SPEC CPU®2017 Floating Point Rate Result

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Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

Tyrone Camarero DS400TOG-424RT2
(2.60 GHz,Intel Xeon Gold 6240)

SPECrate®2017_fp_base = 223
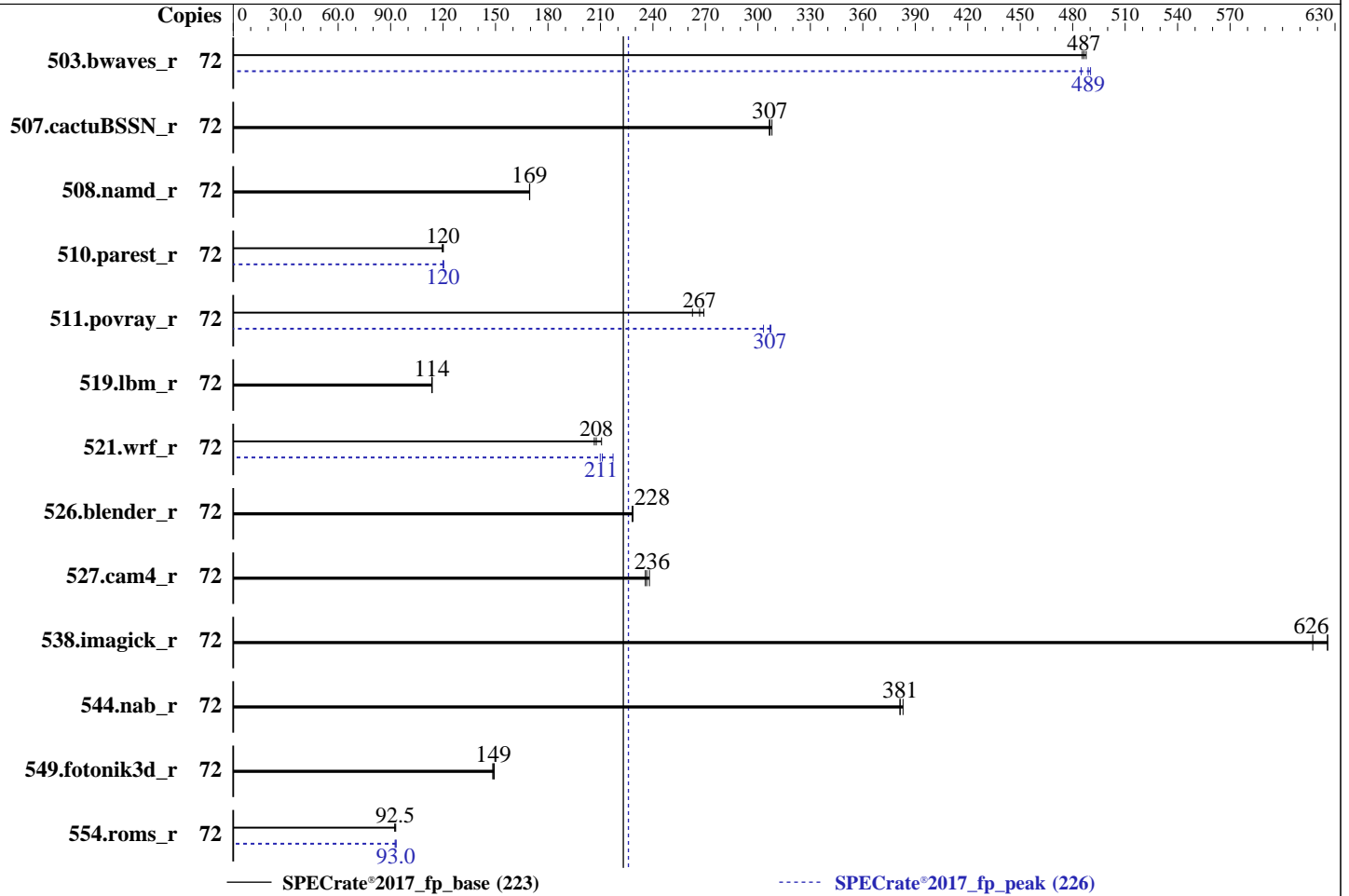
SPECrate®2017_fp_peak = 226

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

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

Copies		
503.bwaves_r	72	487 / 489
507.cactuBSSN_r	72	307
508.namd_r	72	169
510.parest_r	72	120 / 120
511.povray_r	72	267 / 307
519.lbm_r	72	114
521.wrf_r	72	208 / 211
526.blender_r	72	228
527.cam4_r	72	236
538.imagick_r	72	626
544.nab_r	72	381
549.fotonik3d_r	72	149
554.roms_r	72	92.5 / 93.0

—— SPECrate®2017_fp_base (223)   - - - SPECrate®2017_fp_peak (226)

Hardware

CPU Name: Intel Xeon Gold 6240
 Max MHz: 3900
 Nominal: 2600
Enabled: 36 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: 24.75 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 8.2.2004 (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 3.3 released Feb-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: BIOS set to prefer performance at
 the cost of additional power usage

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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	72	1487	485	**1484**	**487**	1480	488	72	1489	485	1473	490	**1477**	**489**
507.cactuBSSN_r	72	296	308	**297**	**307**	297	307	72	296	308	**297**	**307**	297	307
508.namd_r	72	**404**	**169**	403	170	404	169	72	**404**	**169**	403	170	404	169
510.parest_r	72	1576	120	**1570**	**120**	1567	120	72	1570	120	1565	120	**1569**	**120**
511.povray_r	72	625	269	**630**	**267**	640	263	72	554	303	**548**	**307**	547	307
519.lbm_r	72	**668**	**114**	668	114	668	114	72	**668**	**114**	668	114	668	114
521.wrf_r	72	781	206	**777**	**208**	766	211	72	743	217	**764**	**211**	768	210
526.blender_r	72	480	229	481	228	**480**	**228**	72	480	229	481	228	**480**	**228**
527.cam4_r	72	529	238	**533**	**236**	534	236	72	529	238	**533**	**236**	534	236
538.imagick_r	72	**286**	**626**	286	626	290	617	72	**286**	**626**	286	626	290	617
544.nab_r	72	**318**	**381**	316	383	318	381	72	**318**	**381**	316	383	318	381
549.fotonik3d_r	72	1891	148	1880	149	**1885**	**149**	72	1891	148	1880	149	**1885**	**149**
554.roms_r	72	**1237**	**92.5**	1239	92.4	1231	92.9	72	1236	92.6	1229	93.1	**1230**	**93.0**
SPECrate®2017_fp_base =	**223**											
SPECrate®2017_fp_peak =	**226**											

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/je5.0.1-64"
MALLOC_CONF = "retain:true"
```

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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 Centos 8.2 x86_64, and the system compiler gcc 4.8.5
 sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases
```

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 10 18:10:21 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 6240 CPU @ 2.60GHz
       2  "physical id"s (chips)
       72 "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
```

(Continued on next page)

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Platform Notes (Continued)

```
       physical 1: 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):              72
       On-line CPU(s) list: 0-71
       Thread(s) per core:  2
       Core(s) per socket:  18
       Socket(s):           2
       NUMA node(s):        4
       Vendor ID:           GenuineIntel
       CPU family:          6
       Model:               85
       Model name:          Intel(R) Xeon(R) Gold 6240 CPU @ 2.60GHz
       Stepping:            7
       CPU MHz:             3314.242
       CPU max MHz:         3900.0000
       CPU min MHz:         1000.0000
       BogoMIPS:            5200.00
       Virtualization:      VT-x
       L1d cache:           32K
       L1i cache:           32K
       L2 cache:            1024K
       L3 cache:            25344K
       NUMA node0 CPU(s):   0-2,5,6,9,10,14,15,36-38,41,42,45,46,50,51
       NUMA node1 CPU(s):   3,4,7,8,11-13,16,17,39,40,43,44,47-49,52,53
       NUMA node2 CPU(s):   18-20,23,24,27,28,32,33,54-56,59,60,63,64,68,69
       NUMA node3 CPU(s):   21,22,25,26,29-31,34,35,57,58,61,62,65-67,70,71
       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 pku ospke avx512_vnni md_clear flush_l1d
  arch_capabilities

  /proc/cpuinfo cache data
     cache size : 25344 KB

  From numactl --hardware  WARNING: a numactl 'node' might or might not correspond to a
```

(Continued on next page)

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Platform Notes (Continued)

```
physical chip.
  available: 4 nodes (0-3)
  node 0 cpus: 0 1 2 5 6 9 10 14 15 36 37 38 41 42 45 46 50 51
  node 0 size: 95353 MB
  node 0 free: 85740 MB
  node 1 cpus: 3 4 7 8 11 12 13 16 17 39 40 43 44 47 48 49 52 53
  node 1 size: 96736 MB
  node 1 free: 88728 MB
  node 2 cpus: 18 19 20 23 24 27 28 32 33 54 55 56 59 60 63 64 68 69
  node 2 size: 96763 MB
  node 2 free: 88339 MB
  node 3 cpus: 21 22 25 26 29 30 31 34 35 57 58 61 62 65 66 67 70 71
  node 3 size: 96763 MB
  node 3 free: 88901 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:       394872264 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 8.2.2004 (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
```

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Platform Notes (Continued)

```
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:

CVE-2018-12207 (iTLB Multihit):                  KVM: Vulnerable
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
CVE-2020-0543 (Special Register Buffer Data Sampling): No status reported
CVE-2019-11135 (TSX Asynchronous Abort):         Mitigation: Clear CPU buffers; SMT
                                                 vulnerable

run-level 3 Feb 10 10:34

SPEC is set to: /home/cpu2017
   Filesystem          Type  Size  Used Avail Use% Mounted on
   /dev/mapper/cl-home xfs   392G  146G  247G  38% /home

From /sys/devices/virtual/dmi/id
    Vendor:          Tyrone Systems
    Product:         Tyrone Camarero DS400TOG-424RT2
    Product Family:  SMC X11
    Serial:          A309085X0907231

Additional information from dmidecode follows.  WARNING: Use caution when you interpret
this section. The 'dmidecode' program reads system data which is "intended to allow
hardware to be accurately determined", but the intent may not be met, as there are
frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.
   Memory:
     12x NO DIMM NO DIMM
     12x 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
```

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Platform Notes (Continued)

```
      BIOS Revision:        5.14

   (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)
------------------------------------------------------------------------------
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,
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------------------------------------------------------------------------------


==============================================================================
```

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Compiler Version Notes (Continued)

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C++, C           | 511.povray_r(base) 526.blender_r(base, peak)
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-------------------------------------------------------------------------------


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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)
-------------------------------------------------------------------------------
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  NextGen Build 20200304
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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)
                 | 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)
-------------------------------------------------------------------------------
```

(Continued on next page)

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Compiler Version Notes (Continued)

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------------------------------------------------------------------------------


==============================================================================
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Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.1.1.217 Build 20200306
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------------------------------------------------------------------------------


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

Base Compiler Invocation

C benchmarks:
```
icc
```

(Continued on next page)

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Base Compiler Invocation (Continued)

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`

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`

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Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

SPECrate®2017_fp_base = 223

Tyrone Camarero DS400TOG-424RT2
(2.60 GHz,Intel Xeon Gold 6240)

SPECrate®2017_fp_peak = 226

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

Base Optimization Flags (Continued)

C++ benchmarks (continued):
```
-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
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

Peak Compiler Invocation

C benchmarks:
```
icc
```

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Tyrone Systems
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Tyrone Camarero DS400TOG-424RT2
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CPU2017 License: 006042

Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Feb-2021

Hardware Availability: Aug-2020

Software Availability: Jun-2020

Peak Compiler Invocation (Continued)

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:

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`

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Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

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Hardware Availability: Aug-2020
Software Availability: Jun-2020

Peak Optimization Flags (Continued)

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++:

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/Tyrone-Platform-Settings-V1.2-CLX-revB.html

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

SPEC CPU®2017 Floating Point Rate Result

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(2.60 GHz,Intel Xeon Gold 6240)

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

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