SPEC CPU®2017 Integer Speed Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)

ProLiant MicroServer Gen11
(3.60 GHz, Intel Xeon 6349P)

$SPECspeed^{®}2017\_int\_base = 17.7$

$SPECspeed^{®}2017\_int\_peak = 18.1$

CPU2017 License: 3	**Test Date:**	Feb-2025
Test Sponsor: HPE	**Hardware Availability:**	Mar-2025
Tested by: HPE	**Software Availability:**	Apr-2024

Threads benchmark results (12 threads each):

- **600.perlbench_s** 12: 13.0 (base), 14.6 (peak)
- **602.gcc_s** 12: 17.1 (base), 18.2 (peak)
- **605.mcf_s** 12: 34.1
- **620.omnetpp_s** 12: 10.9
- **623.xalancbmk_s** 12: 19.8
- **625.x264_s** 12: 32.1 (base), 34.0 (peak)
- **631.deepsjeng_s** 12: 10.2
- **641.leela_s** 12: 8.41
- **648.exchange2_s** 12: 38.9
- **657.xz_s** 12: 17.5

—— **SPECspeed®2017_int_base (17.7)**   ········ **SPECspeed®2017_int_peak (18.1)**

Hardware

CPU Name: Intel Xeon 6349P
 Max MHz: 5700
 Nominal: 3600
Enabled: 6 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: 18 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 1 TB 7.2 K SATA HDD
Other: CPU Cooling: Air

Software

OS: Red Hat Enterprise Linux 9.4 (Plow)
 Kernel 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: 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 and OS set to prefer performance at the cost of additional power usage

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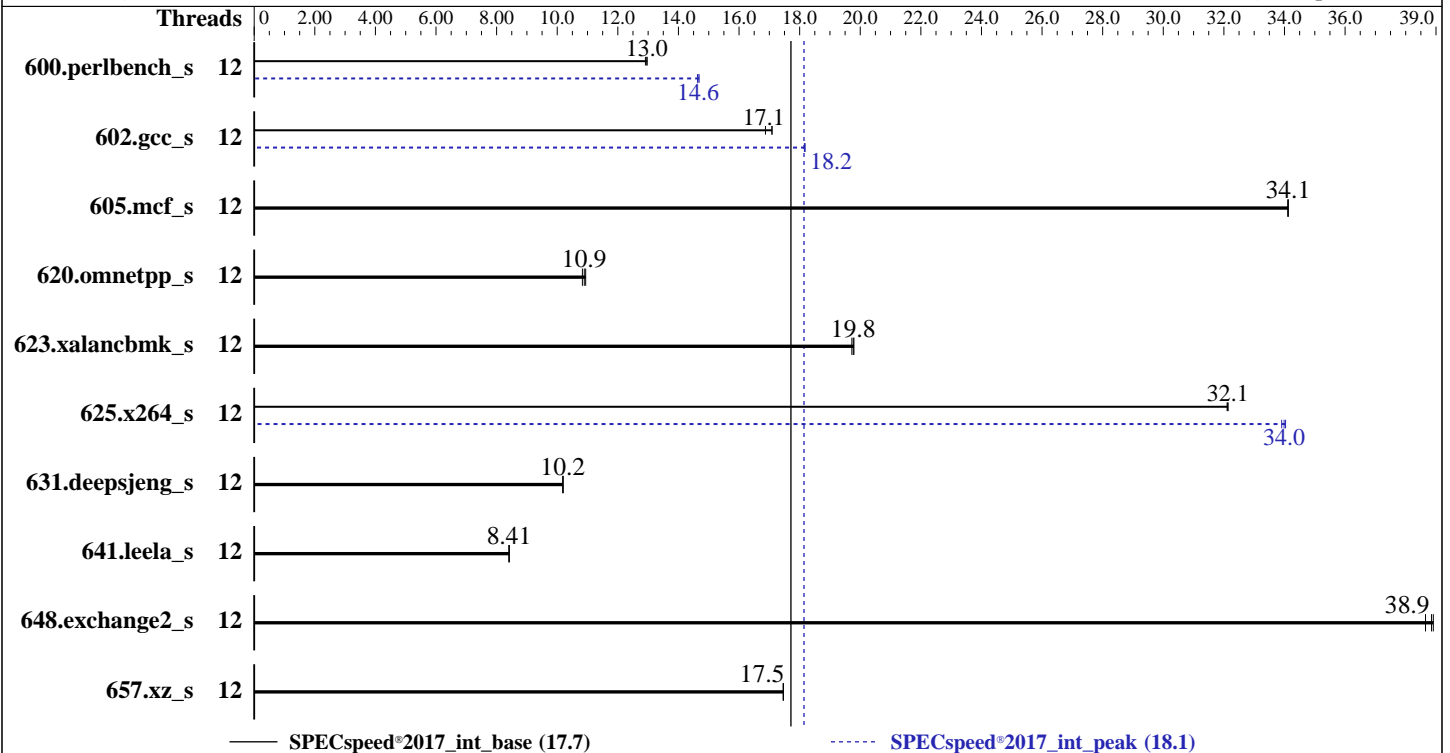## Hewlett Packard Enterprise

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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	12	137	12.9	137	13.0	**137**	**13.0**	12	121	14.6	**121**	**14.6**	121	14.7
602.gcc_s	12	233	17.1	**233**	**17.1**	236	16.9	12	219	18.2	219	18.2	**219**	**18.2**
605.mcf_s	12	138	34.1	138	34.1	**138**	**34.1**	12	138	34.1	138	34.1	**138**	**34.1**
620.omnetpp_s	12	149	10.9	151	10.8	**150**	**10.9**	12	149	10.9	151	10.8	**150**	**10.9**
623.xalancbmk_s	12	71.6	19.8	**71.7**	**19.8**	71.8	19.7	12	71.6	19.8	**71.7**	**19.8**	71.8	19.7
625.x264_s	12	**54.9**	**32.1**	54.9	32.1	54.9	32.1	12	52.0	33.9	51.8	34.0	**51.9**	**34.0**
631.deepsjeng_s	12	141	10.2	141	10.2	**141**	**10.2**	12	141	10.2	141	10.2	**141**	**10.2**
641.leela_s	12	203	8.41	**203**	**8.41**	203	8.42	12	203	8.41	**203**	**8.41**	203	8.42
648.exchange2_s	12	**75.7**	**38.9**	76.1	38.7	75.6	38.9	12	**75.7**	**38.9**	76.1	38.7	75.6	38.9
657.xz_s	12	354	17.5	**354**	**17.5**	354	17.5	12	354	17.5	**354**	**17.5**	354	17.5
SPECspeed®2017_int_base =		**17.7**										
SPECspeed®2017_int_peak =		**18.1**										

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"

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
```

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
```

(Continued on next page)

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Hardware Availability: Mar-2025
Software Availability: Apr-2024

Platform Notes (Continued)

```
 Power Regulator set to Dynamic Power Savings Mode

 Sysinfo program /home/cpu2017/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost.localdomain Wed Feb 26 19:12:14 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. Failed units, from systemctl list-units --state=failed
 13. Services, from systemctl list-unit-files
 14. Linux kernel boot-time arguments, from /proc/cmdline
 15. cpupower frequency-info
 16. sysctl
 17. /sys/kernel/mm/transparent_hugepage
 18. /sys/kernel/mm/transparent_hugepage/khugepaged
 19. OS release
 20. Disk information
 21. /sys/devices/virtual/dmi/id
 22. dmidecode
 23. BIOS
 ------------------------------------------------------------


 ------------------------------------------------------------
 1. uname -a
   Linux localhost.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
    19:12:14 up 1 min,  0 users,  load average: 0.52, 0.35, 0.14
   USER     TTY        LOGIN@   IDLE   JCPU   PCPU WHAT

 ------------------------------------------------------------
 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) 256643
   max locked memory           (kbytes, -l) 8192
   max memory size             (kbytes, -m) unlimited
```

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Platform Notes (Continued)

```
   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) 256643
   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=12 --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=12 --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/CPU2017.008/templogs/preenv.intspeed.008.0.log --lognum 008.0
   --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017


   --------------------------------------------------------
6. /proc/cpuinfo
   model name        : Intel(R) Xeon(R) 6349P
   vendor_id         : GenuineIntel
   cpu family        : 6
   model             : 183
   stepping          : 1
   microcode         : 0x12c
   bugs              : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
   cpu cores         : 6
   siblings          : 12
   1 physical ids (chips)
   12 processors (hardware threads)
   physical id 0: core ids 0-5
   physical id 0: apicids 0-11
 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 2.37.4:
   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):                      12
   On-line CPU(s) list:         0-11
   Vendor ID:                   GenuineIntel
   BIOS Vendor ID:              Intel(R) Corporation
   Model name:                  Intel(R) Xeon(R) 6349P
   BIOS Model name:             Intel(R) Xeon(R) 6349P
```

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Platform Notes (Continued)

```
    CPU family:                       6
    Model:                            183
    Thread(s) per core:               2
    Core(s) per socket:               6
    Socket(s):                        1
    Stepping:                         1
    CPU(s) scaling MHz:               30%
    CPU max MHz:                      7300.0000
    CPU min MHz:                      800.0000
    BogoMIPS:                         7219.20
    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
                                      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:                        288 KiB (6 instances)
    L1i cache:                        192 KiB (6 instances)
    L2 cache:                         12 MiB (6 instances)
    L3 cache:                         18 MiB (1 instance)
    NUMA node(s):                     1
    NUMA node0 CPU(s):                0-11
    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
    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
    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     288K   12 Data            1    64       1             64
      L1i      32K     192K    8 Instruction     1    64       1             64
      L2        2M      12M   16 Unified         2  2048       1             64
      L3       18M      18M    9 Unified         3 32768       1             64

  ------------------------------------------------------------
  8. numactl --hardware
  NOTE: a numactl 'node' might or might not correspond to a physical chip.
    available: 1 nodes (0)
    node 0 cpus: 0-11
    node 0 size: 64202 MB
    node 0 free: 63573 MB
```

(Continued on next page)

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Platform Notes (Continued)

```
  node distances:
  node   0
    0:  10


----------------------------------------------------------
9. /proc/meminfo
  MemTotal:       65743676 kB


----------------------------------------------------------
10. who -r
  run-level 3 Feb 26 19:11


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


----------------------------------------------------------
12. Failed units, from systemctl list-units --state=failed
    UNIT                             LOAD   ACTIVE SUB    DESCRIPTION
  * NetworkManager-wait-online.service loaded failed failed Network Manager Wait Online


----------------------------------------------------------
13. Services, from systemctl list-unit-files
  STATE             UNIT FILES
  enabled           NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd crond
                    dbus-broker firewalld getty@ insights-client-boot irqbalance kdump lvm2-monitor mdmonitor
                    microcode nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sshd sssd
                    systemd-boot-update systemd-network-generator udisks2
  enabled-runtime   systemd-remount-fs
  disabled          blk-availability console-getty cpupower debug-shell dnf-system-upgrade hwloc-dump-hwdata
                    kvm_stat man-db-restart-cache-update nftables 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


----------------------------------------------------------
14. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-427.13.1.el9_4.x86_64
  root=/dev/mapper/rhel00-root
  ro
  resume=/dev/mapper/rhel00-swap
  rd.lvm.lv=rhel00/root
  rd.lvm.lv=rhel00/swap


----------------------------------------------------------
15. cpupower frequency-info
  analyzing CPU 11:
    current policy: frequency should be within 800 MHz and 7.00 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes


----------------------------------------------------------
16. sysctl
  kernel.numa_balancing             0
  kernel.randomize_va_space         2
```

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Platform Notes (Continued)

```
      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


    ---------------------------------------------------------------
   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      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)


    ---------------------------------------------------------------
   20. Disk information
   SPEC is set to: /home/cpu2017
      Filesystem             Type  Size  Used Avail Use% Mounted on
      /dev/mapper/rhel00-home xfs  829G   64G  765G   8% /home


    ---------------------------------------------------------------
   21. /sys/devices/virtual/dmi/id
      Vendor:         HPE
      Product:        ProLiant MicroServer Gen11
      Product Family: ProLiant
      Serial:         91ZV86L0HM


    ---------------------------------------------------------------
   22. 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
```

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Platform Notes (Continued)

```
   "DMTF SMBIOS" standard.
   Memory:
     2x Hynix HMCG88AGBEA084N 32 GB 2 rank 5600, configured at 4400


   --------------------------------------------------------------
 23. 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:  1.67
```

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`

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SPEC CPU®2017 Integer Speed Result

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Hewlett Packard Enterprise
(Test Sponsor: HPE)

ProLiant MicroServer Gen11
(3.60 GHz, Intel Xeon 6349P)

$SPECspeed^{®}2017\_int\_base = 17.7$

$SPECspeed^{®}2017\_int\_peak = 18.1$

CPU2017 License:	3	**Test Date:**	Feb-2025
Test Sponsor:	HPE	**Hardware Availability:**	Mar-2025
Tested by:	HPE	**Software Availability:**	Apr-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/HPE-Platform-Flags-Intel-CatlowRefresh-rev1.0.html
http://www.spec.org/cpu2017/flags/Intel-ic2024-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-CatlowRefresh-rev1.0.xml
http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml

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

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