



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

CPU2017 License: 9016

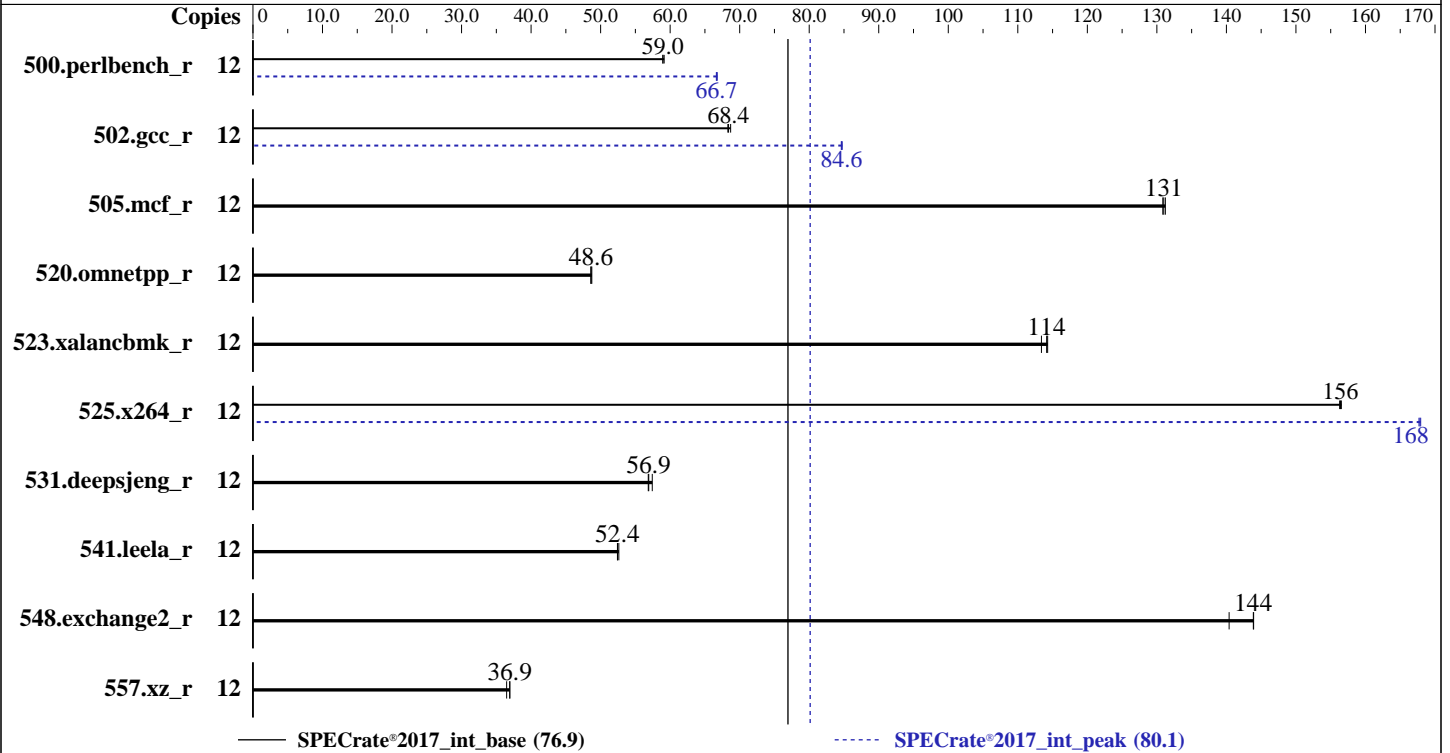
Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Apr-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023



### Hardware

CPU Name: Intel Xeon E-2436  
 Max MHz: 5000  
 Nominal: 2900  
 Enabled: 6 cores, 1 chip, 2 threads/core  
 Orderable: 1 chip  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 2 MB I+D on chip per core  
 L3: 18 MB I+D on chip per chip  
 Other: None  
 Memory: 64 GB (2 x 32 GB 2Rx8 PC5-4800B-E, running at 4400)  
 Storage: 1 x 1 TB SATA SSD  
 Other: CPU Cooling: Air

### Software

OS: SUSE Linux Enterprise Server 15 SP5 (x86\_64)  
 Kernel 5.14.21-150500.53-default  
 Compiler: C/C++: Version 2024.0.2 of Intel oneAPI DPC++/C++ Compiler for Linux;  
 Fortran: Version 2024.0.2 of Intel Fortran Compiler for Linux;  
 Parallel: No  
 Firmware: Version 0502 released Dec-2023  
 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.



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

CPU2017 License: 9016  
Test Sponsor: ASUSTeK Computer Inc.  
Tested by: ASUSTeK Computer Inc.

Test Date: Apr-2024  
Hardware Availability: Dec-2023  
Software Availability: Dec-2023

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	12	323	59.1	324	59.0	<b>324</b>	<b>59.0</b>	12	287	66.6	286	66.8	<b>286</b>	<b>66.7</b>
502.gcc_r	12	249	68.3	<b>248</b>	<b>68.4</b>	247	68.7	12	200	84.8	201	84.6	<b>201</b>	<b>84.6</b>
505.mcf_r	12	148	131	148	131	<b>148</b>	<b>131</b>	12	148	131	148	131	<b>148</b>	<b>131</b>
520.omnetpp_r	12	<b>324</b>	<b>48.6</b>	323	48.7	324	48.6	12	<b>324</b>	<b>48.6</b>	323	48.7	324	48.6
523.xalancbmk_r	12	<b>111</b>	<b>114</b>	112	113	111	114	12	<b>111</b>	<b>114</b>	112	113	111	114
525.x264_r	12	<b>134</b>	<b>156</b>	134	157	134	156	12	125	168	125	168	<b>125</b>	<b>168</b>
531.deepsjeng_r	12	<b>242</b>	<b>56.9</b>	239	57.4	242	56.9	12	<b>242</b>	<b>56.9</b>	239	57.4	242	56.9
541.leela_r	12	379	52.4	<b>379</b>	<b>52.4</b>	378	52.6	12	379	52.4	<b>379</b>	<b>52.4</b>	378	52.6
548.exchange2_r	12	<b>219</b>	<b>144</b>	218	144	224	140	12	<b>219</b>	<b>144</b>	218	144	224	140
557.xz_r	12	351	36.9	<b>351</b>	<b>36.9</b>	355	36.5	12	351	36.9	<b>351</b>	<b>36.9</b>	355	36.5

SPECrate®2017\_int\_base = **76.9**

SPECrate®2017\_int\_peak = **80.1**

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

## Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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"  
OS set to performance mode via cpupower frequency-set -g performance

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH = "/ic24u0/lib/intel64:/ic24u0/lib/ia32:/ic24u0/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

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

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Apr-2024

**Hardware Availability:** Dec-2023

**Software Availability:** Dec-2023

### General Notes (Continued)

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

BIOS Configuration:

VT-d = Disabled  
Package C State Limit = C0/C1  
AES = Disabled  
Engine Boost = Level3(Max)  
SR-IOV Support = Disabled  
Energy Efficient Turbo = Enabled  
BMC Configuration:  
Fan mode = Full speed mode

Sysinfo program /ic24u0/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost Tue Apr 16 06:02:09 2024

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 (249.16+suse.171.gdad0071f15)
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 5.14.21-150500.53-default #1 SMP PREEMPT\_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043)  
x86\_64 x86\_64 x86\_64 GNU/Linux  
-----

-----  
2. w  
06:02:09 up 20:15, 1 user, load average: 4.00, 8.17, 10.08  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - Mon09 20:12m 0.63s 0.00s /bin/bash ./rate.sh  
-----

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Apr-2024

**Hardware Availability:** Dec-2023

**Software Availability:** Dec-2023

### 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) 256581
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) 256581
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 ./rate.sh
/bin/bash ./rate.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=12 -c
ic2024.0.2-lin-xeon_e-core-avx2-rate-20231213.cfg --define smt-on --define cores=6 --define
physicallogical --define no-numa --tune base,peak -o all --define drop_caches intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=12 --configfile
ic2024.0.2-lin-xeon_e-core-avx2-rate-20231213.cfg --define smt-on --define cores=6 --define
physicallogical --define no-numa --tune base,peak --output_format all --define drop_caches --nopower
--runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.199/templogs/preenv.intrate.199.0.log --lognum 199.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /ic24u0
```

-----  
6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) E E-2436
vendor_id       : GenuineIntel
cpu family      : 6
model           : 183
stepping        : 1
microcode       : 0x11f
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores       : 6
siblings        : 12
1 physical ids (chips)
12 processors (hardware threads)
physical id 0: core ids 0-5
physical id 0: apicids 0-11
```

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

-----  
(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Apr-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

### Platform Notes (Continued)

7. lscpu

From lscpu from util-linux 2.37.4:

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:          46 bits physical, 48 bits virtual
Byte Order:             Little Endian
CPU(s):                 12
On-line CPU(s) list:   0-11
Vendor ID:              GenuineIntel
Model name:             Intel(R) Xeon(R) E E-2436
CPU family:             6
Model:                  183
Thread(s) per core:    2
Core(s) per socket:    6
Socket(s):              1
Stepping:               1
CPU max MHz:            6400.0000
CPU min MHz:            800.0000
BogoMIPS:               5836.80
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 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 rdseed adx smap clflushopt
                        clwb intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves split_lock_detect
                        avx_vnni dtherm ida arat pln pts hwp hwp_notify hwp_act_window hwp_epp
                        hwp_pkg_req hfi umip pku ospke waitpkg gfni vpcmlmulqdq tme rdpid movdiri
                        movdir64b fsrm md_clear serialize pconfig arch_lbr flush_lld
                        arch_capabilities

```

```

Virtualization:        VT-x
L1d cache:             288 KiB (6 instances)
L1i cache:             192 KiB (6 instances)
L2 cache:              12 MiB (6 instances)
L3 cache:              18 MiB (1 instance)
NUMA node(s):         1
NUMA node0 CPU(s):    0-11
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:   Not affected
Vulnerability Mds:    Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Retbleed: 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, PBRSE-eIBRS SW
                        sequence
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	288K	12	Data	1	64	1	64
L1i	32K	192K	8	Instruction	1	64	1	64
L2	2M	12M	16	Unified	2	2048	1	64
L3	18M	18M	9	Unified	3	32768	1	64

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Apr-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

8. numactl --hardware

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

```
available: 1 nodes (0)
node 0 cpus: 0-11
node 0 size: 64175 MB
node 0 free: 61993 MB
node distances:
node 0
0: 10
```

9. /proc/meminfo

```
MemTotal: 65715432 kB
```

10. who -r

```
run-level 3 Apr 15 09:46
```

11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)

```
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 postfix purge-kernels rollback rsyslog
smartd sshd systemd-pstore 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
firewalld gpm grub2-once haveged-switch-root ipmi ipmievd issue-add-ssh-keys kexec-load
lunmask man-db-create multipathd nfs nfs-blkmap 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 udisks2
indirect wickedd
```

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

```
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
root=UUID=c7ea704b-969d-4a21-bb75-dacf025811fc
splash=silent
mitigations=auto
quiet
security=apparmor
```

14. cpupower frequency-info

```
analyzing CPU 0:
current policy: frequency should be within 800 MHz and 6.40 GHz.
The governor "performance" may decide which speed to use
within this range.

boost state support:
Supported: yes
Active: yes
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Apr-2024

**Hardware Availability:** Dec-2023

**Software Availability:** Dec-2023

### Platform Notes (Continued)

```

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             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 SP5

-----
19. Disk information
   SPEC is set to: /ic24u0
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda8       xfs   763G  23G  740G  3% /

-----
20. /sys/devices/virtual/dmi/id
   Vendor:      ASUSTeK COMPUTER INC.
   Product:     RS300-E12-RS4
   Product Family: Server
   Serial:      865236000406

-----
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

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Apr-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

Memory:

- 1x SK Hynix HMC88MEBEA081N 32 GB 2 rank 4800, configured at 4400
- 1x SK Hynix HMC88MEBEA084N 32 GB 2 rank 4800, configured at 4400

#### 22. BIOS

(This section combines info from /sys/devices and dmidecode.)

```

BIOS Vendor:      American Megatrends Inc.
BIOS Version:     0502
BIOS Date:        12/28/2023
BIOS Revision:    5.2

```

### Compiler Version Notes

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.0.2 Build 20231213  
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 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.0.2 Build 20231213  
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 2024.0.2 Build 20231213  
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 2024.0.2 Build 20231213  
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 2024.0.2 Build 20231213

(Continued on next page)





# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Apr-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

## Compiler Version Notes (Continued)

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  
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-AVX2 -O3 -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc

C++ benchmarks:

-w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc

Fortran benchmarks:

-w -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Apr-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

## Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-nostandard-realloc-lhs -align array32byte -auto  
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc
```

## Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

## 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.profdata(pass 2) -xCORE-AVX2 -flto  
-Ofast -ffast-math -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fno-strict-overflow  
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(2.90 GHz, Intel Xeon E-2436)

SPECrate®2017\_int\_base = 76.9

SPECrate®2017\_int\_peak = 80.1

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Apr-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

## Peak Optimization Flags (Continued)

```
502.gcc_r: -m32 -L/opt/intel/oneapi/compiler/2024.0/lib32 -std=gnu89
-Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2 -flto
-Ofast -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-AVX2 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc
```

557.xz\_r: basepeak = yes

C++ benchmarks:

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/ASUSTekPlatform-Settings-p13-V1.2.html>

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html>

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

<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-p13-V1.2.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

SPEC CPU and SPECrate are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2024-04-15 18:02:09-0400.

Report generated on 2024-05-07 22:11:43 by CPU2017 PDF formatter v6716.

Originally published on 2024-05-07.