SPEC CPU®2017 Floating Point Speed Result

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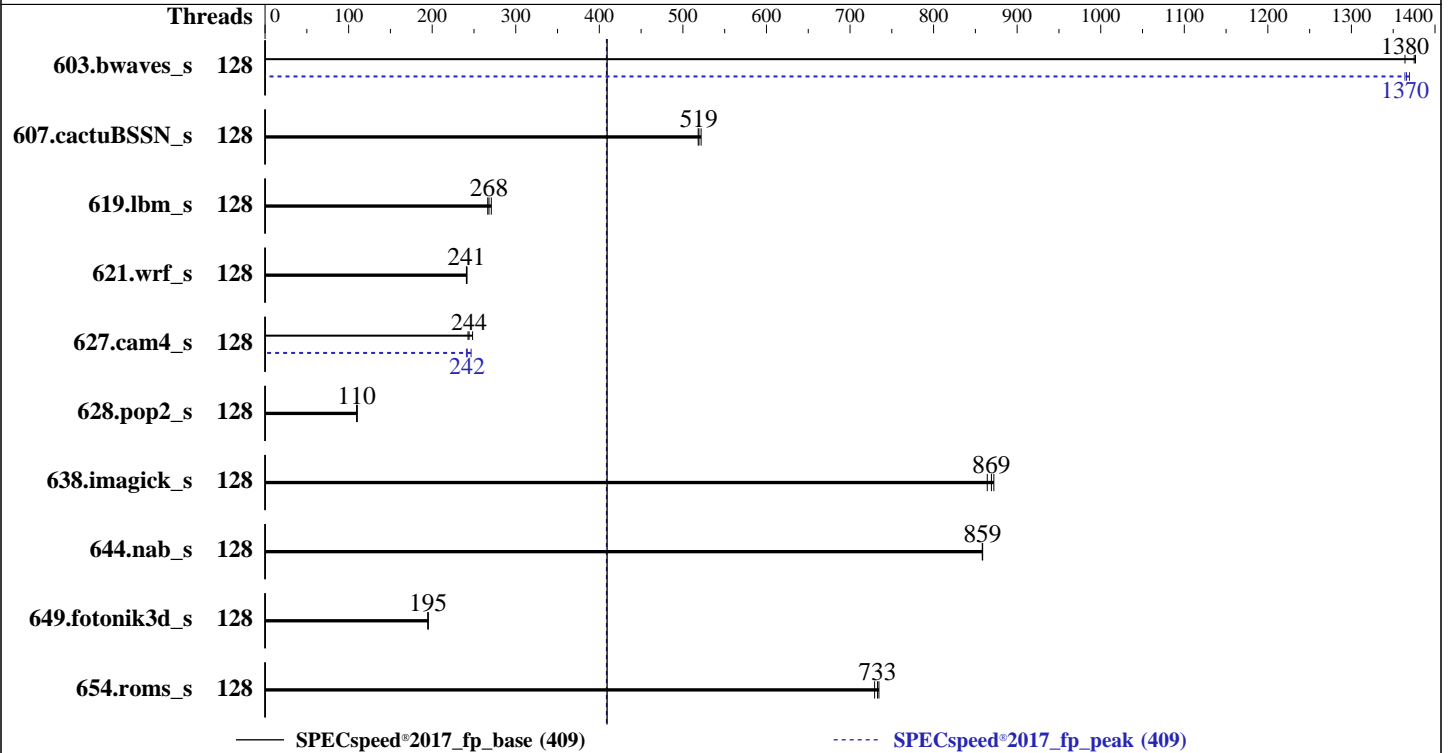## Nettrix

R620 G50 (Intel Xeon Platinum 8592V, 2.0 GHz)

$SPECspeed^{®}2017\_fp\_base = 409$

$SPECspeed^{®}2017\_fp\_peak = 409$

CPU2017 License: 6138
Test Sponsor: Nettrix
Tested by: Nettrix

Threads

- 603.bwaves_s 128 — 1380 / 1370
- 607.cactuBSSN_s 128 — 519
- 619.lbm_s 128 — 268
- 621.wrf_s 128 — 241
- 627.cam4_s 128 — 244 / 242
- 628.pop2_s 128 — 110
- 638.imagick_s 128 — 869
- 644.nab_s 128 — 859
- 649.fotonik3d_s 128 — 195
- 654.roms_s 128 — 733

SPECspeed®2017_fp_base (409)   SPECspeed®2017_fp_peak (409)

Hardware

CPU Name: Intel Xeon Platinum 8592V
Max MHz: 3900
Nominal: 2000
Enabled: 128 cores, 2 chips
Orderable: 1,2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 320 MB I+D on chip per chip
 Other: None
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-5600B-R, running at 4800)
Storage: 1 x 16 TB SATA HDD (7200 rpm)
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP5
 5.14.21-150500.53-default
Compiler: C/C++: Version 2023.2.3 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2023.2.3 of Intel Fortran Compiler for Linux;
Parallel: Yes
Firmware: Nettrix BIOS Version NNH1041261 released Jan-2024
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 and OS set to prefer performance at the cost of additional power usage

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Test Date: Jun-2024
Hardware Availability: Dec-2023
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Results Table

Benchmark	Base						Peak					
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	128	43.3	1360	**42.9**	**1380**	42.9	1380	128	43.3	1360	**43.2**	**1370**	43.1	1370
607.cactuBSSN_s	128	**32.1**	**519**	32.2	518	31.9	522	128	**32.1**	**519**	32.2	518	31.9	522
619.lbm_s	128	**19.5**	**268**	19.7	266	19.3	271	128	**19.5**	**268**	19.7	266	19.3	271
621.wrf_s	128	**54.9**	**241**	54.7	242	54.9	241	128	**54.9**	**241**	54.7	242	54.9	241
627.cam4_s	128	**36.3**	**244**	35.7	248	36.5	243	128	36.8	241	35.9	247	**36.6**	**242**
628.pop2_s	128	108	110	108	110	**108**	**110**	128	108	110	108	110	**108**	**110**
638.imagick_s	128	16.7	864	**16.6**	**869**	16.5	872	128	16.7	864	**16.6**	**869**	16.5	872
644.nab_s	128	20.4	858	20.3	859	**20.3**	**859**	128	20.4	858	20.3	859	**20.3**	**859**
649.fotonik3d_s	128	**46.7**	**195**	46.7	195	46.8	195	128	**46.7**	**195**	46.7	195	46.8	195
654.roms_s	128	21.4	735	21.6	729	**21.5**	**733**	128	21.4	735	21.6	729	**21.5**	**733**
SPECspeed®2017_fp_base =		**409**										
SPECspeed®2017_fp_peak =		**409**										

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

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
OS set to performance mode via cpupower frequency-set -g performance
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/SPECcpu_20231121/lib/intel64:/home/SPECcpu_20231121/je5.0.1-64"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"
```

General Notes

```
Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Redhat Enterprise Linux 8.0
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.
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
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
```

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Platform Notes

```
BIOS Configuration:
  SNC (Sub NUMA) set to Disabled
  Patrol Scrub set to Disabled
  LLC dead line alloc set to Enabled
  DCU Streamer Prefetcher set to Enabled
  Hardware P-States set to Native Mode
  Enable LP [Global] set to Single LP

Sysinfo program /home/SPECcpu_20231121/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Mon Jun  3 18:11:54 2024

SUT (System Under Test) info as seen by some common utilities.

-----------------------------------------------------------
Table of contents
-----------------------------------------------------------
 1. uname -a
 2. w
 3. Username
 4. ulimit -a
 5. sysinfo process ancestry
 6. /proc/cpuinfo
 7. lscpu
 8. numactl --hardware
 9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
16. sysctl
17. /sys/kernel/mm/transparent_hugepage
18. /sys/kernel/mm/transparent_hugepage/khugepaged
19. OS release
20. Disk information
21. /sys/devices/virtual/dmi/id
22. dmidecode
23. BIOS
-----------------------------------------------------------


-----------------------------------------------------------
1. uname -a
  Linux localhost 5.14.21-150500.53-default #1 SMP PREEMPT_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043)
  x86_64 x86_64 x86_64 GNU/Linux


-----------------------------------------------------------
2. w
   18:11:54 up 49 min,  1 user,  load average: 4.43, 60.58, 88.45
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     pts/0    10.32.4.15       17:22    3:12   0.86s  0.10s -bash


-----------------------------------------------------------
3. Username
  From environment variable $USER:  root


-----------------------------------------------------------
4. ulimit -a
  core file size          (blocks, -c) unlimited
```

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Platform Notes (Continued)

```
   data seg size              (kbytes, -d) unlimited
   scheduling priority               (-e) 0
   file size                  (blocks, -f) unlimited
   pending signals                   (-i) 4126619
   max locked memory          (kbytes, -l) 64
   max memory size            (kbytes, -m) unlimited
   open files                        (-n) 1024
   pipe size               (512 bytes, -p) 8
   POSIX message queues       (bytes, -q) 819200
   real-time priority                (-r) 0
   stack size                 (kbytes, -s) unlimited
   cpu time                  (seconds, -t) unlimited
   max user processes                (-u) 4126619
   virtual memory             (kbytes, -v) unlimited
   file locks                        (-x) unlimited


  ------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize 29
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: root@pts/0
 -bash
 sh ww-speed-test.sh
 runcpu --nobuild --action validate --define default-platform-flags -c
   ic2023.2.3-lin-core-avx512-speed-20231121.cfg --define cores=128 --tune base,peak -o all --define
   drop_caches fpspeed
 runcpu --nobuild --action validate --define default-platform-flags --configfile
   ic2023.2.3-lin-core-avx512-speed-20231121.cfg --define cores=128 --tune base,peak --output_format all
   --define drop_caches --nopower --runmode speed --tune base:peak --size refspeed fpspeed --nopreenv
   --note-preenv --logfile $SPEC/tmp/CPU2017.133/templogs/preenv.fpspeed.133.0.log --lognum 133.0
   --from_runcpu 2
 specperl $SPEC/bin/sysinfo
 $SPEC = /home/SPECcpu_20231121


  ------------------------------------------------------------
6. /proc/cpuinfo
   model name        : INTEL(R) XEON(R) PLATINUM 8592V
   vendor_id         : GenuineIntel
   cpu family        : 6
   model             : 207
   stepping          : 2
   microcode         : 0x21000170
   bugs              : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
   cpu cores         : 64
   siblings          : 64
   2 physical ids (chips)
   128 processors (hardware threads)
   physical id 0: core ids 0-63
   physical id 1: core ids 0-63
   physical id 0: apicids
   0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72
   ,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126
   physical id 1: apicids
   128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,1
   80,182,184,186,188,190,192,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222,224,226,228,230,23
   2,234,236,238,240,242,244,246,248,250,252,254
  Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
  virtualized systems.  Use the above data carefully.

  ------------------------------------------------------------
```

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Platform Notes (Continued)

```
7. lscpu

From lscpu from util-linux 2.37.4:
  Architecture:              x86_64
  CPU op-mode(s):            32-bit, 64-bit
  Address sizes:             52 bits physical, 57 bits virtual
  Byte Order:                Little Endian
  CPU(s):                    128
  On-line CPU(s) list:       0-127
  Vendor ID:                 GenuineIntel
  Model name:                INTEL(R) XEON(R) PLATINUM 8592V
  CPU family:                6
  Model:                     207
  Thread(s) per core:        1
  Core(s) per socket:        64
  Socket(s):                 2
  Stepping:                  2
  CPU max MHz:               3900.0000
  CPU min MHz:               800.0000
  BogoMIPS:                  4000.00
  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 tsc_known_freq 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 cat_l2 cdp_l3
                             invpcid_single cdp_l2 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 rtm cqm rdt_a avx512f avx512dq rdseed adx smap
                             avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl
                             xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
                             cqm_mbm_local avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hwp
                             hwp_act_window hwp_epp hwp_pkg_req hfi avx512vbmi umip pku ospke waitpkg
                             avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme
                             avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote movdiri movdir64b
                             enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr avx512_fp16
                             amx_tile flush_l1d arch_capabilities
  Virtualization:            VT-x
  L1d cache:                 6 MiB (128 instances)
  L1i cache:                 4 MiB (128 instances)
  L2 cache:                  256 MiB (128 instances)
  L3 cache:                  640 MiB (2 instances)
  NUMA node(s):              2
  NUMA node0 CPU(s):         0-63
  NUMA node1 CPU(s):         64-127
  Vulnerability Itlb multihit:    Not affected
  Vulnerability L1tf:             Not affected
  Vulnerability Mds:              Not affected
  Vulnerability Meltdown:         Not affected
  Vulnerability Mmio stale data:  Not affected
  Vulnerability Retbleed:         Not affected
  Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
  Vulnerability Spectre v1:       Mitigation; usercopy/swapgs barriers and __user pointer sanitization
  Vulnerability Spectre v2:       Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRSB-eIBRS SW
                                  sequence
  Vulnerability Srbds:            Not affected
  Vulnerability Tsx async abort:  Not affected

 From lscpu --cache:
```

(Continued on next page)

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

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Platform Notes (Continued)

```
      NAME ONE-SIZE ALL-SIZE WAYS TYPE          LEVEL    SETS PHY-LINE COHERENCY-SIZE
      L1d     48K       6M  12 Data              1     64       1             64
      L1i     32K       4M   8 Instruction       1     64       1             64
      L2       2M     256M  16 Unified           2   2048       1             64
      L3     320M     640M  20 Unified           3 262144       1             64

    --------------------------------------------------------------
    8. numactl --hardware
    NOTE: a numactl 'node' might or might not correspond to a physical chip.
      available: 2 nodes (0-1)
      node 0 cpus: 0-63
      node 0 size: 515638 MB
      node 0 free: 505962 MB
      node 1 cpus: 64-127
      node 1 size: 516040 MB
      node 1 free: 514731 MB
      node distances:
      node   0   1
        0:  10  21
        1:  21  10

    --------------------------------------------------------------
    9. /proc/meminfo
      MemTotal:       1056440248 kB

    --------------------------------------------------------------
    10. who -r
      run-level 3 Jun 3 17:22

    --------------------------------------------------------------
    11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)
      Default Target  Status
      multi-user      running

    --------------------------------------------------------------
    12. Services, from systemctl list-unit-files
      STATE           UNIT FILES
      enabled         YaST2-Firstboot YaST2-Second-Stage apparmor auditd chronyd cron getty@ haveged irqbalance
                      issue-generator kbdsettings postfix purge-kernels rollback sshd systemd-pstore wicked
                      wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
      enabled-runtime systemd-remount-fs
      disabled        autoyast-initscripts boot-sysctl ca-certificates chrony-wait console-getty debug-shell
                      grub2-once haveged-switch-root issue-add-ssh-keys kexec-load lunmask munge nfs nfs-blkmap
                      rpcbind rpmconfigcheck rsyncd salt-minion serial-getty@ slurmd srp_daemon srp_daemon_port@
                      systemd-boot-check-no-failures systemd-network-generator systemd-sysext
                      systemd-time-wait-sync systemd-timesyncd tuned ypbind
      indirect        wickedd

    --------------------------------------------------------------
    13. Linux kernel boot-time arguments, from /proc/cmdline
      BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
      root=UUID=c3f4a221-5a6d-4f6b-a3ff-d05ce8881757
      splash=silent
      mitigations=auto
      quiet
      security=apparmor

    --------------------------------------------------------------
    14. cpupower frequency-info
      analyzing CPU 0:
```

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Platform Notes (Continued)

```
    current policy: frequency should be within 800 MHz and 3.90 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes


  ------------------------------------------------------------
  15. tuned-adm active
    Current active profile: throughput-performance


  ------------------------------------------------------------
  16. sysctl
    kernel.numa_balancing            1
    kernel.randomize_va_space        2
    vm.compaction_proactiveness      20
    vm.dirty_background_bytes        0
    vm.dirty_background_ratio        10
    vm.dirty_bytes                   0
    vm.dirty_expire_centisecs        3000
    vm.dirty_ratio                   20
    vm.dirty_writeback_centisecs     500
    vm.dirtytime_expire_seconds      43200
    vm.extfrag_threshold             500
    vm.min_unmapped_ratio            1
    vm.nr_hugepages                  0
    vm.nr_hugepages_mempolicy        0
    vm.nr_overcommit_hugepages       0
    vm.swappiness                    10
    vm.watermark_boost_factor        15000
    vm.watermark_scale_factor        10
    vm.zone_reclaim_mode             0


  ------------------------------------------------------------
  17. /sys/kernel/mm/transparent_hugepage
    defrag          always defer defer+madvise [madvise] never
    enabled         [always] madvise never
    hpage_pmd_size  2097152
    shmem_enabled   always within_size advise [never] deny force


  ------------------------------------------------------------
  18. /sys/kernel/mm/transparent_hugepage/khugepaged
    alloc_sleep_millisecs   60000
    defrag                  1
    max_ptes_none           511
    max_ptes_shared         256
    max_ptes_swap           64
    pages_to_scan           4096
    scan_sleep_millisecs    10000


  ------------------------------------------------------------
  19. OS release
    From /etc/*-release /etc/*-version
    os-release openSUSE Leap 15.5


  ------------------------------------------------------------
  20. Disk information
  SPEC is set to: /home/SPECcpu_20231121
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda3       xfs   15T   92G   15T   1% /home
```

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Platform Notes (Continued)

```
    ----------------------------------------------------------
 21. /sys/devices/virtual/dmi/id
     Vendor:         Nettrix
     Product:        R620 G50
     Product Family: Rack
     Serial:         6101810603448188


    ----------------------------------------------------------
 22. dmidecode
   Additional information from dmidecode 3.4 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:
     16x Samsung M321R8GA0PB0-CWMCH 64 GB 2 rank 5600, configured at 4800


    ----------------------------------------------------------
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       American Megatrends International, LLC.
   BIOS Version:      NNH1041261
   BIOS Date:         12/13/2023
   BIOS Revision:     5.32
```

Compiler Version Notes

```
==============================================================================
C             | 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C++, C, Fortran | 607.cactuBSSN_s(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran       | 603.bwaves_s(base, peak) 649.fotonik3d_s(base, peak) 654.roms_s(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran, C    | 621.wrf_s(base, peak) 627.cam4_s(base, peak) 628.pop2_s(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
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Compiler Version Notes (Continued)

```
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
```
icx
```

Fortran benchmarks:
```
ifx
```

Benchmarks using both Fortran and C:
```
ifx icx
```

Benchmarks using Fortran, C, and C++:
```
icpx icx ifx
```

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`

Base Optimization Flags

C benchmarks:
```
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -L/usr/local/jemalloc64-5.0.1/lib
-ljemalloc
```

Fortran benchmarks:
```
-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
```

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Nettrix

R620 G50 (Intel Xeon Platinum 8592V, 2.0 GHz)

SPECspeed®2017_fp_base = 409

SPECspeed®2017_fp_peak = 409

CPU2017 License: 6138
Test Sponsor: Nettrix
Tested by: Nettrix

Test Date: Jun-2024
Hardware Availability: Dec-2023
Software Availability: Jan-2024

Base Optimization Flags (Continued)

Fortran benchmarks (continued):
```
-qopt-mem-layout-trans=4 -fiopenmp -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using both Fortran and C:
```
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using Fortran, C, and C++:
```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Peak Compiler Invocation

C benchmarks:
```
icx
```

Fortran benchmarks:
```
ifx
```

Benchmarks using both Fortran and C:
```
ifx icx
```

Benchmarks using Fortran, C, and C++:
```
icpx icx ifx
```

Peak Portability Flags

```
Same as Base Portability Flags
```

Peak Optimization Flags

C benchmarks:

(Continued on next page)

Nettrix

R620 G50 (Intel Xeon Platinum 8592V, 2.0 GHz)

SPECspeed®2017_fp_base = 409

SPECspeed®2017_fp_peak = 409

CPU2017 License: 6138
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Tested by: Nettrix

Test Date: Jun-2024
Hardware Availability: Dec-2023
Software Availability: Jan-2024

Peak Optimization Flags (Continued)

619.lbm_s: basepeak = yes

638.imagick_s: basepeak = yes

644.nab_s: basepeak = yes

Fortran benchmarks:

603.bwaves_s: `-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp -nostandard-realloc-lhs -align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

649.fotonik3d_s: basepeak = yes

654.roms_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf_s: basepeak = yes

627.cam4_s: `-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int -nostandard-realloc-lhs -align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

628.pop2_s: basepeak = yes

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/Intel-ic2023p2-official-linux64.html
http://www.spec.org/cpu2017/flags/Nettrix-Platform-Settings-V1.3-SPR-revA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.xml
http://www.spec.org/cpu2017/flags/Nettrix-Platform-Settings-V1.3-SPR-revA.xml

SPEC CPU®2017 Floating Point Speed Result

Nettrix

R620 G50 (Intel Xeon Platinum 8592V, 2.0 GHz)

$SPECspeed®2017\_fp\_base = 409$

$SPECspeed®2017\_fp\_peak = 409$

CPU2017 License: 6138
Test Sponsor: Nettrix
Tested by: Nettrix

Test Date: Jun-2024
Hardware Availability: Dec-2023
Software Availability: Jan-2024

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

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