



SPEC CPU®2017 Integer Speed Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL380 Gen11

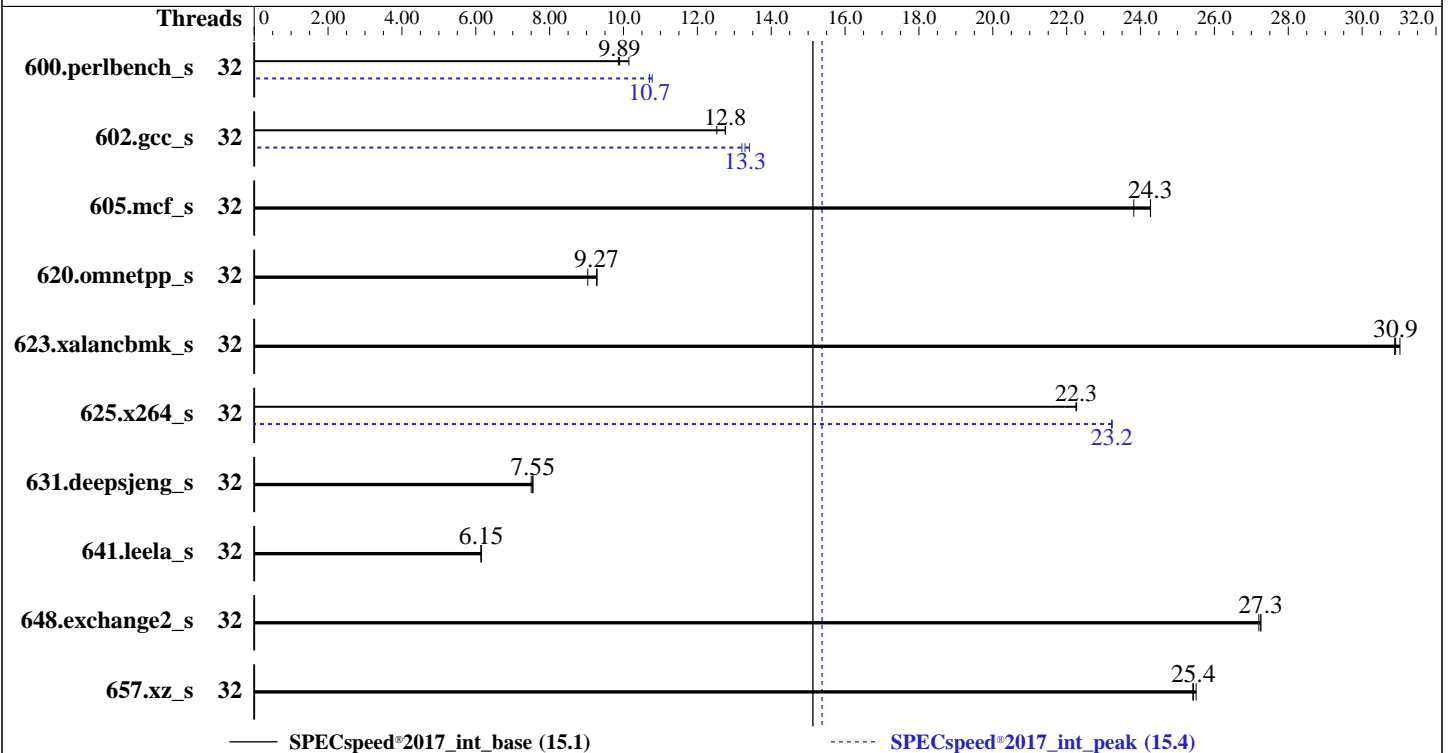
(2.50 GHz, Intel Xeon Gold 6426Y)

SPECspeed®2017_int_base = 15.1

SPECspeed®2017_int_peak = 15.4

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

Test Date: Apr-2023
Hardware Availability: Apr-2023
Software Availability: Dec-2022



Hardware

CPU Name: Intel Xeon Gold 6426Y
Max MHz: 4100
Nominal: 2500
Enabled: 32 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: 37.5 MB I+D on chip per chip
Other: None
Memory: 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)
Storage: 1 x 480 GB SATA SSD
Other: None

Software

OS: Red Hat Enterprise Linux release 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
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
600.perlbench_s	32	175	10.1	<u>179</u>	<u>9.89</u>	180	9.86	32	166	10.7	<u>166</u>	<u>10.7</u>	165	10.8
602.gcc_s	32	<u>312</u>	<u>12.8</u>	318	12.5	312	12.8	32	297	13.4	<u>300</u>	<u>13.3</u>	302	13.2
605.mcf_s	32	198	23.8	<u>195</u>	<u>24.3</u>	195	24.3	32	198	23.8	<u>195</u>	<u>24.3</u>	195	24.3
620.omnetpp_s	32	181	9.03	176	9.28	<u>176</u>	<u>9.27</u>	32	181	9.03	176	9.28	<u>176</u>	<u>9.27</u>
623.xalanbmk_s	32	<u>45.8</u>	<u>30.9</u>	45.9	30.9	45.7	31.0	32	<u>45.8</u>	<u>30.9</u>	45.9	30.9	45.7	31.0
625.x264_s	32	79.2	22.3	<u>79.2</u>	<u>22.3</u>	79.3	22.3	32	76.0	23.2	75.9	23.2	<u>75.9</u>	<u>23.2</u>
631.deepsjeng_s	32	190	7.55	<u>190</u>	<u>7.55</u>	191	7.50	32	190	7.55	<u>190</u>	<u>7.55</u>	191	7.50
641.leela_s	32	278	6.14	<u>277</u>	<u>6.15</u>	277	6.16	32	278	6.14	<u>277</u>	<u>6.15</u>	277	6.16
648.exchange2_s	32	108	27.3	108	27.2	<u>108</u>	<u>27.3</u>	32	108	27.3	108	27.2	<u>108</u>	<u>27.3</u>
657.xz_s	32	242	25.5	<u>243</u>	<u>25.4</u>	243	25.4	32	242	25.5	<u>243</u>	<u>25.4</u>	243	25.4

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Notes

SPEC has ruled that the compiler used for this result was performing a compilation that specifically improves the performance of the 523.xalanbmk_r / 623.xalanbmk_s benchmarks using a priori knowledge of the SPEC code and dataset to perform a transformation that has narrow applicability.

In order to encourage optimizations that have wide applicability (see rule 1.4 https://www.spec.org/cpu2017/Docs/runrules.html#rule_1.4), SPEC will no longer publish results using this optimization.

This result is left in the SPEC results database for historical reference.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
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>
tuned-adm profile was set to Throughput-Performance using "tuned-adm profile throughput-performance"
```



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Environment Variables Notes

Environment variables set by runcpu before the start of the run:

KMP_AFFINITY = "granularity=fine,scatter"

LD_LIBRARY_PATH = "/home/cpu2017_newbinaries/lib/intel64:/home/cpu2017_newbinaries/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 Red Hat 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

The system ROM used for this result contains Intel microcode version 0x2b0001b0 for the Intel Xeon Gold 6426Y 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

Sub-NUMA Clustering set to Enabled SNC2(2-clusters)

Workload Profile set to Custom

Adjacent Sector Prefetch set to Disabled

Minimum Processor Idle Power Package C-State set to No Package State

Sysinfo program /home/cpu2017_newbinaries/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost.localdomain Wed Apr 26 19:18:21 2023

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

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Platform Notes (Continued)

- 11. Systemd service manager version: systemd 250 (250-6.e19_0)
- 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 localhost.localdomain 5.14.0-70.13.1.e19_0.x86_64 #1 SMP PREEMPT Thu Apr 14 12:42:38 EDT 2022 x86_64
x86_64 x86_64 GNU/Linux
-----
```

```
-----
2. w
 19:18:21 up 0 min,  0 users,  load average: 0.03, 0.01, 0.00
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) 2062858
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) 2062858
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/intspeed_spr.sh
runcpu --nobuild --action validate --define default-platform-flags -c
  ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=32 --tune base,peak -o all --define
  intspeedaffinity --define drop_caches intspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
-----
```

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Platform Notes (Continued)

```
ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=32 --tune base,peak --output_format all
--define intsppedaffinity --define drop_caches --nopower --runmode speed --tune base:peak --size refspped
intspped --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.001/templogs/preenv.intspped.001.0.log
--lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017_newbinaries
```

6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) Gold 6426Y
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping       : 7
microcode      : 0x2b0001b0
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores      : 16
siblings       : 16
```

2 physical ids (chips)

32 processors (hardware threads)

physical id 0: core ids 0-15

physical id 1: core ids 0-15

physical id 0: apicids 0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30

physical id 1: apicids 128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158

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, 57 bits virtual
Byte Order:            Little Endian
CPU(s):                32
On-line CPU(s) list:   0-31
Vendor ID:             GenuineIntel
BIOS Vendor ID:       Intel(R) Corporation
Model name:            Intel(R) Xeon(R) Gold 6426Y
BIOS Model name:      Intel(R) Xeon(R) Gold 6426Y
CPU family:            6
Model:                 143
Thread(s) per core:    1
Core(s) per socket:    16
Socket(s):             2
Stepping:              7
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
                        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
```

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Platform Notes (Continued)

```
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
```

```
VT-x
L1d cache: 1.5 MiB (32 instances)
L1i cache: 1 MiB (32 instances)
L2 cache: 64 MiB (32 instances)
L3 cache: 75 MiB (2 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-3,16-19
NUMA node1 CPU(s): 4-7,20-23
NUMA node2 CPU(s): 8-11,24-27
NUMA node3 CPU(s): 12-15,28-31
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
```

```
From lscpu --cache:
NAME ONE-SIZE ALL-SIZE WAYS TYPE LEVEL SETS PHY-LINE COHERENCY-SIZE
L1d 48K 1.5M 12 Data 1 64 1 64
L1i 32K 1M 8 Instruction 1 64 1 64
L2 2M 64M 16 Unified 2 2048 1 64
L3 37.5M 75M 15 Unified 3 40960 1 64
```

```
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
available: 4 nodes (0-3)
node 0 cpus: 0-3,16-19
node 0 size: 128698 MB
node 0 free: 128222 MB
node 1 cpus: 4-7,20-23
node 1 size: 129022 MB
node 1 free: 128695 MB
node 2 cpus: 8-11,24-27
node 2 size: 129022 MB
node 2 free: 128598 MB
node 3 cpus: 12-15,28-31
node 3 size: 129011 MB
node 3 free: 128741 MB
node distances:
node 0 1 2 3
0: 10 20 30 30
1: 20 10 30 30
2: 30 30 10 20
3: 30 30 20 10
```

```
9. /proc/meminfo
MemTotal: 528132300 kB
```

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Platform Notes (Continued)

10. who -r
run-level 3 Apr 26 19:17

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 crond dbus-broker firewalld getty@ irqbalance kdump lvm2-monitor mdmonitor microcode nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sshd sssd systemd-network-generator tuned udisks2 upower
enabled-runtime	systemd-remount-fs
disabled	blk-availability canberra-system-bootup canberra-system-shutdown canberra-system-shutdown-reboot chrony-wait chronyd console-getty cpupower debug-shell hwloc-dump-hwdata ipsec kvm_stat man-db-restart-cache-update nftables powertop rdisc rhsm rhsm-facts rpmdb-rebuild 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

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

14. cpupower frequency-info
analyzing CPU 0:
Unable to determine current policy
boost state support:
Supported: yes
Active: yes

15. tuned-adm active
Current active profile: throughput-performance

kernel	value
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

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Platform Notes (Continued)

```
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+madvice [madvice] never
enabled        [always] madvice 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 9.0 (Plow)
redhat-release  Red Hat Enterprise Linux release 9.0 (Plow)
system-release  Red Hat Enterprise Linux release 9.0 (Plow)
```

```
-----
20. Disk information
SPEC is set to: /home/cpu2017_newbinaries
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs   372G 290G  82G  78% /home
```

```
-----
21. /sys/devices/virtual/dmi/id
Vendor:          HPE
Product:         ProLiant DL380 Gen11
Product Family: ProLiant
Serial:          CNX21000G8
```

```
-----
22. 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:
  1x Hynix HMC88AEBRA168N 32 GB 2 rank 4800
 15x Hynix HMC88MEBRA113N 32 GB 2 rank 4800
```

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

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Platform Notes (Continued)

BIOS Revision: 1.30
Firmware Revision: 1.10

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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

=====
Fortran | 648.exchange2_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.

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

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

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL380 Gen11

(2.50 GHz, Intel Xeon Gold 6426Y)

SPECspeed®2017_int_base = 15.1

SPECspeed®2017_int_peak = 15.4

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Apr-2023

Hardware Availability: Apr-2023

Software Availability: Dec-2022

Base Portability Flags (Continued)

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:

```
-m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -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:

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

Fortran benchmarks:

```
-m64 -Wl,-z,muldefs -xsapphirerapids -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

Peak Portability Flags

Same as Base Portability Flags



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Software Availability: Dec-2022

Peak Optimization Flags

C benchmarks:

```
600.perlbench_s: -m64 -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast(pass 1) -xCORE-AVX512 -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: -m64 -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast(pass 1) -xCORE-AVX512 -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: -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -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

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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Tested with SPEC CPU®2017 v1.1.9 on 2023-04-26 09:48:21-0400.
Report generated on 2024-01-29 17:47:22 by CPU2017 PDF formatter v6716.
Originally published on 2023-06-06.