SPEC CPU®2017 Integer Speed Result

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Supermicro
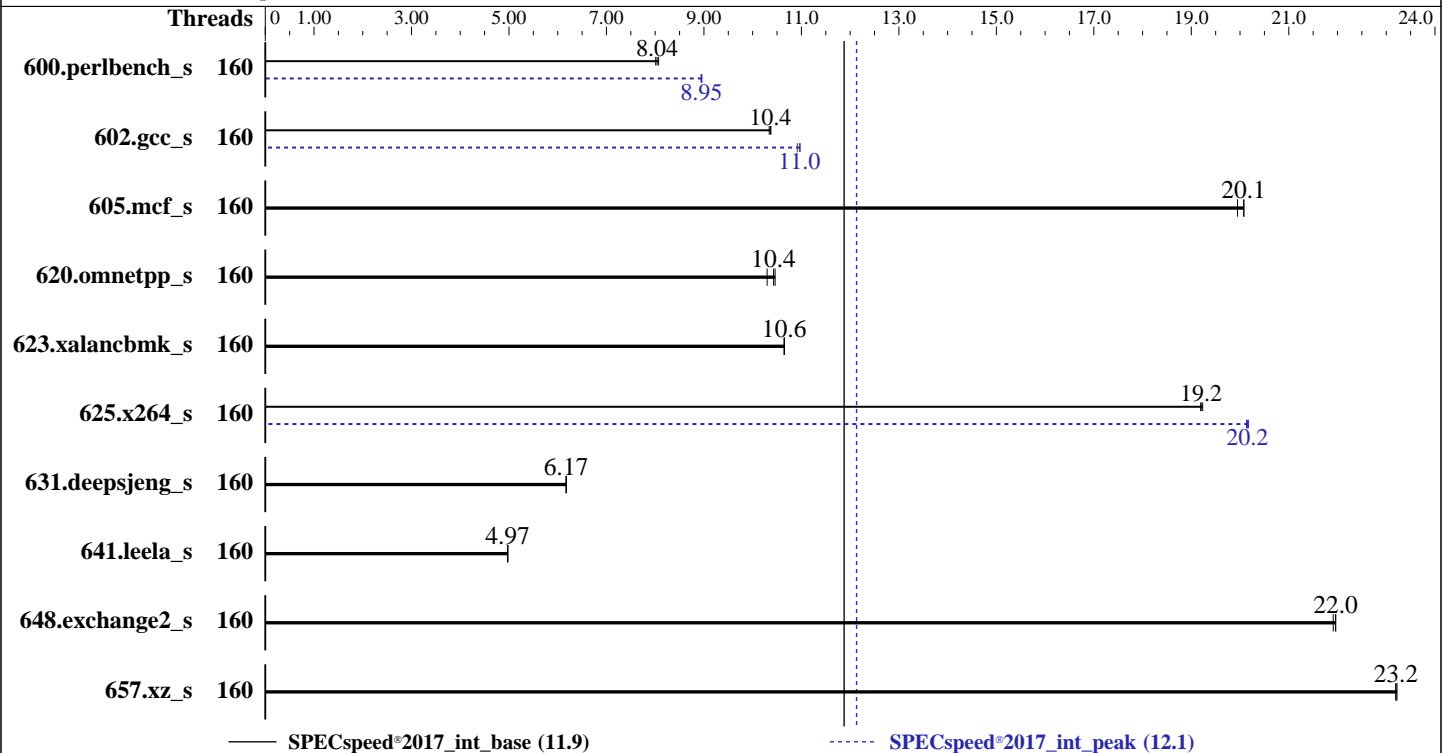
WIO SuperServer SYS-512B-WR
(X14SBW-F , Intel Xeon 6781P)

$SPECspeed^{®}2017\_int\_base = 11.9$

$SPECspeed^{®}2017\_int\_peak = 12.1$

CPU2017 License: 001176

Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Apr-2025

Hardware Availability: Feb-2025

Software Availability: Jun-2024

Threads

Benchmark	Threads	base	peak
600.perlbench_s	160	8.04	8.95
602.gcc_s	160	10.4	11.0
605.mcf_s	160	20.1	
620.omnetpp_s	160	10.4	
623.xalancbmk_s	160	10.6	
625.x264_s	160	19.2	20.2
631.deepsjeng_s	160	6.17	
641.leela_s	160	4.97	
648.exchange2_s	160	22.0	
657.xz_s	160	23.2	

SPECspeed®2017_int_base (11.9)   SPECspeed®2017_int_peak (12.1)

Hardware

CPU Name: Intel Xeon 6781P
 Max MHz: 3800
 Nominal: 2000
Enabled: 80 cores, 1 chip, 2 threads/core
Orderable: 1 chip
Cache L1: 64 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 336 MB I+D on chip per chip
 Other: None
Memory: 512 GB (8 x 64 GB 2Rx4 PC5-6400B-R)
Storage: 1 x 256 GB NVMe 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: Version 1.2 released Jan-2025
File System: btrfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS and OS 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	160	**221**	**8.04**	222	8.01	220	8.07	160	199	8.94	198	8.96	**198**	**8.95**
602.gcc_s	160	384	10.4	**384**	**10.4**	385	10.3	160	**363**	**11.0**	365	10.9	363	11.0
605.mcf_s	160	237	19.9	**235**	**20.1**	235	20.1	160	237	19.9	**235**	**20.1**	235	20.1
620.omnetpp_s	160	**156**	**10.4**	158	10.3	156	10.5	160	**156**	**10.4**	158	10.3	156	10.5
623.xalancbmk_s	160	133	10.7	133	10.6	**133**	**10.6**	160	133	10.7	133	10.6	**133**	**10.6**
625.x264_s	160	91.7	19.2	91.9	19.2	**91.9**	**19.2**	160	**87.5**	**20.2**	87.6	20.1	87.5	20.2
631.deepsjeng_s	160	232	6.18	232	6.17	**232**	**6.17**	160	232	6.18	232	6.17	**232**	**6.17**
641.leela_s	160	343	4.98	**343**	**4.97**	343	4.97	160	343	4.98	**343**	**4.97**	343	4.97
648.exchange2_s	160	134	22.0	134	21.9	**134**	**22.0**	160	134	22.0	134	21.9	**134**	**22.0**
657.xz_s	160	266	23.2	267	23.2	**266**	**23.2**	160	266	23.2	267	23.2	**266**	**23.2**
SPECspeed®2017_int_base =			**11.9**										
SPECspeed®2017_int_peak =			**12.1**										

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
    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

    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

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

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Platform Notes

```
BIOS Configuration:
Workload Profile = HPC
SNC = Enable
LLC Dead Line Alloc = Disable
KTI Prefetch = Enable
Stale AtoS = Disable


Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on 135-177-220 Tue Apr  1 16:59:55 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. 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 135-177-220 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
  16:59:55 up 18:06,  1 user,  load average: 16.34, 67.95, 111.37
  USER     TTY        FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     tty1       -                Mon22   17:59m 1.07s  0.01s -bash


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


-----------------------------------------------------------
4. ulimit -a
  core file size          (blocks, -c) unlimited
  data seg size           (kbytes, -d) unlimited
```

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Platform Notes (Continued)

```
  scheduling priority             (-e) 0
  file size             (blocks, -f) unlimited
  pending signals                 (-i) 2062090
  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) 2062090
  virtual memory        (kbytes, -v) unlimited
  file locks                      (-x) unlimited


    ----------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 login -- root
 -bash
 -bash
 runcpu --nobuild --action validate --define default-platform-flags -c
   ic2024.1-lin-core-avx512-speed-20240308.cfg --define cores=80 --tune base,peak -o all --define
   intspeedaffinity --define smt-on --define drop_caches intspeed
 runcpu --nobuild --action validate --define default-platform-flags --configfile
   ic2024.1-lin-core-avx512-speed-20240308.cfg --define cores=80 --tune base,peak --output_format all
   --define intspeedaffinity --define smt-on --define drop_caches --nopower --runmode speed --tune base:peak
   --size refspeed intspeed --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.003/templogs/preenv.intspeed.003.0.log --lognum 003.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
 $SPEC = /home/cpu2017


    ----------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6781P
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 173
    stepping        : 1
    microcode       : 0xa0000c0
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
    cpu cores       : 80
    siblings        : 160
    1 physical ids (chips)
    160 processors (hardware threads)
    physical id 0: core ids 0-39,64-103
    physical id 0: apicids 0-79,128-207
  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:                  52 bits physical, 57 bits virtual
  Byte Order:                     Little Endian
  CPU(s):                         160
  On-line CPU(s) list:            0-159
```

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Platform Notes (Continued)

```
Vendor ID:                          GenuineIntel
BIOS Vendor ID:                     Intel(R) Corporation
Model name:                         Intel(R) Xeon(R) 6781P
BIOS Model name:                    Intel(R) Xeon(R) 6781P  CPU @ 2.0GHz
BIOS CPU family:                    179
CPU family:                         6
Model:                              173
Thread(s) per core:                 2
Core(s) per socket:                 80
Socket(s):                          1
Stepping:                           1
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 intel_ppin cdp_l2
                                    ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept
                                    vpid ept_ad fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid
                                    rtm cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt
                                    clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec
                                    xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
                                    split_lock_detect user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida
                                    arat pln pts hfi vnmi avx512vbmi umip pku ospke waitpkg avx512_vbmi2
                                    gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq
                                    la57 rdpid bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm
                                    md_clear serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16
                                    amx_tile amx_int8 flush_l1d arch_capabilities
Virtualization:                     VT-x
L1d cache:                          3.8 MiB (80 instances)
L1i cache:                          5 MiB (80 instances)
L2 cache:                           160 MiB (80 instances)
L3 cache:                           336 MiB (1 instance)
NUMA node(s):                       2
NUMA node0 CPU(s):                  0-39,80-119
NUMA node1 CPU(s):                  40-79,120-159
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 Not affected; 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      3.8M   12 Data           1    64       1              64
    L1i      64K        5M   16 Instruction    1    64       1              64
    L2        2M      160M   16 Unified        2  2048       1              64
```

(Continued on next page)

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Platform Notes (Continued)

```
    L3        336M      336M   16 Unified          3 344064        1              64


     ---------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 2 nodes (0-1)
  node 0 cpus: 0-39,80-119
  node 0 size: 257566 MB
  node 0 free: 209376 MB
  node 1 cpus: 40-79,120-159
  node 1 size: 257985 MB
  node 1 free: 215223 MB
  node distances:
  node   0   1
    0:  10  12
    1:  12  10


     ---------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       527924996 kB


     ---------------------------------------------------------------
10. who -r
   run-level 3 Mar 31 22:54


     ---------------------------------------------------------------
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          YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd bluetooth cron
                    display-manager getty@ irqbalance issue-generator kbdsettings klog lvm2-monitor nscd
                    nvmefc-boot-connections nvmf-autoconnect postfix purge-kernels rollback rsyslog smartd
                    sshd systemd-pstore tuned wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
   enabled-runtime  systemd-remount-fs
   disabled         accounts-daemon autofs autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl
                    ca-certificates chrony-wait chronyd console-getty cups cups-browsed debug-shell ebtables
                    exchange-bmc-os-info firewalld fsidd gpm grub2-once haveged ipmi ipmievd
                    issue-add-ssh-keys kexec-load lunmask man-db-create multipathd nfs nfs-blkmap nmb
                    ostree-remount rpcbind rpmconfigcheck rsyncd rtkit-daemon serial-getty@
                    smartd_generate_opts smb snmpd snmptrapd speech-dispatcherd systemd-boot-check-no-failures
                    systemd-confext systemd-network-generator systemd-sysext systemd-time-wait-sync
                    systemd-timesyncd udisks2 update-system-flatpaks upower vncserver@
   generated        jexec
   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=61c5e10f-e2b6-4af8-baf4-1fadc022c671
   splash=silent
   mitigations=auto
   quiet
   security=apparmor
   nomodeset


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

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Platform Notes (Continued)

```
  14. cpupower frequency-info
    analyzing CPU 90:
      Unable to determine current policy
      boost state support:
        Supported: yes
        Active: yes


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


    -------------------------------------------------------------
  16. sysctl
    kernel.numa_balancing            1
    kernel.randomize_va_space        2
    vm.compaction_proactiveness      20
    vm.dirty_background_bytes        0
    vm.dirty_background_ratio        10
    vm.dirty_bytes                   0
    vm.dirty_expire_centisecs        3000
    vm.dirty_ratio                   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                    10
    vm.watermark_boost_factor        15000
    vm.watermark_scale_factor        10
    vm.zone_reclaim_mode             0


    -------------------------------------------------------------
  17. /sys/kernel/mm/transparent_hugepage
    defrag          always defer defer+madvise [madvise] never
    enabled         [always] madvise never
    hpage_pmd_size  2097152
    shmem_enabled   always within_size advise [never] deny force


    -------------------------------------------------------------
  18. /sys/kernel/mm/transparent_hugepage/khugepaged
    alloc_sleep_millisecs   60000
    defrag                  1
    max_ptes_none           511
    max_ptes_shared         256
    max_ptes_swap           64
    pages_to_scan           4096
    scan_sleep_millisecs    10000


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


    -------------------------------------------------------------
  20. Disk information
  SPEC is set to: /home/cpu2017
    Filesystem      Type   Size  Used Avail Use% Mounted on
    /dev/nvme0n1p2 btrfs  236G  120G  114G  52% /home
```

(Continued on next page)

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Platform Notes (Continued)

```
    ----------------------------------------------------------
 21. /sys/devices/virtual/dmi/id
     Vendor:         Supermicro
     Product:        Super Server
     Product Family: Family
     Serial:         0123456789


    ----------------------------------------------------------
 22. 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:
     8x Micron Technology MTC40F2046S1RC64BD2 QSFF 64 GB 2 rank 6400


    ----------------------------------------------------------
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       American Megatrends International, LLC.
   BIOS Version:      1.2
   BIOS Date:         01/24/2025
   BIOS Revision:     5.35
```

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
```

(Continued on next page)

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Base Compiler Invocation (Continued)

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`
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-AVX512 -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-AVX512 -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-AVX512 -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`

SPEC CPU®2017 Integer Speed Result

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Supermicro

WIO SuperServer SYS-512B-WR
(X14SBW-F , Intel Xeon 6781P)

SPECspeed®2017_int_base = 11.9

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Peak Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

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`(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: `-w -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: `-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -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

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

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Peak Optimization Flags (Continued)

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/Intel-ic2024-official-linux64.html`
`http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-GNR-revB.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/Supermicro-Platform-Settings-V1.2-GNR-revB.xml`

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

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