



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR860 V3
(1.90 GHz, Intel Xeon Platinum 8490H)

SPECrate®2017_int_base = 1410
SPECrate®2017_int_energy_base = 1040
SPECrate®2017_int_peak = Not Run
SPECrate®2017_int_energy_peak = Not Run

CPU2017 License: 9017

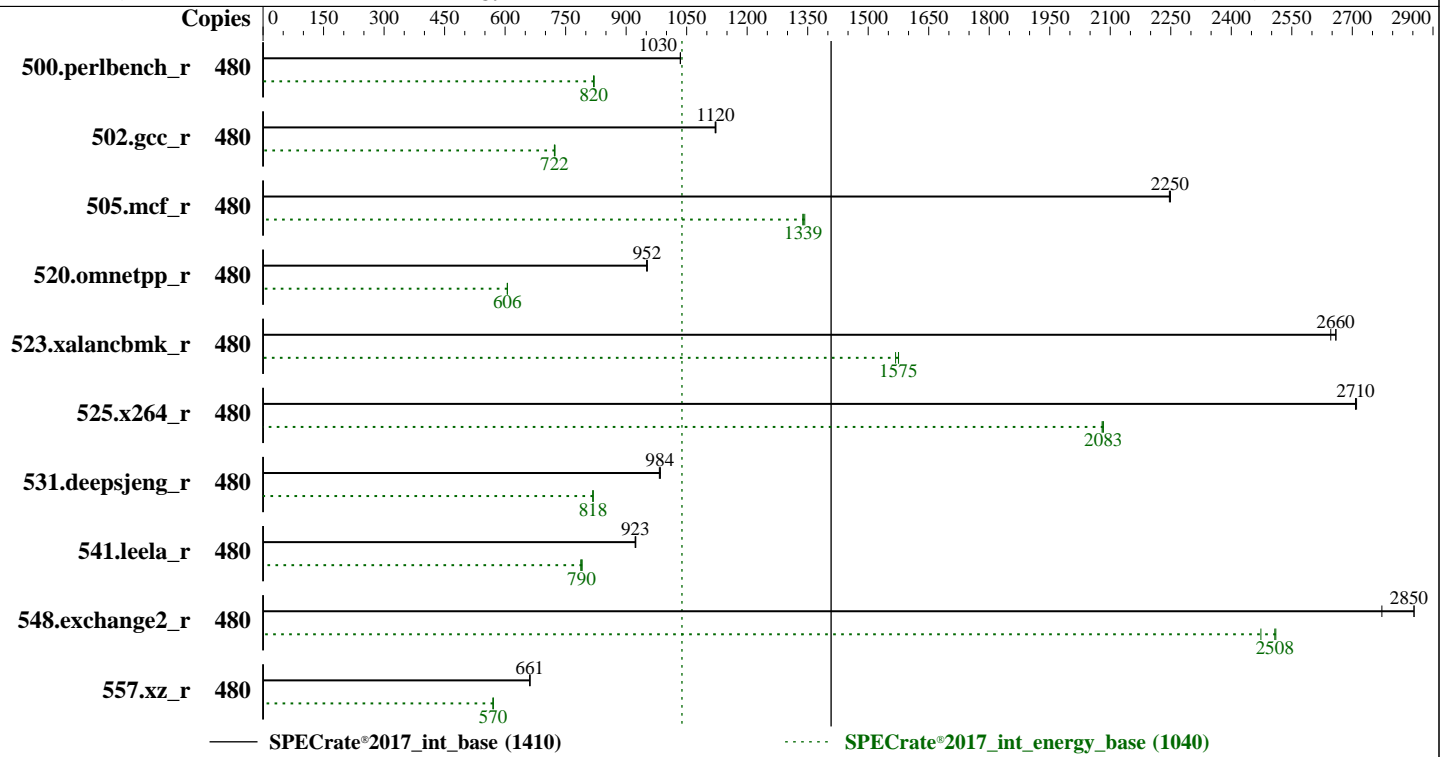
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Jul-2023

Hardware Availability: Jun-2023

Software Availability: Dec-2022



Hardware

CPU Name: Intel Xeon Platinum 8490H
Max MHz: 3500
Nominal: 1900
Enabled: 240 cores, 4 chips, 2 threads/core
Orderable: 2,4 chips
Cache L1: 32 KB I + 48 KB D on chip per core
L2: 2 MB I+D on chip per core
L3: 112.5 MB I+D on chip per chip
Other: None
Memory: 1 TB (32 x 32 GB 2Rx8 PC5-4800B-R)
Storage: 1 x 480 GB M.2 NVMe SSD
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP4 (x86_64)
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: No
Firmware: Lenovo BIOS Version RSE105E 1.10 released May-2023
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other: None
Power Management: BIOS and OS set to balance power and performance

Power

Max. Power (W): 2020.5
Idle Power (W): 605.1
Min. Temperature (C): 24.63
Elevation (m): 43
Line Standard: 220 V / 50 Hz / 1 phase / 3 wires
Provisioning: Line-powered



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Power Settings

Management FW: Version 1.10 of RSX303X
Memory Mode: Normal

Power-Relevant Hardware

Power Supply: 4 x 1100 W (non-redundant)
Details: ThinkSystem 1100W Titanium Power Supply 4P57A72666
Backplane: M.2 SATA/NVMe 2-Bay Enablement Kit
Other Storage: None
Storage Model #: 4XB7A82636
NICs Installed: 1 x ThinkSystem Ethernet 4-port Adaptor @ 1 Gb
NICs Enabled (FW/OS): 4 / 1
NICs Connected/Speed: 1 @ 1 Gb
Other HW Model #: 6 x Performance fans

Power Analyzer

Power Analyzer: WIN:9888
Hardware Vendor: YOKOGAWA, Inc.
Model: YokogawaWT310E
Serial Number: C3UG05014E
Input Connection: Default
Metrology Institute: CNAS
Calibration By: GRG METROLOGY & TEST (BEIJING) CO., LTD.
Calibration Label: J202210116758A-0005
Calibration Date: 19-Oct-2022
PTDaemon® Version: 1.10.0 (82175bac; 2022-08-17)
Setup Description: Connected to PSU1
Current Ranges Used: 10A
Voltage Range Used: 300V

Temperature Meter

Temperature Meter: WIN:9889
Hardware Vendor: Digi International, Inc.
Model: DigiWATCHPORT_H
Serial Number: W63074363
Input Connection: USB
PTDaemon Version: 1.10.0 (82175bac; 2022-08-17)
Setup Description: 50 mm in front of SUT main intake

Base Results Table

Benchmark	Copies	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power
500.perlbench_r	480	739	1030	1010	821	1370	1690	739	1030	1010	819	1370	1700	739	1030	1010	820	1370	1690
502.gcc_r	480	605	1120	1020	724	1680	1970	606	1120	1020	722	1690	1990	607	1120	1020	722	1690	1980
505.mcf_r	480	345	2250	634	1340	1840	2020	345	2250	634	1340	1840	2020	345	2250	632	1340	1830	2020
520.omnetpp_r	480	662	952	1130	606	1700	1790	662	951	1130	606	1700	1790	661	952	1130	606	1700	1800
523.xalancbmk_r	480	191	2660	348	1580	1830	2020	191	2660	349	1570	1830	2020	192	2650	350	1570	1830	2020
525.x264_r	480	310	2710	438	2080	1410	1770	310	2710	438	2080	1410	1760	310	2710	437	2080	1410	1760
531.deepsjeng_r	480	559	985	731	818	1310	1700	560	982	732	817	1310	1690	559	984	731	818	1310	1680
541.leela_r	480	860	924	1090	791	1260	1480	862	922	1090	787	1270	1470	861	923	1090	790	1260	1470
548.exchange2_r	480	441	2850	544	2510	1230	1250	441	2850	543	2510	1230	1250	453	2770	551	2470	1220	1250
557.xz_r	480	784	661	988	570	1260	1620	784	661	988	570	1260	1620	783	662	988	571	1260	1610

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

Compiler Notes

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

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Compiler Notes (Continued)

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

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

Submit Notes

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

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Environment Variables Notes

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

```
LD_LIBRARY_PATH =
  "/home/cpu2017-1.1.9-ic2023.0/lib/intel64:/home/cpu2017-1.1.9-ic2023.0/lib/ia32:/home/cpu2017-1.1.9-ic
  2023.0/je5.0.1-32"
MALLOCONF = "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>

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.

Platform Notes

BIOS configuration:
Choose Operating Mode set to Efficiency - Favor Power and then set it to Custom Mode
Memory Speed set to Maximum Performance
Optimized Power Mode set to Enable

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Platform Notes (Continued)

Sysinfo program /home/cpu2017-1.1.9-ic2023.0/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Wed Jul 26 00:55:33 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 localhost 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
00:55:33 up 5 min, 1 user, load average: 1.50, 13.72, 8.67
USER      TTY      FROM          LOGIN@      IDLE        JCPU      PCPU      WHAT
root      tty1      -              00:52       21.00s     2.06s    0.07s    /bin/bash ./run_SR860V3_EageStream.sh
```

```
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) 4126369
max locked memory      (kbytes, -l) 64
max memory size        (kbytes, -m) unlimited
```

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Platform Notes (Continued)

```

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) 4126369
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
/bin/bash ./run_SR860V3_EageStream.sh
/bin/bash ./run_SR860V3_EageStream.sh
runcpu --power --nobuild --action validate --define default-platform-flags --define numcopies=480 -c
  ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=240 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base -o all intrate
runcpu --power --nobuild --action validate --define default-platform-flags --define numcopies=480
  --configfile ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=240 --define
  physicalfirst --define invoke_with_interleave --define drop_caches --tune base --output_format all
  --runmode rate --tune base --size refrate intrate --nopreenv --note-preenv --logfile
  $SPEC/tmp/CPU2017.239/templogs/preenv.intrate.239.0.log --lognum 239.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017-1.1.9-ic2023.0

```

6. /proc/cpuinfo

```

model name      : Intel(R) Xeon(R) Platinum 8490H
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping      : 8
microcode     : 0x2b0001b0
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores     : 60
siblings      : 120
4 physical ids (chips)
480 processors (hardware threads)
physical id 0: core ids 0-59
physical id 1: core ids 0-59
physical id 2: core ids 0-59
physical id 3: core ids 0-59
physical id 0: apicids 0-119
physical id 1: apicids 128-247
physical id 2: apicids 256-375
physical id 3: apicids 384-503

```

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

```

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Platform Notes (Continued)

```

CPU op-mode(s):          32-bit, 64-bit
Address sizes:           46 bits physical, 57 bits virtual
Byte Order:              Little Endian
CPU(s):                  480
On-line CPU(s) list:    0-479
Vendor ID:               GenuineIntel
Model name:              Intel(R) Xeon(R) Platinum 8490H
CPU family:              6
Model:                   143
Thread(s) per core:     2
Core(s) per socket:     60
Socket(s):               4
Stepping:                8
BogoMIPS:                3800.00
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 pdcm pcid dca sse4_1
                        sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand
                        lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3
                        invpcid_single intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced
                        tpr_shadow vnmi 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 avx_vnni avx512_bf16 wbnoinvd dtherm arat
                        pln pts avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vaes
                        vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid
                        bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear serialize
                        tsxldtrk pconfig arch_lbr avx512_fp16 amx_tile flush_lld arch_capabilities
Virtualization:          VT-x
L1d cache:              11.3 MiB (240 instances)
L1i cache:              7.5 MiB (240 instances)
L2 cache:               480 MiB (240 instances)
L3 cache:               450 MiB (4 instances)
NUMA node(s):           4
NUMA node0 CPU(s):     0-59,240-299
NUMA node1 CPU(s):     60-119,300-359
NUMA node2 CPU(s):     120-179,360-419
NUMA node3 CPU(s):     180-239,420-479
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 11.3M 12 Data 1 64 1 64
L1i 32K 7.5M 8 Instruction 1 64 1 64
L2 2M 480M 16 Unified 2 2048 1 64
L3 112.5M 450M 15 Unified 3 122880 1 64

```

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Platform Notes (Continued)

8. numactl --hardware

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

```
available: 4 nodes (0-3)
node 0 cpus: 0-59,240-299
node 0 size: 257644 MB
node 0 free: 255805 MB
node 1 cpus: 60-119,300-359
node 1 size: 258018 MB
node 1 free: 257272 MB
node 2 cpus: 120-179,360-419
node 2 size: 258018 MB
node 2 free: 257438 MB
node 3 cpus: 180-239,420-479
node 3 size: 257935 MB
node 3 free: 257149 MB
node distances:
node  0  1  2  3
  0:  10  21  31  21
  1:  21  10  21  31
  2:  31  21  10  21
  3:  21  31  21  10
```

9. /proc/meminfo

```
MemTotal: 1056375216 kB
```

10. who -r

```
run-level 3 Jul 26 00:51
```

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 getty@ haveged irqbalance
issue-generator kbdsettings klog lvm2-monitor nscd nvme-fc-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 ebttables exchange-bmc-os-info
firewallld gpm grub2-once haveged-switch-root ipmi ipmievdev issue-add-ssh-keys kexec-load
lunmask man-db-create multipathd nfs nfs-blkmap nvme-fc-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
indirect       wickedd
```

13. Linux kernel boot-time arguments, from /proc/cmdline

```
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
```

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Platform Notes (Continued)

```
root=UUID=f1ca794b-c300-4deb-884c-f3fc50f5f1a3
splash=silent
mitigations=auto
quiet
security=apparmor
```

```
-----
14. cpupower frequency-info
analyzing CPU 0:
  Unable to determine current policy
  boost state support:
    Supported: no
    Active: no
```

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

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

```
-----
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
```

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Platform Notes (Continued)

```
-----
19. Disk information
SPEC is set to: /home/cpu2017-1.1.9-ic2023.0
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/nvme1n1p2  xfs   447G   26G  421G   6% /
```

```
-----
20. /sys/devices/virtual/dmi/id
Vendor:          Lenovo
Product:         ThinkSystem SR860 V3
Product Family: ThinkSystem
Serial:          None
```

```
-----
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.
Memory:
  32x SK Hynix HMC88AEBRA168N 32 GB 2 rank 4800
```

```
-----
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:      Lenovo
BIOS Version:     RSE105E-1.10
BIOS Date:        05/12/2023
BIOS Revision:    1.10
Firmware Revision: 1.10
```

Compiler Version Notes

```
-----
C      | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base) 525.x264_r(base) 557.xz_r(base)
```

```
-----
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++    | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_r(base)
```

```
-----
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 | 548.exchange2_r(base)
```

```
-----
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.
```



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR860 V3
(1.90 GHz, Intel Xeon Platinum 8490H)

SPECrate®2017_int_base =	1410
SPECrate®2017_int_energy_base =	1040
SPECrate®2017_int_peak =	Not Run
SPECrate®2017_int_energy_peak =	Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Jul-2023

Hardware Availability: Jun-2023

Software Availability: Dec-2022

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
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 -xsaphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsaphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xsaphirerapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

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CPU2017 License: 9017

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Tested by: Lenovo Global Technology

Test Date: Jul-2023

Hardware Availability: Jun-2023

Software Availability: Dec-2022

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```

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

<http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Eaglestream-W.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Eaglestream-W.xml>

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

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