SPEC CPU®2017 Integer Rate Result

IEIT Systems Co., Ltd.

$SPECrate^{®}2017\_int\_base = 257$

NF5280M7 (Intel Xeon Gold 5512U)

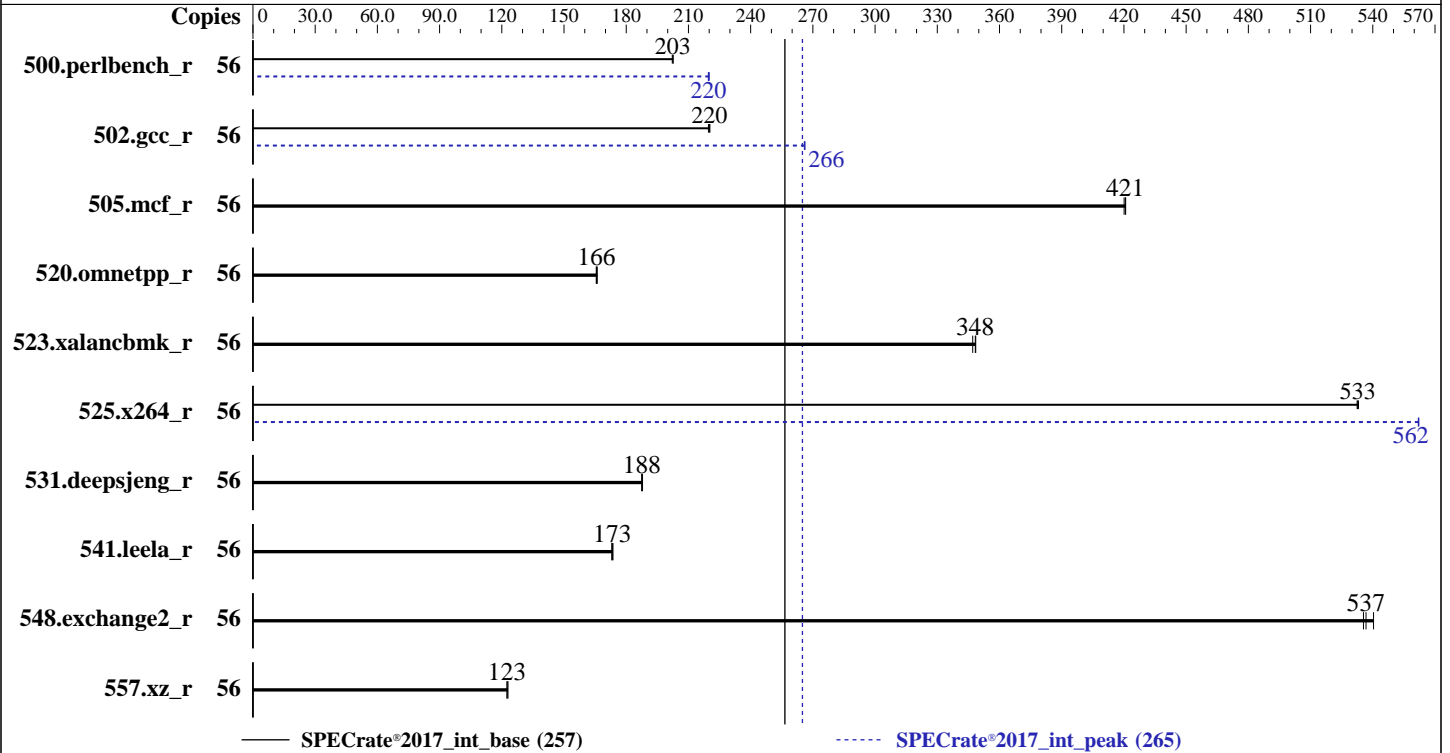$SPECrate^{®}2017\_int\_peak = 265$

CPU2017 License: 3358   **Test Date:** Feb-2024
Test Sponsor: IEIT Systems Co., Ltd.   **Hardware Availability:** Dec-2023
Tested by: IEIT Systems Co., Ltd.   **Software Availability:** Dec-2023

Benchmark	Copies	base	peak
500.perlbench_r	56	203	220
502.gcc_r	56	220	266
505.mcf_r	56	421	
520.omnetpp_r	56	166	
523.xalancbmk_r	56	348	
525.x264_r	56	533	562
531.deepsjeng_r	56	188	
541.leela_r	56	173	
548.exchange2_r	56	537	
557.xz_r	56	123	

SPECrate®2017_int_base (257)   SPECrate®2017_int_peak (265)

Hardware

CPU Name: Intel Xeon Gold 5512U
 Max MHz: 3700
 Nominal: 2100
Enabled: 28 cores, 1 chip, 2 threads/core
Orderable: 1 chip
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 52.5 MB I+D on chip per chip
 Other: None
Memory: 256 GB (8 x 32 GB 2Rx4 PC5-5600B-R, running at 4400)
Storage: 1 x 1.92 TB NVME SSD
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP5 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: No
Firmware: Version 05.13.00 released Nov-2023
File System: btrfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS set to prefer performance at the cost of additional power usage.

SPEC CPU®2017 Integer Rate Result

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IEIT Systems Co., Ltd.

NF5280M7 (Intel Xeon Gold 5512U)

SPECrate®2017_int_base = 257

SPECrate®2017_int_peak = 265

Results Table

Benchmark	Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
500.perlbench_r	56	441	202	**440**	**203**	440	203	56	405	220	406	220	**406**	**220**
502.gcc_r	56	361	220	360	220	**360**	**220**	56	298	266	**298**	**266**	298	266
505.mcf_r	56	215	420	**215**	**421**	215	421	56	215	420	**215**	**421**	215	421
520.omnetpp_r	56	443	166	**443**	**166**	444	166	56	443	166	**443**	**166**	444	166
523.xalancbmk_r	56	**170**	**348**	170	347	170	349	56	**170**	**348**	170	347	170	349
525.x264_r	56	184	532	184	533	**184**	**533**	56	174	562	174	562	**174**	**562**
531.deepsjeng_r	56	**342**	**188**	342	187	342	188	56	**342**	**188**	342	187	342	188
541.leela_r	56	534	174	**535**	**173**	536	173	56	534	174	**535**	**173**	536	173
548.exchange2_r	56	274	536	**273**	**537**	272	540	56	274	536	**273**	**537**	272	540
557.xz_r	56	492	123	**493**	**123**	494	123	56	492	123	**493**	**123**	494	123

SPECrate®2017_int_base = **257**

SPECrate®2017_int_peak = **265**

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

Submit Notes

```
The numactl mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate numactl commands to bind each copy to a specific processor.
For details, please see the config file.
```

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/CPU2017/lib/intel64:/home/CPU2017/lib/ia32:/home/CPU2017/je5.0.1-32"
MALLOC_CONF = "retain:true"
```

General Notes

```
Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
Transparent Huge Pages enabled by default
Prior to runcpu invocation
Filesystem page cache synced and cleared with:
sync; echo 3>        /proc/sys/vm/drop_caches
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>

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)
```

(Continued on next page)

IEIT Systems Co., Ltd.

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CPU2017 License: 3358
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Test Date: Feb-2024
Hardware Availability: Dec-2023
Software Availability: Dec-2023

General Notes (Continued)

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

Sysinfo program /home/CPU2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Fri Feb 23 10:17:52 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. sysctl
15. /sys/kernel/mm/transparent_hugepage
16. /sys/kernel/mm/transparent_hugepage/khugepaged
17. OS release
18. Disk information
19. /sys/devices/virtual/dmi/id
20. dmidecode
21. BIOS
------------------------------------------------------------


------------------------------------------------------------
1. uname -a
  Linux localhost 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
   10:17:52 up 22 min,  1 user,  load average: 0.00, 0.00, 0.00
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1     -                10:17    8.00s  1.89s  0.03s -bash


------------------------------------------------------------
3. Username
```

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IEIT Systems Co., Ltd.

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Platform Notes (Continued)

```
    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) 1030126
    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) 1030126
    virtual memory          (kbytes, -v) unlimited
    file locks                      (-x) unlimited


    ----------------------------------------------------------
 5. sysinfo process ancestry
  /usr/lib/systemd/systemd --switched-root --system --deserialize 29
  login -- root
  -bash
  -bash
  runcpu --nobuild --action validate --define default-platform-flags --define numcopies=56 -c
    ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=28 --define physicalfirst
    --define invoke_with_interleave --define drop_caches --tune base,peak -o all intrate
  runcpu --nobuild --action validate --define default-platform-flags --define numcopies=56 --configfile
    ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=28 --define physicalfirst
    --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
    --runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
    $SPEC/tmp/CPU2017.024/templogs/preenv.intrate.024.0.log --lognum 024.0 --from_runcpu 2
  specperl $SPEC/bin/sysinfo
 $SPEC = /home/CPU2017


    ----------------------------------------------------------
 6. /proc/cpuinfo
    model name      : INTEL(R) XEON(R) GOLD 5512U
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 207
    stepping        : 2
    microcode       : 0x21000161
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
    cpu cores       : 28
    siblings        : 56
    1 physical ids (chips)
    56 processors (hardware threads)
    physical id 0: core ids 0-27
    physical id 0: apicids 0-55
  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:
```

<div align="center">(Continued on next page)</div>

IEIT Systems Co., Ltd.

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CPU2017 License: 3358
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Test Date: Feb-2024
Hardware Availability: Dec-2023
Software Availability: Dec-2023

Platform Notes (Continued)

```
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):                             56
On-line CPU(s) list:                0-55
Vendor ID:                          GenuineIntel
Model name:                         INTEL(R) XEON(R) GOLD 5512U
CPU family:                         6
Model:                              207
Thread(s) per core:                 2
Core(s) per socket:                 28
Socket(s):                          1
Stepping:                           2
CPU max MHz:                        3700.0000
CPU min MHz:                        800.0000
BogoMIPS:                           4200.00
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 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 fsgsbase tsc_adjust bmi1 hle
                                    avx2 smep bmi2 erms invpcid rtm cqm rdt_a avx512f avx512dq rdseed adx smap
                                    avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl
                                    xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
                                    cqm_mbm_local avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hwp
                                    hwp_act_window hwp_epp hwp_pkg_req avx512vbmi umip pku ospke waitpkg
                                    avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme
                                    avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote movdiri movdir64b
                                    enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr avx512_fp16
                                    amx_tile flush_l1d arch_capabilities
L1d cache:                          1.3 MiB (28 instances)
L1i cache:                          896 KiB (28 instances)
L2 cache:                           56 MiB (28 instances)
L3 cache:                           52.5 MiB (1 instance)
NUMA node(s):                       2
NUMA node0 CPU(s):                  0-13,28-41
NUMA node1 CPU(s):                  14-27,42-55
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     1.3M   12 Data             1    64       1        64
    L1i      32K     896K    8 Instruction      1    64       1        64
    L2        2M      56M   16 Unified          2  2048       1        64
    L3     52.5M    52.5M   15 Unified          3 57344       1        64
```

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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: 0-13,28-41
            node 0 size: 128583 MB
            node 0 free: 127903 MB
            node 1 cpus: 14-27,42-55
            node 1 size: 128970 MB
            node 1 free: 127783 MB
            node distances:
            node   0   1
              0:  10  12
              1:  12  10


          --------------------------------------------------------------
          9. /proc/meminfo
             MemTotal:       263735916 kB


          --------------------------------------------------------------
          10. who -r
            run-level 3 Feb 23 09:55


          --------------------------------------------------------------
          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           apparmor auditd cron getty@ irqbalance issue-generator kbdsettings nvmefc-boot-connections
                              postfix purge-kernels rollback systemd-pstore wicked wickedd-auto4 wickedd-dhcp4
                              wickedd-dhcp6 wickedd-nanny
            enabled-runtime   systemd-remount-fs
            disabled          boot-sysctl ca-certificates chrony-wait chronyd console-getty debug-shell
                              exchange-bmc-os-info grub2-once haveged haveged-switch-root ipmievd issue-add-ssh-keys
                              kexec-load lunmask nvmf-autoconnect rpmconfigcheck serial-getty@
                              systemd-boot-check-no-failures systemd-network-generator systemd-sysext
                              systemd-time-wait-sync systemd-timesyncd
            generated         jexec
            indirect          wickedd


          --------------------------------------------------------------
          13. Linux kernel boot-time arguments, from /proc/cmdline
            BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
            root=UUID=e0c623aa-ee95-4c1b-a983-a707e455061f
            splash=silent
            mitigations=auto
            quiet
            security=apparmor


          --------------------------------------------------------------
          14. sysctl
            kernel.numa_balancing             1
            kernel.randomize_va_space         2
            vm.compaction_proactiveness       20
            vm.dirty_background_bytes         0
            vm.dirty_background_ratio         10
```

(Continued on next page)

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Platform Notes (Continued)

```
   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


   ----------------------------------------------------------
15. /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


   ----------------------------------------------------------
16. /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


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


   ----------------------------------------------------------
18. Disk information
SPEC is set to: /home/CPU2017
   Filesystem     Type   Size  Used Avail Use% Mounted on
   /dev/nvme0n1p3 btrfs  891G   99G  792G  12% /home


   ----------------------------------------------------------
19. /sys/devices/virtual/dmi/id
   Vendor:         IEIT
   Product:        NF5280-M7-A0-R0-00
   Product Family: Not specified
   Serial:         000000000


   ----------------------------------------------------------
20. 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:
     8x Samsung M321R4GA3PB0-CWMCH 32 GB 2 rank 5600, configured at 4400
```

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Platform Notes (Continued)

```
  ------------------------------------------------------------
  21. BIOS
  (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       American Megatrends International, LLC.
    BIOS Version:      05.13.00
    BIOS Date:         11/30/2023
```

Compiler Version Notes

```
==============================================================================
C        | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak)
         | 557.xz_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak)
         | 557.xz_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C++      | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak) 531.deepsjeng_r(base, peak)
         | 541.leela_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran | 548.exchange2_r(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

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Base Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Base Portability Flags

500.perlbench_r: `-DSPEC_LP64 -DSPEC_LINUX_X64`
502.gcc_r: `-DSPEC_LP64`
505.mcf_r: `-DSPEC_LP64`
520.omnetpp_r: `-DSPEC_LP64`
523.xalancbmk_r: `-DSPEC_LP64 -DSPEC_LINUX`
525.x264_r: `-DSPEC_LP64`
531.deepsjeng_r: `-DSPEC_LP64`
541.leela_r: `-DSPEC_LP64`
548.exchange2_r: `-DSPEC_LP64`
557.xz_r: `-DSPEC_LP64`

Base Optimization Flags

C benchmarks:
```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-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/home/specdev/new_compilers/ic2023.2.3/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/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

IEIT Systems Co., Ltd.

SPECrate®2017_int_base = 257

NF5280M7 (Intel Xeon Gold 5512U)

SPECrate®2017_int_peak = 265

CPU2017 License: 3358 **Test Date:** Feb-2024
Test Sponsor: IEIT Systems Co., Ltd. **Hardware Availability:** Dec-2023
Tested by: IEIT Systems Co., Ltd. **Software Availability:** Dec-2023

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

502.gcc_r: `-m32`
`-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/ia32_lin`
`-std=gnu89 -Wl,-z,muldefs -fprofile-generate`(pass 1)
`-fprofile-use=default.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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SPECrate®2017_int_base = 257

NF5280M7 (Intel Xeon Gold 5512U)

SPECrate®2017_int_peak = 265

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

557.xz_r: `basepeak = yes`

C++ benchmarks:

520.omnetpp_r: `basepeak = yes`

523.xalancbmk_r: `basepeak = yes`

531.deepsjeng_r: `basepeak = yes`

541.leela_r: `basepeak = yes`

Fortran benchmarks:

548.exchange2_r: `basepeak = yes`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.html
http://www.spec.org/cpu2017/flags/Inspur-Platform-Settings-intel-V3.4.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/Inspur-Platform-Settings-intel-V3.4.xml

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

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