SPEC CPU®2017 Integer Rate Result

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GIGA-BYTE TECHNOLOGY CO., LTD

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R282-3C0

$SPECrate^{®}2017\_int\_base = 320$

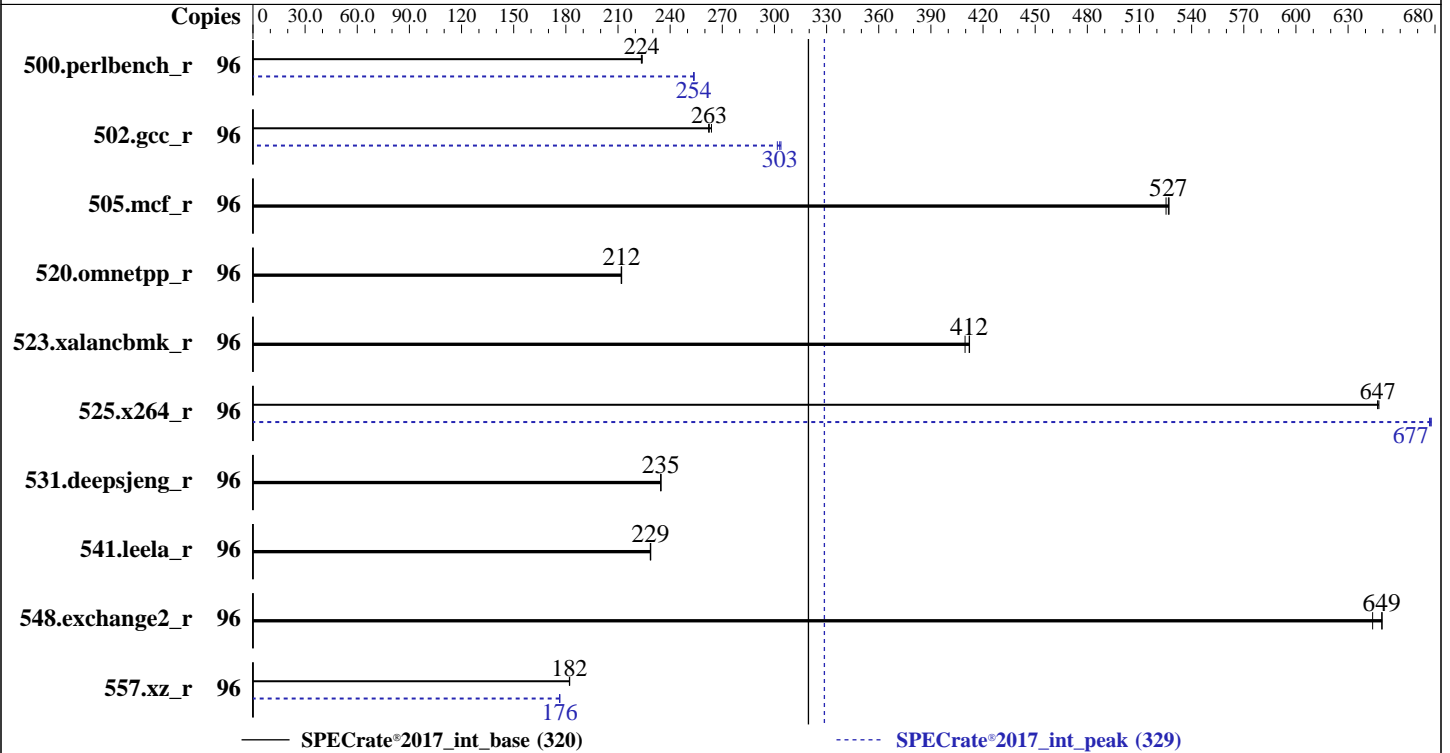$SPECrate^{®}2017\_int\_peak = 329$

CPU2017 License: 13

Test Sponsor: GIGA-BYTE TECHNOLOGY CO., LTD.

Tested by: GIGA-BYTE TECHNOLOGY CO., LTD.

Test Date: Aug-2021

Hardware Availability: May-2021

Software Availability: Dec-2020

Copies		
500.perlbench_r	96	224 / 254
502.gcc_r	96	263 / 303
505.mcf_r	96	527
520.omnetpp_r	96	212
523.xalancbmk_r	96	412
525.x264_r	96	647 / 677
531.deepsjeng_r	96	235
541.leela_r	96	229
548.exchange2_r	96	649
557.xz_r	96	182 / 176

—— SPECrate®2017_int_base (320)   ------ SPECrate®2017_int_peak (329)

Hardware

CPU Name: Intel Xeon Gold 5318Y
 Max MHz: 3400
 Nominal: 2100
Enabled: 48 cores, 2 chips, 2 threads/core
Orderable: 1,2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 1.25 MB I+D on chip per core
 L3: 36 MB I+D on chip per chip
 Other: None
Memory: 512 GB (32 x 16 GB 2Rx8 PC4-3200AA-R, running at 2933)
Storage: 1 x 1.7 TB SATA, 7200 RPM
Other: None

Software

OS: Red Hat Enterprise Linux release 8.3 (Ootpa) 4.18.0-240.el8.x86_64

Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++ Compiler Build 20201113 for Linux;
Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux;
C/C++: Version 2021.1 of Intel C/C++ Compiler Classic Build 20201112 for Linux

Parallel: No
Firmware: Version F07 released Apr-2021
File System: xfs
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

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Test Date: Aug-2021
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Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	96	684	223	**683**	**224**	683	224	96	602	254	603	253	**603**	**254**
502.gcc_r	96	**518**	**263**	515	264	519	262	96	451	302	**449**	**303**	448	304
505.mcf_r	96	295	525	**295**	**527**	294	527	96	295	525	**295**	**527**	294	527
520.omnetpp_r	96	594	212	**594**	**212**	595	212	96	594	212	**594**	**212**	595	212
523.xalancbmk_r	96	**246**	**412**	247	410	246	412	96	**246**	**412**	247	410	246	412
525.x264_r	96	260	647	260	648	**260**	**647**	96	248	678	**248**	**677**	248	677
531.deepsjeng_r	96	469	235	469	235	**469**	**235**	96	469	235	469	235	**469**	**235**
541.leela_r	96	**695**	**229**	696	229	695	229	96	**695**	**229**	696	229	695	229
548.exchange2_r	96	387	650	390	644	**387**	**649**	96	387	650	390	644	**387**	**649**
557.xz_r	96	**569**	**182**	569	182	570	182	96	588	176	**588**	**176**	588	176

SPECrate®2017_int_base =	**320**
SPECrate®2017_int_peak =	**329**

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/cpu1.1.8-2021.RevB/lib/intel64:/home/cpu1.1.8-2021.RevB/lib/ia32:
      /home/cpu1.1.8-2021.RevB/je5.0.1-32"
MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM
memory using Red Hat Enterprise Linux 8.1
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

(Continued on next page)

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SPECrate®2017_int_base = 320

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General Notes (Continued)

```
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)
is mitigated in the system as tested and documented.
jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5
sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases
```

Platform Notes

```
BIOS Settings:
Power Policy set to Best Performance
DCU Streamer Prefetch set to Disabled
SNC set to Enabled SNC2(2-Clusters)
Stale Atos set to Enabled
LLC Dead Line set to Disabled

Sysinfo program /home/cpu1.1.8-2021.RevB/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
running on localhost.localdomain Mon Aug 16 20:42:01 2021

SUT (System Under Test) info as seen by some common utilities.
For more information on this section, see
   https://www.spec.org/cpu2017/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) Gold 5318Y CPU @ 2.10GHz
      2  "physical id"s (chips)
      96 "processors"
   cores, siblings (Caution: counting these is hw and system dependent. The following
   excerpts from /proc/cpuinfo might not be reliable.  Use with caution.)
      cpu cores : 24
      siblings  : 48
      physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
      physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

From lscpu from util-linux 2.32.1:
      Architecture:        x86_64
      CPU op-mode(s):      32-bit, 64-bit
      Byte Order:          Little Endian
      CPU(s):              96
      On-line CPU(s) list: 0-95
```

(Continued on next page)

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R282-3C0

SPECrate®2017_int_base = 320

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CPU2017 License: 13 **Test Date:** Aug-2021
Test Sponsor: GIGA-BYTE TECHNOLOGY CO., LTD. **Hardware Availability:** May-2021
Tested by: GIGA-BYTE TECHNOLOGY CO., LTD. **Software Availability:** Dec-2020

Platform Notes (Continued)

```
        Thread(s) per core:   2
        Core(s) per socket:   24
        Socket(s):            2
        NUMA node(s):         4
        Vendor ID:            GenuineIntel
        CPU family:           6
        Model:                106
        Model name:           Intel(R) Xeon(R) Gold 5318Y CPU @ 2.10GHz
        Stepping:             6
        CPU MHz:              2600.000
        CPU max MHz:          3400.0000
        CPU min MHz:          800.0000
        BogoMIPS:             4200.00
        Virtualization:       VT-x
        L1d cache:            48K
        L1i cache:            32K
        L2 cache:             1280K
        L3 cache:             36864K
        NUMA node0 CPU(s):    0-11,48-59
        NUMA node1 CPU(s):    12-23,60-71
        NUMA node2 CPU(s):    24-35,72-83
        NUMA node3 CPU(s):    36-47,84-95
        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 pni pclmulqdq dtes64 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 invpcid_single intel_ppin
        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 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 wbnoinvd dtherm ida arat pln pts hwp hwp_act_window
        hwp_epp hwp_pkg_req avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq
        avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid md_clear pconfig flush_l1d
        arch_capabilities

  /proc/cpuinfo cache data
     cache size : 36864 KB

  From numactl --hardware
  WARNING: a numactl 'node' might or might not correspond to a physical chip.
    available: 4 nodes (0-3)
    node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 48 49 50 51 52 53 54 55 56 57 58 59
    node 0 size: 125720 MB
    node 0 free: 112438 MB
    node 1 cpus: 12 13 14 15 16 17 18 19 20 21 22 23 60 61 62 63 64 65 66 67 68 69 70 71
```

(Continued on next page)

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Test Date: Aug-2021
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Platform Notes (Continued)

```
   node 1 size: 127054 MB
   node 1 free: 116409 MB
   node 2 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 72 73 74 75 76 77 78 79 80 81 82 83
   node 2 size: 126068 MB
   node 2 free: 116464 MB
   node 3 cpus: 36 37 38 39 40 41 42 43 44 45 46 47 84 85 86 87 88 89 90 91 92 93 94 95
   node 3 size: 126029 MB
   node 3 free: 115963 MB
   node distances:
   node   0   1   2   3
     0:  10  11  20  20
     1:  11  10  20  20
     2:  20  20  10  11
     3:  20  20  11  10


 From /proc/meminfo
    MemTotal:       527963116 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB


 /sbin/tuned-adm active
     Current active profile: throughput-performance


 /sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has
    performance


 From /etc/*release* /etc/*version*
    os-release:
       NAME="Red Hat Enterprise Linux"
       VERSION="8.3 (Ootpa)"
       ID="rhel"
       ID_LIKE="fedora"
       VERSION_ID="8.3"
       PLATFORM_ID="platform:el8"
       PRETTY_NAME="Red Hat Enterprise Linux 8.3 (Ootpa)"
       ANSI_COLOR="0;31"
    redhat-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
    system-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:8.3:ga

 uname -a:
    Linux localhost.localdomain 4.18.0-240.el8.x86_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020
    x86_64 x86_64 x86_64 GNU/Linux

 Kernel self-reported vulnerability status:

 CVE-2018-12207 (iTLB Multihit):                     Not affected
```

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Platform Notes (Continued)

```
CVE-2018-3620 (L1 Terminal Fault):                  Not affected
Microarchitectural Data Sampling:                   Not affected
CVE-2017-5754 (Meltdown):                           Not affected
CVE-2018-3639 (Speculative Store Bypass):           Mitigation: Speculative Store
                                                    Bypass disabled via prctl and
                                                    seccomp
CVE-2017-5753 (Spectre variant 1):                  Mitigation: usercopy/swapgs
                                                    barriers and __user pointer
                                                    sanitization
CVE-2017-5715 (Spectre variant 2):                  Mitigation: Enhanced IBRS, IBPB:
                                                    conditional, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort):            Not affected


  run-level 3 Aug 16 03:19


  SPEC is set to: /home/cpu1.1.8-2021.RevB
     Filesystem               Type  Size  Used Avail Use% Mounted on
     /dev/mapper/rhel-home xfs   1.7T  297G  1.4T  18% /home


  From /sys/devices/virtual/dmi/id
      Vendor:          GIGABYTE
      Product:         R282-3C0-00
      Product Family:  Server
      Serial:          01234567890123456789AB


  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:
      32x Hynix HMA82GR7DJR8N-XN 16 GB 2 rank 3200, configured at 2933


  BIOS:
     BIOS Vendor:       GIGABYTE
     BIOS Version:      F07
     BIOS Date:         04/01/2021
     BIOS Revision:     5.21


  (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
C        | 500.perlbench_r(peak) 557.xz_r(peak)
------------------------------------------------------------------------------
```

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Page 6   Standard Performance Evaluation Corporation (info@spec.org)   https://www.spec.org/

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Compiler Version Notes (Continued)

```
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)
  64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version
  2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
         | 525.x264_r(base, peak) 557.xz_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(peak) 557.xz_r(peak)
------------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)
  64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version
  2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C        | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
         | 525.x264_r(base, peak) 557.xz_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

(Continued on next page)

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Compiler Version Notes (Continued)

```
==============================================================================
C         | 500.perlbench_r(peak) 557.xz_r(peak)
------------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)
  64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C         | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version
  2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C         | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
          | 525.x264_r(base, peak) 557.xz_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2021.1 Build 20201113
Copyright (C) 1985-2020 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 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran | 548.exchange2_r(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
  Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:

icx

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Test Date: Aug-2021
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Base Compiler Invocation (Continued)

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifort`

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 -xCORE-AVX512 -O3 -ffast-math`
`-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`
`-mbranches-within-32B-boundaries`
`-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin`
`-lqkmalloc`

C++ benchmarks:
`-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto`
`-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`
`-mbranches-within-32B-boundaries`
`-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin`
`-lqkmalloc`

Fortran benchmarks:
`-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ipo -no-prec-div`
`-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte`
`-auto -mbranches-within-32B-boundaries`
`-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin`

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Base Optimization Flags (Continued)

Fortran benchmarks (continued):
`-lqkmalloc`

Peak Compiler Invocation

C benchmarks (except as noted below):
`icx`

 500.perlbench_r: `icc`

 557.xz_r: `icc`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifort`

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: `-Wl,-z,muldefs -prof-gen`(pass 1) `-prof-use`(pass 2)
`-xCORE-AVX512 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=4 -fno-strict-overflow`
`-mbranches-within-32B-boundaries`
`-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin`

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SPECrate®2017_int_base = 320

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CPU2017 License: 13		**Test Date:**	Aug-2021
Test Sponsor:	GIGA-BYTE TECHNOLOGY CO., LTD.	**Hardware Availability:**	May-2021
Tested by:	GIGA-BYTE TECHNOLOGY CO., LTD.	**Software Availability:**	Dec-2020

Peak Optimization Flags (Continued)

500.perlbench_r (continued):
```
-lqkmalloc
```

502.gcc_r: `-m32`
```
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/ia32_lin
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX512 -flto
-Ofast(pass 1) -O3 -ffast-math -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc
```

505.mcf_r: `basepeak = yes`

525.x264_r: `-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -flto`
```
-O3 -ffast-math -qopt-mem-layout-trans=4 -fno-alias
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc
```

557.xz_r: `-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div`
```
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc
```

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-ic2021-official-linux64_revA.html
http://www.spec.org/cpu2017/flags/GIGABYTE-Platform-Flags-Intel-ICX-rev1.2.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/GIGABYTE-Platform-Flags-Intel-ICX-rev1.2.xml

SPEC CPU®2017 Integer Rate Result

GIGA-BYTE TECHNOLOGY CO., LTD
(Test Sponsor: GIGA-BYTE TECHNOLOGY CO., LTD.)

R282-3C0

SPECrate®2017_int_base = 320

SPECrate®2017_int_peak = 329

CPU2017 License: 13		**Test Date:**	Aug-2021
Test Sponsor:	GIGA-BYTE TECHNOLOGY CO., LTD.	**Hardware Availability:**	May-2021
Tested by:	GIGA-BYTE TECHNOLOGY CO., LTD.	**Software Availability:**	Dec-2020

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

Tested with SPEC CPU®2017 v1.1.8 on 2021-08-16 20:42:01-0400.
Report generated on 2021-09-16 12:26:14 by CPU2017 PDF formatter v6442.
Originally published on 2021-09-14.