SPEC CPU®2017 Floating Point Speed Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

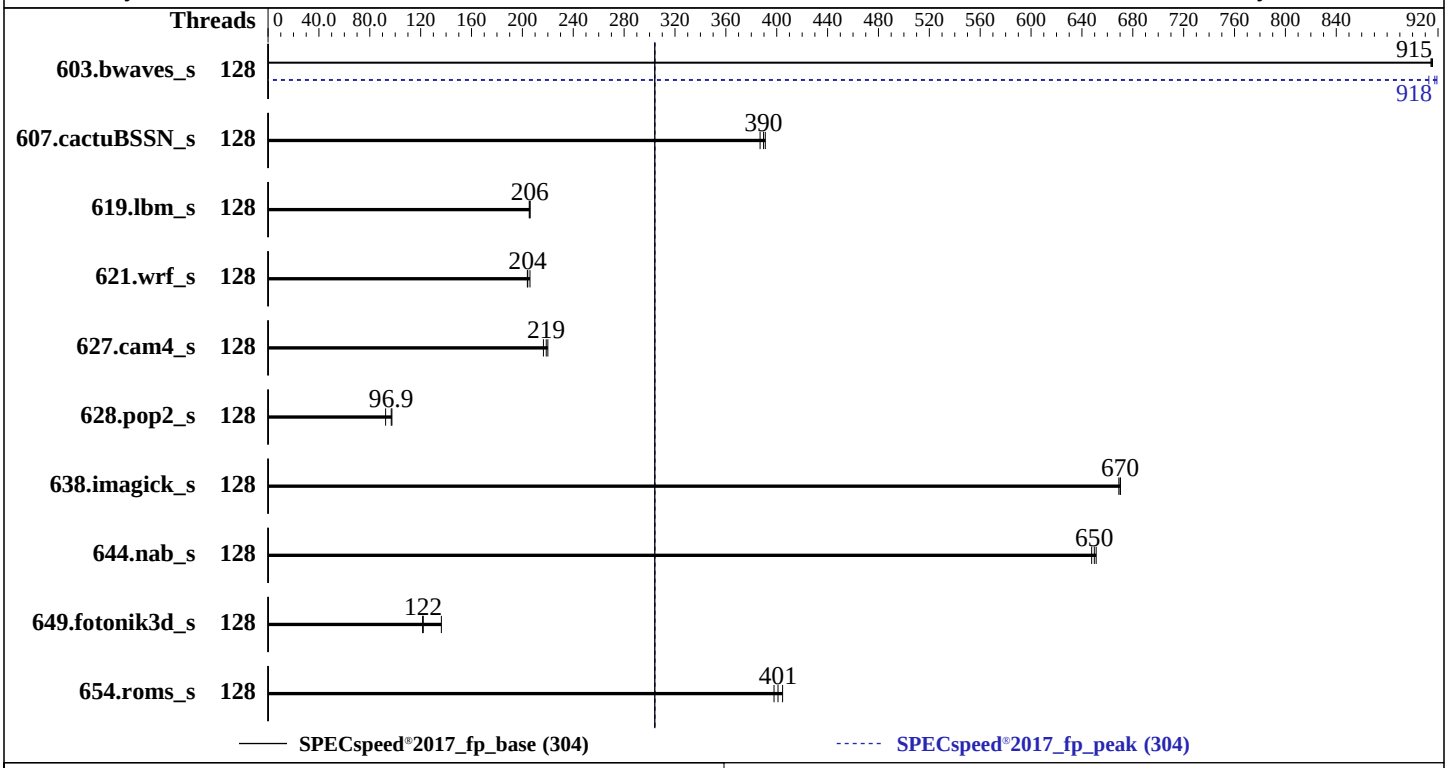
ProLiant Compute DL320 Gen12
(2.50 GHz, Intel Xeon 6774P)

SPECspeed®2017_fp_base = 304

SPECspeed®2017_fp_peak = 304

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Apr-2026
Hardware Availability: May-2026
Software Availability: Dec-2025



Hardware

CPU Name: Intel Xeon 6774P
Max MHz: 3900
Nominal: 2500
Enabled: 64 cores, 1 chip, 2 threads/core
Orderable: 1 Chip
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: 256 GB (8 x 32 GB 2Rx8 PC5-6400B-R)
Storage: 1 x 1.5 TB NVMe SSD
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP7
Kernel 6.4.0-150700.53.6-default
Compiler: C/C++: Version 2025.2 of Intel oneAPI DPC++/C++ Compiler for Linux;
Fortran: Version 2025.2 of Intel Fortran Compiler for Linux;
Parallel: Yes
Firmware: HPE BIOS Version v1.62 02/06/2026 released Feb-2026
File System: btrfs
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 is set to prefer performance at the cost of additional power usage

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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	64.4	916	64.5	915	**64.5**	**915**	128	**64.3**	**918**	64.2	919	64.6	913
607.cactuBSSN_s	128	**42.8**	**390**	42.6	391	43.1	387	128	**42.8**	**390**	42.6	391	43.1	387
619.lbm_s	128	25.5	205	**25.4**	**206**	25.4	206	128	25.5	205	**25.4**	**206**	25.4	206
621.wrf_s	128	64.2	206	64.9	204	**64.8**	**204**	128	64.2	206	64.9	204	**64.8**	**204**
627.cam4_s	128	**40.5**	**219**	40.3	220	40.9	217	128	**40.5**	**219**	40.3	220	40.9	217
628.pop2_s	128	122	97.4	128	92.5	**123**	**96.9**	128	122	97.4	128	92.5	**123**	**96.9**
638.imagick_s	128	21.6	669	**21.5**	**670**	21.5	670	128	21.6	669	**21.5**	**670**	21.5	670
644.nab_s	128	27.0	648	26.8	651	**26.9**	**650**	128	27.0	648	26.8	651	**26.9**	**650**
649.fotonik3d_s	128	75.0	122	**74.7**	**122**	66.9	136	128	75.0	122	**74.7**	**122**	66.9	136
654.roms_s	128	**39.3**	**401**	38.9	405	39.6	398	128	**39.3**	**401**	38.9	405	39.6	398

SPECspeed®2017_fp_base = **304**
SPECspeed®2017_fp_peak = **304**

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"
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
tuned-adm profile was set to throughput-performance using 'tuned-adm profile throughput-performance'
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/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.
 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: Parameters are selected in the order shown below
Workload Profile set to General Peak Frequency Compute
Memory Patrol Scrubbing set to Disabled
Thermal Configuration set to Maximum Cooling
Enhanced Processor Performance Profile set to Aggressive
Sub-NUMA Clustering (SNC) set to Enabled
Minimum Processor Idle Power Core C-State set to C6 as ACPI C3 State
Last Level Cache (LLC) Prefetch set to Enabled
Workload Profile set to Custom
 Minimum Processor Idle Power Package C-State set to No Package State

 Sysinfo program /home/cpu2017/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on hqmorphpub1 Fri Apr 17 05:51:19 2026

 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 254 (254.27+suse.167.g130293e510)
 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 hqmorphpub1 6.4.0-150700.53.6-default #1 SMP PREEMPT_DYNAMIC Tue Jul  1 14:54:47 UTC 2025 (8ab7501)
   x86_64 x86_64 x86_64 GNU/Linux

 ------------------------------------------------------------
 2. w
    05:51:19 up  4:40,  3 users,  load average: 0.08, 0.98, 2.13
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT

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

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

(Continued on next page)

Platform Notes (Continued)

```
4. ulimit -a
  core file size          (blocks, -c) unlimited
  data seg size           (kbytes, -d) unlimited
  scheduling priority             (-e) 0
  file size               (blocks, -f) unlimited
  pending signals                 (-i) 1030461
  max locked memory       (kbytes, -l) 8192
  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) 1030461
  virtual memory          (kbytes, -v) unlimited
  file locks                      (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: root [priv]
 sshd: root@notty
 bash -c cd $SPEC/ && $SPEC/speed-baseline.sh
 runcpu --nobuild --action validate --define default-platform-flags -c
   ic2025.2-lin-sapphirerapids-speed-20250605.cfg --reportable --define cores=128 --tune base,peak -o all
   --define drop_caches fpspeed
 runcpu --nobuild --action validate --define default-platform-flags --configfile
   ic2025.2-lin-sapphirerapids-speed-20250605.cfg --reportable --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/CPU2017.002/templogs/preenv.fpspeed.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) 6774P
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 173
    stepping        : 1
    microcode       : 0xa000133
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
    cpu cores       : 64
    siblings        : 128
    1 physical ids (chips)
    128 processors (hardware threads)
    physical id 0: core ids 0-31,64-95
    physical id 0: apicids 0-63,128-191
  Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
  virtualized systems.  Use the above data carefully.

------------------------------------------------------------
7. lscpu

From lscpu from util-linux 2.40.4:
  Architecture:                         x86_64
  CPU op-mode(s):                       32-bit, 64-bit
```

(Continued on next page)

Platform Notes (Continued)

```
   Address sizes:                       46 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) 6774P
   CPU family:                          6
   Model:                               173
   Thread(s) per core:                  2
   Core(s) per socket:                  64
   Socket(s):                           1
   Stepping:                            1
   BogoMIPS:                            5000.00
   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 intel_ppin
                                        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 user_shstk 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:                            336 MiB (1 instance)
   NUMA node(s):                        2
   NUMA node0 CPU(s):                   0-31,64-95
   NUMA node1 CPU(s):                   32-63,96-127
   Vulnerability Gather data sampling:  Not affected
   Vulnerability Indirect target selection: 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 Reg file data sampling: Not affected
   Vulnerability Retbleed:              Not affected
   Vulnerability Spec rstack overflow:  Not affected
   Vulnerability Spec store bypass:     Mitigation; Speculative Store Bypass disabled via prctl
   Vulnerability Spectre v1:            Mitigation; usercopy/swapgs barriers and __user pointer
                                        sanitization
   Vulnerability Spectre v2:            Mitigation; Enhanced / Automatic IBRS; IBPB conditional;
                                        PBRSB-eIBRS Not affected; BHI BHI_DIS_S
   Vulnerability Srbds:                 Not affected
   Vulnerability Tsx async abort:       Not affected

 From lscpu --cache:
```

(Continued on next page)

Platform Notes (Continued)

```
      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     336M   16 Unified         3 344064        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: 0-31,64-95
  node 0 size: 128681 MB
  node 0 free: 121539 MB
  node 1 cpus: 32-63,96-127
  node 1 size: 128966 MB
  node 1 free: 127025 MB
  node distances:
  node   0   1
    0:  10  12
    1:  12  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       263831944 kB

------------------------------------------------------------
10. who -r
  run-level 3 Apr 17 01:11

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.27+suse.167.g130293e510)
  Default Target  Status
  multi-user      running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          ModemManager YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd
                   bluetooth cron display-manager getty@ irqbalance issue-generator kbdsettings klog
                   lvm2-monitor nscd nvmefc-boot-connections nvmf-autoconnect postfix purge-kernels rollback
                   rsyslog smartd sshd systemd-pstore tuned wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6
                   wickedd-nanny wpa_supplicant
  enabled-runtime  systemd-remount-fs
  disabled         NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon autofs
                   autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates
                   chrony-wait chronyd console-getty cups cups-browsed debug-shell dnsmasq ebtables
                   exchange-bmc-os-info firewalld fsidd gnome-remote-desktop gpm grub2-once haveged
                   hwloc-dump-hwdata ipmi ipmievd issue-add-ssh-keys kexec-load lunmask man-db-create
                   multipathd nfs nfs-blkmap nmb openvpn@ ostree-remount ostree-state-overlay@ rpcbind
                   rpmconfigcheck rsyncd rtkit-daemon samba-bgqd serial-getty@ smartd_generate_opts smb snmpd
                   snmptrapd speech-dispatcherd systemd-boot-check-no-failures systemd-confext
                   systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd udisks2
                   update-system-flatpaks upower vncserver@ wpa_supplicant@
  indirect         pcscd saned@ systemd-userdbd wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.53.6-default
  root=UUID=9c4fd0fb-bb42-489c-bd93-1c9f83bb28af
  splash=silent
```

(Continued on next page)

Platform Notes (Continued)

```
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 49:
    Unable to determine current policy
    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                    40
  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 SUSE Linux Enterprise Server 15 SP7
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
20. Disk information
SPEC is set to: /home/cpu2017
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/nvme0n1p2 btrfs  1.5T  158G  1.3T  11% /home

------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
    Vendor:         HPE
    Product:        HPE ProLiant Compute DL320 Gen12
    Product Family: ProLiant
    Serial:         S84PQDRU0T

------------------------------------------------------------
22. dmidecode
  Additional information from dmidecode 3.6 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:
    8x Hynix HMCG88AHBRA471N 32 GB 2 rank 6400


------------------------------------------------------------
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       HPE
   BIOS Version:      1.62
   BIOS Date:         02/06/2026
   BIOS Revision:     1.62
   Firmware Revision: 1.19
```

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 2025.2.0 Build 20250605
Copyright (C) 1985-2025 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 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 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 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
--------------------------------------------------------------------------------------------------------------
```

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Compiler Version Notes (Continued)

```
==============================================================================================================
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 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 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 -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512

(Continued on next page)

Base Optimization Flags (Continued)

C benchmarks (continued):
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsapphirerapids -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

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 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-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 -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-mprefer-vector-width=512 -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:

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 -xsapphirerapids -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: `basepeak = yes`

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/HPE-Platform-Flags-Intel-GNR-rev1.6.html`
`http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-GNR-rev1.6.xml`
`http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.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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