SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Tyrone Systems
(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

$SPECrate®2017\_fp\_base = 375$

$SPECrate®2017\_fp\_peak = 380$

CPU2017 License: 6011	**Test Date:**	Jun-2019
Test Sponsor: Netweb	**Hardware Availability:**	Nov-2018
Tested by: Netweb	**Software Availability:**	Dec-2018

Copies

Scale: 0 40.0 90.0 130 170 210 250 290 330 370 410 450 490 530 570 610 650 690 730 770 810 850 890 950

- **503.bwaves_r** 144 — base 878 / peak 879
- **507.cactuBSSN_r** 144 — base 299 / peak 299
- **508.namd_r** 144 — base 305 / peak 308
- **510.parest_r** 144 — base 203 / peak 203
- **511.povray_r** 144 — base 452 / peak 519
- **519.lbm_r** 144 — base 207 / peak 207
- **521.wrf_r** 144 — base 386 / peak 390
- **526.blender_r** 144 — base 400 / peak 400
- **527.cam4_r** 144 — base 439 / peak 448
- **538.imagick_r** 144 — base 926 / peak 929
- **544.nab_r** 144 — base 662 / peak 665
- **549.fotonik3d_r** 144 — base 276 / peak 276
- **554.roms_r** 144 — base 164 / peak 164

—— SPECrate®2017_fp_base (375)   ----- SPECrate®2017_fp_peak (380)

Hardware

CPU Name: Intel Xeon Gold 6140
Max MHz: 3700
Nominal: 2300
Enabled: 72 cores, 4 chips, 2 threads/core
Orderable: 2, 4 chips
Cache L1: 32 KB I + 32 KB D on chip per core
L2: 1 MB I+D on chip per core
L3: 24.75 MB I+D on chip per chip
Other: None
Memory: 768 GB (32 x 24 GB 2Rx8 PC4-2666P-R)
Storage: 3 x 480GB SSD
Other: None

Software

OS: CentOS Linux Release 7.6.1810 (Core)
Kernel 3.10.0-957.el7.x86_64
Compiler: C/C++: Version 19.0.1.144 of Intel C/C++
Compiler Build 20181018 for Linux;
Fortran: Version 19.0.1.144 of Intel Fortran
Compiler Build 20181018 for Linux
Parallel: No
Firmware: Version 2.1 released Jul-2018
File System: xfs
System State: Run level 5 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: None
Power Management: --

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Tyrone Systems
(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375
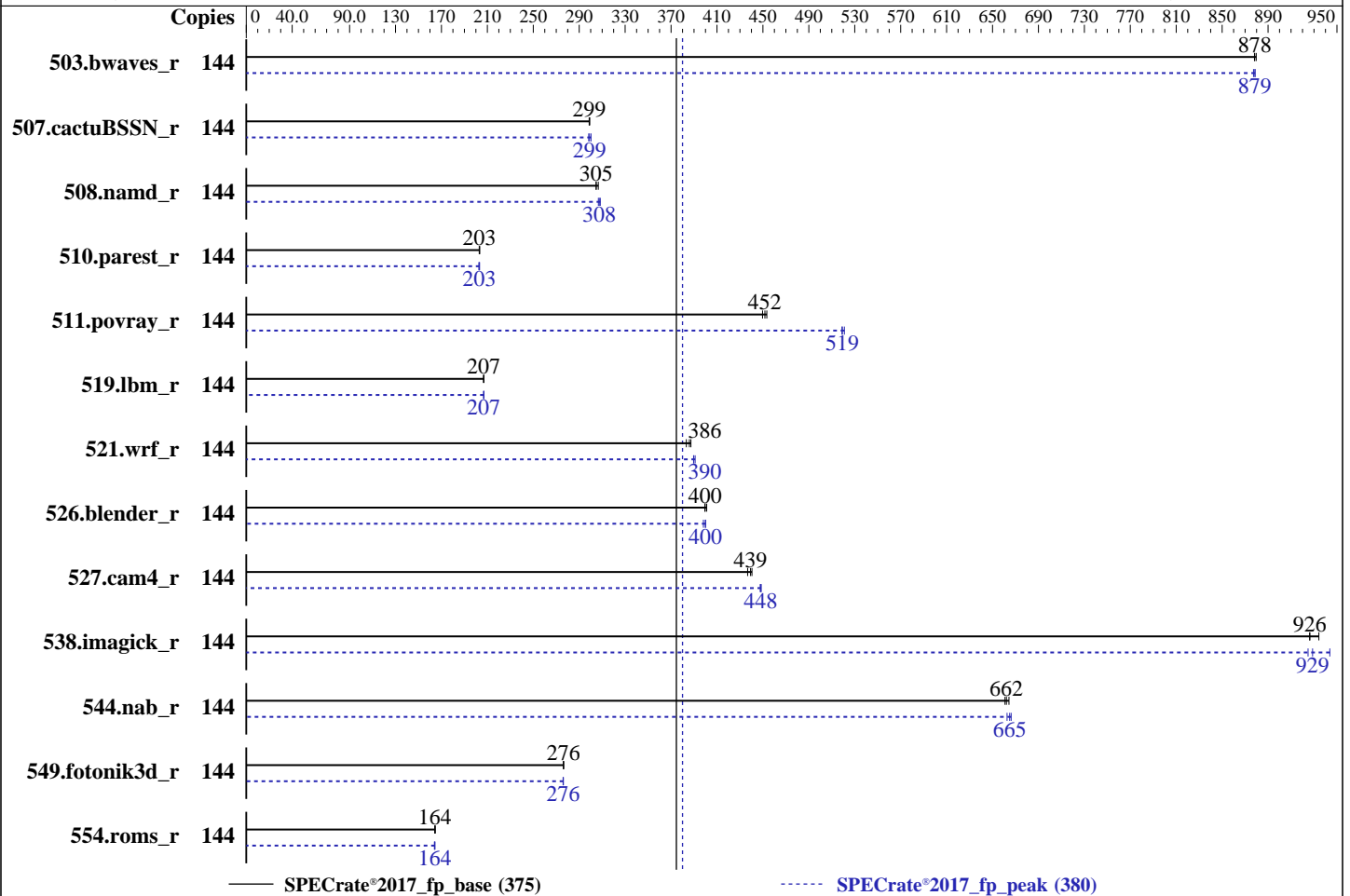
SPECrate®2017_fp_peak = 380

CPU2017 License: 6011

Test Sponsor: Netweb

Tested by: Netweb

Test Date: Jun-2019

Hardware Availability: Nov-2018

Software Availability: Dec-2018

Results Table

	Base						Peak					
Benchmark	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	144	1644	878	**1644**	**878**	1642	880	144	1643	879	1646	877	**1644**	**879**
507.cactuBSSN_r	144	609	299	610	299	**610**	**299**	144	**610**	**299**	611	298	607	300
508.namd_r	144	446	307	449	305	**449**	**305**	144	**445**	**308**	446	307	444	308
510.parest_r	144	**1855**	**203**	1857	203	1852	203	144	**1856**	**203**	1859	203	1854	203
511.povray_r	144	742	453	**744**	**452**	748	450	144	645	521	**648**	**519**	648	519
519.lbm_r	144	**734**	**207**	734	207	734	207	144	**734**	**207**	734	207	734	207
521.wrf_r	144	**836**	**386**	841	383	833	387	144	828	390	**828**	**390**	825	391
526.blender_r	144	549	400	**549**	**400**	547	401	144	548	400	**548**	**400**	551	398
527.cam4_r	144	572	440	577	437	**573**	**439**	144	**562**	**448**	563	448	562	449
538.imagick_r	144	387	926	**387**	**926**	383	934	144	**386**	**929**	379	944	387	925
544.nab_r	144	367	661	**366**	**662**	365	664	144	366	663	364	666	**364**	**665**
549.fotonik3d_r	144	2029	277	**2031**	**276**	2032	276	144	2033	276	**2033**	**276**	2032	276
554.roms_r	144	1390	165	**1393**	**164**	1394	164	144	1396	164	1393	164	**1393**	**164**

SPECrate®2017_fp_base =	**375**
SPECrate®2017_fp_peak =	**380**

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

Compiler Notes

```
SPEC has learned that this result, which used an evaluation compiler, was submitted
contrary to the compiler license terms.
Intel has granted a one-time waiver for this result.
```

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"
```

General Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/user/cpu2017/lib/ia32:/home/user/cpu2017/lib/intel64"
 Binaries compiled on a system with 1x Intel Core i9-7900X CPU + 32GB RAM
 memory using Redhat Enterprise Linux 7.5
 Transparent Huge Pages enabled by default
 Prior to runcpu invocation
```

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Tyrone Systems
(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375

SPECrate®2017_fp_peak = 380

CPU2017 License: 6011
Test Sponsor: Netweb
Tested by: Netweb

Test Date: Jun-2019
Hardware Availability: Nov-2018
Software Availability: Dec-2018

General Notes (Continued)

```
 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>
Yes: 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.
```

Platform Notes

```
 Sysinfo program /home/user/cpu2017/bin/sysinfo
 Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
 running on localhost.localdomain Sun Jun  2 14:52:08 2019

 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 6140 CPU @ 2.30GHz
       4  "physical id"s (chips)
       144 "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 : 18
       siblings  : 36
       physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
       physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
       physical 2: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
       physical 3: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

 From lscpu:
       Architecture:          x86_64
       CPU op-mode(s):        32-bit, 64-bit
       Byte Order:            Little Endian
       CPU(s):                144
       On-line CPU(s) list:   0-143
       Thread(s) per core:    2
       Core(s) per socket:    18
       Socket(s):             4
       NUMA node(s):          4
       Vendor ID:             GenuineIntel
       CPU family:            6
```

Tyrone Systems

(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375

SPECrate®2017_fp_peak = 380

CPU2017 License: 6011

Test Sponsor: Netweb

Tested by: Netweb

Test Date: Jun-2019

Hardware Availability: Nov-2018

Software Availability: Dec-2018

Platform Notes (Continued)

```
       Model:                  85
       Model name:             Intel(R) Xeon(R) Gold 6140 CPU @ 2.30GHz
       Stepping:               4
       CPU MHz:                1000.000
       CPU max MHz:            2301.0000
       CPU min MHz:            1000.0000
       BogoMIPS:               4600.00
       Virtualization:         VT-x
       L1d cache:              32K
       L1i cache:              32K
       L2 cache:               1024K
       L3 cache:               25344K
       NUMA node0 CPU(s):      0-17,72-89
       NUMA node1 CPU(s):      18-35,90-107
       NUMA node2 CPU(s):      36-53,108-125
       NUMA node3 CPU(s):      54-71,126-143
       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
   aperfmperf eagerfpu 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 abm 3dnowprefetch epb cat_l3 cdp_l3 intel_ppin
   intel_pt ssbd mba ibrs ibpb stibp tpr_shadow vnmi flexpriority ept vpid fsgsbase
   tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a avx512f avx512dq
   rdseed adx smap clflushopt clwb avx512cd avx512bw avx512vl xsaveopt xsavec xgetbv1
   cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local dtherm ida arat pln pts pku ospke
   spec_ctrl intel_stibp flush_l1d

 /proc/cpuinfo cache data
    cache size : 25344 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 12 13 14 15 16 17 72 73 74 75 76 77 78 79 80 81
   82 83 84 85 86 87 88 89
   node 0 size: 195242 MB
   node 0 free: 81765 MB
   node 1 cpus: 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 90 91 92 93 94 95 96
   97 98 99 100 101 102 103 104 105 106 107
   node 1 size: 196608 MB
   node 1 free: 183815 MB
   node 2 cpus: 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 108 109 110 111 112
   113 114 115 116 117 118 119 120 121 122 123 124 125
   node 2 size: 196608 MB
   node 2 free: 181588 MB
   node 3 cpus: 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 126 127 128 129 130
```

(Continued on next page)

Tyrone Systems

(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375

SPECrate®2017_fp_peak = 380

CPU2017 License:	6011	**Test Date:**	Jun-2019
Test Sponsor:	Netweb	**Hardware Availability:**	Nov-2018
Tested by:	Netweb	**Software Availability:**	Dec-2018

Platform Notes (Continued)

```
   131 132 133 134 135 136 137 138 139 140 141 142 143
   node 3 size: 196608 MB
   node 3 free: 166190 MB
   node distances:
   node   0   1   2   3
     0:  10  21  21  21
     1:  21  10  21  21
     2:  21  21  10  21
     3:  21  21  21  10

 From /proc/meminfo
    MemTotal:       791194380 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 From /etc/*release* /etc/*version*
    centos-release: CentOS Linux release 7.6.1810 (Core)
    centos-release-upstream: Derived from Red Hat Enterprise Linux 7.6 (Source)
    os-release:
       NAME="CentOS Linux"
       VERSION="7 (Core)"
       ID="centos"
       ID_LIKE="rhel fedora"
       VERSION_ID="7"
       PRETTY_NAME="CentOS Linux 7 (Core)"
       ANSI_COLOR="0;31"
       CPE_NAME="cpe:/o:centos:centos:7"
    redhat-release: CentOS Linux release 7.6.1810 (Core)
    system-release: CentOS Linux release 7.6.1810 (Core)
    system-release-cpe: cpe:/o:centos:centos:7

 uname -a:
    Linux localhost.localdomain 3.10.0-957.el7.x86_64 #1 SMP Thu Nov 8 23:39:32 UTC 2018
    x86_64 x86_64 x86_64 GNU/Linux

 Kernel self-reported vulnerability status:

 CVE-2017-5754 (Meltdown):         No status reported
 CVE-2017-5753 (Spectre variant 1): No status reported
 CVE-2017-5715 (Spectre variant 2): No status reported

 run-level 5 Jun 1 05:54

 SPEC is set to: /home/user/cpu2017
    Filesystem               Type  Size  Used Avail Use% Mounted on
    /dev/mapper/centos-home xfs   877G   96G  781G  11% /home
```

(Continued on next page)

SPEC CPU®2017 Floating Point Rate Result

Tyrone Systems
(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375

SPECrate®2017_fp_peak = 380

CPU2017 License:	6011	**Test Date:**	Jun-2019
Test Sponsor:	Netweb	**Hardware Availability:**	Nov-2018
Tested by:	Netweb	**Software Availability:**	Dec-2018

Platform Notes (Continued)

```
 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.

 (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
C                  | 519.lbm_r(base, peak) 538.imagick_r(base, peak)
                   | 544.nab_r(base, peak)
------------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icc: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
------------------------------------------------------------------------------


==============================================================================
C++                | 508.namd_r(base, peak) 510.parest_r(base, peak)
------------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icpc: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
------------------------------------------------------------------------------


==============================================================================
C++, C             | 511.povray_r(base, peak) 526.blender_r(base, peak)
------------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icpc: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icc: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
------------------------------------------------------------------------------


==============================================================================
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
------------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.1.144 Build 20181018
```

(Continued on next page)

Tyrone Systems

(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375

SPECrate®2017_fp_peak = 380

CPU2017 License:	6011	**Test Date:**	Jun-2019
Test Sponsor:	Netweb	**Hardware Availability:**	Nov-2018
Tested by:	Netweb	**Software Availability:**	Dec-2018

Compiler Version Notes (Continued)

```
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icpc: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icc: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
ifort: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
------------------------------------------------------------------------------


==============================================================================
Fortran          | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak)
                 | 554.roms_r(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
ifort: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
------------------------------------------------------------------------------


==============================================================================
Fortran, C       | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
ifort: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
icc: NOTE: The evaluation period for this product ends on 28-jun-2019 UTC.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
```
icc -m64 -std=c11
```

C++ benchmarks:
```
icpc -m64
```

Fortran benchmarks:
```
ifort -m64
```

(Continued on next page)

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Tyrone Systems
(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375

SPECrate®2017_fp_peak = 380

CPU2017 License: 6011
Test Sponsor: Netweb
Tested by: Netweb

Test Date: Jun-2019
Hardware Availability: Nov-2018
Software Availability: Dec-2018

Base Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
```
ifort -m64 icc -m64 -std=c11
```

Benchmarks using both C and C++:
```
icpc -m64 icc -m64 -std=c11
```

Benchmarks using Fortran, C, and C++:
```
icpc -m64 icc -m64 -std=c11 ifort -m64
```

Base Portability Flags

503.bwaves_r: `-DSPEC_LP64`
507.cactuBSSN_r: `-DSPEC_LP64`
508.namd_r: `-DSPEC_LP64`
510.parest_r: `-DSPEC_LP64`
511.povray_r: `-DSPEC_LP64`
519.lbm_r: `-DSPEC_LP64`
521.wrf_r: `-DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian`
526.blender_r: `-DSPEC_LP64 -DSPEC_LINUX -funsigned-char`
527.cam4_r: `-DSPEC_LP64 -DSPEC_CASE_FLAG`
538.imagick_r: `-DSPEC_LP64`
544.nab_r: `-DSPEC_LP64`
549.fotonik3d_r: `-DSPEC_LP64`
554.roms_r: `-DSPEC_LP64`

Base Optimization Flags

C benchmarks:
```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4
```

C++ benchmarks:
```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4
```

Fortran benchmarks:
```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte
```

Benchmarks using both Fortran and C:
```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
```

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

Tyrone Systems
(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375

SPECrate®2017_fp_peak = 380

CPU2017 License: 6011
Test Sponsor: Netweb
Tested by: Netweb

Test Date: Jun-2019
Hardware Availability: Nov-2018
Software Availability: Dec-2018

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):
```
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte
```

Benchmarks using both C and C++:
```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4
```

Benchmarks using Fortran, C, and C++:
```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte
```

Peak Compiler Invocation

C benchmarks:
```
icc -m64 -std=c11
```

C++ benchmarks:
```
icpc -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
ifort -m64 icc -m64 -std=c11
```

Benchmarks using both C and C++:
```
icpc -m64 icc -m64 -std=c11
```

Benchmarks using Fortran, C, and C++:
```
icpc -m64 icc -m64 -std=c11 ifort -m64
```

Peak Portability Flags

```
Same as Base Portability Flags
```

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Tyrone Systems
(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375

SPECrate®2017_fp_peak = 380

CPU2017 License: 6011
Test Sponsor: Netweb
Tested by: Netweb

Test Date: Jun-2019
Hardware Availability: Nov-2018
Software Availability: Dec-2018

Peak Optimization Flags

C benchmarks:

519.lbm_r: -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

538.imagick_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

544.nab_r: Same as 538.imagick_r

C++ benchmarks:

508.namd_r: -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

510.parest_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

Fortran benchmarks:

503.bwaves_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte

549.fotonik3d_r: Same as 503.bwaves_r

554.roms_r: -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 -auto -nostandard-realloc-lhs
-align array32byte

Benchmarks using both Fortran and C:
-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 -auto -nostandard-realloc-lhs
-align array32byte

Benchmarks using both C and C++:

511.povray_r: -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

(Continued on next page)

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

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Tyrone Systems
(Test Sponsor: Netweb)

Tyrone Camarero QS400TU-224R4
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate®2017_fp_base = 375

SPECrate®2017_fp_peak = 380

CPU2017 License: 6011
Test Sponsor: Netweb
Tested by: Netweb

Test Date: Jun-2019
Hardware Availability: Nov-2018
Software Availability: Dec-2018

Peak Optimization Flags (Continued)

526.blender_r: `-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4`

Benchmarks using Fortran, C, and C++:
`-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs -align array32byte`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2019-04-02.html
http://www.spec.org/cpu2017/flags/Default-Platform-Flags.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2019-04-02.xml
http://www.spec.org/cpu2017/flags/Default-Platform-Flags.xml

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

Tested with SPEC CPU®2017 v1.0.5 on 2019-06-02 05:22:07-0400.
Report generated on 2020-10-06 17:35:06 by CPU2017 PDF formatter v6255.
Originally published on 2019-07-12.