Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DS400TG-48R
(2.40 GHz, Intel Xeon Gold 6240R)

CPU2017 License: 006042
Test Sponsor: Netweb Pte Ltd
Tested by: Tyrone Systems

SPECrate®2017_int_base = 302
SPECrate®2017_int_peak = 314

Test Date: Feb-2021
Hardware Availability: Aug-2020
Software Availability: Dec-2020

Hardware

CPU Name: Intel Xeon Gold 6240R
Max MHz: 4000
Nominal: 2400
Enabled: 48 cores, 2 chips, 2 threads/core
Orderable: 1.2 (chip)s
Cache L1: 32 KB I + 32 KB D on chip per core
L2: 1 MB I+D on chip per core
L3: 35.75 MB I+D on chip per chip
Other: None
Memory: 384 GB (12 x 32 GB 2Rx4 PC4-2933Y-R)
Storage: 1 x 480 GB SATA SSD
Other: None

Software

OS: CentOS Linux release 8.3.2011
Compiler: C/C++: Version 19.1.1.217 of Intel C/C++ Compiler Build 20200306 for Linux;
Fortran: Version 19.1.1.217 of Intel Fortran Compiler Build 20200306 for Linux
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.
SPEC CPU®2017 Integer Rate Result

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DS400TG-48R
(2.40 GHz, Intel Xeon Gold 6240R)

SPECrate®2017_int_base = 302
SPECrate®2017_int_peak = 314

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>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>96</td>
<td>747</td>
<td>205</td>
<td>745</td>
<td>205</td>
<td>745</td>
<td>205</td>
<td>96</td>
<td>633</td>
<td>241</td>
<td>633</td>
<td>241</td>
<td>633</td>
<td>241</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>96</td>
<td>588</td>
<td>231</td>
<td>581</td>
<td>234</td>
<td>587</td>
<td>232</td>
<td>96</td>
<td>499</td>
<td>272</td>
<td>501</td>
<td>271</td>
<td>502</td>
<td>271</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>96</td>
<td>312</td>
<td>498</td>
<td>311</td>
<td>498</td>
<td>312</td>
<td>496</td>
<td>96</td>
<td>312</td>
<td>498</td>
<td>312</td>
<td>498</td>
<td>312</td>
<td>496</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>96</td>
<td>671</td>
<td>188</td>
<td>672</td>
<td>188</td>
<td>671</td>
<td>188</td>
<td>96</td>
<td>671</td>
<td>188</td>
<td>672</td>
<td>188</td>
<td>671</td>
<td>188</td>
</tr>
<tr>
<td>523.xalanbmk_r</td>
<td>96</td>
<td>260</td>
<td>390</td>
<td>260</td>
<td>389</td>
<td>261</td>
<td>388</td>
<td>96</td>
<td>260</td>
<td>390</td>
<td>260</td>
<td>389</td>
<td>261</td>
<td>388</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>96</td>
<td>270</td>
<td>622</td>
<td>270</td>
<td>622</td>
<td>270</td>
<td>622</td>
<td>96</td>
<td>260</td>
<td>646</td>
<td>261</td>
<td>644</td>
<td>259</td>
<td>649</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>96</td>
<td>457</td>
<td>241</td>
<td>456</td>
<td>241</td>
<td>455</td>
<td>242</td>
<td>96</td>
<td>457</td>
<td>241</td>
<td>456</td>
<td>241</td>
<td>455</td>
<td>242</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>96</td>
<td>689</td>
<td>231</td>
<td>692</td>
<td>230</td>
<td>688</td>
<td>231</td>
<td>96</td>
<td>689</td>
<td>231</td>
<td>692</td>
<td>230</td>
<td>688</td>
<td>231</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>96</td>
<td>433</td>
<td>580</td>
<td>433</td>
<td>581</td>
<td>433</td>
<td>581</td>
<td>96</td>
<td>433</td>
<td>580</td>
<td>433</td>
<td>581</td>
<td>433</td>
<td>581</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>96</td>
<td>568</td>
<td>182</td>
<td>571</td>
<td>182</td>
<td>571</td>
<td>182</td>
<td>96</td>
<td>558</td>
<td>186</td>
<td>559</td>
<td>185</td>
<td>557</td>
<td>186</td>
</tr>
</tbody>
</table>

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 = 
"/home/cpu2017/lib/intel64:/home/cpu2017/lib/ia32:/home/cpu2017/je5.0.1-32"
MALLOCONF = "retain:true"
**SPEC CPU®2017 Integer Rate Result**

Tyrone Systems  
(Test Sponsor: Netweb Pte Ltd)  
Tyrone Camarero DS400TG-48R  
(2.40 GHz, Intel Xeon Gold 6240R)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>302</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_base</td>
<td>314</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU2017 License</th>
<th>006042</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor</td>
<td>Netweb Pte Ltd</td>
</tr>
<tr>
<td>Tested by</td>
<td>Tyrone Systems</td>
</tr>
</tbody>
</table>

**General Notes**

Binaries compiled on a system with 2x Intel Cascade Lake CPU 4214R + 384 GB RAM  
memory using Centos 8.2 x86_64  
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 = Maximum Performance  
SNC = Enable  
Stale AtoS = Disable  
IMC Interleaving = 1-way Interleave  
Patrol Scrub = Disable  

Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c  
running on localhost.localdomain Wed Feb 24 17:37:23 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 6240R CPU @ 2.40GHz`  
`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 8 9 10 11 12 13 16 17 18 19 20 21 25 26 27 28 29`  
(Continued on next page)
Platform Notes (Continued)

From lscpu:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture:</td>
<td>x86_64</td>
</tr>
<tr>
<td>CPU op-mode(s):</td>
<td>32-bit, 64-bit</td>
</tr>
<tr>
<td>Byte Order:</td>
<td>Little Endian</td>
</tr>
<tr>
<td>CPU(s):</td>
<td>96</td>
</tr>
<tr>
<td>On-line CPU(s) list:</td>
<td>0-95</td>
</tr>
<tr>
<td>Thread(s) per core:</td>
<td>2</td>
</tr>
<tr>
<td>Core(s) per socket:</td>
<td>24</td>
</tr>
<tr>
<td>Socket(s):</td>
<td>2</td>
</tr>
<tr>
<td>NUMA node(s):</td>
<td>4</td>
</tr>
<tr>
<td>Vendor ID:</td>
<td>GenuineIntel</td>
</tr>
<tr>
<td>CPU family:</td>
<td>6</td>
</tr>
<tr>
<td>Model:</td>
<td>85</td>
</tr>
<tr>
<td>Model name:</td>
<td>Intel(R) Xeon(R) Gold 6240R CPU @ 2.40GHz</td>
</tr>
<tr>
<td>Stepping:</td>
<td>7</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>3682.903</td>
</tr>
<tr>
<td>CPU max MHz:</td>
<td>4000.0000</td>
</tr>
<tr>
<td>CPU min MHz:</td>
<td>1000.0000</td>
</tr>
<tr>
<td>BogoMIPS:</td>
<td>4800.00</td>
</tr>
<tr>
<td>Virtualization:</td>
<td>VT-x</td>
</tr>
<tr>
<td>L1d cache:</td>
<td>32K</td>
</tr>
<tr>
<td>L1i cache:</td>
<td>32K</td>
</tr>
<tr>
<td>L2 cache:</td>
<td>1024K</td>
</tr>
<tr>
<td>L3 cache:</td>
<td>36608K</td>
</tr>
<tr>
<td>NUMA node0 CPU(s):</td>
<td>0-3,7,9-13-15,19,20,24-51,55-57,61-63,67-69</td>
</tr>
<tr>
<td>NUMA node1 CPU(s):</td>
<td>4-6,10-12,16-18,21-23,52-54,58-60,64-66-69-71</td>
</tr>
<tr>
<td>NUMA node2 CPU(s):</td>
<td>24-27,31,32,36-38,42-44,72-75,79,80,84-86,90-92</td>
</tr>
<tr>
<td>NUMA node3 CPU(s):</td>
<td>28-30,33-35,39-41,45-47,76-78,81-83,87-89,93-95</td>
</tr>
<tr>
<td>Flags:</td>
<td>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 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtrr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3nowprefetch cpuid_fault epb cat_l3 cdp_l3 invpcid_single intel_pnip ssbd mba ibrs ibpb stibp ibrs Enrique PRID tpr_shadow vni flexpriority ept vpid ept_ad fsgsbase tsc_adjust mmca hle avx2 smep bmi2 ersedms invpdte cmq mxp mpx rd_a avx512f avx512dq rdseed adx smap clflushopt clwb intel_p t avx512cd avx512bw avx512v1 xsaveopt xsavec xgetbv1 xsaves cmq_llc cmq_occup_llc cmq_mbm_total cmq_mbm_local dtherm ida arat pln pts pku ospke avx512_vnni md_clear flush_l1d arch_capabilities</td>
</tr>
</tbody>
</table>

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
SPEC CPU®2017 Integer Rate Result

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

Tyrone Camarero DS400TG-48R
(2.40 GHz, Intel Xeon Gold 6240R)

SPECr®ate2017_int_base = 302
SPECr®ate2017_int_peak = 314

CPU2017 License: 006042
Test Sponsor: Netweb Pte Ltd
Test Date: Feb-2021
Tested by: Tyrone Systems
Hardware Availability: Aug-2020
Software Availability: Dec-2020

Platform Notes (Continued)

physical chip.
   available: 4 nodes (0-3)
   node 0 cpus: 0 1 2 3 7 8 9 13 14 15 19 20 48 49 50 51 55 56 57 61 62 63 67 68
   node 0 size: 89860 MB
   node 0 free: 94593 MB
   node 1 cpus: 4 5 6 10 11 12 16 17 18 21 22 23 52 53 54 58 59 60 64 65 66 69 70 71
   node 1 size: 91558 MB
   node 1 free: 96361 MB
   node 2 cpus: 24 25 26 27 31 32 36 37 38 42 43 44 72 73 74 75 79 80 84 85 86 90 91 92
   node 2 size: 92362 MB
   node 2 free: 96440 MB
   node 3 cpus: 28 29 30 33 34 35 39 40 41 45 46 47 76 77 78 81 82 83 87 88 89 93 94 95
   node 3 size: 91440 MB
   node 3 free: 96528 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:       394840308 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*
centos-release: CentOS Linux release 8.3.2011
centos-release-upstream: Derived from Red Hat Enterprise Linux 8.3
os-release:
   NAME="CentOS Linux"
   VERSION="8"
   ID="centos"
   ID_LIKE="rhel fedora"
   VERSION_ID="8"
   PLATFORM_ID="platform:el8"
   PRETTY_NAME="CentOS Linux 8"
   ANSI_COLOR="0;31"
redhat-release: CentOS Linux release 8.3.2011
system-release: CentOS Linux release 8.3.2011
system-release-cpe: cpe:/o:centos:centos:8

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

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DS400TG-48R
(2.40 GHz, Intel Xeon Gold 6240R)

SPEC CPU®2017_int_base = 302
SPEC CPU®2017_int_peak = 314

CPU2017 License: 006042
Test Sponsor: Netweb Pte Ltd
Tested by: Tyrone Systems

Test Date: Feb-2021
Hardware Availability: Aug-2020
Software Availability: Dec-2020

Platform Notes (Continued)

uname -a:
    Linux localhost.localdomain 4.18.0-240.el8.x86_64 #1 SMP Fri Sep 25 19:48:47 UTC 2020
    x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit): KVM: Mitigation: Split huge pages
CVE-2018-3620 (L1 Terminal Fault): Not affected
Microarchitectural Data Sampling: Not affected
CVE-2017-5754 (Meltdown): Mitigation: Speculative Store
CVE-2018-3639 (Speculative Store Bypass): Bypass disabled via prctl and
    seccomp
CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swapgs
CVE-2017-5715 (Spectre variant 2): barriers and __user pointer
CVE-2020-0543 (Special Register Buffer Data Sampling): Mitigation: Enhanced IBRS, IBPB:
CVE-2019-11135 (TSX Asynchronous Abort): conditional, RSB filling
    Mitigation: TSX disabled

run-level 3 Feb 24 17:28

SPEC is set to: /home/cpu2017
    Filesystem Type Size Used Avail Use% Mounted on
    /dev/mapper/cl-home xfs 372G 85G 288G 23% /home

    From /sys/devices/virtual/dmi/id
    Vendor: Tyrone Systems
    Product: Tyrone Camarero DS400TG-48R
    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:
        4x NO DIMM NO DIMM
        12x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933, configured at 2934

    BIOS:
        BIOS Vendor: American Megatrends Inc.
        BIOS Version: 3.3
        BIOS Date: 02/21/2020
        BIOS Revision: 5.14
**SPEC CPU®2017 Integer Rate Result**

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
Tyrone Camarero DS400TG-48R  
(2.40 GHz, Intel Xeon Gold 6240R)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>SPECrate®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>302</td>
<td>314</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 006042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems  
**Test Date:** Feb-2021  
**Hardware Availability:** Aug-2020  
**Software Availability:** Dec-2020

---

### Platform Notes (Continued)

(End of data from sysinfo program)

### 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)

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     | 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)

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.
```

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

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DS400TG-48R
(2.40 GHz, Intel Xeon Gold 6240R)

SPECrater®2017_int_base = 302
SPECrater®2017_int_peak = 314

CPU2017 License: 006042
Test Sponsor: Netweb Pte Ltd
Tested by: Tyrone Systems

SPECrater®2017_int_base = 302
SPECrater®2017_int_peak = 314

Compiler Version Notes (Continued)

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       | 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)
-------------------------------
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

(Continued on next page)
Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DS400TG-48R
(2.40 GHz, Intel Xeon Gold 6240R)

SPEC CPU®2017 Integer Rate Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

SPECrate®2017_int_base = 302
SPECrate®2017_int_peak = 314

CPU2017 License: 006042
Test Sponsor: Netweb Pte Ltd
Tested by: Tyrone Systems

Test Date: Feb-2021
Hardware Availability: Aug-2020
Software Availability: Dec-2020

Compiler Version Notes (Continued)
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Base Portability Flags

500.perlb benchmark_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:
-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
-lqkmaloc

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

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

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DS400TG-48R
(2.40 GHz, Intel Xeon Gold 6240R)

SPECrate®2017_int_base = 302
SPECrate®2017_int_peak = 314

CPU2017 License: 006042
Test Sponsor: Netweb Pte Ltd
Tested by: Tyrone Systems

Test Date: Feb-2021
Hardware Availability: Aug-2020
Software Availability: Dec-2020

Base Optimization Flags (Continued)

C++ benchmarks (continued):
-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:
iccc

C++ benchmarks:
icpc

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

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DS400TG-48R
(2.40 GHz, Intel Xeon Gold 6240R)

SPECrate®2017_int_base = 302
SPECrate®2017_int_peak = 314

CPU2017 License: 006042
Test Sponsor: Netweb Pte Ltd
Tested by: Tyrone Systems

Test Date: Feb-2021
Hardware Availability: Aug-2020
Software Availability: Dec-2020

Peak Optimization Flags (Continued)

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/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -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) -O3 -ffast-math -qnextgen -fuse-ld=gold
-qopt-mem-layout-trans=4 -L/usr/local/je5.0.1-32/lib
-ljemalloc

505.mcf_r: basepeak = yes

525.x264_r: -m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -xCORE-AVX512 -flto -O3 -ffast-math
-flto -fuse-ld=gold -qopt-mem-layout-trans=4 -fno-alias
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/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/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
**SPEC CPU®2017 Integer Rate Result**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tyrone Systems</strong></td>
<td><strong>SPECrate®2017_int_base = 302</strong></td>
</tr>
<tr>
<td>(Test Sponsor: Netweb Pte Ltd)</td>
<td><strong>SPECrate®2017_int_peak = 314</strong></td>
</tr>
<tr>
<td><strong>Tyrone Camarero DS400TG-48R</strong></td>
<td></td>
</tr>
<tr>
<td>(2.40 GHz, Intel Xeon Gold 6240R)</td>
<td></td>
</tr>
</tbody>
</table>

| **CPU2017 License:** | 006042 |
| **Test Sponsor:** | Netweb Pte Ltd |
| **Tested by:** | Tyrone Systems |
| **Test Date:** | Feb-2021 |
| **Hardware Availability:** | Aug-2020 |
| **Software Availability:** | Dec-2020 |

The flags files that were used to format this result can be browsed at:

- [Intel-ic19.1u1-official-linux64_revA.html](http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revA.html)
- [Tyrone-Platform-Settings-V1.2-CLX-revB.html](http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-CLX-revB.html)

You can also download the XML flags sources by saving the following links:

- [Intel-ic19.1u1-official-linux64_revA.xml](http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revA.xml)
- [Tyrone-Platform-Settings-V1.2-CLX-revB.xml](http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-CLX-revB.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.

Tested with SPEC CPU®2017 v1.1.5 on 2021-02-24 07:07:22-0500.
Originally published on 2021-03-16.