SPEC CPU®2017 Integer Speed Result

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Inspur Electronic Information Industry Co., Ltd.

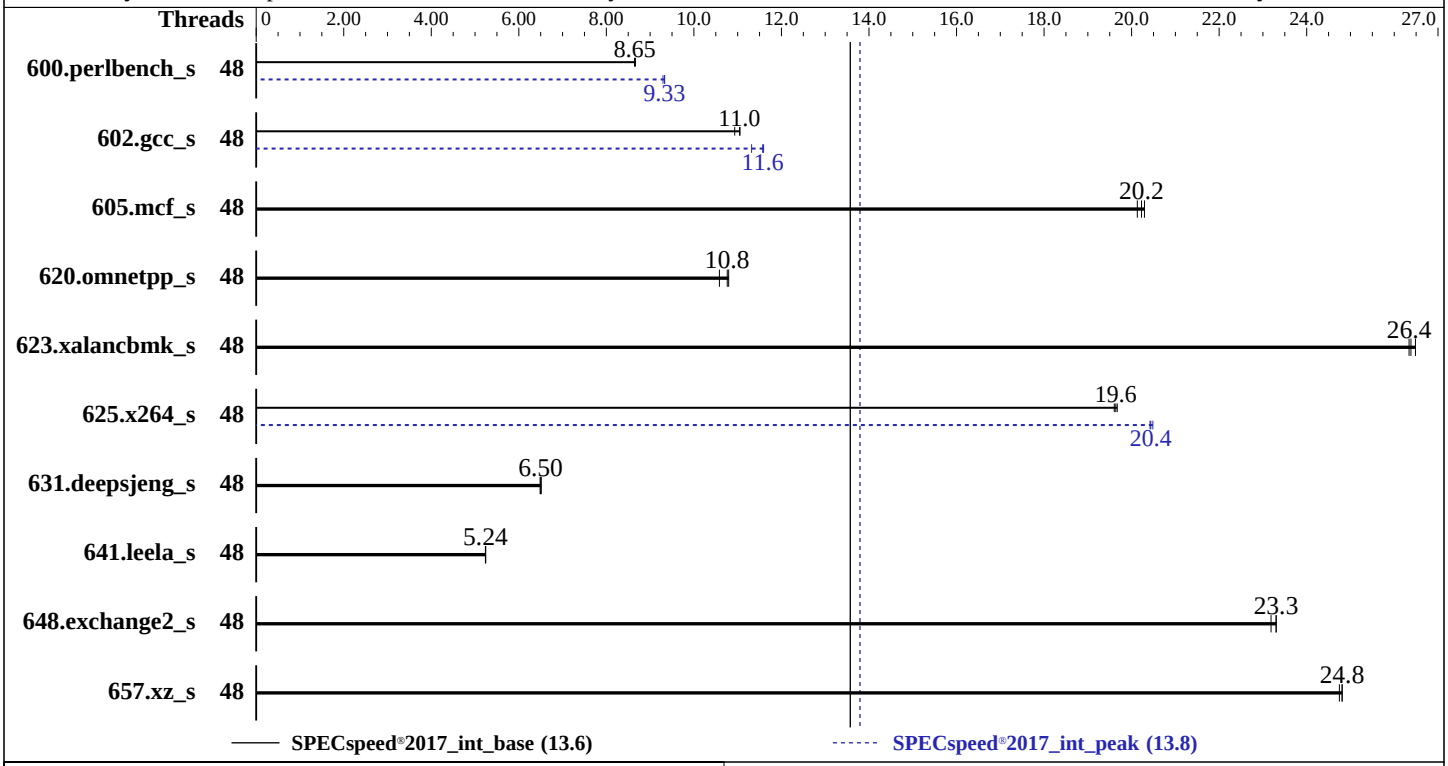
NF8480M7 (Intel Xeon Platinum 8450H)

SPECspeed®2017_int_base = 13.6

SPECspeed®2017_int_peak = 13.8

CPU2017 License: 3358
Test Sponsor: Inspur Electronic Information Industry Co., Ltd.
Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Sep-2023
Hardware Availability: Apr-2023
Software Availability: Dec-2022



Hardware

CPU Name:	Intel Xeon Platinum 8450H
Max MHz:	3500
Nominal:	2000
Enabled:	48 cores, 4 chips
Orderable:	2,4 chips
Cache L1:	32 KB I + 48 KB D on chip per core
L2:	2 MB I+D on chip per core
L3:	75 MB I+D on chip per chip
Other:	None
Memory:	1 TB (32 x 32 GB 2Rx4 PC5-4800B-R)
Storage:	1 x 1 TB NVME SSD
Other:	None

Software

OS:	Red Hat Enterprise Linux 9.0 (Plow) 5.14.0-70.13.1.el9_0.x86_64
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 03.00.00 released Dec-2022
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 and OS set to prefer performance at the cost of additional power usage.

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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	48	205	8.65	**205**	**8.65**	205	8.66	48	191	9.29	190	9.33	**190**	**9.33**
602.gcc_s	48	360	11.1	364	10.9	**361**	**11.0**	48	352	11.3	**344**	**11.6**	344	11.6
605.mcf_s	48	235	20.1	233	20.3	**233**	**20.2**	48	235	20.1	233	20.3	**233**	**20.2**
620.omnetpp_s	48	151	10.8	154	10.6	**152**	**10.8**	48	151	10.8	154	10.6	**152**	**10.8**
623.xalancbmk_s	48	53.5	26.5	53.8	26.3	**53.7**	**26.4**	48	53.5	26.5	53.8	26.3	**53.7**	**26.4**
625.x264_s	48	90.0	19.6	89.7	19.7	**89.8**	**19.6**	48	86.1	20.5	**86.3**	**20.4**	86.4	20.4
631.deepsjeng_s	48	220	6.51	**220**	**6.50**	221	6.49	48	220	6.51	**220**	**6.50**	221	6.49
641.leela_s	48	325	5.24	**326**	**5.24**	326	5.24	48	325	5.24	**326**	**5.24**	326	5.24
648.exchange2_s	48	126	23.3	**126**	**23.3**	127	23.2	48	126	23.3	**126**	**23.3**	127	23.2
657.xz_s	48	250	24.7	249	24.8	**249**	**24.8**	48	250	24.7	249	24.8	**249**	**24.8**

SPECspeed®2017_int_base = 13.6

SPECspeed®2017_int_peak = 13.8

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,scatter"
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)

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 configuration:
ENERGY_PERF_BIAS_CFG mode set to Performance
Hardware Prefetch set to Disable
VT Support set to Disable
Sub NUMA Cluster (SNC) set to SNC2
Hyper Threading set to disable
Active cores set to 12

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost.localdomain Mon Sep  4 13:01:55 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 250 (250-6.el9_0)
12. Failed units, from systemctl list-units --state=failed
13. Services, from systemctl list-unit-files
14. Linux kernel boot-time arguments, from /proc/cmdline
15. cpupower frequency-info
16. sysctl
17. /sys/kernel/mm/transparent_hugepage
18. /sys/kernel/mm/transparent_hugepage/khugepaged
19. OS release
20. Disk information
21. /sys/devices/virtual/dmi/id
22. dmidecode
23. BIOS
------------------------------------------------------------

------------------------------------------------------------
```

(Continued on next page)

Platform Notes (Continued)

```
1. uname -a
  Linux localhost.localdomain 5.14.0-70.13.1.el9_0.x86_64 #1 SMP PREEMPT Thu Apr 14 12:42:38 EDT 2022 x86_64
  x86_64 x86_64 GNU/Linux

------------------------------------------------------------
2. w
   13:01:55 up 7 days,  2:02,  1 user,  load average: 0.71, 0.65, 0.64
  USER     TTY        LOGIN@   IDLE   JCPU   PCPU WHAT
  root     tty1      28Aug23 11.00s  0.92s  0.00s sh
  reportable-ic2023.0-lin-sapphirerapids-speed-smt-off-20221201.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) 4126647
  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) 4126647
  virtual memory              (kbytes, -v) unlimited
  file locks                          (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize 28
 login -- root
 -bash
 sh reportable-ic2023.0-lin-sapphirerapids-speed-smt-off-20221201.sh
 runcpu --nobuild --action validate --define default-platform-flags -c
   ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=48 --tune base,peak -o all --define
   intspeedaffinity --define drop_caches intspeed
 runcpu --nobuild --action validate --define default-platform-flags --configfile
   ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=48 --tune base,peak --output_format all
   --define intspeedaffinity --define drop_caches --nopower --runmode speed --tune base:peak --size refspeed
   intspeed --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.001/templogs/preenv.intspeed.001.0.log
   --lognum 001.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) Platinum 8450H
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 143
    stepping        : 6
    microcode       : 0x2b000130
```

(Continued on next page)

Platform Notes (Continued)

```
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
    cpu cores       : 12
    siblings        : 12
    4 physical ids (chips)
    48 processors (hardware threads)
    physical id 0: core ids 0-5,14-19
    physical id 1: core ids 0-5,14-19
    physical id 2: core ids 0-5,15-20
    physical id 3: core ids 0-5,14-19
    physical id 0: apicids 0,2,4,6,8,10,28,30,32,34,36,38
    physical id 1: apicids 128,130,132,134,136,138,156,158,160,162,164,166
    physical id 2: apicids 256,258,260,262,264,266,286,288,290,292,294,296
    physical id 3: apicids 384,386,388,390,392,394,412,414,416,418,420,422
  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:                   52 bits physical, 57 bits virtual
  Byte Order:                      Little Endian
  CPU(s):                          48
  On-line CPU(s) list:             0-47
  Vendor ID:                       GenuineIntel
  BIOS Vendor ID:                  Intel(R) Corporation
  Model name:                      Intel(R) Xeon(R) Platinum 8450H
  BIOS Model name:                 Intel(R) Xeon(R) Platinum 8450H
  CPU family:                      6
  Model:                           143
  Thread(s) per core:              1
  Core(s) per socket:              12
  Socket(s):                       4
  Stepping:                        6
  CPU max MHz:                     3500.0000
  CPU min MHz:                     800.0000
  BogoMIPS:                        4000.00
  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
                                   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 fsgsbase
                                   tsc_adjust bmi1 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 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_l1d arch_capabilities
  L1d cache:                       2.3 MiB (48 instances)
  L1i cache:                       1.5 MiB (48 instances)
  L2 cache:                        96 MiB (48 instances)
  L3 cache:                        300 MiB (4 instances)
```

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Platform Notes (Continued)

```
  NUMA node(s):                    8
  NUMA node0 CPU(s):               0-5
  NUMA node1 CPU(s):               6-11
  NUMA node2 CPU(s):               12-17
  NUMA node3 CPU(s):               18-23
  NUMA node4 CPU(s):               24-29
  NUMA node5 CPU(s):               30-35
  NUMA node6 CPU(s):               36-41
  NUMA node7 CPU(s):               42-47
  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
  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

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        75M     300M   15 Unified         3 81920        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 8 nodes (0-7)
  node 0 cpus: 0-5
  node 0 size: 128555 MB
  node 0 free: 127115 MB
  node 1 cpus: 6-11
  node 1 size: 129022 MB
  node 1 free: 125899 MB
  node 2 cpus: 12-17
  node 2 size: 129022 MB
  node 2 free: 128786 MB
  node 3 cpus: 18-23
  node 3 size: 129022 MB
  node 3 free: 128626 MB
  node 4 cpus: 24-29
  node 4 size: 129022 MB
  node 4 free: 128874 MB
  node 5 cpus: 30-35
  node 5 size: 129022 MB
  node 5 free: 128866 MB
  node 6 cpus: 36-41
  node 6 size: 129022 MB
  node 6 free: 128864 MB
  node 7 cpus: 42-47
  node 7 size: 129011 MB
  node 7 free: 128774 MB
  node distances:
  node   0   1   2   3   4   5   6   7
    0:  10  12  21  21  21  21  21  21
    1:  12  10  21  21  21  21  21  21
    2:  21  21  10  12  21  21  21  21
    3:  21  21  12  10  21  21  21  21
```

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Platform Notes (Continued)

```
     4:  21  21  21  21  10  12  21  21
     5:  21  21  21  21  12  10  21  21
     6:  21  21  21  21  21  21  10  12
     7:  21  21  21  21  21  21  12  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1056462772 kB

------------------------------------------------------------
10. who -r
  run-level 3 Aug 28 10:59

------------------------------------------------------------
11. Systemd service manager version: systemd 250 (250-6.el9_0)
  Default Target  Status
  multi-user      degraded

------------------------------------------------------------
12. Failed units, from systemctl list-units --state=failed
    UNIT                              LOAD   ACTIVE SUB    DESCRIPTION
  * NetworkManager-wait-online.service loaded failed failed Network Manager Wait Online

------------------------------------------------------------
13. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chronyd crond
                   dbus-broker firewalld getty@ irqbalance kdump lvm2-monitor microcode nis-domainname
                   rhsmcertd rsyslog selinux-autorelabel-mark sshd sssd systemd-network-generator upower
  enabled-runtime  systemd-remount-fs
  disabled         blk-availability canberra-system-bootup canberra-system-shutdown
                   canberra-system-shutdown-reboot chrony-wait console-getty cpupower debug-shell kvm_stat
                   man-db-restart-cache-update nftables rdisc rhsm rhsm-facts rpmdb-rebuild 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

------------------------------------------------------------
14. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=(hd0,msdos1)/vmlinuz-5.14.0-70.13.1.el9_0.x86_64
  root=/dev/mapper/rhel-root
  ro
  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 3.50 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes

------------------------------------------------------------
16. sysctl
  kernel.numa_balancing               1
  kernel.randomize_va_space           2
  vm.compaction_proactiveness        20
```

(Continued on next page)

Platform Notes (Continued)

```
  vm.dirty_background_bytes           0
  vm.dirty_background_ratio          10
  vm.dirty_bytes                      0
  vm.dirty_expire_centisecs        3000
  vm.dirty_ratio                     20
  vm.dirty_writeback_centisecs      500
  vm.dirtytime_expire_seconds     43200
  vm.extfrag_threshold              500
  vm.min_unmapped_ratio               1
  vm.nr_hugepages                     0
  vm.nr_hugepages_mempolicy           0
  vm.nr_overcommit_hugepages          0
  vm.swappiness                      60
  vm.watermark_boost_factor       15000
  vm.watermark_scale_factor          10
  vm.zone_reclaim_mode                0

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

------------------------------------------------------------
18. /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

------------------------------------------------------------
19. OS release
  From /etc/*-release /etc/*-version
  os-release     Red Hat Enterprise Linux 9.0 (Plow)
  redhat-release Red Hat Enterprise Linux release 9.0 (Plow)
  system-release Red Hat Enterprise Linux release 9.0 (Plow)

------------------------------------------------------------
20. Disk information
SPEC is set to: /home/cpu2017
  Filesystem            Type  Size  Used Avail Use% Mounted on
  /dev/mapper/rhel-home xfs   819G  155G  664G  19% /home

------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
    Vendor:         IEI
    Product:        NF8480-M7-A0-R0-00
    Product Family: Not specified
    Serial:         380251A12

------------------------------------------------------------
22. 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.
```

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Platform Notes (Continued)

```
  Memory:
    32x Micron MTC20F2085S1RC48BA1 32 GB 2 rank 4800


 ------------------------------------------------------------
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       American Megatrends International, LLC.
    BIOS Version:      03.00.00
    BIOS Date:         12/16/2022
```

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.xalancbmk_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)
--------------------------------------------------------------------------------------------------------------
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 -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.profdata(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.profdata(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

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/Inspur-Platform-Settings-intel-V3.3.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/Inspur-Platform-Settings-intel-V3.3.xml

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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