



SPEC CPU®2017 Integer Rate Result

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GIGA-BYTE TECHNOLOGY CO., LTD.

(Test Sponsor: Giga Computing Technology Co., Ltd.)

R184-A92-LAJ1

(2.0 GHz, Intel Xeon 6980P)

SPECrate®2017_int_base = 2440

SPECrate®2017_int_peak = 2520

CPU2017 License: 9082

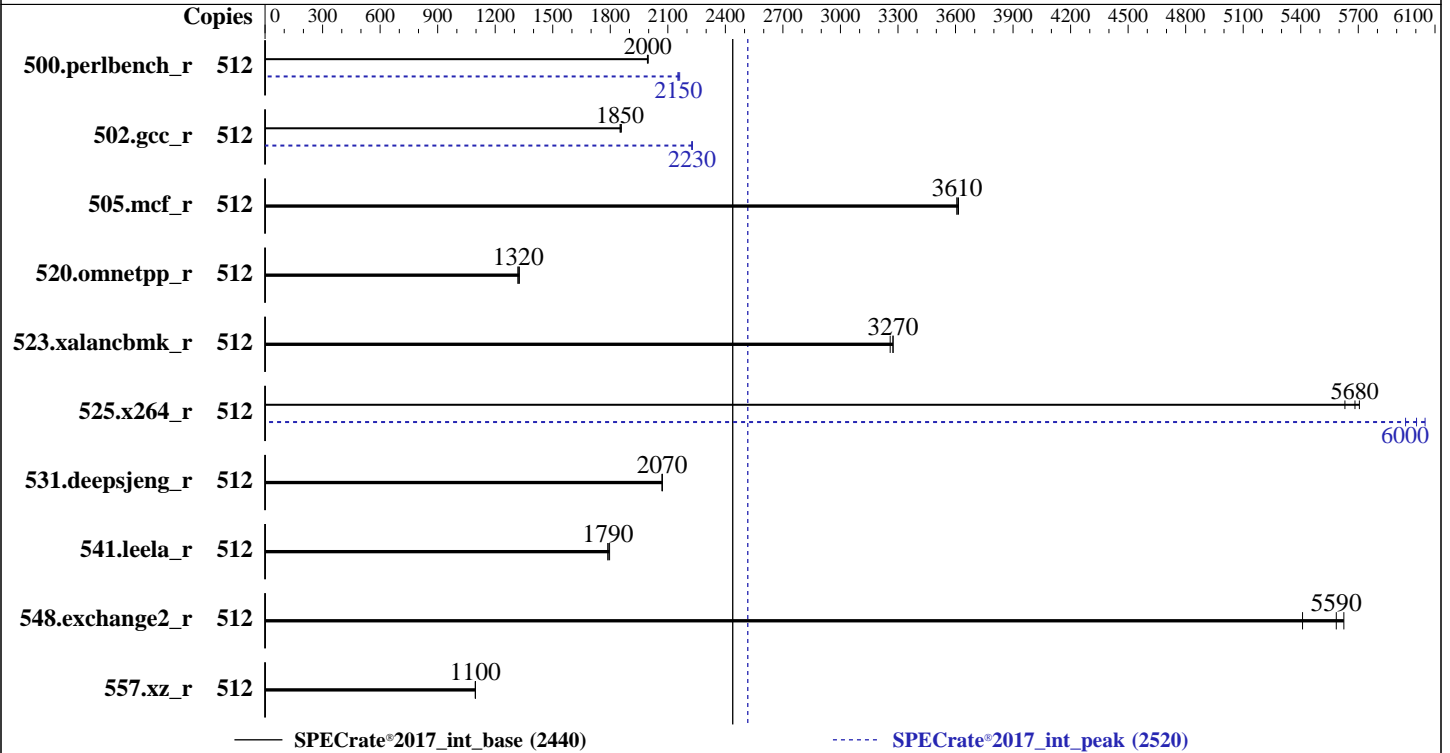
Test Sponsor: Giga Computing Technology Co., Ltd.

Tested by: Giga Computing Technology Co., Ltd.

Test Date: Dec-2024

Hardware Availability: Dec-2024

Software Availability: Jun-2024



Hardware

CPU Name: Intel Xeon 6980P
 Max MHz: 3900
 Nominal: 2000
 Enabled: 256 cores, 2 chips, 2 threads/core
 Orderable: 1,2 chip(s)
 Cache L1: 64 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 504 MB I+D on chip per chip
 Other: None
 Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-11200B-R, running at 8800)
 Storage: 1 x 3.84TB SSD
 Other: CPU Cooling: DLC

Software

OS: SUSE Linux Enterprise Server 15 SP6
 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: No
 Firmware: Version F11 released Dec-2024
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	512	408	2000	408	2000	409	1990	512	378	2150	379	2150	377	2160
502.gcc_r	512	392	1850	391	1850	390	1860	512	325	2230	326	2220	325	2230
505.mcf_r	512	229	3610	229	3620	229	3610	512	229	3610	229	3620	229	3610
520.omnetpp_r	512	510	1320	509	1320	507	1330	512	510	1320	509	1320	507	1330
523.xalancbmk_r	512	165	3270	166	3260	165	3270	512	165	3270	166	3260	165	3270
525.x264_r	512	157	5710	158	5680	159	5630	512	149	6000	151	5950	148	6050
531.deepsjeng_r	512	283	2070	283	2070	283	2070	512	283	2070	283	2070	283	2070
541.leela_r	512	474	1790	474	1790	472	1800	512	474	1790	474	1790	472	1800
548.exchange2_r	512	240	5590	238	5620	248	5410	512	240	5590	238	5620	248	5410
557.xz_r	512	504	1100	504	1100	504	1100	512	504	1100	504	1100	504	1100

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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/cpu2017/lib/intel64:/home/cpu2017/lib/ia32:/home/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:

Power Policy Quick Setting set to Best Performance

Hyper-Performance set to Maximum

Sysinfo program /home/cpu2017/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Fri Dec 27 22:03:36 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 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. 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 localhost 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36cle09/1p)
x86_64 x86_64 x86_64 GNU/Linux

```

```

2. w
 22:03:36 up 5 min,  1 user,  load average: 0.38, 0.96, 0.51
USER      TTY      FROM          LOGIN@      IDLE        JCPU       PCPU       WHAT
root     tty1      -              22:01       20.00s     1.32s     0.08s     -bash

```

```

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) 6189880
max locked memory       (kbytes, -l) 8192

```

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Platform Notes (Continued)

```

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) 6189880
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 --define numcopies=512 -c
ic2024.1-lin-core-avx512-rate-20240308.cfg --define smt-on --define cores=256 --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=512 --configfile
ic2024.1-lin-core-avx512-rate-20240308.cfg --define smt-on --define cores=256 --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/CPU2017.013/templogs/preenv.intrate.013.0.log --lognum 013.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017

```

6. /proc/cpuinfo

```

model name      : Intel(R) Xeon(R) 6980P
vendor_id       : GenuineIntel
cpu family      : 6
model           : 173
stepping        : 1
microcode       : 0x1000360
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores       : 128
siblings        : 256
2 physical ids (chips)
512 processors (hardware threads)
physical id 0:  core ids 0-42,64-106,128-169
physical id 1:  core ids 0-42,64-106,128-169
physical id 0:  apicids 0-85,128-213,256-339
physical id 1:  apicids 512-597,640-725,768-851

```

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):             512
On-line CPU(s) list: 0-511
Vendor ID:          GenuineIntel
BIOS Vendor ID:    Intel(R) Corporation

```

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Platform Notes (Continued)

```

Model name: Intel(R) Xeon(R) 6980P
BIOS Model name: Intel(R) Xeon(R) 6980P CPU @ 2.0GHz
BIOS CPU family: 179
CPU family: 6
Model: 173
Thread(s) per core: 2
Core(s) per socket: 128
Socket(s): 2
Stepping: 1
CPU(s) scaling MHz: 22%
CPU max MHz: 3900.0000
CPU min MHz: 800.0000
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 sse3 sdbg fma cx16
xtpr pcdm 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 bml 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 hwp hwp_act_window hwp_epp hwp_pkg_req 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: 12 MiB (256 instances)
L1i cache: 16 MiB (256 instances)
L2 cache: 512 MiB (256 instances)
L3 cache: 1008 MiB (2 instances)
NUMA node(s): 6
NUMA node0 CPU(s): 0-42,256-298
NUMA node1 CPU(s): 43-85,299-341
NUMA node2 CPU(s): 86-127,342-383
NUMA node3 CPU(s): 128-170,384-426
NUMA node4 CPU(s): 171-213,427-469
NUMA node5 CPU(s): 214-255,470-511
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/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling;
PBRSE-eIBRS Not affected; BHI BHI_DIS_S

Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected

```

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Platform Notes (Continued)

From `lscpu --cache:`

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	12M	12	Data	1	64	1	64
L1i	64K	16M	16	Instruction	1	64	1	64
L2	2M	512M	16	Unified	2	2048	1	64
L3	504M	1008M	16	Unified	3	516096	1	64

8. `numactl --hardware`

NOTE: a `numactl 'node'` might or might not correspond to a physical chip.

```

available: 6 nodes (0-5)
node 0 cpus: 0-42,256-298
node 0 size: 257566 MB
node 0 free: 256546 MB
node 1 cpus: 43-85,299-341
node 1 size: 258025 MB
node 1 free: 256983 MB
node 2 cpus: 86-127,342-383
node 2 size: 258026 MB
node 2 free: 256300 MB
node 3 cpus: 128-170,384-426
node 3 size: 257986 MB
node 3 free: 257058 MB
node 4 cpus: 171-213,427-469
node 4 size: 258025 MB
node 4 free: 257138 MB
node 5 cpus: 214-255,470-511
node 5 size: 257870 MB
node 5 free: 256967 MB
node distances:
node  0  1  2  3  4  5
0:  10 12 12 21 21 21
1:  12 10 12 21 21 21
2:  12 12 10 21 21 21
3:  21 21 21 10 12 12
4:  21 21 21 12 10 12
5:  21 21 21 12 12 10

```

9. `/proc/meminfo`

MemTotal: 1584641604 kB

10. `who -r`

run-level 3 Dec 27 22:00

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	ModemManager YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd bluetooth cron display-manager firewalld getty@ irqbalance issue-generator kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections nvmmf-autoconnect postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny wpa_supplicant

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Platform Notes (Continued)

```

enabled-runtime  systemd-remount-fs
disabled         NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon autofsd
                 autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates
                 chrony-wait chronyd console-getty cups cups-browsed debug-shell dmraid-activation dnsmasq
                 ebttables exchange-bmc-os-info fsidd gpm grub2-once haveged ipmi ipmievdev issue-add-ssh-keys
                 kexec-load ksm kvm_stat lunmask man-db-create multipathd munge nfs nfs-blkmap nmb ntp-wait
                 ntpd openvpn@ ostree-remount rpbind rpmconfigcheck rsyncd rtkit-daemon salt-minion
                 serial-getty@ slurmd smartd_generate_opts smb snmpd snmptrapd speech-dispatcherd svnserv
                 systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-sysext
                 systemd-time-wait-sync systemd-timesyncd udisks2 update-system-flatpaks upower vncserver@
                 wpa_supplicant@ ypbind
indirect         pcsd saned@ systemd-userdbd wickedd

```

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=205c50d5-8622-4656-b281-2c13270d7d8e
splash=silent
resume=/dev/disk/by-uuid/66e6d88c-6f5e-41e0-a414-a0794a222fa2
mitigations=auto
quiet
security=apparmor

```

```

-----
14. cpupower frequency-info
analyzing CPU 302:
  current policy: frequency should be within 800 MHz and 3.90 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

boost state support:
  Supported: yes
  Active: yes

```

```

-----
15. sysctl
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                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
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

```

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Platform Notes (Continued)

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 SP6
-----
```

```
-----
19. Disk information
SPEC is set to: /home/cpu2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p3 xfs 2.5T 299G 2.2T 12% /home
-----
```

```
-----
20. /sys/devices/virtual/dmi/id
Vendor: Giga Computing
Product: R184-A92-LAJ1-000
Product Family: Server
Serial: GOG5D1712A0003
-----
```

```
-----
21. 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:
24x Samsung M327R8GA0EB0-CLVXB 64 GB 2 rank 11200, configured at 8800
-----
```

```
-----
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor: GIGABYTE
BIOS Version: F11
BIOS Date: 12/26/2024
BIOS Revision: 5.35
-----
```

Compiler Version Notes

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 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)

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Compiler Version Notes (Continued)

| 557.xz_r(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 | 502.gcc_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 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 2024.1.0 Build 20240308
Copyright (C) 1985-2024 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 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

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

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Base Portability Flags

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

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GIGA-BYTE TECHNOLOGY CO., LTD.

(Test Sponsor: Giga Computing Technology Co., Ltd.)

R184-A92-LAJ1

(2.0 GHz, Intel Xeon 6980P)

SPECrate®2017_int_base = 2440

SPECrate®2017_int_peak = 2520

CPU2017 License: 9082

Test Sponsor: Giga Computing Technology Co., Ltd.

Tested by: Giga Computing Technology Co., Ltd.

Test Date: Dec-2024

Hardware Availability: Dec-2024

Software Availability: Jun-2024

Base Portability Flags (Continued)

```
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
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 -xCORE-AVX512 -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc
```

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/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc
```

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 -auto
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc
```

Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx



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Peak Portability Flags

```

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
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/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc

502.gcc_r: -m32 -L/opt/intel/oneapi/compiler/2024.1/lib32 -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 -xCORE-AVX512 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc

557.xz_r: basepeak = yes

C++ benchmarks:

520.omnetpp_r: basepeak = yes

```

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Test Date: Dec-2024

Hardware Availability: Dec-2024

Software Availability: Jun-2024

Peak Optimization Flags (Continued)

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-ic2024-official-linux64.html>

<http://www.spec.org/cpu2017/flags/GIGABYTE-Platform-Flags-Intel-GNR-rev1.0.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/GIGABYTE-Platform-Flags-Intel-GNR-rev1.0.xml>

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