SPEC CPU®2017 Floating Point Rate Result

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Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

DIT400TR-55RL
(3.00 GHz,Intel Xeon Gold 6248R)

$SPECrate®2017\_fp\_base = 268$

$SPECrate®2017\_fp\_peak = 272$
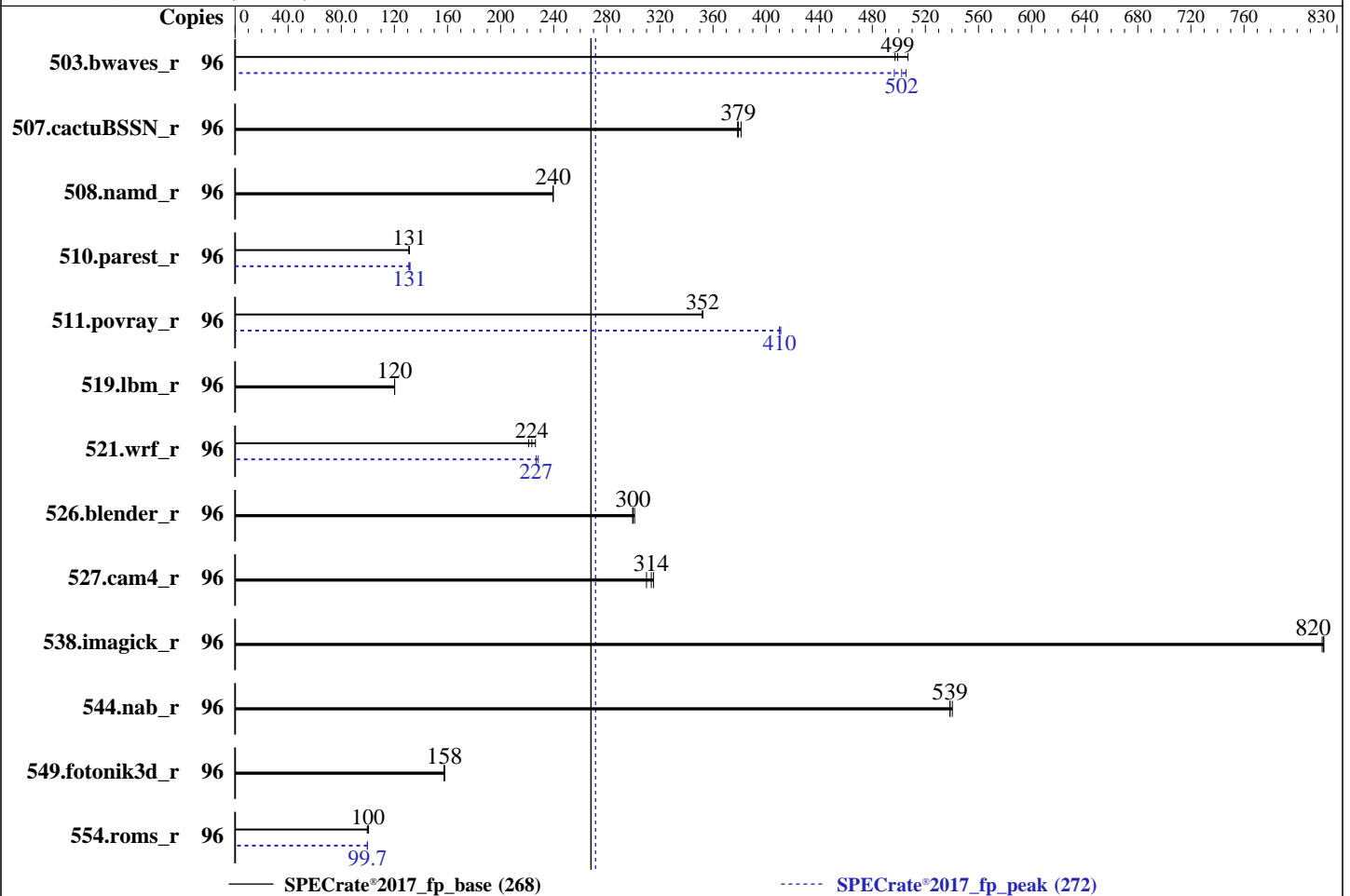
CPU2017 License: 006042

Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Oct-2020

Hardware Availability: Aug-2020

Software Availability: Jun-2020

Benchmark	Copies	base	peak
503.bwaves_r	96	499	502
507.cactuBSSN_r	96	379	
508.namd_r	96	240	
510.parest_r	96	131	131
511.povray_r	96	352	410
519.lbm_r	96	120	
521.wrf_r	96	224	227
526.blender_r	96	300	
527.cam4_r	96	314	
538.imagick_r	96	820	
544.nab_r	96	539	
549.fotonik3d_r	96	158	
554.roms_r	96	100	99.7

SPECrate®2017_fp_base (268)
SPECrate®2017_fp_peak (272)

Hardware

CPU Name: Intel Xeon Gold 6248R
Max MHz: 4000
Nominal: 3000
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 PC4-2933P-R)
Storage: 1 x 480 GB SATA SSD
Other: None

Software

OS: CentOS Linux release 8.2.2004 (Core)
4.18.0-193.el8.x86_64
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 V8.102 released Jun-2020
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: Default

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Results Table

Benchmark	Base						Peak					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	96	1936	497	**1929**	**499**	1899	507	96	**1917**	**502**	1905	505	1939	497
507.cactuBSSN_r	96	319	381	321	379	**321**	**379**	96	319	381	321	379	**321**	**379**
508.namd_r	96	381	240	**381**	**240**	381	239	96	381	240	**381**	**240**	381	239
510.parest_r	96	**1913**	**131**	1919	131	1913	131	96	1918	131	1905	132	**1913**	**131**
511.povray_r	96	637	352	**637**	**352**	636	352	96	**547**	**410**	545	411	547	410
519.lbm_r	96	842	120	842	120	**842**	**120**	96	842	120	842	120	**842**	**120**
521.wrf_r	96	950	226	972	221	**962**	**224**	96	**948**	**227**	948	227	942	228
526.blender_r	96	488	299	**488**	**300**	486	301	96	488	299	**488**	**300**	486	301
527.cam4_r	96	542	310	**536**	**314**	533	315	96	542	310	**536**	**314**	533	315
538.imagick_r	96	**291**	**820**	291	820	292	819	96	**291**	**820**	291	820	292	819
544.nab_r	96	300	538	299	540	**300**	**539**	96	300	538	299	540	**300**	**539**
549.fotonik3d_r	96	2371	158	2377	157	**2372**	**158**	96	2371	158	2377	157	**2372**	**158**
554.roms_r	96	1532	99.6	1519	100	**1522**	**100**	96	**1530**	**99.7**	1529	99.8	1532	99.6
SPECrate®2017_fp_base =	**268**											
SPECrate®2017_fp_peak =	**272**											

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-64"
MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 2x Intel Xeon 4214R CPU + 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:

(Continued on next page)

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

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General Notes (Continued)

```
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
sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases
```

Platform Notes

```
Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edb1e6e46a485a0011
running on localhost.localdomain Sat Oct 10 21:05:49 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) Gold 6248R CPU @ 3.00GHz
      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
      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):        2
   Vendor ID:           GenuineIntel
```

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Test Date: Oct-2020

Hardware Availability: Aug-2020

Software Availability: Jun-2020

Platform Notes (Continued)

```
        CPU family:          6
        Model:               85
        Model name:          Intel(R) Xeon(R) Gold 6248R CPU @ 3.00GHz
        Stepping:            7
        CPU MHz:             3417.861
        CPU max MHz:         4000.0000
        CPU min MHz:         1200.0000
        BogoMIPS:            6000.00
        Virtualization:      VT-x
        L1d cache:           32K
        L1i cache:           32K
        L2 cache:            1024K
        L3 cache:            36608K
        NUMA node0 CPU(s):   0-23,48-71
        NUMA node1 CPU(s):   24-47,72-95
        Flags:               fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
    pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp
    lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
    aperfmperf pni pclmulqdq dtes64 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 cpuid_fault epb cat_l3 cdp_l3
    invpcid_single intel_ppin ssbd mba ibrs ibpb stibp ibrs_enhanced 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 intel_pt avx512cd
    avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
    cqm_mbm_local dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req pku
    ospke avx512_vnni md_clear flush_l1d arch_capabilities

 /proc/cpuinfo cache data
    cache size : 36608 KB

 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 12 13 14 15 16 17 18 19 20 21 22 23 48 49 50 51
   52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71
   node 0 size: 192073 MB
   node 0 free: 168954 MB
   node 1 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 72
   73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95
   node 1 size: 193525 MB
   node 1 free: 173115 MB
   node distances:
   node   0   1
     0:  10  21
     1:  21  10
```

(Continued on next page)

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CPU2017 License: 006042   **Test Date:** Oct-2020

Test Sponsor: Netweb Pte Ltd   **Hardware Availability:** Aug-2020

Tested by: Tyrone Systems   **Software Availability:** Jun-2020

Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:        394853020 kB
   HugePages_Total:         0
   Hugepagesize:         2048 kB

From /etc/*release* /etc/*version*
   centos-release: CentOS Linux release 8.2.2004 (Core)
   centos-release-upstream: Derived from Red Hat Enterprise Linux 8.2 (Source)
   os-release:
      NAME="CentOS Linux"
      VERSION="8 (Core)"
      ID="centos"
      ID_LIKE="rhel fedora"
      VERSION_ID="8"
      PLATFORM_ID="platform:el8"
      PRETTY_NAME="CentOS Linux 8 (Core)"
      ANSI_COLOR="0;31"
   redhat-release: CentOS Linux release 8.2.2004 (Core)
   system-release: CentOS Linux release 8.2.2004 (Core)
   system-release-cpe: cpe:/o:centos:centos:8

uname -a:
   Linux localhost.localdomain 4.18.0-193.el8.x86_64 #1 SMP Fri May 8 10:59:10 UTC 2020
   x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

itlb_multihit:                       KVM: Mitigation: Split huge pages
CVE-2018-3620 (L1 Terminal Fault):       Not affected
Microarchitectural Data Sampling:        Not affected
CVE-2017-5754 (Meltdown):                Not affected
CVE-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled
                                   via prctl and seccomp
CVE-2017-5753 (Spectre variant 1):    Mitigation: usercopy/swapgs barriers and __user
                                    pointer sanitization
CVE-2017-5715 (Spectre variant 2):    Mitigation: Enhanced IBRS, IBPB: conditional,
                                    RSB filling
tsx_async_abort:                      Mitigation: Clear CPU buffers; SMT vulnerable

run-level 3 Oct 10 12:05

SPEC is set to: /home/cpu2017
   Filesystem          Type  Size  Used Avail Use% Mounted on
   /dev/mapper/cl-home xfs   392G   46G  347G  12% /home

From /sys/devices/virtual/dmi/id
    BIOS:    American Megatrends Inc. V8.102 06/09/2020
```

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Platform Notes (Continued)

```
      Vendor:  Tyrone Systems
      Product: TP12XH-L2I
      Product Family: empty
      Serial:  empty

 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 Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933


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


==============================================================================
C++                | 508.namd_r(base, peak) 510.parest_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.
------------------------------------------------------------------------------


==============================================================================
C++, C             | 511.povray_r(base) 526.blender_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.
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++, C             | 511.povray_r(peak)
```

(Continued on next page)

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Compiler Version Notes (Continued)

```
--------------------------------------------------------------------------
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.
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++, C          | 511.povray_r(base) 526.blender_r(base, peak)
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  Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
--------------------------------------------------------------------------


==========================================================================
C++, C, Fortran | 507.cactuBSSN_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.
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.
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.
--------------------------------------------------------------------------


==========================================================================
Fortran         | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak)
```

(Continued on next page)

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Compiler Version Notes (Continued)

```
                         | 554.roms_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.
-------------------------------------------------------------------------------


===============================================================================
Fortran, C       | 521.wrf_r(base) 527.cam4_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.
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
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Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
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Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
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-------------------------------------------------------------------------------


===============================================================================
Fortran, C       | 521.wrf_r(base) 527.cam4_r(base, peak)
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-------------------------------------------------------------------------------


===============================================================================
Fortran, C       | 521.wrf_r(peak)
-------------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
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Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
```

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Compiler Version Notes (Continued)

```
  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`

Benchmarks using both Fortran and C:
`ifort icc`

Benchmarks using both C and C++:
`icpc icc`

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

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`

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Base Optimization Flags

C benchmarks:

```
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -L/usr/local/je5.0.1-64/lib
-ljemalloc
```

C++ benchmarks:

```
-m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

Fortran benchmarks:

```
-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte
-auto -mbranches-within-32B-boundaries -L/usr/local/je5.0.1-64/lib
-ljemalloc
```

Benchmarks using both Fortran and C:

```
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -O3 -ipo -no-prec-div
-qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs
-align array32byte -auto -mbranches-within-32B-boundaries
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

Benchmarks using both C and C++:

```
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -L/usr/local/je5.0.1-64/lib
-ljemalloc
```

Benchmarks using Fortran, C, and C++:

```
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -O3 -ipo -no-prec-div
-qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs
-align array32byte -auto -mbranches-within-32B-boundaries
```

(Continued on next page)

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

DIT400TR-55RL
(3.00 GHz,Intel Xeon Gold 6248R)

SPECrate®2017_fp_base = 268

SPECrate®2017_fp_peak = 272

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

Base Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++ (continued):
```
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

Peak Compiler Invocation

C benchmarks:
```
icc
```

C++ benchmarks:
```
icpc
```

Fortran benchmarks:
```
ifort
```

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

Benchmarks using both C and C++:
```
icpc icc
```

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

Peak Portability Flags

```
Same as Base Portability Flags
```

Peak Optimization Flags

C benchmarks:

519.lbm_r: `basepeak = yes`

538.imagick_r: `basepeak = yes`

544.nab_r: `basepeak = yes`

C++ benchmarks:

(Continued on next page)

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

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

Test Date: Oct-2020
Hardware Availability: Aug-2020
Software Availability: Jun-2020

Peak Optimization Flags (Continued)

508.namd_r: `basepeak = yes`

510.parest_r: `-m64 -qnextgen`
`-Wl,-plugin-opt=-x86-branches-within-32B-boundaries`
`-Wl,-z,muldefs -fuse-ld=gold -xCORE-AVX512 -Ofast`
`-ffast-math -flto -mfpmath=sse -funroll-loops`
`-qopt-mem-layout-trans=4 -L/usr/local/je5.0.1-64/lib`
`-ljemalloc`

Fortran benchmarks:

503.bwaves_r: `-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries`
`-Wl,-z,muldefs -fuse-ld=gold -xCORE-AVX512 -O3 -ipo`
`-no-prec-div -qopt-prefetch -ffinite-math-only`
`-qopt-multiple-gather-scatter-by-shuffles`
`-qopt-mem-layout-trans=4 -nostandard-realloc-lhs`
`-align array32byte -auto -mbranches-within-32B-boundaries`
`-L/usr/local/je5.0.1-64/lib -ljemalloc`

549.fotonik3d_r: `basepeak = yes`

554.roms_r: `Same as 503.bwaves_r`

Benchmarks using both Fortran and C:

521.wrf_r: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xCORE-AVX512 -O3`
`-ipo -no-prec-div -qopt-prefetch -ffinite-math-only`
`-qopt-multiple-gather-scatter-by-shuffles`
`-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries`
`-nostandard-realloc-lhs -align array32byte -auto`
`-L/usr/local/je5.0.1-64/lib -ljemalloc`

527.cam4_r: `basepeak = yes`

Benchmarks using both C and C++:

511.povray_r: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xCORE-AVX512 -O3`
`-ipo -no-prec-div -qopt-prefetch -ffinite-math-only`
`-qopt-multiple-gather-scatter-by-shuffles`
`-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries`
`-L/usr/local/je5.0.1-64/lib -ljemalloc`

526.blender_r: `basepeak = yes`

Benchmarks using Fortran, C, and C++:

SPEC CPU®2017 Floating Point Rate Result

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Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

DIT400TR-55RL
(3.00 GHz,Intel Xeon Gold 6248R)

SPECrate®2017_fp_base = 268

SPECrate®2017_fp_peak = 272

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

Peak Optimization Flags (Continued)

507.cactuBSSN_r: basepeak = yes

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

http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revA.html
http://www.spec.org/cpu2017/flags/TyroneIT-Platform-Settings-V1-CLX-revA.html

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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/TyroneIT-Platform-Settings-V1-CLX-revA.xml

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

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