SPEC CPU®2017 Integer Speed Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)
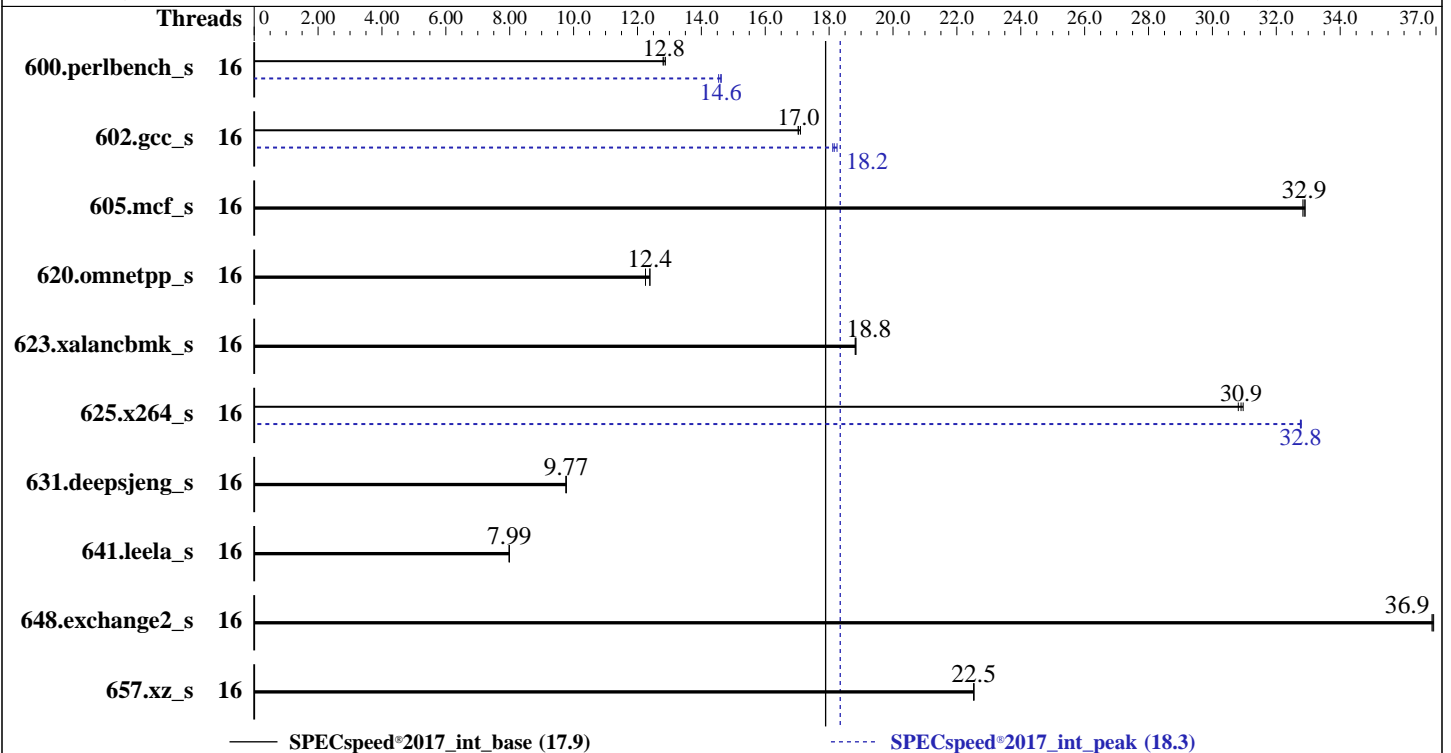
ProLiant ML30 Gen11
(2.70 GHz, Intel Xeon 6353P)

$SPECspeed®2017\_int\_base = 17.9$

$SPECspeed®2017\_int\_peak = 18.3$

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Feb-2025

Hardware Availability: Mar-2025

Software Availability: Jun-2024

Threads / results chart:

Benchmark	Threads	base	peak
600.perlbench_s	16	12.8	14.6
602.gcc_s	16	17.0	18.2
605.mcf_s	16	32.9	
620.omnetpp_s	16	12.4	
623.xalancbmk_s	16	18.8	
625.x264_s	16	30.9	32.8
631.deepsjeng_s	16	9.77	
641.leela_s	16	7.99	
648.exchange2_s	16	36.9	
657.xz_s	16	22.5	

SPECspeed®2017_int_base (17.9)   SPECspeed®2017_int_peak (18.3)

Hardware

CPU Name: Intel Xeon 6353P
 Max MHz: 5400
 Nominal: 2700
Enabled: 8 cores, 1 chip, 2 threads/core
Orderable: 1 chip
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 24 MB I+D on chip per chip
 Other: None
Memory: 64 GB (2 x 32 GB 2Rx8 PC5-5600B-E,
 running at 4400 , orderable using
 HPE part# P64339-B21)
Storage: 1 x 480 GB SATA SSD
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP6
 Kernel 6.4.0-150600.21-default
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: Yes
Firmware: HPE BIOS Version v2.10 12/06/2024 released
 Dec-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 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
600.perlbench_s	16	**138**	**12.8**	138	12.9	139	12.8	16	122	14.5	121	14.6	**121**	**14.6**
602.gcc_s	16	233	17.1	234	17.0	**234**	**17.0**	16	**219**	**18.2**	220	18.1	218	18.2
605.mcf_s	16	144	32.8	143	32.9	**144**	**32.9**	16	144	32.8	143	32.9	**144**	**32.9**
620.omnetpp_s	16	133	12.3	**132**	**12.4**	132	12.4	16	133	12.3	**132**	**12.4**	132	12.4
623.xalancbmk_s	16	75.2	18.8	75.3	18.8	**75.2**	**18.8**	16	75.2	18.8	75.3	18.8	**75.2**	**18.8**
625.x264_s	16	**57.1**	**30.9**	57.0	31.0	57.3	30.8	16	53.9	32.8	53.8	32.8	**53.8**	**32.8**
631.deepsjeng_s	16	147	9.76	**147**	**9.77**	147	9.77	16	147	9.76	**147**	**9.77**	147	9.77
641.leela_s	16	214	7.99	214	7.98	**214**	**7.99**	16	214	7.99	214	7.98	**214**	**7.99**
648.exchange2_s	16	**79.7**	**36.9**	79.7	36.9	79.6	36.9	16	**79.7**	**36.9**	79.7	36.9	79.6	36.9
657.xz_s	16	274	22.5	**274**	**22.5**	274	22.5	16	274	22.5	**274**	**22.5**	274	22.5
SPECspeed®2017_int_base =		**17.9**												
SPECspeed®2017_int_peak =		**18.3**												

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
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
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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CPU2017 License:	3	**Test Date:**	Feb-2025
Test Sponsor:	HPE	**Hardware Availability:**	Mar-2025
Tested by:	HPE	**Software Availability:**	Jun-2024

Platform Notes

```
 BIOS Configuration:
  Workload Profile set to General Peak Frequency Compute
  Thermal Configuration set to Maximum Cooling
  Enhanced Processor Performance Profile set to Enabled
  Workload Profile set to Custom
  Power Regulator set to Dynamic Power Savings Mode


  Sysinfo program /home/cpu2017/bin/sysinfo
  Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
  running on localhost Wed Feb 19 23:02:30 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 254 (254.10+suse.84.ge8d77af424)
  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 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09)
    x86_64 x86_64 x86_64 GNU/Linux


  ------------------------------------------------------------
  2. w
     23:02:30 up 2 min,  3 users,  load average: 0.08, 0.04, 0.01
    USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT


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


  ------------------------------------------------------------
  4. ulimit -a
    core file size          (blocks, -c) unlimited
    data seg size           (kbytes, -d) unlimited
    scheduling priority             (-e) 0
    file size               (blocks, -f) unlimited
```

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Platform Notes (Continued)

```
  pending signals             (-i) 256709
  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) 256709
  virtual memory         (kbytes, -v) unlimited
  file locks                  (-x) unlimited


  -----------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=31
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: root [priv]
 sshd: root@notty
 bash -c cd $SPEC/ && $SPEC/intspeed.sh
 runcpu --nobuild --action validate --define default-platform-flags -c
   ic2024.1-lin-core-avx2-speed-20240308.cfg --define cores=16 --tune base,peak -o all --define
   intspeedaffinity --define drop_caches intspeed
 runcpu --nobuild --action validate --define default-platform-flags --configfile
   ic2024.1-lin-core-avx2-speed-20240308.cfg --define cores=16 --tune base,peak --output_format all --define
   intspeedaffinity --define drop_caches --nopower --runmode speed --tune base:peak --size refspeed intspeed
   --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.006/templogs/preenv.intspeed.006.0.log --lognum 006.0
   --from_runcpu 2
 specperl $SPEC/bin/sysinfo
 $SPEC = /home/cpu2017


  -----------------------------------------------------------
6. /proc/cpuinfo
    model name        : Intel(R) Xeon(R) 6353P
    vendor_id         : GenuineIntel
    cpu family        : 6
    model             : 183
    stepping          : 1
    microcode         : 0x12c
    bugs              : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb bhi
    cpu cores         : 8
    siblings          : 16
    1 physical ids (chips)
    16 processors (hardware threads)
    physical id 0: core ids 0-7
    physical id 0: apicids 0-15
  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 2.39.3:
  Architecture:                 x86_64
  CPU op-mode(s):               32-bit, 64-bit
  Address sizes:                46 bits physical, 48 bits virtual
  Byte Order:                   Little Endian
  CPU(s):                       16
  On-line CPU(s) list:          0-15
  Vendor ID:                    GenuineIntel
```

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Platform Notes (Continued)

```
  BIOS Vendor ID:                      Intel(R) Corporation
  Model name:                          Intel(R) Xeon(R) 6353P
  BIOS Model name:                     Intel(R) Xeon(R) 6353P To Be Filled By O.E.M. CPU @ 2.7GHz
  BIOS CPU family:                     179
  CPU family:                          6
  Model:                               183
  Thread(s) per core:                  2
  Core(s) per socket:                  8
  Socket(s):                           1
  Stepping:                            1
  CPU(s) scaling MHz:                  19%
  CPU max MHz:                         6900.0000
  CPU min MHz:                         800.0000
  BogoMIPS:                            5376.00
  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 sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
                                       xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb ssbd
                                       ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept vpid ept_ad
                                       fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid rdseed adx smap
                                       clflushopt clwb intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves
                                       split_lock_detect user_shstk avx_vnni dtherm ida arat pln pts hwp
                                       hwp_notify hwp_act_window hwp_epp hwp_pkg_req hfi vnmi umip pku ospke
                                       waitpkg gfni vaes vpclmulqdq tme rdpid movdiri movdir64b fsrm
                                       md_clear serialize pconfig arch_lbr ibt flush_l1d arch_capabilities
  Virtualization:                      VT-x
  L1d cache:                           384 KiB (8 instances)
  L1i cache:                           256 KiB (8 instances)
  L2 cache:                            16 MiB (8 instances)
  L3 cache:                            24 MiB (1 instance)
  NUMA node(s):                        1
  NUMA node0 CPU(s):                   0-15
  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 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; RSB filling;
                                       PBRSB-eIBRS SW sequence; BHI BHI_DIS_S
  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     384K   12 Data            1    64        1             64
      L1i       32K     256K    8 Instruction     1    64        1             64
      L2         2M      16M   16 Unified         2  2048        1             64
      L3        24M      24M   12 Unified         3 32768        1             64

  ------------------------------------------------------------
  8. numactl --hardware
```

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Platform Notes (Continued)

```
 NOTE: a numactl 'node' might or might not correspond to a physical chip.
   available: 1 nodes (0)
   node 0 cpus: 0-15
   node 0 size: 64202 MB
   node 0 free: 63571 MB
   node distances:
   node   0
     0:  10


 ------------------------------------------------------------
 9. /proc/meminfo
   MemTotal:       65743152 kB


 ------------------------------------------------------------
 10. who -r
   run-level 3 Feb 19 23:00


 ------------------------------------------------------------
 11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
   Default Target  Status
   multi-user      running


 ------------------------------------------------------------
 12. Services, from systemctl list-unit-files
   STATE              UNIT FILES
   enabled            apparmor auditd cron getty@ irqbalance issue-generator kbdsettings lvm2-monitor postfix
                      purge-kernels rollback sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4
                      wickedd-dhcp6 wickedd-nanny
   enabled-runtime    systemd-remount-fs
   disabled           blk-availability boot-sysctl ca-certificates chrony-wait chronyd console-getty debug-shell
                      grub2-once haveged hwloc-dump-hwdata issue-add-ssh-keys kexec-load lunmask rpmconfigcheck
                      serial-getty@ systemd-boot-check-no-failures systemd-confext systemd-network-generator
                      systemd-sysext systemd-time-wait-sync systemd-timesyncd
   indirect           systemd-userdbd wickedd


 ------------------------------------------------------------
 13. Linux kernel boot-time arguments, from /proc/cmdline
   BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
   root=UUID=1601d4e3-aed0-470e-8bd5-82680fe83224
   splash=silent
   resume=/dev/disk/by-uuid/e928ac5a-0714-4827-a56e-3fd30f6224d5
   mitigations=auto
   quiet
   security=apparmor


 ------------------------------------------------------------
 14. cpupower frequency-info
   analyzing CPU 3:
     current policy: frequency should be within 800 MHz and 6.80 GHz.
                     The governor "powersave" may decide which speed to use
                     within this range.
     boost state support:
       Supported: yes
       Active: yes


 ------------------------------------------------------------
 15. sysctl
   kernel.numa_balancing            0
   kernel.randomize_va_space        2
   vm.compaction_proactiveness      20
```

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Platform Notes (Continued)

```
  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


  ----------------------------------------------------------------
18. OS release
  From /etc/*-release /etc/*-version
  os-release SUSE Linux Enterprise Server 15 SP6


  ----------------------------------------------------------------
19. Disk information
SPEC is set to: /home/cpu2017
  Filesystem     Type  Size  Used Avail Use% Mounted on
  /dev/sdb4      xfs   342G   66G  276G  20% /home


  ----------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:         HPE
    Product:        ProLiant ML30 Gen11
    Product Family: ProLiant
    Serial:         LXVBT01BVHZ03N


  ----------------------------------------------------------------
21. 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:
    2x Hynix HMCG88AGBEA084N 32 GB 2 rank 5600, configured at 4400
```

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Platform Notes (Continued)

```
     ----------------------------------------------------------
    22. BIOS
    (This section combines info from /sys/devices and dmidecode.)
       BIOS Vendor:       HPE
       BIOS Version:      2.10
       BIOS Date:         12/06/2024
       BIOS Revision:     2.10
       Firmware Revision: 1.62
```

Compiler Version Notes

```
==============================================================================
C        | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak)
         | 657.xz_s(base, peak)
------------------------------------------------------------------------------
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++      | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak)
         | 641.leela_s(base, peak)
------------------------------------------------------------------------------
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.
------------------------------------------------------------------------------


==============================================================================
Fortran | 648.exchange2_s(base, peak)
------------------------------------------------------------------------------
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.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

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Base Portability Flags

600.perlbench_s: -DSPEC_LP64 -DSPEC_LINUX_X64
602.gcc_s: -DSPEC_LP64
605.mcf_s: -DSPEC_LP64
620.omnetpp_s: -DSPEC_LP64
623.xalancbmk_s: -DSPEC_LP64 -DSPEC_LINUX
625.x264_s: -DSPEC_LP64
631.deepsjeng_s: -DSPEC_LP64
641.leela_s: -DSPEC_LP64
648.exchange2_s: -DSPEC_LP64
657.xz_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

C++ benchmarks:
-w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Peak Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

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

SPEC CPU®2017 Integer Speed Result

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Hewlett Packard Enterprise
(Test Sponsor: HPE)

ProLiant ML30 Gen11
(2.70 GHz, Intel Xeon 6353P)

$SPECspeed^{®}2017\_int\_base = 17.9$

$SPECspeed^{®}2017\_int\_peak = 18.3$

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

Test Date: Feb-2025
Hardware Availability: Mar-2025
Software Availability: Jun-2024

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

 600.perlbench_s: -w -m64 -std=c11 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2 -flto
-Ofast(pass 1) -O3 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -fno-strict-overflow
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

 602.gcc_s: -w -m64 -std=c11 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2 -flto
-Ofast(pass 1) -O3 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

 605.mcf_s: basepeak = yes

 625.x264_s: -w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-fno-alias -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

 657.xz_s: basepeak = yes

C++ benchmarks:

 620.omnetpp_s: basepeak = yes

 623.xalancbmk_s: basepeak = yes

 631.deepsjeng_s: basepeak = yes

 641.leela_s: basepeak = yes

Fortran benchmarks:

 648.exchange2_s: basepeak = yes

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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/HPE-Platform-Flags-Intel-CatlowRefresh-rev1.0.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/HPE-Platform-Flags-Intel-CatlowRefresh-rev1.0.xml

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

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