



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

CPU2017 License: 9016

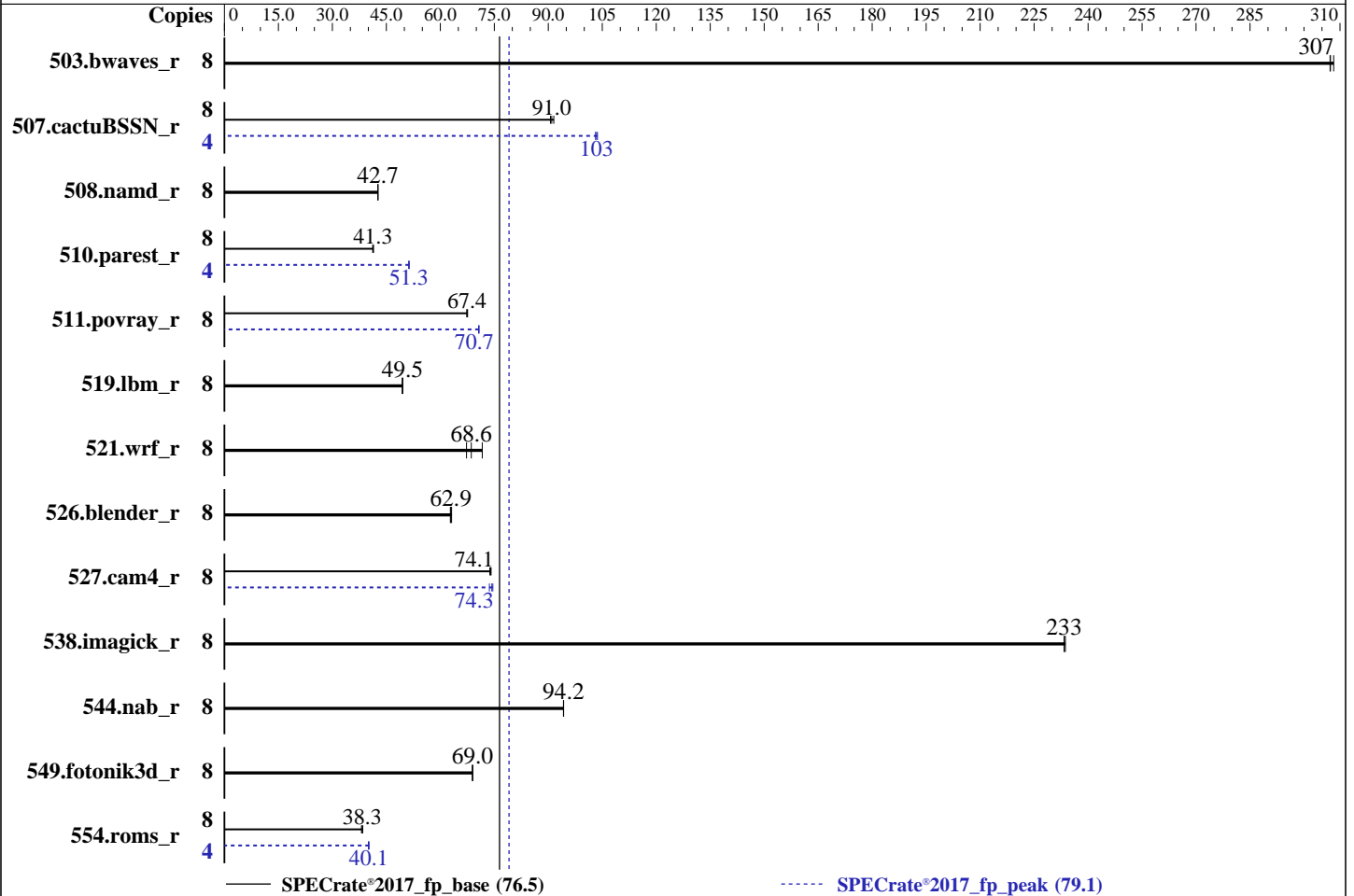
Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Apr-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023



### Hardware

CPU Name: Intel Xeon E-2434  
 Max MHz: 5000  
 Nominal: 3400  
 Enabled: 4 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: 12 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: 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 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

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
503.bwaves_r	8	260	308	261	307	<b>261</b>	<b>307</b>	8	260	308	261	307	<b>261</b>	<b>307</b>
507.cactuBSSN_r	8	112	90.6	<b>111</b>	<b>91.0</b>	111	91.5	4	48.8	104	49.1	103	<b>49.0</b>	<b>103</b>
508.namd_r	8	178	42.6	<b>178</b>	<b>42.7</b>	178	42.7	8	178	42.6	<b>178</b>	<b>42.7</b>	178	42.7
510.parest_r	8	<b>507</b>	<b>41.3</b>	505	41.4	508	41.2	4	204	51.2	204	51.3	<b>204</b>	<b>51.3</b>
511.povray_r	8	277	67.3	<b>277</b>	<b>67.4</b>	276	67.6	8	264	70.6	264	70.7	<b>264</b>	<b>70.7</b>
519.lbm_r	8	170	49.5	<b>170</b>	<b>49.5</b>	171	49.4	8	170	49.5	<b>170</b>	<b>49.5</b>	171	49.4
521.wrf_r	8	250	71.7	<b>261</b>	<b>68.6</b>	266	67.3	8	250	71.7	<b>261</b>	<b>68.6</b>	266	67.3
526.blender_r	8	194	62.8	193	63.1	<b>194</b>	<b>62.9</b>	8	194	62.8	193	63.1	<b>194</b>	<b>62.9</b>
527.cam4_r	8	190	73.7	189	74.1	<b>189</b>	<b>74.1</b>	8	188	74.6	190	73.6	<b>188</b>	<b>74.3</b>
538.imagick_r	8	85.3	233	<b>85.3</b>	<b>233</b>	85.1	234	8	85.3	233	<b>85.3</b>	<b>233</b>	85.1	234
544.nab_r	8	143	94.2	<b>143</b>	<b>94.2</b>	143	94.3	8	143	94.2	<b>143</b>	<b>94.2</b>	143	94.3
549.fotonik3d_r	8	452	68.9	452	69.0	<b>452</b>	<b>69.0</b>	8	452	68.9	452	69.0	<b>452</b>	<b>69.0</b>
554.roms_r	8	<b>332</b>	<b>38.3</b>	334	38.1	331	38.4	4	158	40.2	159	40.0	<b>159</b>	<b>40.1</b>

SPECrate®2017\_fp\_base = **76.5**

SPECrate®2017\_fp\_peak = **79.1**

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/je5.0.1-64"  
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)

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

**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)

is mitigated in the system as tested and documented.  
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.  
jemalloc, a general purpose malloc implementation built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5 sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

### Platform Notes

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 Fri Apr 12 18:07:54 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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

**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)

```
18:07:54 up 4:03, 1 user, load average: 5.58, 7.43, 7.81
USER      TTY      FROM      LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1    -          14:05    4:01m 0.68s  0.00s /bin/bash ./rate.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) 256593  
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) 256593  
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=8 -c  
ic2024.0.2-lin-xeon\_e-core-avx2-rate-20231213.cfg --define smt-on --define cores=4 --define  
physicallogical --define no-numa --tune base,peak -o all --define drop\_caches fprate  
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=8 --configfile  
ic2024.0.2-lin-xeon\_e-core-avx2-rate-20231213.cfg --define smt-on --define cores=4 --define  
physicallogical --define no-numa --tune base,peak --output\_format all --define drop\_caches --nopower  
--runmode rate --tune base:peak --size refrate fprate --nopreenv --note-preenv --logfile  
\$SPEC/tmp/CPU2017.184/templogs/preenv.fprate.184.0.log --lognum 184.0 --from\_runcpu 2  
specperl \$SPEC/bin/sysinfo  
\$SPEC = /ic24u0

6. /proc/cpuinfo  
model name : Intel(R) Xeon(R) E E-2434  
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 : 4  
siblings : 8  
1 physical ids (chips)  
8 processors (hardware threads)  
physical id 0: core ids 0-3  
physical id 0: apicids 0-7

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

**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)

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 2.37.4:

```

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):                 8
On-line CPU(s) list:   0-7
Vendor ID:              GenuineIntel
Model name:             Intel(R) Xeon(R) E E-2434
CPU family:             6
Model:                  183
Thread(s) per core:    2
Core(s) per socket:    4
Socket(s):              1
Stepping:               1
CPU max MHz:            6400.0000
CPU min MHz:            800.0000
BogoMIPS:               6835.20
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_l1d
                        arch_capabilities

Virtualization:         VT-x
L1d cache:              192 KiB (4 instances)
L1i cache:              128 KiB (4 instances)
L2 cache:                8 MiB (4 instances)
L3 cache:                12 MiB (1 instance)
NUMA node(s):           1
NUMA node0 CPU(s):     0-7
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, PBRBS-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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

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)

L1d	48K	192K	12 Data	1	64	1	64
L1i	32K	128K	8 Instruction	1	64	1	64
L2	2M	8M	16 Unified	2	2048	1	64
L3	12M	12M	6 Unified	3	32768	1	64

8. numactl --hardware

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

```

available: 1 nodes (0)
node 0 cpus: 0-7
node 0 size: 64178 MB
node 0 free: 54396 MB
node distances:
node 0
0: 10

```

9. /proc/meminfo

MemTotal: 65718744 kB

10. who -r

run-level 3 Apr 12 14:04

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 autofsd 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:

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

**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)

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                  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  31G  732G  5% /

```

```

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

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

**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)

#### 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:**

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 | 519.lbm\_r(base, peak) 538.imagick\_r(base, peak) 544.nab\_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++ | 508.namd\_r(base, peak) 510.parest\_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++, C | 511.povray\_r(base, peak) 526.blender\_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.  
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++, C, Fortran | 507.cactuBSSN\_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.  
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.  
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

Fortran | 503.bwaves\_r(base, peak) 549.fotonik3d\_r(base, peak) 554.roms\_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 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

**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.

-----  
Fortran, C | 521.wrf\_r(base, peak) 527.cam4\_r(base, peak)  
-----

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213

Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

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.  
-----

## Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## Base Portability Flags

503.bwaves\_r: -DSPEC\_LP64

507.cactuBSSN\_r: -DSPEC\_LP64

508.namd\_r: -DSPEC\_LP64

510.parest\_r: -DSPEC\_LP64

511.povray\_r: -DSPEC\_LP64

519.lbm\_r: -DSPEC\_LP64

521.wrf\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG -convert big\_endian

526.blender\_r: -DSPEC\_LP64 -DSPEC\_LINUX -funsigned-char

527.cam4\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG

538.imagick\_r: -DSPEC\_LP64

544.nab\_r: -DSPEC\_LP64

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

**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 Portability Flags (Continued)

549.fotonik3d\_r: -DSPEC\_LP64

554.roms\_r: -DSPEC\_LP64

## Base Optimization Flags

### C benchmarks:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

### C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

### Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX2 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

### Benchmarks using both Fortran and C:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -nostandard-realloc-lhs -align array32byte -auto
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

### Benchmarks using both C and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

### Benchmarks using Fortran, C, and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

**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 Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

519.lbm\_r: basepeak = yes

538.imagick\_r: basepeak = yes

544.nab\_r: basepeak = yes

C++ benchmarks:

508.namd\_r: basepeak = yes

510.parest\_r: -w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX2 -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

SPECrate®2017\_fp\_base = 76.5

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_peak = 79.1

CPU2017 License: 9016

Test Date: Apr-2024

Test Sponsor: ASUSTeK Computer Inc.

Hardware Availability: Dec-2023

Tested by: ASUSTeK Computer Inc.

Software Availability: Dec-2023

## Peak Optimization Flags (Continued)

Fortran benchmarks:

503.bwaves\_r: basepeak = yes

549.fotonik3d\_r: basepeak = yes

```
554.roms_r: -w -m64 -Wl,-z,muldefs -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both Fortran and C:

521.wrf\_r: basepeak = yes

```
527.cam4_r: -w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int
-nostandard-realloc-lhs -align array32byte -auto
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both C and C++:

```
511.povray_r: -w -std=c++14 -m64 -std=c11 -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 -Wno-implicit-int -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

526.blender\_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

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®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS300-E12-RS4  
(3.40 GHz, Intel Xeon E-2434)

SPECrate®2017\_fp\_base = 76.5

SPECrate®2017\_fp\_peak = 79.1

**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

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 2024-04-12 06:07:54-0400.

Report generated on 2024-05-07 22:13:20 by CPU2017 PDF formatter v6716.

Originally published on 2024-05-07.