SPEC CPU®2017 Integer Speed Result

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Supermicro

Microcloud SuperServer SYS-530MT-H8TNR
(X12STD-F , Intel Xeon E-2388G)

$SPECspeed®2017\_int\_base = 15.9$

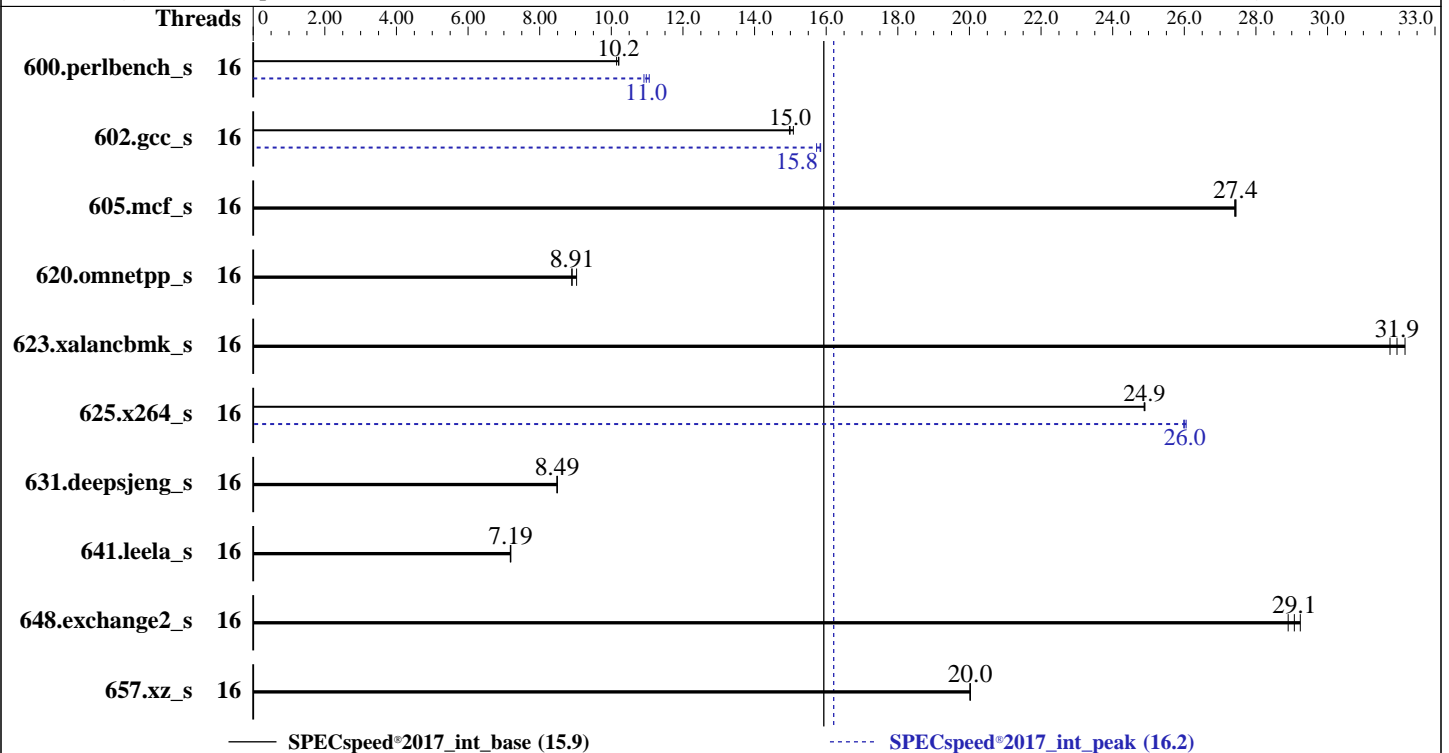$SPECspeed®2017\_int\_peak = 16.2$

CPU2017 License: 001176 **Test Date:** Aug-2023
Test Sponsor: Supermicro **Hardware Availability:** Sep-2021
Tested by: Supermicro **Software Availability:** Dec-2022

Threads

Benchmark	Threads	base	peak
600.perlbench_s	16	10.2	11.0
602.gcc_s	16	15.0	15.8
605.mcf_s	16	27.4	
620.omnetpp_s	16	8.91	
623.xalancbmk_s	16	31.9	
625.x264_s	16	24.9	26.0
631.deepsjeng_s	16	8.49	
641.leela_s	16	7.19	
648.exchange2_s	16	29.1	
657.xz_s	16	20.0	

SPECspeed®2017_int_base (15.9) SPECspeed®2017_int_peak (16.2)

Hardware

CPU Name: Intel Xeon E-2388G
 Max MHz: 5100
 Nominal: 3200
Enabled: 8 cores, 1 chip, 2 threads/core
Orderable: 1 chip
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 512 KB I+D on chip per core
 L3: 16 MB I+D on chip per chip
 Other: None
Memory: 128 GB (4 x 32 GB 2Rx8 PC4-3200AA-E)
Storage: 1 x 128 GB M.2 NVMe SSD
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP4
 Kernel 5.14.21-150400.22-default
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: Version 1.4 released Feb-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: Default

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

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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	174	10.2	**174**	**10.2**	175	10.1	16	**162**	**11.0**	163	10.9	161	11.1
602.gcc_s	16	264	15.1	**266**	**15.0**	266	15.0	16	253	15.7	**252**	**15.8**	251	15.8
605.mcf_s	16	172	27.4	**172**	**27.4**	172	27.4	16	172	27.4	**172**	**27.4**	172	27.4
620.omnetpp_s	16	183	8.90	**183**	**8.91**	181	9.03	16	183	8.90	**183**	**8.91**	181	9.03
623.xalancbmk_s	16	44.1	32.2	44.6	31.7	**44.4**	**31.9**	16	44.1	32.2	44.6	31.7	**44.4**	**31.9**
625.x264_s	16	70.9	24.9	**70.9**	**24.9**	70.8	24.9	16	**67.8**	**26.0**	67.7	26.1	67.9	26.0
631.deepsjeng_s	16	**169**	**8.49**	169	8.49	169	8.49	16	**169**	**8.49**	169	8.49	169	8.49
641.leela_s	16	237	7.19	238	7.18	**237**	**7.19**	16	237	7.19	238	7.18	**237**	**7.19**
648.exchange2_s	16	101	29.2	**101**	**29.1**	102	28.9	16	101	29.2	**101**	**29.1**	102	28.9
657.xz_s	16	309	20.0	**309**	**20.0**	309	20.0	16	309	20.0	**309**	**20.0**	309	20.0
SPECspeed®2017_int_base =		**15.9**											
SPECspeed®2017_int_peak =		**16.2**											

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.xalancbmk_r / 623.xalancbmk_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.
```

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
```

(Continued on next page)

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Hardware Availability: Sep-2021
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General Notes (Continued)

```
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
```

Platform Notes

```
Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on 135-179-102 Mon Aug  7 02:28:11 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
11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)
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 135-179-102 5.14.21-150400.22-default #1 SMP PREEMPT_DYNAMIC Wed May 11 06:57:18 UTC 2022 (49db222)
  x86_64 x86_64 x86_64 GNU/Linux


------------------------------------------------------------
2. w
   02:28:11 up 2 min,  1 user,  load average: 0.12, 0.06, 0.01
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1     -                02:26    3.00s  0.93s  0.01s -bash
```

(Continued on next page)

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Platform Notes (Continued)

```
----------------------------------------------------------
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
  pending signals                 (-i) 514708
  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) 514708
  virtual memory          (kbytes, -v) unlimited
  file locks                      (-x) unlimited

----------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize 30
 login -- root
 -bash
 -bash
 runcpu --nobuild --action validate --define default-platform-flags -c
   ic2023.0-lin-core-avx512-speed-20221201.cfg --define cores=8 --tune base,peak -o all --define
   intspeedaffinity --define smt-on --define drop_caches intspeed
 runcpu --nobuild --action validate --define default-platform-flags --configfile
   ic2023.0-lin-core-avx512-speed-20221201.cfg --define cores=8 --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/CPU2017.009/templogs/preenv.intspeed.009.0.log --lognum 009.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
 $SPEC = /home/cpu2017

----------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) E-2388G CPU @ 3.20GHz
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 167
    stepping        : 1
    microcode       : 0x57
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
    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.

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

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Platform Notes (Continued)

```
7. lscpu

From lscpu from util-linux 2.37.2:
  Architecture:                x86_64
  CPU op-mode(s):              32-bit, 64-bit
  Address sizes:               39 bits physical, 48 bits virtual
  Byte Order:                  Little Endian
  CPU(s):                      16
  On-line CPU(s) list:         0-15
  Vendor ID:                   GenuineIntel
  Model name:                  Intel(R) Xeon(R) E-2388G CPU @ 3.20GHz
  CPU family:                  6
  Model:                       167
  Thread(s) per core:          2
  Core(s) per socket:          8
  Socket(s):                   1
  Stepping:                    1
  Frequency boost:             enabled
  CPU max MHz:                 3201.0000
  CPU min MHz:                 800.0000
  BogoMIPS:                    6384.00
  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 sse4_1 sse4_2
                               x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm
                               abm 3dnowprefetch cpuid_fault epb invpcid_single ssbd ibrs ibpb stibp
                               ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid ept_ad fsgsbase
                               tsc_adjust bmi1 avx2 smep bmi2 erms invpcid mpx avx512f avx512dq rdseed
                               adx smap avx512ifma clflushopt intel_pt avx512cd sha_ni avx512bw avx512vl
                               xsaveopt xsavec xgetbv1 xsaves dtherm ida arat pln pts avx512vbmi umip pku
                               ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg
                               avx512_vpopcntdq rdpid fsrm md_clear flush_l1d arch_capabilities
  Virtualization:              VT-x
  L1d cache:                   384 KiB (8 instances)
  L1i cache:                   256 KiB (8 instances)
  L2 cache:                    4 MiB (8 instances)
  L3 cache:                    16 MiB (1 instance)
  NUMA node(s):                1
  NUMA node0 CPU(s):           0-15
  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 and seccomp
  Vulnerability Spectre v1:    Mitigation; usercopy/swapgs 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      384K  12 Data             1    64        1              64
    L1i      32K      256K   8 Instruction      1    64        1              64
    L2      512K        4M   8 Unified          2  1024        1              64
    L3       16M       16M  16 Unified          3 16384        1              64

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

(Continued on next page)

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Software Availability: Dec-2022

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: 128701 MB
  node 0 free: 128115 MB
  node distances:
  node   0
    0:  10


--------------------------------------------------------------
9. /proc/meminfo
  MemTotal:       131789964 kB


--------------------------------------------------------------
10. who -r
  run-level 3 Aug 7 02:26


--------------------------------------------------------------
11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)
  Default Target  Status
  multi-user      running


--------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager getty@ haveged
                   irqbalance issue-generator kbdsettings klog lvm2-monitor nscd nvmefc-boot-connections
                   postfix purge-kernels rollback rsyslog smartd sshd wicked wickedd-auto4 wickedd-dhcp4
                   wickedd-dhcp6 wickedd-nanny
  enabled-runtime  systemd-remount-fs
  disabled         autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
                   chronyd console-getty cups cups-browsed debug-shell ebtables exchange-bmc-os-info
                   firewalld gpm grub2-once haveged-switch-root ipmi ipmievd issue-add-ssh-keys kexec-load
                   lunmask man-db-create multipathd nfs nfs-blkmap nvmf-autoconnect rdisc rpcbind
                   rpmconfigcheck rsyncd serial-getty@ smartd_generate_opts snmpd snmptrapd
                   systemd-boot-check-no-failures systemd-network-generator systemd-sysext
                   systemd-time-wait-sync systemd-timesyncd tcsd udisks2
  indirect         wickedd


--------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
  root=UUID=4f2b8917-d4b6-4b8d-ac40-54e299d9c7ea
  splash=silent
  mitigations=auto
  quiet
  security=apparmor


--------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 0:
    current policy: frequency should be within 800 MHz and 3.20 GHz.
                    The governor "ondemand" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes


--------------------------------------------------------------
15. sysctl
```

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Platform Notes (Continued)

```
    kernel.numa_balancing                 0
    kernel.randomize_va_space             2
    vm.compaction_proactiveness          20
    vm.dirty_background_bytes             0
    vm.dirty_background_ratio            10
    vm.dirty_bytes                        0
    vm.dirty_expire_centisecs          3000
    vm.dirty_ratio                       20
    vm.dirty_writeback_centisecs        500
    vm.dirtytime_expire_seconds       43200
    vm.extfrag_threshold                500
    vm.min_unmapped_ratio                 1
    vm.nr_hugepages                       0
    vm.nr_hugepages_mempolicy             0
    vm.nr_overcommit_hugepages            0
    vm.swappiness                        60
    vm.watermark_boost_factor         15000
    vm.watermark_scale_factor            10
    vm.zone_reclaim_mode                  0


  ----------------------------------------------------------
16. /sys/kernel/mm/transparent_hugepage
  defrag           always defer defer+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 SP4


  ----------------------------------------------------------
19. Disk information
SPEC is set to: /home/cpu2017
  Filesystem      Type  Size  Used Avail Use% Mounted on
  /dev/nvme0n1p2 xfs   117G   23G   95G  20% /


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


  ----------------------------------------------------------
21. dmidecode
  Additional information from dmidecode 3.2 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.
```

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Platform Notes (Continued)

```
   Memory:
     4x Micron Technology 18ADF4G72AZ-3G2B3 32 GB 2 rank 3200


     ----------------------------------------------------------
  22. BIOS
  (This section combines info from /sys/devices and dmidecode.)
     BIOS Vendor:        American Megatrends International, LLC.
     BIOS Version:       1.4
     BIOS Date:          02/13/2023
     BIOS Revision:      5.22
```

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`

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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:
`-m64 -std=c11 -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:
`-m64 -std=c++14 -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:
`-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`

Peak Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

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Microcloud SuperServer SYS-530MT-H8TNR
(X12STD-F , Intel Xeon E-2388G)

SPECspeed®2017_int_base = 15.9

SPECspeed®2017_int_peak = 16.2

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

Test Date: Aug-2023
Hardware Availability: Sep-2021
Software Availability: Dec-2022

Peak Portability Flags

```
Same as Base Portability Flags
```

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 -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

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

SPEC CPU®2017 Integer Speed Result

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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-ic2023-official-linux64_revB.html
http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-RKL-revB.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64_revB.xml
http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-RKL-revB.xml

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