Cisco Systems
Cisco UCS C240 M7 (Intel Xeon Platinum 8444H, 2.90GHz)

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

SPECrater®2017_int_base = 328
SPECrater®2017_int_peak = 338

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

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: No
Firmware: Version 4.3.1a released Feb-2023
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Power Management: BIOS set to prefer performance at the cost of additional power usage

Hardware
CPU Name: Intel Xeon Platinum 8444H
Max MHz: 4000
Nominal: 2900
Enabled: 32 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: 45 MB I+D on chip per chip
Other: None
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-4800B-R)
Storage: 1 x 960 GB M.2 SSD SATA
Other: None

SPECrater®2017_int_base (328)
SPECrater®2017_int_peak (338)
Cisco Systems
Cisco UCS C240 M7 (Intel Xeon Platinum 8444H, 2.90GHz)

Results Table

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</tbody>
</table>

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.xalanchmk_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This result is left in the SPEC results database for historical reference.

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"
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SPEC CPU®2017 Integer Rate Result
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Cisco Systems

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CPU2017 License: 9019
Test Sponsor: Cisco Systems
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Test Date: Mar-2023
Hardware Availability: Mar-2023
Software Availability: Dec-2022

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 numacl i.e.:
  numacl --interleave=all runcpu <etc>
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
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

Platform Notes

BIOS Settings:
Sub NUMA Clustering set to Enable SNC4
LLC Dead Line set to Disabled
ADDCC Sparing set to Disabled
Processor C6 Report set to Enabled
UPI Link Enablement 3
UPI Power Management Enabled

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b/ed5c36e2c92cc97bec197
running on specsrv Thu Jun 22 07:53:49 2023

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

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**Platform Notes (Continued)**

1. `uname -a`
   ```
   Linux specsrv 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`
   ```
   07:53:49 up 2 min, 1 user, load average: 2.10, 1.98, 0.83
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1     -                07:52   13.00s  1.26s  0.18s -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) 4126941
   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) 4126941
   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
   runcpu --nobuild --action validate --define default-platform-flags --define numcopies=64 -c
   ic2023.0-lin-sapphirerapids-rate-20221201.cfg --reportable --iterations 3 --define smt-on --define cores=32 --define physicalfirst --define invoke_with_interleave --define drop_caches --tune all -- all intrate
   runcpu --nobuild --action validate --define default-platform-flags --define numcopies=64 --configfile
   ic2023.0-lin-sapphirerapids-rate-20221201.cfg --reportable --iterations 3 --define smt-on --define cores=32 --define physicalfirst --define invoke_with_interleave --define drop_caches --tune all -- output_format all --noopower --runmode rate --tune base:peak --size refrate intrate --no power --note-preenv --logfile $SPEC/tmp/CPUP2017.193/templogs/preenv.intrate.193.0.log --lognum 193.0
   specperl $SPEC/bin/sysinfo
   $SPEC = /home/cpu2017
   ```

6. `/proc/cpuinfo`
   ```
   model name      : Intel(R) Xeon(R) Platinum 8444H
   vendor_id       : GenuineIntel
   cpu family      : 6
   ```

---

(Continued on next page)
Platform Notes (Continued)

model : 143
stepping : 8
microcode : 0x2b000161
bugs : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores : 16
siblings : 32
2 physical ids (chips)
64 processors (hardware threads)
physical id 0: core ids 0-15
physical id 0: core ids 0-15
physical id 0: apicids 0-31
physical id 0: apicids 128-159
Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

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):                          64
On-line CPU(s) list:             0-63
Vendor ID:                       GenuineIntel
Model name:                      Intel(R) Xeon(R) Platinum 8444H
CPU family:                      6
Model:                           143
Thread(s) per core:              2
Core(s) per socket:              16
Socket(s):                       2
Stepping:                        8
CPU max MHz:                     4000.000
CPU min MHz:                     800.000
BogoMIPS:                        5800.00
Flags:                           fpu vme de pse tsc msr pae mca cmov pat pse36
                                cli cef dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb
                                rdosp rdmsk rdtscp lm constant_tsc arch_perfmon pebs rep_good nopl xtopology
                                nonstop_tsc cpuid aperf perf 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 xyapic movbe popcnt tsc_deadline_timer aes avx avx16f avx512f
                                avx512dq rdseed adx avx512_vnni avx512_bitalg
                                f16c xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbb_total
                                cqm_mbb_local split_lock_detect avx_vnni avx512_bf16 wnhoindv dtherm ida
                                atp pls pts hwp hwp_act_window hwp_epp hwp_pkg_req avx512vbmi umip pku
                                ospke waiptkg avx512_vmbi2 gfn vs vpcmulqav avx512_vnni avx512_bitalg
                                tm avx512_vpopcntdq lsx77 rdipd bus_lock_detect cidemote movdir64b
                                enqcmd frm md clear serialize tsxidtrk pconfig arch_lbr avx512_fp16
                                amx_tile flush_l1d arch_capabilities
Virtualization:                  VT-x
L1d cache:                       1.5 MiB (32 instances)
L1i cache:                       1 MiB (32 instances)
L2 cache:                        64 MiB (32 instances)
L3 cache:                        90 MiB (2 instances)
NUMA node(s):                    8

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**SPEC CPU®2017 Integer Rate Result**

Cisco Systems

Cisco UCS C240 M7 (Intel Xeon Platinum 8444H, 2.90GHz)

<table>
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<th>SPECrate®2017_int_base</th>
<th>SPECrate®2017_int_peak</th>
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**CPU2017 License:** 9019  
**Test Sponsor:** Cisco Systems  
**Tested by:** Cisco Systems  
**Test Date:** Mar-2023  
**Hardware Availability:** Mar-2023  
**Software Availability:** Dec-2022

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**Platform Notes (Continued)**

NUMA node0 CPU(s): 0-3, 32-35  
NUMA node1 CPU(s): 4-7, 36-39  
NUMA node2 CPU(s): 8-11, 40-43  
NUMA node3 CPU(s): 12-15, 44-47  
NUMA node4 CPU(s): 16-19, 48-51  
NUMA node5 CPU(s): 20-23, 52-55  
NUMA node6 CPU(s): 24-27, 56-59  
NUMA node7 CPU(s): 28-31, 60-63

- **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 Srbdv:** Not affected
- **Vulnerability Tsx async abort:** Not affected

From lscpu --cache:

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<th>ALL-SIZE</th>
<th>WASYS</th>
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<td>L3</td>
<td>45M</td>
<td>90M</td>
<td>15 Unified</td>
<td>3</td>
<td>49152</td>
<td>1</td>
<td>64</td>
<td>1</td>
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</table>

8. numactl --hardware

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

available: 8 nodes (0-7)
node 0 cpus: 0-3, 32-35
node 0 size: 128670 MB
node 0 free: 127917 MB
node 1 cpus: 4-7, 36-39
node 1 size: 128987 MB
node 1 free: 128723 MB
node 2 cpus: 8-11, 40-43
node 2 size: 129021 MB
node 2 free: 128921 MB
node 3 cpus: 12-15, 44-47
node 3 size: 129021 MB
node 3 free: 128789 MB
node 4 cpus: 16-19, 48-51
node 4 size: 129021 MB
node 4 free: 128802 MB
node 5 cpus: 20-23, 52-55
node 5 size: 129021 MB
node 5 free: 128751 MB
node 6 cpus: 24-27, 56-59
node 6 size: 129021 MB
node 6 free: 128828 MB
node 7 cpus: 28-31, 60-63
node 7 size: 128992 MB
node 7 free: 128788 MB
node distances:

- node distances:
  - node 0: 1 2 3 4 5 6 7
  - node 1: 12 10 12 12 21 21 21
  - node 2: 12 10 12 12 21 21 21
  - node 3: 12 12 12 12 21 21 21
  - node 4: 21 21 21 21 10 12 12
### Platform Notes (Continued)

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</tbody>
</table>

---

9. `/proc/meminfo`

```
MemTotal:       1056521708 kB
```

---

10. `who -r`

```
run-level 3 Jun 22 07:52
```

---

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 apparmor auditd cron getty@ hveaged irqbalance
issue-generator kbdsettings klog lv2-monitor nscd postfix purge-kernels rollback rsyslog
smartd sshd wicked wickeddd-auto4 wickeddd-dhcp4 wickeddd-dhcp6 wickedd-nanny
enabled-runtime systemd-remount-fs
```

---

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

```
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
root=UUID=7a984919-bd0d-4451-8476-5139e3d5b29b
splash=silent
mitigations=auto
quiet
security=apparmor
```

---

14. `cpupower frequency-info`

```
analyzing CPU 0:
current policy: frequency should be within 800 MHz and 4.00 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.compression_proactiveness 20
vm.dirty_background_bytes 0
vm.dirty_background_ratio 10
vm.dirty_bytes 0
vm.dirty_expire_centisecs 3000
```

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SPECrate®2017_int_base = 328
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Platform Notes (Continued)

```
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+madvice [madvice] never
    enabled    [always] madvice never
    npagen_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 SUSE Linux Enterprise Server 15 SP4

19. Disk information
    SPEC is set to: /home/cpu2017
    Filesystem Type Size Used Avail Use% Mounted on
    /dev/sda3       xfs  220G  13G  208G   6% /

20. /sys/devices/virtual/dmi/id
    Vendor:         Cisco Systems Inc
    Product:        UCSC-C240-M7SX
    Serial:         WZP26330JLV

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 0xAD00 HMCG94MEBRA109N 64 GB 2 rank 4800

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

(Continued on next page)
Cisco Systems
Cisco UCS C240 M7 (Intel Xeon Platinum 8444H, 2.90GHz)

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

Platform Notes (Continued)

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    | 502.gcc_r(peak)
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

C    | 502.gcc_r(peak)
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

Fortran | 548.exchange2_r(base, peak)
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
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Cisco Systems
Cisco UCS C240 M7 (Intel Xeon Platinum 8444H, 2.90GHz)

<table>
<thead>
<tr>
<th>SPEC CPU®2017 Integer Rate Result</th>
<th>SPECrate®2017_int_base = 328</th>
</tr>
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<tbody>
<tr>
<td>CPU2017 License: 9019</td>
<td>SPECrate®2017_int_peak = 338</td>
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<td>Tested by: Cisco Systems</td>
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<tr>
<td>Test Date: Mar-2023</td>
<td>Hardware Availability: Mar-2023</td>
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<tr>
<td>Hardware Availability: Mar-2023</td>
<td>Software Availability: Dec-2022</td>
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</tbody>
</table>

**Base Compiler Invocation**

- **C benchmarks**: icx
- **C++ benchmarks**: icpx
- **Fortran benchmarks**: ifx

**Base Portability Flags**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
</tr>
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<tbody>
<tr>
<td>500.perlbench_r</td>
<td>-DSPEC_LP64 -DSPEC_LINUX_X64</td>
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<tr>
<td>502.gcc_r</td>
<td>-DSPEC_LP64</td>
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<tr>
<td>505.mcf_r</td>
<td>-DSPEC_LP64</td>
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<tr>
<td>520.omnetpp_r</td>
<td>-DSPEC_LP64</td>
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<tr>
<td>523.xalanchmk_r</td>
<td>-DSPEC_LP64 -DSPEC_LINUX</td>
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<td>525.x264_r</td>
<td>-DSPEC_LP64</td>
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<tr>
<td>531.deepsjeng_r</td>
<td>-DSPEC_LP64</td>
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<tr>
<td>541.leela_r</td>
<td>-DSPEC_LP64</td>
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<tr>
<td>548.exchange2_r</td>
<td>-DSPEC_LP64</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>-DSPEC_LP64</td>
</tr>
</tbody>
</table>

**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/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
  -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/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
  -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/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
  -lqkmalloc
Cisco Systems
Cisco UCS C240 M7 (Intel Xeon Platinum 8444H, 2.90GHz)

SPEC CPU®2017 Integer Rate Result
Copyright 2017-2024 Standard Performance Evaluation Corporation

Cisco Systems
 SPECrate®2017_int_base = 328
 SPECrate®2017_int_peak = 338

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

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

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:
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/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -m32
-l/usr/local/intel/compiler/2023.0.0/linux/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

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Peak Optimization Flags (Continued)

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/usr/local/intel/compiler/2023.0.0/linux/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-ic2023-official-linux64.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

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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 2023-06-22 10:53:48-0400.
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