9. /proc/meminfo

MemTotal: 1056549372 kB

10. who -r

run-level 3 Jul 23 11:25

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 apparmor auditd cron getty@ haveged irqbalance issue-generator kbdsettings klog
lvm2-monitor nscd postfix purge-kernels rollback rsyslog smartd sshd wicked wickedd-auto4
wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime systemd-remount-fs
disabled autofs 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 rdisc rpcbind rpmconfigcheck rsyncd serial-getty@
smartd_generate_opts snmpd snmptrapd svnservice systemd-boot-check-no-failures

```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Mar-2023

Hardware Availability: Mar-2023

Software Availability: Dec-2022

Platform Notes (Continued)

indirect systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd wickedd

13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
root=UUID=82136e43-7b14-445e-80c8-a54855d5e2c7
splash=silent
mitigations=auto
quiet
security=apparmor

14. cpupower frequency-info
analyzing CPU 0:
current policy: frequency should be within 800 MHz and 4.10 GHz.
The governor "powersave" 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 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

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Mar-2023

Hardware Availability: Mar-2023

Software Availability: Dec-2022

Platform Notes (Continued)

18. OS release

```
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/sdb3        xfs   436G  14G  423G   3% /
```

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

```
Vendor:          Cisco Systems Inc
Product:         UCS-C240-M7SX
Serial:          WZP26360KC7
```

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 M321R8GA0BB0-CQKDG 64 GB 2 rank 4800, configured at 4400

22. BIOS

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

```
BIOS Vendor:      Cisco Systems, Inc.
BIOS Version:     C240M7.4.3.1a.0.0201231701
BIOS Date:        02/01/2023
BIOS Revision:    5.29
```

The system clock was reset to a future date before running the test and the exact test date is updated

Compiler Version Notes

```
C | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak)
  | 657.xz_s(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++ | 620.omnetpp_s(base, peak) 623.xalanbmk_s(base, peak) 631.deepsjeng_s(base, peak)
    | 641.leela_s(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 | 648.exchange2_s(base, peak)
```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Mar-2023

Hardware Availability: Mar-2023

Software Availability: Dec-2022

Compiler Version Notes (Continued)

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

Base Portability Flags

600.perlbench_s: -DSPEC_LP64 -DSPEC_LINUX_X64
602.gcc_s: -DSPEC_LP64
605.mcf_s: -DSPEC_LP64
620.omnetpp_s: -DSPEC_LP64
623.xalancbmk_s: -DSPEC_LP64 -DSPEC_LINUX
625.x264_s: -DSPEC_LP64
631.deepsjeng_s: -DSPEC_LP64
641.leela_s: -DSPEC_LP64
648.exchange2_s: -DSPEC_LP64
657.xz_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:

-m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

C++ benchmarks:

-m64 -std=c++14 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:

-m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Mar-2023

Hardware Availability: Mar-2023

Software Availability: Dec-2022

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

```
600.perlbench_s: -m64 -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast(pass 1) -xCORE-AVX512 -O3 -ffast-math
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-fiopenmp -DSPEC_OPENMP -fno-strict-overflow
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

```
602.gcc_s: -m64 -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast(pass 1) -xCORE-AVX512 -O3 -ffast-math
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-fiopenmp -DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib
-ljemalloc
```

605.mcf_s: basepeak = yes

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Gold 5415+, 2.90GHz)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 15.0

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Mar-2023

Hardware Availability: Mar-2023

Software Availability: Dec-2022

Peak Optimization Flags (Continued)

```
625.x264_s: -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -O3
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-fno-alias -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

657.xz_s: basepeak = yes

C++ benchmarks:

620.omnetpp_s: basepeak = yes

623.xalancbmk_s: basepeak = yes

631.deepsjeng_s: basepeak = yes

641.leela_s: basepeak = yes

Fortran benchmarks:

648.exchange2_s: 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/Cisco-Platform-Settings-V1.0-SPR-revG.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/Cisco-Platform-Settings-V1.0-SPR-revG.xml>

SPEC CPU and SPECspeed 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.

Tested with SPEC CPU®2017 v1.1.9 on 2023-07-23 14:36:24-0400.

Report generated on 2024-01-29 17:31:33 by CPU2017 PDF formatter v6716.

Originally published on 2023-04-11.