



SPEC CPU®2017 Integer Rate Result

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Fusionstor
(Test Sponsor: Meganet)

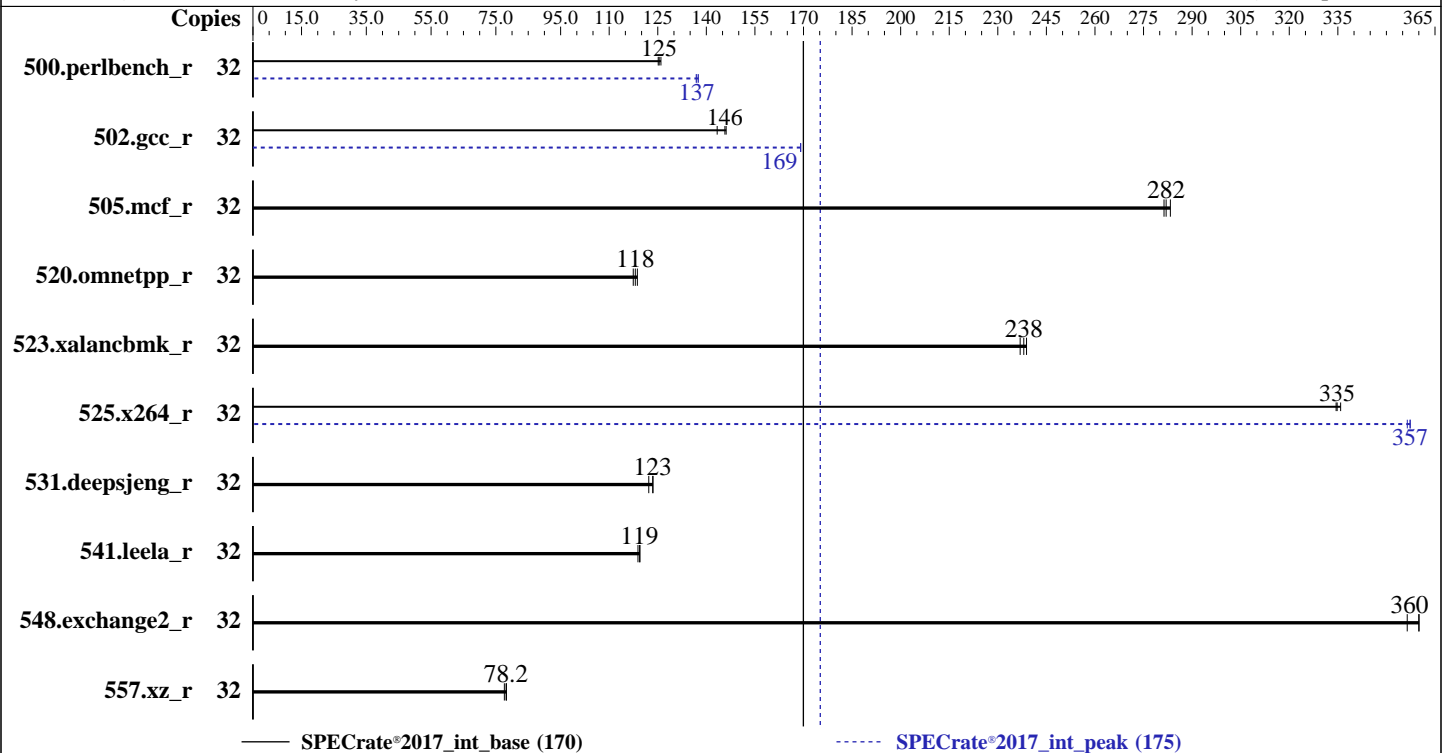
SPECrate®2017_int_base = 170

Invento i6000 (Intel Xeon Silver 4509Y)

SPECrate®2017_int_peak = 175

CPU2017 License: 6221
Test Sponsor: Meganet
Tested by: Fusionstor system

Test Date: Oct-2024
Hardware Availability: Feb-2024
Software Availability: Sep-2024



Hardware

CPU Name: Intel Xeon Silver 4509Y
 Max MHz: 4100
 Nominal: 2600
 Enabled: 16 cores, 2 chips, 2 threads/core
 Orderable: 1,2 chips
 Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 22.5 MB I+D on chip per chip
 Other: 5 GB I+D off chip per system board
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-4800B-R, running at 4400)
 Storage: 960 GB SATA SSD
 Other: CPU Cooling: Air

Software

OS: Ubuntu 22.04.4 LTS
 6.8.0-45-generic
 Compiler: C/C++: Version 2023.2.3 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2023.2.3 of Intel Fortran Compiler for Linux;
 Parallel: No
 Firmware: Version EG0.10.01 released Mar-2024
 File System: ext4
 System State: Run level 5 (multi user)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other: jemalloc memory allocator V5.0.1
 Power Management: BIOS set to prefer performance at the cost of additional power usage



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	32	404	126	406	125	407	125	32	372	137	370	138	372	137
502.gcc_r	32	311	146	316	143	310	146	32	268	169	268	169	268	169
505.mcf_r	32	184	281	183	282	183	283	32	184	281	183	282	183	283
520.omnetpp_r	32	354	119	356	118	358	117	32	354	119	356	118	358	117
523.xalancbmk_r	32	142	238	141	239	143	237	32	142	238	141	239	143	237
525.x264_r	32	168	334	167	335	167	336	32	157	357	157	357	157	356
531.deepsjeng_r	32	297	123	297	124	300	122	32	297	123	297	124	300	122
541.leela_r	32	444	119	443	120	446	119	32	444	119	443	120	446	119
548.exchange2_r	32	233	360	233	360	235	356	32	233	360	233	360	235	356
557.xz_r	32	445	77.6	442	78.3	442	78.2	32	445	77.6	442	78.3	442	78.2

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

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"

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
"/home/speccpu/cpu2017/lib/intel64:/home/speccpu/cpu2017/lib/ia32:/home/speccpu/cpu2017/je5.0.1-32"
MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM memory using Red Hat Enterprise Linux 8.4
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>
jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5
sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>



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Platform Notes

BIOS Configuration
SNC (Sub NUMA) set to Enable SNC2 (2-Clusters)

Sysinfo program /home/speccpu/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on intel Mon Oct 7 13:09:14 2024

SUT (System Under Test) info as seen by some common utilities.

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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 (249.11-0ubuntu3.12)
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 intel 6.8.0-45-generic #45~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Wed Sep 11 15:25:05 UTC 2 x86_64 x86_64
x86_64 GNU/Linux

```

```

2. w
13:09:14 up 38 min, 2 users, load average: 0.12, 0.13, 0.09
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
intel    :1       :1            12:58   ?xdm?  5:22   0.00s  /usr/libexec/gdm-x-session --run-script env
GNOME_SHELL_SESSION_MODE=ubuntu /usr/bin/gnome-session --session=ubuntu
intel    pts/1    -             13:09   3.00s  1.41s  0.00s  sudo
./reportable-ic2023.2.3-lin-sapphirerapids-rate-smt-on-20231121.sh

```

```

3. Username
From environment variable $USER:  root
From the command 'logname':      intel

```

```

4. ulimit -a
time(seconds)      unlimited
file(blocks)       unlimited

```

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Platform Notes (Continued)

data(kbytes)	unlimited
stack(kbytes)	unlimited
coredump(blocks)	0
memory(kbytes)	unlimited
locked memory(kbytes)	132062916
process	4126662
nofiles	1024
vmemory(kbytes)	unlimited
locks	unlimited
rtprio	0

```

5. sysinfo process ancestry
/sbin/init splash
/lib/systemd/systemd --user
/usr/libexec/gnome-terminal-server
bash
sudo ./reportable-ic2023.2.3-lin-sapphirerapids-rate-smt-on-20231121.sh
sudo ./reportable-ic2023.2.3-lin-sapphirerapids-rate-smt-on-20231121.sh
sh ./reportable-ic2023.2.3-lin-sapphirerapids-rate-smt-on-20231121.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=32 -c
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=16 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak -o all intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=32 --configfile
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=16 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
--runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.001/templogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpu/cpu2017

```

```

6. /proc/cpuinfo
model name      : INTEL(R) XEON(R) SILVER 4509Y
vendor_id      : GenuineIntel
cpu family      : 6
model           : 143
stepping        : 8
microcode       : 0x2b0005c0
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb bhi
cpu cores       : 8
siblings        : 16
2 physical ids (chips)
32 processors (hardware threads)
physical id 0: core ids 0-7
physical id 1: core ids 0-7
physical id 0: apicids 0-15
physical id 1: apicids 64-79
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 2.37.2:
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):             32

```

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Platform Notes (Continued)

```

On-line CPU(s) list:          0-31
Vendor ID:                   GenuineIntel
Model name:                   INTEL(R) XEON(R) SILVER 4509Y
CPU family:                   6
Model:                        143
Thread(s) per core:          2
Core(s) per socket:          8
Socket(s):                    2
Stepping:                     8
CPU max MHz:                  4100.0000
CPU min MHz:                  800.0000
BogoMIPS:                     5200.00
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 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 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 split_lock_detect
                             user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hfi
                             vnni 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:                   768 KiB (16 instances)
L1i cache:                   512 KiB (16 instances)
L2 cache:                    32 MiB (16 instances)
L3 cache:                    45 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 Gather data sampling: Not affected
Vulnerability Itlb multihit:   Not affected
Vulnerability Lltf:           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;
                             PBRSE-eIBRS SW sequence; BHI BHI_DIS_S
Vulnerability Srbds:          Not affected
Vulnerability Tsx async abort: Not affected

```

```

From lscpu --cache:
NAME ONE-SIZE ALL-SIZE WAYS TYPE      LEVEL SETS PHY-LINE COHERENCY-SIZE
L1d      48K      768K      12 Data      1      64      1      64

```

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Platform Notes (Continued)

L1i	32K	512K	8 Instruction	1	64	1	64
L2	2M	32M	16 Unified	2	2048	1	64
L3	22.5M	45M	15 Unified	3	24576	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: 257651 MB
node 0 free: 256630 MB
node 1 cpus: 4-7,20-23
node 1 size: 258002 MB
node 1 free: 257250 MB
node 2 cpus: 8-11,24-27
node 2 size: 258044 MB
node 2 free: 257162 MB
node 3 cpus: 12-15,28-31
node 3 size: 258042 MB
node 3 free: 257009 MB
node distances:
node  0  1  2  3
  0: 10 12 21 21
  1: 12 10 21 21
  2: 21 21 10 12
  3: 21 21 12 10

```

9. /proc/meminfo

MemTotal: 1056503344 kB

10. who -r

run-level 5 Oct 7 12:31

11. Systemd service manager version: systemd 249 (249.11-0ubuntu3.12)

```

Default Target Status
graphical      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 ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online
accounts-daemon anacron anydesk apparmor avahi-daemon bluetooth console-setup cron cups
cups-browsed dmesg e2scrub_reap getty@ gpu-manager grub-common grub-initrd-fallback
irqbalance kerneloops keyboard-setup networkd-dispatcher openvpn power-profiles-daemon
rsyslog secureboot-db setvtrgb snapd ssh switcheroo-control systemd-oomd systemd-pstore
systemd-resolved systemd-timesyncd teamviewerd thermald ua-reboot-cmds ubuntu-advantage
udisks2 ufw unattended-upgrades wpa_supplicant
enabled-runtime netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
disabled acpid brltty console-getty debug-shell nftables openvpn-client@ openvpn-server@ openvpn@
rsync rtkit-daemon serial-getty@ speech-dispatcherd systemd-boot-check-no-failures
systemd-network-generator systemd-networkd systemd-networkd-wait-online systemd-sysext
systemd-time-wait-sync tlp upower wpa_supplicant-nl80211@ wpa_supplicant-wired@

```

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Platform Notes (Continued)

```

wpa_supplicant@
generated      apport cpufrequtils loadcpufreq speech-dispatcher
indirect       saned@ spice-vdagentd uidd
masked         alsactl cryptdisks cryptdisks-early hwclock pulseaudio-enable-autospawn rc rcS saned
               screen-cleanup sudo systemd-rfkill x11-common

```

```

-----
14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.8.0-45-generic
root=UUID=073562bb-1438-42b9-adfa-6a6f7f3d3559
ro
quiet
splash
vt.handoff=7

```

```

-----
15. cpupower frequency-info
analyzing CPU 4:
  current policy: frequency should be within 800 MHz and 4.10 GHz.
                  The governor "ondemand" may decide which speed to use
                  within this range.

boost state support:
  Supported: yes
  Active: yes

```

```

-----
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                   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+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

```

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Platform Notes (Continued)

```
max_ptes_swap          64
pages_to_scan          4096
scan_sleep_millisecs   10000
```

19. OS release
From /etc/*-release /etc/*-version
os-release Ubuntu 22.04.4 LTS

20. Disk information
SPEC is set to: /home/speccpu/cpu2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 879G 676G 159G 82% /

21. /sys/devices/virtual/dmi/id
Vendor: Fusionstor
Product: Invento_i6000
Product Family: SG_Intel_EagleStream
Serial: HQ3110001BDA03CD0002

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:
16x NO DIMM NO DIMM
16x Samsung M321R8GA0BB0-CQKZJ 64 GB 2 rank 4800, configured at 4400

23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor: American Megatrends International, LLC.
BIOS Version: EG0.10.01
BIOS Date: 03/22/2024
BIOS Revision: 5.32

Compiler Version Notes

=====
C | 502.gcc_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====
C | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak)
| 557.xz_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

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Compiler Version Notes (Continued)

C | 502.gcc_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====
C | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak)
| 557.xz_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====
C++ | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak) 531.deepsjeng_r(base, peak)
| 541.leela_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====
Fortran | 548.exchange2_r(base, peak)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

Base Portability Flags

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64

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Base Portability Flags (Continued)

541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Peak Portability Flags

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

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Fusionstor
(Test Sponsor: Meganet)

SPECrate®2017_int_base = 170

Invento i6000 (Intel Xeon Silver 4509Y)

SPECrate®2017_int_peak = 175

CPU2017 License: 6221
Test Sponsor: Meganet
Tested by: Fusionstor system

Test Date: Oct-2024
Hardware Availability: Feb-2024
Software Availability: Sep-2024

Peak Portability Flags (Continued)

```
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64
```

Peak Optimization Flags

C benchmarks:

```
500.perlbench_r: -w -std=c11 -m64 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-fno-strict-overflow
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

```
502.gcc_r: -m32
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/ia32_lin
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc
```

505.mcf_r: basepeak = yes

```
525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

557.xz_r: basepeak = yes

C++ benchmarks:

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

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CPU2017 License: 6221
Test Sponsor: Meganet
Tested by: Fusionstor system

Test Date: Oct-2024
Hardware Availability: Feb-2024
Software Availability: Sep-2024

Peak Optimization Flags (Continued)

520.omnetpp_r: basepeak = yes
523.xalancbmk_r: basepeak = yes
531.deepsjeng_r: basepeak = yes
541.leela_r: basepeak = yes

Fortran benchmarks:

548.exchange2_r: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.html>
<http://www.spec.org/cpu2017/flags/Fusionstor-Platform-Flags-Intel-ICX-rev6.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.xml>
<http://www.spec.org/cpu2017/flags/Fusionstor-Platform-Flags-Intel-ICX-rev6.xml>

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