## SPEC CPU®2017 Integer Rate Result

**Supermicro**  
SYS-2029BT-HNTR  
(X11DPT-B, Intel Xeon Platinum 8268)

**SPECrater®2017_int_base = 342**  
**SPECrater®2017_int_peak = 355**

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Jun-2020</th>
<th>Hardware Availability:</th>
<th>Sep-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Supermicro</td>
<td>Software Availability:</td>
<td>Apr-2020</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Supermicro</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPU2017 License:</td>
<td>001176</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hardware

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon Platinum 8268</th>
<th>Max MHz:</th>
<th>3900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal:</td>
<td>2900</td>
<td>Enabled:</td>
<td>48 cores, 2 chips, 2 threads/core</td>
</tr>
<tr>
<td>Orderable:</td>
<td>1.2 chips</td>
<td>Cache L1:</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>L2:</td>
<td>1 MB I+D on chip per core</td>
<td>L3:</td>
<td>35.75 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other:</td>
<td>None</td>
<td>Memory:</td>
<td>384 GB (12 x 32 GB 2Rx4 PC4-3200AA-R, running at 2933)</td>
</tr>
<tr>
<td>Storage:</td>
<td>1 x 400 GB NVMe SSD</td>
<td>Other:</td>
<td>None</td>
</tr>
</tbody>
</table>

### Software

| OS: | Red Hat Enterprise Linux release 8.2  |
| Kernel: | 4.18.0-193.el8.x86_64  |
| Compiler: | C/C++: Version 19.1.1.217 of Intel C/C++ Build 20200306  |
| Fortran: | Version 19.1.1.217 of Intel Fortran Build 20200306  |
| Parallel: | No  |
| Firmware: | Version 3.3 released Feb-2020  |
| 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  |

### SPECrate®2017_int_base = 342

| SPECrate®2017_int_peak = 355 |

<table>
<thead>
<tr>
<th>Copy</th>
<th>SPECrate®2017_int_base</th>
<th>SPECrate®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>500.perlbench_r 96</td>
<td>502.gcc_r 96</td>
</tr>
<tr>
<td>237</td>
<td></td>
<td>250</td>
</tr>
<tr>
<td>299</td>
<td></td>
<td>565</td>
</tr>
<tr>
<td>193</td>
<td></td>
<td>453</td>
</tr>
<tr>
<td>713</td>
<td></td>
<td>738</td>
</tr>
<tr>
<td>680</td>
<td></td>
<td>283</td>
</tr>
<tr>
<td>266</td>
<td></td>
<td>283</td>
</tr>
<tr>
<td>203</td>
<td></td>
<td>206</td>
</tr>
<tr>
<td>206</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Supermicro**

SYS-2029BT-HNTR  
(X11DPT-B, Intel Xeon Platinum 8268)
### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>96</td>
<td>644</td>
<td>237</td>
<td>644</td>
<td>237</td>
<td>642</td>
<td>238</td>
<td>96</td>
<td>546</td>
<td>280</td>
<td>547</td>
<td>280</td>
<td>547</td>
<td>280</td>
<td>547</td>
<td>279</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>96</td>
<td>545</td>
<td>250</td>
<td>542</td>
<td>251</td>
<td>543</td>
<td>250</td>
<td>96</td>
<td>454</td>
<td>299</td>
<td>455</td>
<td>299</td>
<td>455</td>
<td>299</td>
<td>455</td>
<td>299</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>96</td>
<td>274</td>
<td>567</td>
<td>274</td>
<td>565</td>
<td>276</td>
<td>563</td>
<td>96</td>
<td>274</td>
<td>567</td>
<td>274</td>
<td>565</td>
<td>276</td>
<td>563</td>
<td>276</td>
<td>563</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>96</td>
<td>651</td>
<td>193</td>
<td>649</td>
<td>194</td>
<td>651</td>
<td>193</td>
<td>96</td>
<td>651</td>
<td>193</td>
<td>649</td>
<td>194</td>
<td>651</td>
<td>193</td>
<td>651</td>
<td>193</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>96</td>
<td>224</td>
<td>452</td>
<td>224</td>
<td>453</td>
<td>224</td>
<td>454</td>
<td>96</td>
<td>224</td>
<td>452</td>
<td>224</td>
<td>453</td>
<td>224</td>
<td>454</td>
<td>224</td>
<td>454</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>96</td>
<td>236</td>
<td>714</td>
<td>236</td>
<td>713</td>
<td>236</td>
<td>711</td>
<td>96</td>
<td>228</td>
<td>738</td>
<td>230</td>
<td>730</td>
<td>222</td>
<td>758</td>
<td>224</td>
<td>758</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>96</td>
<td>389</td>
<td>283</td>
<td>389</td>
<td>283</td>
<td>389</td>
<td>283</td>
<td>96</td>
<td>389</td>
<td>283</td>
<td>389</td>
<td>283</td>
<td>389</td>
<td>283</td>
<td>389</td>
<td>283</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>96</td>
<td>597</td>
<td>266</td>
<td>597</td>
<td>266</td>
<td>597</td>
<td>266</td>
<td>96</td>
<td>597</td>
<td>266</td>
<td>597</td>
<td>266</td>
<td>597</td>
<td>266</td>
<td>597</td>
<td>266</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>96</td>
<td>370</td>
<td>680</td>
<td>370</td>
<td>680</td>
<td>369</td>
<td>681</td>
<td>96</td>
<td>370</td>
<td>680</td>
<td>370</td>
<td>680</td>
<td>369</td>
<td>681</td>
<td>369</td>
<td>681</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>96</td>
<td>511</td>
<td>203</td>
<td>510</td>
<td>203</td>
<td>511</td>
<td>203</td>
<td>96</td>
<td>502</td>
<td>206</td>
<td>502</td>
<td>206</td>
<td>502</td>
<td>206</td>
<td>502</td>
<td>207</td>
</tr>
</tbody>
</table>

\[\text{SPECrate}^{2017}_{\text{int \_base}} = 342\]

\[\text{SPECrate}^{2017}_{\text{int \_peak}} = 355\]

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

### Compiler Notes

The inconsistent Compiler version information under Compiler Version section is due to a discrepancy in Intel Compiler. The correct version of C/C++ compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux. The correct version of Fortran compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux.

### 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 =


MALLOC_CONF = "retain: true"
**SPEC CPU®2017 Integer Rate Result**

**Supermicro**
SYS-2029BT-HNTR (X11DPT-B, Intel Xeon Platinum 8268)

**SPECrate®2017_int_base = 342**  
**SPECrate®2017_int_peak = 355**

---

**General Notes**

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB 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  
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  

---

**Platform Notes**

BIOS Settings:  
Power Technology = Custom  
Power Performance Tuning = BIOS Controls EPB  
ENERGY_PERF_BIAS_CFG mode = Extreme Performance  
SNC = Enable  
Stale AtoS = Disable  
IMC Interleaving = 1-way Interleave  
Patrol Scrub = Disable

Sysinfo program /root/cpu2017/bin/sysinfo  
Rev: r6365 of 2019-08-21 295195f888a3d7ed1b6e46a485a0011  
running on localhost.localdomain Sat Jun 20 08:20:03 2020

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) Platinum 8268 CPU @ 2.90GHz  
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 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29

(Continued on next page)
### Platform Notes (Continued)

**physical 1: cores** 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 25 26 27 28 29

From `lscpu`:

- **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
- **Thread(s) per core:** 2
- **Core(s) per socket:** 24
- **Socket(s):** 2
- **NUMA node(s):** 4
- **Vendor ID:** GenuineIntel
- **CPU family:** 6
- **Model:** 85
- **Model name:** Intel(R) Xeon(R) Platinum 8268 CPU @ 2.90GHz
- **Stepping:** 7
- **CPU MHz:** 3500.035
- **CPU max MHz:** 3900.0000
- **CPU min MHz:** 1200.0000
- **BogoMIPS:** 5800.00
- **Virtualization:** VT-x
- **L1d cache:** 32K
- **L1i cache:** 32K
- **L2 cache:** 1024K
- **L3 cache:** 36608K

**NUMA node0 CPU(s):** 0-3,7,8,12-14,18-20,48-51,55,60-62,66-68

**NUMA node1 CPU(s):** 4-6,9-11,15-17,21-23,52-54,57-59,63-65,69-71

**NUMA node2 CPU(s):** 24-27,31-33,37-39,43,44,72-75,79-81,85-87,91,92

**NUMA node3 CPU(s):** 28-30,34-36,40-42,45-47,76-78,82-84,88-90,93-95

**Flags:**

```
   fpu  vme  de  pse  tsc  msr  pae  mce  cx8  sep  mmx  fxsr  sse  sse2  ss  ht  tm
   pbe  syscall nx  pdpe1gb  rdtscp  ept  lahf  lm  ymmv   stibp
```

From `numactl --hardware`

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

(Continued on next page)
Supermicro
SYS-2029BT-HNTR
(X11DPT-B, Intel Xeon Platinum 8268)

SPECrate®2017_int_base = 342
SPECrate®2017_int_peak = 355

available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3 7 8 12 13 14 18 19 20 48 49 50 51 55 56 60 61 62 66 67 68
node 0 size: 95345 MB
node 0 free: 94892 MB
node 1 cpus: 4 5 6 9 10 11 15 16 17 21 22 23 52 53 54 57 58 59 63 64 65 69 70 71
node 1 size: 96762 MB
node 1 free: 96527 MB
node 2 cpus: 24 25 26 27 31 32 33 37 38 39 43 44 72 73 74 75 79 80 81 85 86 87 91 92
node 2 size: 96762 MB
node 2 free: 96503 MB
node 3 cpus: 28 29 30 34 35 36 40 41 42 45 46 47 76 77 78 82 83 84 88 89 90 93 94 95
node 3 size: 96734 MB
node 3 free: 96560 MB
node distances:
  node 0 1 2 3
  0: 10 11 21 21
  1: 11 10 21 21
  2: 21 21 10 11
  3: 21 21 11 10

From /proc/meminfo
MemTotal: 394859620 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*

os-release:
  NAME="Red Hat Enterprise Linux"
  VERSION="8.2 (Ootpa)"
  ID="rhel"
  ID_LIKE="fedora"
  VERSION_ID="8.2"
  PLATFORM_ID="platform:el8"
  PRETTY_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"
  ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.2:ga

uname -a:
Linux localhost.localdomain 4.18.0-193.el8.x86_64 #1 SMP Fri Mar 27 14:35:58 UTC 2020
x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

itlb_multithit: KVM: Mitigation: Split huge pages
CVE-2018-3620 (L1 Terminal Fault): Not affected

(Continued on next page)
Supermicro
SYS-2029BT-HNTR
(X11DPT-B, Intel Xeon Platinum 8268)

SPECrate®2017_int_base = 342
SPECrate®2017_int_peak = 355

CPU2017 License: 001176
Test Sponsor: Supermicro
Hardware Availability: Sep-2019

Test Date: Jun-2020
Tested by: Supermicro
Software Availability: Apr-2020

Platform Notes (Continued)

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
tsx_async_abort:
  Mitigation: Clear CPU buffers; SMT vulnerable

run-level 3 Jun 20 08:01

SPEC is set to: /root/cpu2017
Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/nvme0n1p4 xfs   367G   61G  307G  17% /

From /sys/devices/virtual/dmi/id
  BIOS: American Megatrends Inc. 3.3 02/22/2020
  Vendor: Supermicro
  Product: Super Server
  Serial: 0123456789

Additional information from dmidecode 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:
    12x NO DIMM NO DIMM
    12x SK Hynix HMA84GR7CJR4N-XN 32 GB 2 rank 3200

(End of data from sysinfo program)
Sysinfo incorrectly parsed dmidecode output. Configured memory speed is 2933.

Compiler Version Notes

==============================================================================
C       |  502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen Build 20200304
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)
(Continued on next page)
Supermicro
SYS-2029BT-HNTR
(X11DPT-B, Intel Xeon Platinum 8268)

SPEC CPU®2017 Integer Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

SPECrated®2017 int_base = 342
SPECrated®2017 int_peak = 355

CPU2017 License: 001176
Test Sponsor: Supermicro
Test Date: Jun-2020
Hardware Availability: Sep-2019
Tested by: Supermicro
Software Availability: Apr-2020

Compiler Version Notes (Continued)

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

------------------------------------------------------------------------------
C      | 500.perlbench_r(peak) 557.xz_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

------------------------------------------------------------------------------
C      | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

------------------------------------------------------------------------------
C      | 506.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
      | 525.x264_r(base, peak) 557.xz_r(base)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

------------------------------------------------------------------------------
C      | 500.perlbench_r(peak) 557.xz_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

------------------------------------------------------------------------------
C      | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Supermicro
SYS-2029BT-HNTR
(X11DPT-B, Intel Xeon Platinum 8268)

SPECrate®2017_int_base = 342
SPECrate®2017_int_peak = 355

Test Date: Jun-2020
Hardware Availability: Sep-2019
Software Availability: Apr-2020

Compiler Version Notes (Continued)

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) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
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 for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
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) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Fortran            | 548.exchange2_r(base, peak)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort
## SPEC CPU®2017 Integer Rate Result

| Supermicro | SPECrate®2017_int_base = 342 |
| SYS-2029BT-HNTR (X11DPT-B, Intel Xeon Platinum 8268) | SPECrate®2017_int_peak = 355 |

| CPU2017 License | 001176 |
| Test Sponsor | Supermicro |
| Tested by | Supermicro |
| Test Date | Jun-2020 |
| Hardware Availability | Sep-2019 |
| Software Availability | Apr-2020 |

### 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.xalancbk_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.zr: -DSPEC_LP64

### Base Optimization Flags

**C benchmarks:**
- -m64 -qnextgen -std=c11
- -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
- -xCORE-AVX512 -O3 -ffast-math -flto -mfpmath=sse -funroll-loops
- -fuse-ld=gold -qopt-mem-layout-trans=4
- -L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin -lqkmalloc

**C++ benchmarks:**
- -m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
- -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto -mfpmath=sse
- -funroll-loops -fuse-ld=gold -qopt-mem-layout-trans=4
- -L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin -lqkmalloc

**Fortran benchmarks:**
- -m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -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/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin -lqkmalloc

### Peak Compiler Invocation

**C benchmarks:**
- icc

---

(Continued on next page)
## SPEC CPU®2017 Integer Rate Result

**Supermicro**

SYS-2029BT-HNTR  
(X11DPT-B, Intel Xeon Platinum 8268)

**SPECrate®2017_int_base = 342**  
**SPECrate®2017_int_peak = 355**

### Peak Compiler Invocation (Continued)

C++ benchmarks:  
icpc

Fortran benchmarks:  
ifort

### Peak Portability Flags

- **500.perlbench**:  
  -DSPEC_LP64  
  -DSPEC_LINUX_X64
- **502.gcc**:  
  -D_FILE_OFFSET_BITS=64
- **505.mcf**:  
  -DSPEC_LP64
- **520.omnetpp**:  
  -DSPEC_LP64
- **523.xalancbmk**:  
  -DSPEC_LP64  
  -DSPEC_LINUX
- **525.x264**:  
  -DSPEC_LP64
- **531.deepsjeng**:  
  -DSPEC_LP64
- **541.leela**:  
  -DSPEC_LP64
- **548.exchange2**:  
  -DSPEC_LP64
- **557.xz**:  
  -DSPEC_LP64

### Peak Optimization Flags

**C benchmarks:**

- **500.perlbench**:  
  -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/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin  
  -ljemalloc
- **502.gcc**:  
  -m32  
  -L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/ia32_lin  
  -std=gnu89  
  -Wl,-plugin-opt=-x86-branches-within-32B-boundaries  
  -Wl,-z,muldefs -fprofile-generate(pass 1)  
  -fprofile-use=default.profdata(pass 2)  
  -xCORE-AVX512 -flto  
  -Ofast(pass 1) -Os -ffast-math -qnextgen  
  -fuse-ld=gold  
  -qopt-mem-layout-trans=4 -L/usr/local/jemalloc32-5.0.1/lib  
  -ljemalloc
- **505.mcf**:  
  basepeak = yes

(Continued on next page)
Peak Optimization Flags (Continued)

525.x264_r: -m64 -qnextgen -std=c11
-1W1,-plugin-opt=-x86-branches-within-32B-boundaries
-1W1,-z,muldefs -xCORE-AVX512 -flto -O3 -ffast-math
-fuse-ld=gold -qopt-mem-layout-trans=4 -fno-alias
-1/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc

557.xz_r: -W1,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-1/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/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/Supermicro-Platform-Settings-V1.2-CLX-revG.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-CLX-revG.xml

SPEC CPU and SPECrate are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product
names appearing in this result are trademarks or registered trademarks of their respective holders.

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