SPEC CPU®2017 Floating Point Speed Result

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DIT400TR-28RL
(2.20 GHz, Intel Xeon Silver 4214)

SPECspeed®2017_fp_base = 89.0
SPECspeed®2017_fp_peak = 91.5

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

Test Date: Aug-2021
Hardware Availability: Apr-2019
Software Availability: Jun-2021

Threads

<table>
<thead>
<tr>
<th>Test</th>
<th>Threads</th>
<th>SPECspeed®2017_fp_base</th>
<th>SPECspeed®2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s</td>
<td>24</td>
<td>101</td>
<td>378</td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>24</td>
<td>71.4</td>
<td>92.0</td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>24</td>
<td>86.9</td>
<td>92.0</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>24</td>
<td>56.8</td>
<td>58.7</td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>24</td>
<td>49.6</td>
<td>49.6</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>24</td>
<td>129</td>
<td>160</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>24</td>
<td>70.7</td>
<td>70.7</td>
</tr>
<tr>
<td>644.nab_s</td>
<td>48</td>
<td>129</td>
<td>160</td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>24</td>
<td>87.5</td>
<td>87.5</td>
</tr>
</tbody>
</table>

Hardware

CPU Name: Intel Xeon Silver 4214
Max MHz: 3200
Nominal: 2200
Enabled: 24 cores, 2 chips, 2 threads/core
Orderable: 1.2 Chips
Cache L1: 32 KB I + 32 KB D on chip per core
L2: 1 MB I+D on chip per core
L3: 16.5 MB I+D on chip per chip
Other: None
Memory: 384 GB (12 x 32 GB 2Rx4 PC4-2933P-R, running at 2400)
Storage: 1 x 480 GB SATA SSD
Other: None

Software

OS: CentOS Linux release 8.4.2105
Kernel 4.18.0-305.3.1.el8.x86_64
Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++
Fortran: Version 2021.1 of Intel Fortran Compiler
C/C++: Version 2021.1 of Intel C/C++ Compiler
Parallel: Yes
Firmware: Version V8.104 released Jul-2021
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS set to prefer performance at the cost of additional power usage.
SPEC CPU®2017 Floating Point Speed Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DIT400TR-28RL
(2.20 GHz, Intel Xeon Silver 4214)

SPECspeed®2017_fp_base = 89.0
SPECspeed®2017_fp_peak = 91.5

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

Test Date: Aug-2021
Hardware Availability: Apr-2019
Software Availability: Jun-2021

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Threads</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>603.bwaves_s</td>
<td>24</td>
<td>156</td>
<td>378</td>
<td>157</td>
<td>376</td>
<td>156</td>
<td>379</td>
<td>24</td>
<td>156</td>
<td>379</td>
<td>155</td>
<td>381</td>
<td>156</td>
<td>378</td>
<td></td>
<td></td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>24</td>
<td>163</td>
<td>102</td>
<td>165</td>
<td>101</td>
<td>166</td>
<td>100</td>
<td>24</td>
<td>163</td>
<td>102</td>
<td>165</td>
<td>101</td>
<td>166</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>24</td>
<td>75.5</td>
<td>69.4</td>
<td>73.4</td>
<td>71.4</td>
<td>73.1</td>
<td>71.7</td>
<td>24</td>
<td>75.5</td>
<td>69.4</td>
<td>73.4</td>
<td>71.4</td>
<td>73.1</td>
<td>71.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>24</td>
<td>152</td>
<td>86.9</td>
<td>152</td>
<td>86.9</td>
<td>153</td>
<td>86.6</td>
<td>24</td>
<td>144</td>
<td>91.8</td>
<td>142</td>
<td>93.1</td>
<td>144</td>
<td>92.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>24</td>
<td>156</td>
<td>56.9</td>
<td>157</td>
<td>56.6</td>
<td>156</td>
<td>56.8</td>
<td>24</td>
<td>156</td>
<td>56.9</td>
<td>157</td>
<td>56.6</td>
<td>156</td>
<td>56.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>24</td>
<td>205</td>
<td>58.0</td>
<td>202</td>
<td>58.7</td>
<td>201</td>
<td>59.0</td>
<td>24</td>
<td>205</td>
<td>58.0</td>
<td>202</td>
<td>58.7</td>
<td>201</td>
<td>59.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>24</td>
<td>291</td>
<td>49.6</td>
<td>291</td>
<td>49.5</td>
<td>291</td>
<td>49.6</td>
<td>24</td>
<td>291</td>
<td>49.6</td>
<td>291</td>
<td>49.5</td>
<td>291</td>
<td>49.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>644.nab_s</td>
<td>24</td>
<td>136</td>
<td>129</td>
<td>136</td>
<td>129</td>
<td>136</td>
<td>129</td>
<td>48</td>
<td>109</td>
<td>161</td>
<td>110</td>
<td>159</td>
<td>109</td>
<td>160</td>
<td></td>
<td></td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>24</td>
<td>136</td>
<td>67.2</td>
<td>129</td>
<td>70.7</td>
<td>129</td>
<td>70.7</td>
<td>24</td>
<td>128</td>
<td>71.1</td>
<td>129</td>
<td>70.6</td>
<td>129</td>
<td>70.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>654.roms_s</td>
<td>24</td>
<td>180</td>
<td>87.5</td>
<td>178</td>
<td>88.5</td>
<td>190</td>
<td>83.1</td>
<td>24</td>
<td>180</td>
<td>87.5</td>
<td>178</td>
<td>88.5</td>
<td>190</td>
<td>83.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SPECspeed®2017_fp_base = 89.0
SPECspeed®2017_fp_peak = 91.5

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:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-64"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"

General Notes

Binaries compiled locally by Netweb
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>

(Continued on next page)
General Notes (Continued)

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.
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.
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.


Platform Notes

BIOS Settings:
Power Technology set to Custom
Power Performance Tuning set to BIOS Controls EPB
ENERGY_PERF_BIAS_CFG mode set to Performance
LLC Dead Line Alloc set to Disable

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16aca64d4d
running on spec Mon Aug 9 05:41:15 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) Silver 4214 CPU @ 2.20GHz
  2  "physical id"s (chips)
  48  "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 : 12
siblings : 24
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13

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):  48
On-line CPU(s) list: 0-47
Thread(s) per core: 2
Core(s) per socket: 12

(Continued on next page)
SPEC CPU®2017 Floating Point Speed Result

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DIT400TR-28RL
(2.20 GHz, Intel Xeon Silver 4214)

SPECspeed®2017_fp_base = 89.0
SPECspeed®2017_fp_peak = 91.5

Platform Notes (Continued)

Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel(R) Corporation
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Silver 4214 CPU @ 2.20GHz
BIOS Model name: Intel(R) Xeon(R) Silver 4214 CPU @ 2.20GHz
Stepping: 7
CPU MHz: 2668.908
CPU max MHz: 3200.0000
CPU min MHz: 1000.0000
BogoMIPS: 4400.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 16896K
NUMA node0 CPU(s): 0-11,24-35
NUMA node1 CPU(s): 12-23,36-47
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 arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
apeffnprefl pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
avx f16c rdrand lahf_lm abp 3nowprefetch cpuid_fault epb cat_l3 cdp_l3
invpcid_single intel_pni 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 mpx rdt_a avx512f avx512dq rdseed adx smap clflushopt clwb intel_pt
avx512cd avx512bw avx512vl vxsaveopt xsavec xsave xsetbv1 xsaves cqm_llc cqm_occup_llc
cqmgmb_total cqm_mbb_local dtherm ida arat pln pts hwp hwact_window hwp_epp
hwp_pkg_req pkg okpe avx512_vnni md_clear flush_l1d arch_capabilities

From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 2 nodes (0-1)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 24 25 26 27 28 29 30 31 32 33 34 35
node 0 size: 192108 MB
node 0 free: 167764 MB
node 1 cpus: 12 13 14 15 16 17 18 19 20 21 22 23 36 37 38 39 40 41 42 43 44 45 46 47
node 1 size: 193493 MB
node 1 free: 175837 MB
node distances:
node 0 1

(Continued on next page)
**SPEC CPU®2017 Floating Point Speed Result**

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
Tyrone Camarero DIT400TR-28RL  
(2.20 GHz, Intel Xeon Silver 4214)

<table>
<thead>
<tr>
<th>SPECspeed®2017_fp_base</th>
<th>SPECspeed®2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>89.0</td>
<td>91.5</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 006042  
**Test Sponsor:** Netweb Pte Ltd  
**Test Date:** Aug-2021  
**Hardware Availability:** Apr-2019  
**Tested by:** Tyrone Systems  
**Software Availability:** Jun-2021

**Platform Notes (Continued)**

0: 10 21  
1: 21 10

From /proc/meminfo  
MemTotal: 394855532 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 8.4.2105  
centos-release-upstream: Derived from Red Hat Enterprise Linux 8.4

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 8.4.2105  
system-release: CentOS Linux release 8.4.2105  
system-release-cpe: cpe:/o:centos:centos:8

date: 7 Jul 2021

time: 14:14

uname -a:  
Linux spec 4.18.0-305.3.1.el8.x86_64 #1 SMP Tue Jun 1 16:14:33 UTC 2021 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multi-hit):  
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 Bypass disabled via prctl and seccomp

CVE-2018-3639 (Speculative Store Bypass):  
Mitigation: userscopy/swaps barriers and __user pointer sanitization

CVE-2017-5753 (Spectre variant 1):  
Mitigation: Enhanced IBRS, IBPB:

(Continued on next page)
Platform Notes (Continued)

conditional, RSB filling

run-level 3 Aug 6 16:55

SPEC is set to: /home/cpu2017

Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/cl-home xfs 372G 193G 180G 52% /home

From /sys/devices/virtual/dmi/id
Vendor: Tyrone Systems
Product: Tyrone Camarero DIT400TR-28RL
Product Family: empty
Serial: empty

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:
12x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933, configured at 2400

BIOS:
BIOS Vendor: American Megatrends Inc.
BIOS Version: V8.104
BIOS Date: 07/27/2021
BIOS Revision: 5.14
Firmware Revision: 6.1

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
| C| 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base) |

==============================================================================

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 | 644.nab_s(peak)

(Continued on next page)
Compiler Version Notes (Continued)

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               | 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base)
==============================================================================================================

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               | 644.nab_s(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.

-----------------------------------------------------------------------------------------------------------------
C++, C, Fortran | 607.cactuBSSN_s(base, 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.

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.

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.

-----------------------------------------------------------------------------------------------------------------
Fortran          | 603.bwaves_s(base, peak) 649.fotonik3d_s(base, peak) 654.roms_s(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.

-----------------------------------------------------------------------------------------------------------------
Fortran, C       | 621.wrf_s(base, peak) 627.cam4_s(base, peak)
(Continued on next page)
Compiler Version Notes (Continued)

| 628.pop2_s(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.

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.

Base Compiler Invocation

C benchmarks:
icc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
ifort icc

Benchmarks using Fortran, C, and C++:
icpc icc ifort

Base Portability Flags

603.bwaves_s: -DSPEC_LP64
607.cactuBSSN_s: -DSPEC_LP64
619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
627.cam4_s: -DSPEC_LP64 -DSPEC_CASE_FLAG
628.pop2_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian -assume byterecl
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -DSPEC_LP64
Tyrone Systems  
[Test Sponsor: Netweb Pte Ltd]  
Tyrone Camarero DIT400TR-28RL  
(2.20 GHz, Intel Xeon Silver 4214)  

**SPEC CPU®2017 Floating Point Speed Result**  
Copyright 2017-2021 Standard Performance Evaluation Corporation  

**SPECspeed®2017 fp_base = 89.0**  
**SPECspeed®2017 fp_peak = 91.5**  

<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>
<tr>
<td>Test Date:</td>
<td>Aug-2021</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>Apr-2019</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Jun-2021</td>
</tr>
</tbody>
</table>

**Base Optimization Flags**

C benchmarks:
- `-m64 -std=c11 -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch`
- `-ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP`
- `-mbranches-within-32B-boundaries`

Fortran benchmarks:
- `-m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512 -ipo -O3`
- `-no-prec-div -qopt-prefetch -ffinite-math-only`
- `-qopt-mem-layout-trans=4 -qopenmp -nostandard-realloc-lhs`
- `-mbranches-within-32B-boundaries -L/usr/local/je5.0.1-64/lib -ljemalloc`

Benchmarks using both Fortran and C:
- `-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div`
- `-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp`
- `-DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs`
- `-L/usr/local/je5.0.1-64/lib -ljemalloc`

Benchmarks using Fortran, C, and C++:
- `-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div`
- `-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp`
- `-DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs`
- `-L/usr/local/je5.0.1-64/lib -ljemalloc`

**Peak Compiler Invocation**

C benchmarks (except as noted below):
- `icc`
- `644.nab_s: icx`

Fortran benchmarks:
- `ifort`

Benchmarks using both Fortran and C:
- `ifort icc`

Benchmarks using Fortran, C, and C++:
- `icpc icc ifort`
Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DIT400TR-28RL
(2.20 GHz, Intel Xeon Silver 4214)

<table>
<thead>
<tr>
<th>CPU2017 License: 006042</th>
<th>Test Date: Aug-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: Netweb Pte Ltd</td>
<td>Hardware Availability: Apr-2019</td>
</tr>
<tr>
<td>Tested by: Tyrone Systems</td>
<td>Software Availability: Jun-2021</td>
</tr>
</tbody>
</table>

**SPEC Speed 2017 Floating Point Speed Result**

**SPECspeed®2017_fp_base = 89.0**

**SPECspeed®2017_fp_peak = 91.5**

---

**Peak Portability Flags**

Same as Base Portability Flags

---

**Peak Optimization Flags**

C benchmarks:

619.lbm_s: basepeak = yes
638.imagick_s: basepeak = yes
644.nab_s: -m64, -Wl, -z, muldefs, -xCORE-AVX512, -Ofast, -ffast-math,
             -flto, -mfpmath=sse, -funroll-loops, -fiopenmp,
             -DSPEC_OPENMP, -qopt-mem-layout-trans=4,
             -fimf-accuracy-bits=14:sqrt,
             -mbranches-within-32B-boundaries,
             -L/usr/local/je5.0.1-64/lib -ljemalloc

Fortran benchmarks:

603.bwaves_s: -m64, -Wl, -z, muldefs, -prof-gen(pass 1), -prof-use(pass 2),
             -DSPEC_SUPPRESS_OPENMP, -DSPEC_OPENMP, -ipo,
             -xCORE-AVX512, -O3, -no-prec-div,
             -qopt-prefetch, -ffinite-math-only,
             -qopt-mem-layout-trans=4, -qopenmp,
             -nostandard-realloc-lhs,
             -mbranches-within-32B-boundaries,
             -L/usr/local/je5.0.1-64/lib -ljemalloc
649.fotonik3d_s: Same as 603.bwaves_s
654.roms_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf_s: -m64, -std=c11, -Wl, -z, muldefs, -prof-gen(pass 1),
           -prof-use(pass 2), -ipo, -xCORE-AVX512, -O3, -no-prec-div,
           -qopt-prefetch, -ffinite-math-only, -qopt-mem-layout-trans=4,
           -DSPEC_SUPPRESS_OPENMP, -qopenmp, -DSPEC_OPENMP,
           -mbranches-within-32B-boundaries, -nostandard-realloc-lhs,
           -L/usr/local/je5.0.1-64/lib -ljemalloc
627.cam4_s: basepeak = yes
628.pop2_s: basepeak = yes

(Continued on next page)
SPEC CPU®2017 Floating Point Speed Result

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)
Tyrone Camarero DIT400TR-28RL
(2.20 GHz, Intel Xeon Silver 4214)

SPECspeed®2017_fp_base = 89.0
SPECspeed®2017_fp_peak = 91.5

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

Test Date: Aug-2021
Hardware Availability: Apr-2019
Software Availability: Jun-2021

Peak Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++:

607.cactuBSSN_s: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-CLX-revI.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/Tyrone-Platform-Settings-V1.2-CLX-revI.xml

SPEC CPU and SPECspeed 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 v1.1.8 on 2021-08-09 05:41:14-0400.
Originally published on 2021-09-20.