SPEC CPU®2017 Integer Speed Result

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Supermicro

GPU SuperServer SYS-741GE-TNRT
(X13DEG-QT , Intel Xeon Gold 6548Y+)

$SPECspeed^{®}2017\_int\_base = 14.7$

$SPECspeed^{®}2017\_int\_peak = 14.9$

CPU2017 License: 001176

Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Jan-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

Threads

Benchmark	Threads	Value
600.perlbench_s	128	10.0 / 11.2
602.gcc_s	128	12.5 / 13.0
605.mcf_s	128	23.1
620.omnetpp_s	128	13.1
623.xalancbmk_s	128	14.0
625.x264_s	128	23.4 / 24.7
631.deepsjeng_s	128	7.61
641.leela_s	128	6.15
648.exchange2_s	128	27.4
657.xz_s	128	28.8

—— SPECspeed®2017_int_base (14.7)   ----- SPECspeed®2017_int_peak (14.9)

Hardware

CPU Name: Intel Xeon Gold 6548Y+
 Max MHz: 4100
 Nominal: 2500
Enabled: 64 cores, 2 chips, 2 threads/core
Orderable: 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 x 512 GB M.2 NVMe SSD
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP5
 Kernel 5.14.21-150500.53-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: Yes
Firmware: Version 2.1 released Dec-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 and OS set to prefer performance at the cost of additional power usage.

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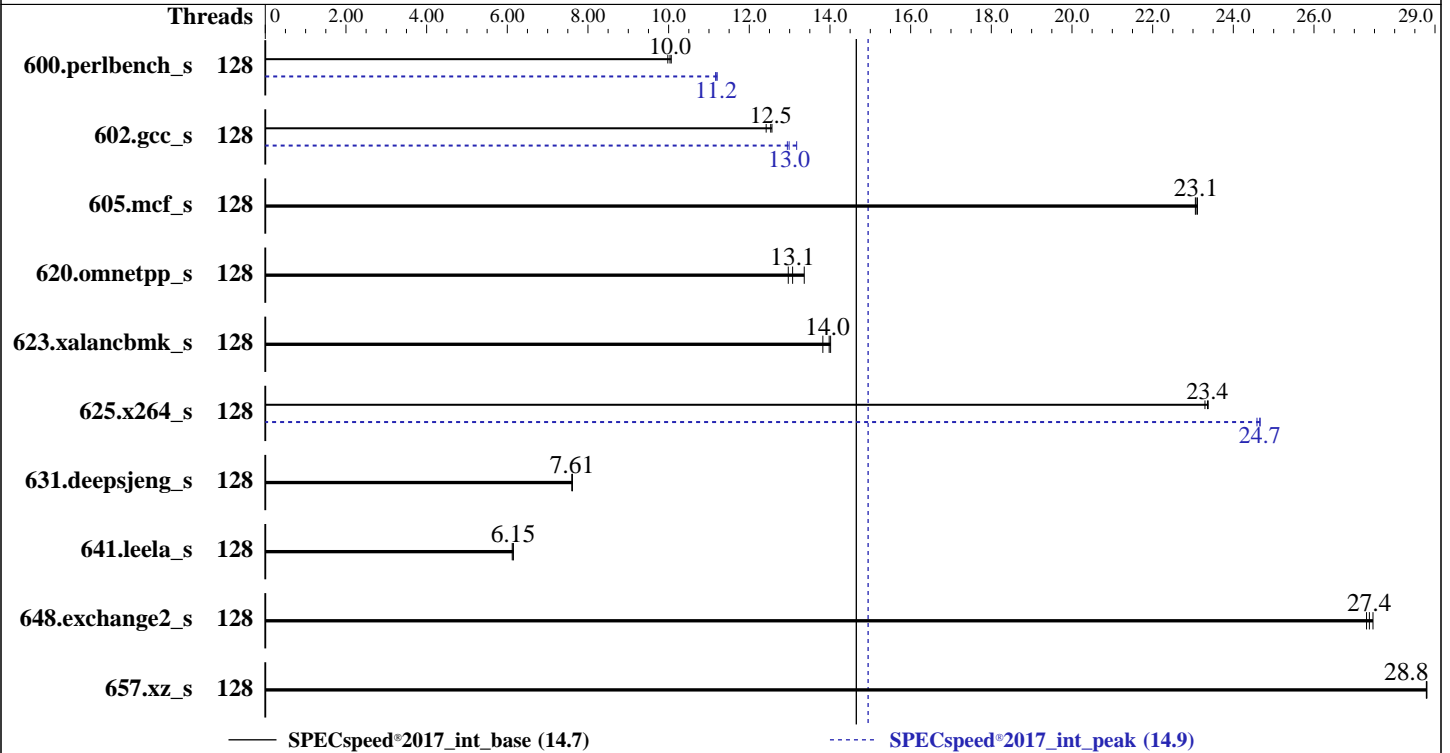
SPECspeed®2017_int_peak = 14.9

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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	128	176	10.1	178	9.98	**177**	**10.0**	128	158	11.2	159	11.2	**159**	**11.2**
602.gcc_s	128	**318**	**12.5**	317	12.6	321	12.4	128	308	12.9	**307**	**13.0**	302	13.2
605.mcf_s	128	204	23.1	205	23.1	**205**	**23.1**	128	204	23.1	205	23.1	**205**	**23.1**
620.omnetpp_s	128	**125**	**13.1**	126	13.0	122	13.4	128	**125**	**13.1**	126	13.0	122	13.4
623.xalancbmk_s	128	101	14.0	103	13.8	**101**	**14.0**	128	101	14.0	103	13.8	**101**	**14.0**
625.x264_s	128	75.7	23.3	75.5	23.4	**75.5**	**23.4**	128	**71.5**	**24.7**	71.7	24.6	71.5	24.7
631.deepsjeng_s	128	**188**	**7.61**	188	7.60	188	7.61	128	**188**	**7.61**	188	7.60	188	7.61
641.leela_s	128	279	6.12	**278**	**6.15**	277	6.15	128	279	6.12	**278**	**6.15**	277	6.15
648.exchange2_s	128	**107**	**27.4**	108	27.3	107	27.5	128	**107**	**27.4**	108	27.3	107	27.5
657.xz_s	128	215	28.8	**215**	**28.8**	215	28.8	128	215	28.8	**215**	**28.8**	215	28.8
SPECspeed®2017_int_base =		**14.7**												
SPECspeed®2017_int_peak =		**14.9**												

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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/lib/ia32:/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
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
```

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Platform Notes

```
BIOS Settings:
Power Technology = Custom
Power Performance Tuning = BIOS Controls EPB
ENERGY_PERF_BIAS_CFG mode = Performance
DCU Streamer Prefetcher = Disable
LLC Dead Line Alloc = Disable
KTI Prefetch = Enable
Stale AtoS = Disable
Patrol Scrub = Disable

 Sysinfo program /home/cpu2017/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on 135-172-248 Wed Jan 10 19:15:57 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 (249.16+suse.171.gdad0071f15)
 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 135-172-248 5.14.21-150500.53-default #1 SMP PREEMPT_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043)
   x86_64 x86_64 x86_64 GNU/Linux


 ------------------------------------------------------------
 2. w
    19:15:57 up 0 min,  1 user,  load average: 0.39, 0.15, 0.05
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1     -                19:15    5.00s  0.83s  0.00s -bash


 ------------------------------------------------------------
 3. Username
   From environment variable $USER:  root


 ------------------------------------------------------------
 4. ulimit -a
```

(Continued on next page)

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CPU2017 License: 001176　　　　　　　　　　　　　　　　　　　　　　　　**Test Date:** Jan-2024
Test Sponsor: Supermicro　　　　　　　　　　　　　　　　　　　　　　　**Hardware Availability:** Dec-2023
Tested by: Supermicro　　　　　　　　　　　　　　　　　　　　　　　　　**Software Availability:** Dec-2023

Platform Notes (Continued)

```
    core file size          (blocks, -c) unlimited
    data seg size           (kbytes, -d) unlimited
    scheduling priority             (-e) 0
    file size               (blocks, -f) unlimited
    pending signals                 (-i) 4126772
    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) 4126772
    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 --nobuild --action validate --define default-platform-flags -c
    ic2023.2.3-lin-core-avx512-speed-20231121.cfg --define cores=64 --tune base,peak -o all --define
    intspeedaffinity --define smt-on --define drop_caches intspeed
  runcpu --nobuild --action validate --define default-platform-flags --configfile
    ic2023.2.3-lin-core-avx512-speed-20231121.cfg --define cores=64 --tune base,peak --output_format all
    --define intspeedaffinity --define smt-on --define drop_caches --nopower --runmode speed --tune base:peak
    --size refspeed intspeed --nopreenv --note-preenv --logfile
    $SPEC/tmp/CPU2017.005/templogs/preenv.intspeed.005.0.log --lognum 005.0 --from_runcpu 2
  specperl $SPEC/bin/sysinfo
  $SPEC = /home/cpu2017

    ------------------------------------------------------------
6. /proc/cpuinfo
    model name      : INTEL(R) XEON(R) GOLD 6548Y+
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 207
    stepping        : 2
    microcode       : 0x21000200
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
    cpu cores       : 32
    siblings        : 64
    2 physical ids (chips)
    128 processors (hardware threads)
    physical id 0: core ids 0-31
    physical id 1: core ids 0-31
    physical id 0: apicids 0-63
    physical id 1: apicids 128-191
  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
```

(Continued on next page)

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SPECspeed®2017_int_base = 14.7

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Platform Notes (Continued)

```
Address sizes:                46 bits physical, 57 bits virtual
Byte Order:                   Little Endian
CPU(s):                       128
On-line CPU(s) list:          0-127
Vendor ID:                    GenuineIntel
Model name:                   INTEL(R) XEON(R) GOLD 6548Y+
CPU family:                   6
Model:                        207
Thread(s) per core:           2
Core(s) per socket:           32
Socket(s):                    2
Stepping:                     2
Frequency boost:              enabled
CPU max MHz:                  2501.0000
CPU min MHz:                  800.0000
BogoMIPS:                     5000.00
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
                              vnmi 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 hfi
                              avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq
                              avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid bus_lock_detect
                              cldemote movdiri movdir64b enqcmd fsrm md_clear serialize tsxldtrk pconfig
                              arch_lbr avx512_fp16 amx_tile flush_l1d arch_capabilities
Virtualization:               VT-x
L1d cache:                    3 MiB (64 instances)
L1i cache:                    2 MiB (64 instances)
L2 cache:                     128 MiB (64 instances)
L3 cache:                     120 MiB (2 instances)
NUMA node(s):                 2
NUMA node0 CPU(s):            0-31,64-95
NUMA node1 CPU(s):            32-63,96-127
Vulnerability Itlb multihit:  Not affected
Vulnerability L1tf:           Not affected
Vulnerability Mds:            Not affected
Vulnerability Meltdown:       Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Retbleed:       Not affected
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, PBRSB-eIBRS SW
                              sequence
Vulnerability Srbds:          Not affected
Vulnerability Tsx async abort: Not affected

From lscpu --cache:
    NAME ONE-SIZE ALL-SIZE WAYS TYPE         LEVEL   SETS PHY-LINE COHERENCY-SIZE
    L1d       48K       3M   12 Data             1     64       1             64
    L1i       32K       2M    8 Instruction      1     64       1             64
    L2         2M     128M   16 Unified          2   2048       1             64
    L3        60M     120M   15 Unified          3  65536       1             64
```

(Continued on next page)

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Software Availability: Dec-2023

Platform Notes (Continued)

```
-------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 2 nodes (0-1)
  node 0 cpus: 0-31,64-95
  node 0 size: 515683 MB
  node 0 free: 514402 MB
  node 1 cpus: 32-63,96-127
  node 1 size: 516040 MB
  node 1 free: 514714 MB
  node distances:
  node   0   1
    0:  10  21
    1:  21  10


-------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1056485332 kB


-------------------------------------------------------------
10. who -r
   run-level 3 Jan 10 19:15


-------------------------------------------------------------
11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)
   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 display-manager getty@ irqbalance
                    issue-generator kbdsettings klog lvm2-monitor nscd nvmefc-boot-connections postfix
                    purge-kernels rollback rsyslog smartd sshd systemd-pstore 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 ebtables exchange-bmc-os-info
                    firewalld gpm grub2-once haveged haveged-switch-root ipmi ipmievd issue-add-ssh-keys
                    kexec-load lunmask man-db-create multipathd nfs nfs-blkmap nvmf-autoconnect rpcbind
                    rpmconfigcheck rsyncd serial-getty@ smartd_generate_opts snmpd snmptrapd
                    systemd-boot-check-no-failures systemd-network-generator systemd-sysext
                    systemd-time-wait-sync systemd-timesyncd udisks2 vncserver@
   indirect         wickedd

-------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
   BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
   root=UUID=9de9855c-b179-4e5b-8330-3742dedc18b2
   splash=silent
   mitigations=auto
   quiet
   security=apparmor


-------------------------------------------------------------
14. cpupower frequency-info
   analyzing CPU 0:
     current policy: frequency should be within 800 MHz and 2.50 GHz.
                     The governor "ondemand" may decide which speed to use
```

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Platform Notes (Continued)

```
                      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                   60
  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


    ----------------------------------------------------------
18. OS release
  From /etc/*-release /etc/*-version
  os-release SUSE Linux Enterprise Server 15 SP5


    ----------------------------------------------------------
19. Disk information
SPEC is set to: /home/cpu2017
  Filesystem      Type  Size  Used Avail Use% Mounted on
  /dev/nvme0n1p2 xfs   475G  109G  366G  23% /


    ----------------------------------------------------------
20. /sys/devices/virtual/dmi/id
     Vendor:        Supermicro
     Product:       X13DEG-QT
     Product Family: Family
```

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Platform Notes (Continued)

```
      Serial:        1234567890


   ------------------------------------------------------------
  21. dmidecode
    Additional information from dmidecode 3.4 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:
      14x SK Hynix HMCG94AGBRA181N 64 GB 2 rank 5600, configured at 5200
      2x SK Hynix HMCG94AGBRA184N 64 GB 2 rank 5600, configured at 5200


   ------------------------------------------------------------
  22. BIOS
  (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       American Megatrends International, LLC.
    BIOS Version:      2.1
    BIOS Date:         12/12/2023
    BIOS Revision:     5.32
```

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 2023.2.3 Build x
Copyright (C) 1985-2023 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 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------


==============================================================================================
Fortran | 648.exchange2_s(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

(Continued on next page)

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Base Compiler Invocation (Continued)

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:
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -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:
-w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -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

(Continued on next page)

Supermicro

GPU SuperServer SYS-741GE-TNRT
(X13DEG-QT , Intel Xeon Gold 6548Y+)

SPECspeed®2017_int_base = 14.7

SPECspeed®2017_int_peak = 14.9

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

Test Date: Jan-2024
Hardware Availability: Dec-2023
Software Availability: Dec-2023

Peak Compiler Invocation (Continued)

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Peak Portability Flags

`Same as Base Portability Flags`

Peak Optimization Flags

C benchmarks:

600.perlbench_s: `-w -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: `-w -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: `-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -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:

(Continued on next page)

Supermicro

GPU SuperServer SYS-741GE-TNRT
(X13DEG-QT , Intel Xeon Gold 6548Y+)

SPECspeed®2017_int_base = 14.7

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Peak Optimization Flags (Continued)

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-ic2023p2-official-linux64.html`
`http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-EMR-revA.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/Supermicro-Platform-Settings-V1.2-EMR-revA.xml`

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

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