



SPEC CPU®2017 Floating Point Speed Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant ML350 Gen11

(2.00 GHz, Intel Xeon Silver 4410Y)

SPECspeed®2017_fp_base = 181

SPECspeed®2017_fp_peak = 181

CPU2017 License: 3

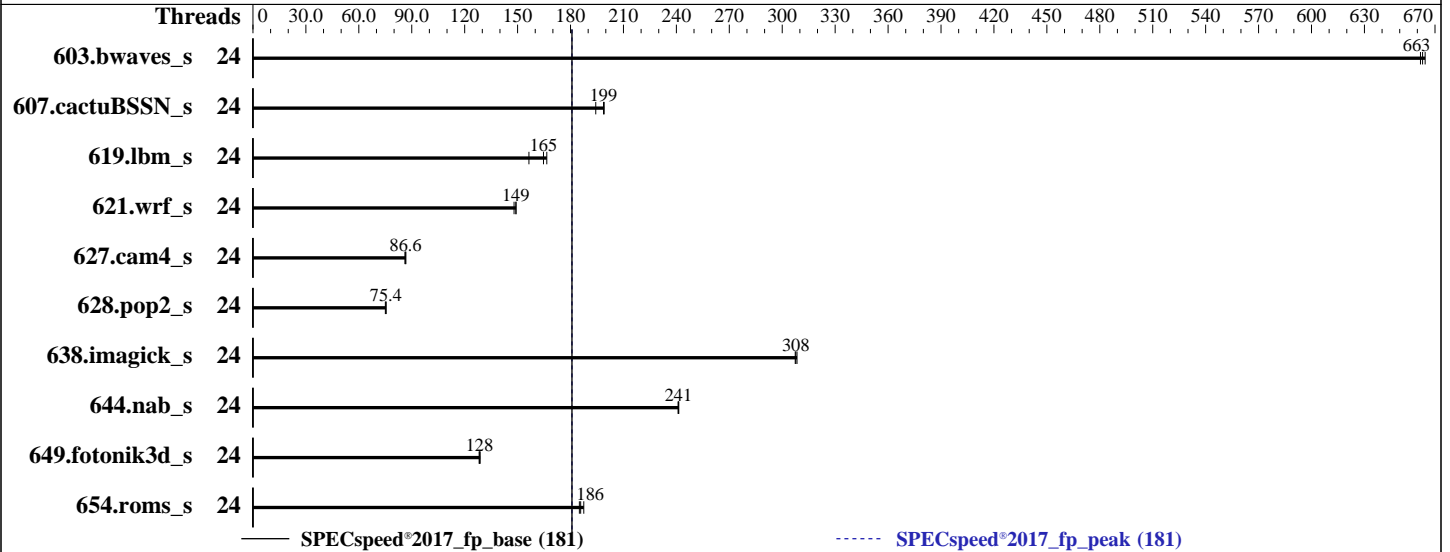
Test Sponsor: HPE

Tested by: HPE

Test Date: May-2023

Hardware Availability: Mar-2023

Software Availability: Mar-2023



Hardware

CPU Name: Intel Xeon Silver 4410Y
 Max MHz: 3900
 Nominal: 2000
 Enabled: 24 cores, 2 chips
 Orderable: 1, 2 chip(s)
 Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 30 MB I+D on chip per chip
 Other: None
 Memory: 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R, running at 4000)
 Storage: 1 x 480 GB SATA SSD
 Other: None

Software

OS: Red Hat Enterprise Linux 9.0 (Plow)
 Kernel 5.14.0-70.13.1.el9_0.x86_64
 Compiler: C/C++: Version 2023.0 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2023.0 of Intel Fortran Compiler for Linux;
 C/C++: Version 2023.0 of Intel C/C++ Compiler for Linux
 Parallel: Yes
 Firmware: HPE BIOS Version v1.30 03/01/2023 released Mar-2023
 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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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	24	89.2	662	88.8	664	89.0	663	24	89.2	662	88.8	664	89.0	663
607.cactuBSSN_s	24	83.7	199	85.8	194	83.9	199	24	83.7	199	85.8	194	83.9	199
619.lbm_s	24	33.5	156	31.8	165	31.4	167	24	33.5	156	31.8	165	31.4	167
621.wrf_s	24	89.4	148	88.8	149	88.7	149	24	89.4	148	88.8	149	88.7	149
627.cam4_s	24	102	86.6	102	86.6	103	86.1	24	102	86.6	102	86.6	103	86.1
628.pop2_s	24	157	75.4	158	75.0	157	75.4	24	157	75.4	158	75.0	157	75.4
638.imagick_s	24	46.9	307	46.9	308	46.8	308	24	46.9	307	46.9	308	46.8	308
644.nab_s	24	72.4	241	72.4	241	72.5	241	24	72.4	241	72.4	241	72.5	241
649.fotonik3d_s	24	71.1	128	71.0	128	70.8	129	24	71.1	128	71.0	128	70.8	129
654.roms_s	24	84.0	188	85.1	185	84.8	186	24	84.0	188	85.1	185	84.8	186

SPECSpeed®2017_fp_base = **181**

SPECSpeed®2017_fp_peak = **181**

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
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
IRQ balance service was stopped using "systemctl stop irqbalance.service"
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
```



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Platform Notes

The system ROM used for this result contains Intel microcode version 0x2b000161 for the Intel Xeon Silver 4410Y processor.

BIOS Configuration:

Workload Profile set to General Peak Frequency Compute
Thermal Configuration set to Maximum Cooling
Intel Hyper-Threading set to Disabled
Memory Patrol Scrubbing set to Disabled
Last Level Cache (LLC) Prefetch set to Enabled
Last Level Cache (LLC) Dead Line Allocation set to Disabled
Enhanced Processor Performance Profile set to Aggressive
Dead Block Predictor set to Enabled
Workload Profile set to Custom
Intel DMI Link Frequency set to Gen2 Speed
Adjacent Sector Prefetch set to Disabled
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 localhost.localdomain Wed May 24 12:13:57 2023

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

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1. uname -a
2. w
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9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 250 (250-6.el9_0)
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 5.14.0-70.13.1.el9_0.x86_64 #1 SMP PREEMPT Thu Apr 14 12:42:38 EDT 2022 x86_64
x86_64 x86_64 GNU/Linux
```

```
2. w
12:13:57 up 1:03, 0 users, load average: 0.00, 0.00, 0.00
USER      TTY      LOGIN@  IDLE   JCPU   PCPU   WHAT
```

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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) 2062865
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) 2062865
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited

```

5. sysinfo process ancestry

```

/usr/lib/systemd/systemd --switched-root --system --deserialize 30
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: root [priv]
sshd: root@notty
bash -c cd $SPEC/ && $SPEC/SPR_fpspeed.sh
runcpu --nobuild --action validate --define default-platform-flags -c
  ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=24 --tune base,peak -o all --define
  drop_caches fpspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
  ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=24 --tune base,peak --output_format all
  --define drop_caches --nopower --runmode speed --tune base:peak --size refspeed fpspeed --nopreenv
  --note-preenv --logfile $SPEC/tmp/CPU2017.001/templogs/preenv.fpspeed.001.0.log --lognum 001.0
  --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017

```

6. /proc/cpuinfo

```

model name      : Intel(R) Xeon(R) Silver 4410Y
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping       : 7
microcode      : 0x2b0001b0
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores      : 12
siblings       : 12
2 physical ids (chips)
24 processors (hardware threads)
physical id 0: core ids 0-11
physical id 1: core ids 0-11
physical id 0: apicids 0,2,4,6,8,10,12,14,16,18,20,22
physical id 1: apicids 128,130,132,134,136,138,140,142,144,146,148,150
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:         46 bits physical, 57 bits virtual
Byte Order:            Little Endian
CPU(s):                24
On-line CPU(s) list:   0-23
Vendor ID:             GenuineIntel
BIOS Vendor ID:       Intel(R) Corporation
Model name:            Intel(R) Xeon(R) Silver 4410Y
BIOS Model name:      Intel(R) Xeon(R) Silver 4410Y
CPU family:            6
Model:                 143
Thread(s) per core:    1
Core(s) per socket:    12
Socket(s):             2
Stepping:              7
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 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
                        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_lld arch_capabilities
Virtualization:        VT-x
L1d cache:             1.1 MiB (24 instances)
L1i cache:             768 KiB (24 instances)
L2 cache:              48 MiB (24 instances)
L3 cache:              60 MiB (2 instances)
NUMA node(s):         2
NUMA node0 CPU(s):    0-5,12-17
NUMA node1 CPU(s):    6-11,18-23
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:    Not affected
Vulnerability Mds:     Not affected
Vulnerability Meltdown: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbds:   Not affected
Vulnerability Tsx async abort: Not affected

```

Virtualization: VT-x

```

L1d cache:             1.1 MiB (24 instances)
L1i cache:             768 KiB (24 instances)
L2 cache:              48 MiB (24 instances)
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```

```

NUMA node(s):         2
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Vulnerability Itlb multihit: Not affected
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Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
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	1.1M	12	Data	1	64	1	64

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Platform Notes (Continued)

L1i	32K	768K	8 Instruction	1	64	1	64
L2	2M	48M	16 Unified	2	2048	1	64
L3	30M	60M	15 Unified	3	32768	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: 0-5,12-17
node 0 size: 257758 MB
node 0 free: 257020 MB
node 1 cpus: 6-11,18-23
node 1 size: 257997 MB
node 1 free: 257409 MB
node distances:
node  0  1
  0: 10  20
  1: 20  10

```

9. /proc/meminfo

MemTotal: 528134408 kB

10. who -r

run-level 3 May 24 11:11

11. Systemd service manager version: systemd 250 (250-6.el9_0)

```

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 firewalld getty@ irqbalance iscsi iscsi-onboot kdump libstoragemgmt
           lvm2-monitor mdmonitor microcode multipathd nis-domainname rhsmcertd rpcbind rsyslog
           selinux-autorelabel-mark sshd sssd sysstat systemd-network-generator udisks2 upower
           virtqemud
enabled-runtime  systemd-remount-fs
disabled        blk-availability brltty canberra-system-bootup canberra-system-shutdown
           canberra-system-shutdown-reboot chrony-wait console-getty cpupower debug-shell dnsmasq
           gssproxy httpd httpd@ hwloc-dump-hwdata ipa-custodia iscsid iscsiuiio kvm_stat
           libvirt-guests libvirtd man-db-restart-cache-update ndctl-monitor nfs-blkmap nfs-server
           nftables nmb numad pmcd pmfind pmie pmie_farm pmlogger pmlogger_farm pmproxy radiusd rdisc
           rhsm rhsm-facts rpmdb-rebuild saslauthd serial-getty@ smb speech-dispatcherd sshd-keygen@
           systemd-boot-check-no-failures systemd-nspawn@ systemd-pstore systemd-sysextr virtnetworkd
           virtproxyd virtsecret d virtstoraged winbind
indirect      pcsd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo virtlockd
           virtlogd

```

13. Linux kernel boot-time arguments, from /proc/cmdline

```

BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-70.13.1.el9_0.x86_64
root=/dev/mapper/rhel-root
ro
resume=/dev/mapper/rhel-swap
rd.lvm.lv=rhel/root
rd.lvm.lv=rhel/swap

```

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Platform Notes (Continued)

```

-----
14. cpupower frequency-info
analyzing CPU 0:
  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+madvice [madvice] never
enabled         [always] madvice 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

```

```

-----
18. OS release
From /etc/*-release /etc/*-version
os-release      Red Hat Enterprise Linux 9.0 (Plow)
redhat-release  Red Hat Enterprise Linux release 9.0 (Plow)
system-release  Red Hat Enterprise Linux release 9.0 (Plow)

```

```

-----
19. Disk information
SPEC is set to: /home/cpu2017
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs   372G  197G  175G  53% /home

```

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Platform Notes (Continued)

```

-----
20. /sys/devices/virtual/dmi/id
Vendor:           HPE
Product:          ProLiant ML350 Gen11
Product Family:  ProLiant
Serial:           CNX20800P4
-----

```

```

-----
21. dmidecode
Additional information from dmidecode 3.3 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:
 3x Hynix HMC88AEBRA168N 32 GB 2 rank 4800, configured at 4000
 9x Hynix HMC88MEBRA113N 32 GB 2 rank 4800, configured at 4000
 4x Hynix HMC88MEBRA115N 32 GB 2 rank 4800, configured at 4000
-----

```

```

-----
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
 BIOS Vendor:      HPE
 BIOS Version:     1.30
 BIOS Date:        03/01/2023
 BIOS Revision:    1.30
 Firmware Revision: 1.20
-----

```

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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
-----

```

```

=====
Fortran, C | 621.wrf_s(base, peak) 627.cam4_s(base, peak) 628.pop2_s(base, peak)
-----

```

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Software Availability: Mar-2023

Compiler Version Notes (Continued)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201

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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201

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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:

-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

-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

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SPEC CPU®2017 Floating Point Speed Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant ML350 Gen11

(2.00 GHz, Intel Xeon Silver 4410Y)

SPECspeed®2017_fp_base = 181

SPECspeed®2017_fp_peak = 181

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: May-2023

Hardware Availability: Mar-2023

Software Availability: Mar-2023

Base Optimization Flags (Continued)

Fortran benchmarks:

```
-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:

```
-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++:

```
-m64 -std=c++14 -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



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ProLiant ML350 Gen11

(2.00 GHz, Intel Xeon Silver 4410Y)

SPECspeed®2017_fp_base = 181

SPECspeed®2017_fp_peak = 181

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: May-2023

Hardware Availability: Mar-2023

Software Availability: Mar-2023

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: basepeak = yes

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-SPR-rev1.2.html>

<http://www.spec.org/cpu2017/flags/Intel-ic2023-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-SPR-rev1.2.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.xml>

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