SPEC CPU®2017 Floating Point Rate Result

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xFusion

FusionServer 2288 V8 (Intel Xeon 6745P)

$SPECrate®2017\_fp\_base =$ 1100

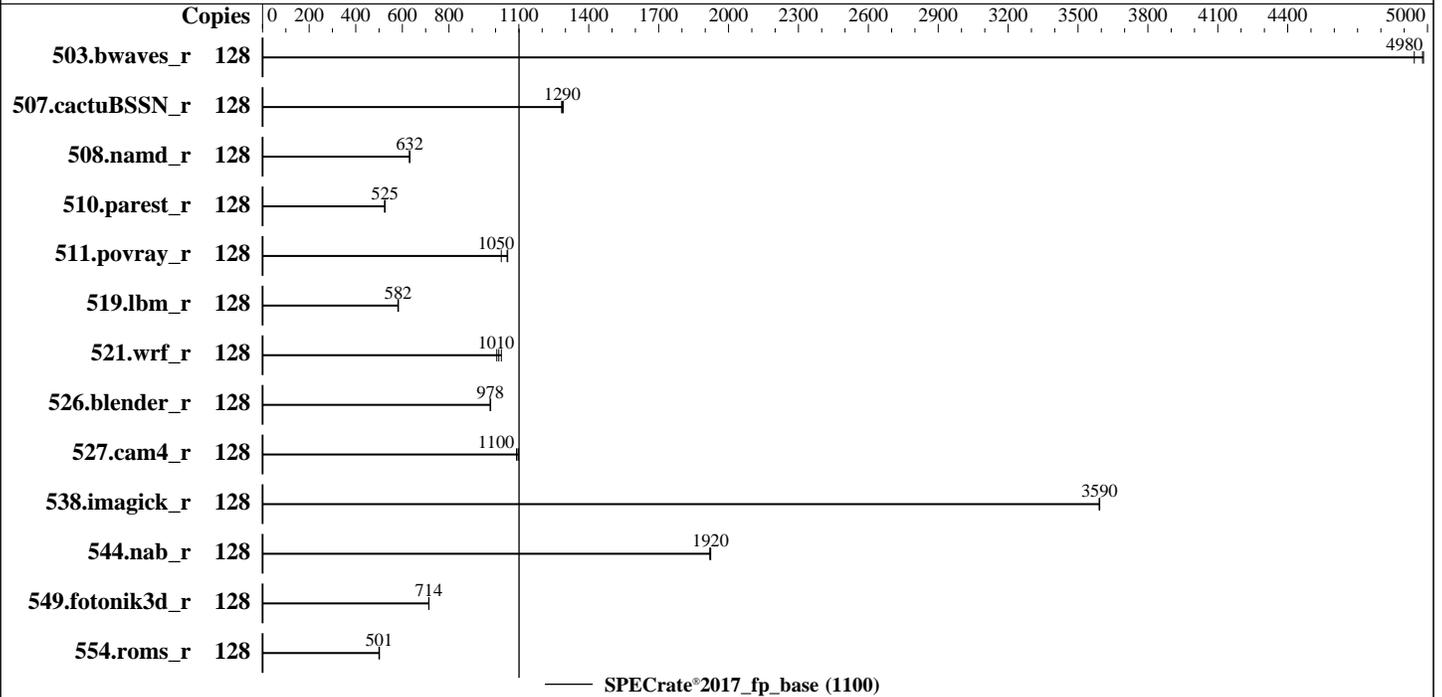$SPECrate®2017\_fp\_peak =$ Not Run

CPU2017 License: 6488
Test Sponsor: xFusion
Tested by: xFusion

Test Date: Dec-2025
Hardware Availability: May-2025
Software Availability: Apr-2024

Benchmark	Copies	Result
503.bwaves_r	128	4980
507.cactuBSSN_r	128	1290
508.namd_r	128	632
510.parest_r	128	525
511.povray_r	128	1050
519.lbm_r	128	582
521.wrf_r	128	1010
526.blender_r	128	978
527.cam4_r	128	1100
538.imagick_r	128	3590
544.nab_r	128	1920
549.fotonik3d_r	128	714
554.roms_r	128	501

SPECrate®2017_fp_base (1100)

Hardware

CPU Name: Intel Xeon 6745P
 Max MHz: 4300
 Nominal: 3100
Enabled: 64 cores, 2 chips, 2 threads/core
Orderable: 1,2 chips
Cache L1: 64 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 336 MB I+D on chip per chip
 Other: None
Memory: 512 GB (16 x 32 GB 2Rx8 PC5-6400B-R)
Storage: 1 x 1.92 TB SATA SSD
Other: CPU Cooling: Air

Software

OS: Red Hat Enterprise Linux 9.4 (Plow)
 5.14.0-427.13.1.el9_4.x86_64
Compiler: C/C++: Version 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2024.1 of Intel Fortran Compiler for Linux;
Parallel: No
Firmware: Version 01.31.01.16 released Nov-2025
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS set to prefer performance at the cost of additional power usage.

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

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Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
503.bwaves_r	128	260	4940	**258**	**4980**	258	4980							
507.cactuBSSN_r	128	126	1290	**126**	**1290**	126	1280							
508.namd_r	128	**193**	**632**	193	630	192	632							
510.parest_r	128	**638**	**525**	637	525	639	524							
511.povray_r	128	**285**	**1050**	284	1050	292	1020							
519.lbm_r	128	232	581	**232**	**582**	231	583							
521.wrf_r	128	285	1010	280	1020	**283**	**1010**							
526.blender_r	128	200	977	**199**	**978**	199	979							
527.cam4_r	128	205	1090	**204**	**1100**	204	1100							
538.imagick_r	128	**88.6**	**3590**	88.6	3590	88.7	3590							
544.nab_r	128	112	1920	**112**	**1920**	112	1920							
549.fotonik3d_r	128	**699**	**714**	699	713	698	714							
554.roms_r	128	406	502	**406**	**501**	407	500							

SPECrate®2017_fp_base =   1100

SPECrate®2017_fp_peak =   Not Run

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 Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
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.
```

(Continued on next page)

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General Notes (Continued)

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

```
BIOS configuration:
Performance Profile Set to Performance
LLC Prefetch Set to Enabled
DCU Streamer Prefetcher Set to Disabled
Latency Optimized Mode Set to Enabled

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost.localdomain Tue Dec 23 23:48:20 2025

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 252 (252-32.el9_4)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. sysctl
16. /sys/kernel/mm/transparent_hugepage
17. /sys/kernel/mm/transparent_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS
------------------------------------------------------------


------------------------------------------------------------
 1. uname -a
   Linux localhost.localdomain 5.14.0-427.13.1.el9_4.x86_64 #1 SMP PREEMPT_DYNAMIC Wed Apr 10 10:29:16 EDT
   2024 x86_64 x86_64 x86_64 GNU/Linux


------------------------------------------------------------
 2. w
   23:48:20 up  2:13,  1 user,  load average: 78.89, 115.37, 122.19
   USER     TTY        LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1       21:35    2:10m  1.03s  0.11s sh run_rate.sh
```

(Continued on next page)

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Platform Notes (Continued)

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


--------------------------------------------------------
4. ulimit -a
  real-time non-blocking time  (microseconds, -R) unlimited
  core file size              (blocks, -c) 0
  data seg size               (kbytes, -d) unlimited
  scheduling priority                 (-e) 0
  file size                   (blocks, -f) unlimited
  pending signals                     (-i) 2059590
  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) 2059590
  virtual memory              (kbytes, -v) unlimited
  file locks                          (-x) unlimited


--------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize 31
 login -- root
 -bash
 sh run_rate.sh
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 -c
   ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=64 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base -o all fprate
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 --configfile
   ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=64 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base --output_format all --nopower --runmode
   rate --tune base --size refrate fprate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.002/templogs/preenv.fprate.002.0.log --lognum 002.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
 $SPEC = /home/cpu2017


--------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6745P
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 173
    stepping        : 1
    microcode       : 0x10003c2
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
    cpu cores       : 32
    siblings        : 64
    2 physical ids (chips)
    128 processors (hardware threads)
    physical id 0: core ids 0-15,64-79
    physical id 1: core ids 0-15,64-79
    physical id 0: apicids 0-31,128-159
    physical id 1: apicids 256-287,384-415
  Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
```

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Platform Notes (Continued)

```
   virtualized systems.  Use the above data carefully.

   -------------------------------------------------------------
   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
  BIOS Vendor ID:                   Intel(R) Corporation
  Model name:                       Intel(R) Xeon(R) 6745P
  BIOS Model name:                  Intel(R) Xeon(R) 6745P
  CPU family:                       6
  Model:                            173
  Thread(s) per core:               2
  Core(s) per socket:               32
  Socket(s):                        2
  Stepping:                         1
  BogoMIPS:                         6200.00
  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 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
                                    cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority
                                    ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid
                                    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
                                    split_lock_detect avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts
                                    hfi vnmi 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 ibt amx_bf16 avx512_fp16 amx_tile
                                    amx_int8 flush_l1d arch_capabilities
  Virtualization:                   VT-x
  L1d cache:                        3 MiB (64 instances)
  L1i cache:                        4 MiB (64 instances)
  L2 cache:                         128 MiB (64 instances)
  L3 cache:                         672 MiB (2 instances)
  NUMA node(s):                     4
  NUMA node0 CPU(s):                0-15,64-79
  NUMA node1 CPU(s):                16-31,80-95
  NUMA node2 CPU(s):                32-47,96-111
  NUMA node3 CPU(s):                48-63,112-127
  Vulnerability Gather data sampling: Not affected
  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 rstack overflow: Not affected
  Vulnerability Spec store bypass:    Mitigation; Speculative Store Bypass disabled via prctl
```

(Continued on next page)

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Platform Notes (Continued)

```
   Vulnerability Spectre v1:          Mitigation; usercopy/swapgs barriers and __user pointer sanitization
   Vulnerability Spectre v2:          Mitigation; Enhanced / Automatic IBRS, IBPB conditional, RSB filling,
                                      PBRSB-eIBRS Not affected
   Vulnerability Srbds:               Not affected
   Vulnerability Tsx async abort:     Not affected

 From lscpu --cache:
     NAME ONE-SIZE ALL-SIZE WAYS TYPE          LEVEL   SETS PHY-LINE COHERENCY-SIZE
     L1d       48K       3M   12 Data              1     64        1             64
     L1i       64K       4M   16 Instruction       1     64        1             64
     L2         2M     128M   16 Unified           2   2048        1             64
     L3       336M     672M   16 Unified           3 344064        1             64


  ------------------------------------------------------------
  8. numactl --hardware
  NOTE: a numactl 'node' might or might not correspond to a physical chip.
    available: 4 nodes (0-3)
    node 0 cpus: 0-15,64-79
    node 0 size: 127937 MB
    node 0 free: 126949 MB
    node 1 cpus: 16-31,80-95
    node 1 size: 128974 MB
    node 1 free: 128165 MB
    node 2 cpus: 32-47,96-111
    node 2 size: 129015 MB
    node 2 free: 128129 MB
    node 3 cpus: 48-63,112-127
    node 3 size: 129010 MB
    node 3 free: 128072 MB
    node distances:
    node   0   1   2   3
      0:  10  12  21  21
      1:  12  10  21  21
      2:  21  21  10  12
      3:  21  21  12  10


  ------------------------------------------------------------
  9. /proc/meminfo
     MemTotal:       527295612 kB


  ------------------------------------------------------------
  10. who -r
     run-level 3 Dec 23 21:34


  ------------------------------------------------------------
  11. Systemd service manager version: systemd 252 (252-32.el9_4)
     Default Target  Status
     multi-user      running


  ------------------------------------------------------------
  12. Services, from systemctl list-unit-files
     STATE           UNIT FILES
     enabled         NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chronyd crond
                     dbus-broker getty@ insights-client-boot irqbalance kdump low-memory-monitor mdmonitor
                     microcode nis-domainname nvmefc-boot-connections rhsmcertd rsyslog rtkit-daemon
                     selinux-autorelabel-mark sshd sssd sysstat systemd-boot-update systemd-network-generator
                     udisks2 upower
     enabled-runtime systemd-remount-fs
     disabled        canberra-system-bootup canberra-system-shutdown canberra-system-shutdown-reboot
                     chrony-wait chronyd-restricted console-getty cpupower debug-shell dnf-system-upgrade
```

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Platform Notes (Continued)

```
                         firewalld kvm_stat man-db-restart-cache-update nftables nvmf-autoconnect pesign rdisc rhcd
                         rhsm rhsm-facts rpmdb-rebuild selinux-check-proper-disable serial-getty@ sshd-keygen@
                         systemd-boot-check-no-failures systemd-pstore systemd-sysext
      indirect           sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo systemd-sysupdate
                         systemd-sysupdate-reboot

    ----------------------------------------------------------------------
    13. Linux kernel boot-time arguments, from /proc/cmdline
      BOOT_IMAGE=(hd0,gpt5)/boot/vmlinuz-5.14.0-427.13.1.el9_4.x86_64
      root=UUID=3b9dabec-6193-4125-b23e-5c71d8c2beb1
      ro
      crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M
      resume=UUID=e0aad597-5097-49cf-ac1a-3ae4c605b8e2

    ----------------------------------------------------------------------
    14. cpupower frequency-info
      analyzing CPU 9:
        Unable to determine current policy
        boost state support:
          Supported: yes
          Active: yes

    ----------------------------------------------------------------------
    15. 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                      60
      vm.watermark_boost_factor          15000
      vm.watermark_scale_factor          10
      vm.zone_reclaim_mode               0

    ----------------------------------------------------------------------
    16. /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

    ----------------------------------------------------------------------
    17. /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
```

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Platform Notes (Continued)

```
      -------------------------------------------------------------
      18. OS release
        From /etc/*-release /etc/*-version
        os-release     Red Hat Enterprise Linux 9.4 (Plow)
        redhat-release Red Hat Enterprise Linux release 9.4 (Plow)
        system-release Red Hat Enterprise Linux release 9.4 (Plow)


      -------------------------------------------------------------
      19. Disk information
      SPEC is set to: /home/cpu2017
        Filesystem     Type  Size  Used Avail Use% Mounted on
        /dev/sda5      xfs   497G   29G  468G   6% /


      -------------------------------------------------------------
      20. /sys/devices/virtual/dmi/id
          Vendor:        XFUSION
          Product:       2288 V8
          Product Family: Birch Stream


      -------------------------------------------------------------
      21. dmidecode
        Additional information from dmidecode 3.5 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 M321R4GA3EB2-CCPWF 32 GB 2 rank 6400



      -------------------------------------------------------------
      22. BIOS
      (This section combines info from /sys/devices and dmidecode.)
        BIOS Vendor:      XFUSION
        BIOS Version:     01.31.01.16
        BIOS Date:        11/13/2025
        BIOS Revision:    1.16
```

Compiler Version Notes

```
==============================================================================================
C                | 519.lbm_r(base) 538.imagick_r(base) 544.nab_r(base)
----------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------


==============================================================================================
C++              | 508.namd_r(base) 510.parest_r(base)
----------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------


==============================================================================================
C++, C           | 511.povray_r(base) 526.blender_r(base)
----------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
```

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Compiler Version Notes (Continued)

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Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
-------------------------------------------------------------------------------------------------


==================================================================================================
C++, C, Fortran | 507.cactuBSSN_r(base)
-------------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
-------------------------------------------------------------------------------------------------


==================================================================================================
Fortran         | 503.bwaves_r(base) 549.fotonik3d_r(base) 554.roms_r(base)
-------------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
-------------------------------------------------------------------------------------------------


==================================================================================================
Fortran, C      | 521.wrf_r(base) 527.cam4_r(base)
-------------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
-------------------------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Benchmarks using both Fortran and C:
`ifx icx`

Benchmarks using both C and C++:
`icpx icx`

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

SPEC CPU®2017 Floating Point Rate Result

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xFusion

FusionServer 2288 V8 (Intel Xeon 6745P)

SPECrate®2017_fp_base = 1100

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 6488
Test Sponsor: xFusion
Tested by: xFusion

Test Date: Dec-2025
Hardware Availability: May-2025
Software Availability: Apr-2024

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:
```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

C++ benchmarks:
```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

Fortran benchmarks:
```
-w -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both Fortran and C:
```
-w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both C and C++:
```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
```

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

xFusion

FusionServer 2288 V8 (Intel Xeon 6745P)

SPECrate®2017_fp_base = 1100

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 6488
Test Sponsor: xFusion
Tested by: xFusion

Test Date: Dec-2025
Hardware Availability: May-2025
Software Availability: Apr-2024

Base Optimization Flags (Continued)

Benchmarks using both C and C++ (continued):
```
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using Fortran, C, and C++:
```
-w -m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html
http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-GNR-V1.7.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml
http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-GNR-V1.7.xml

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

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