



# SPEC CPU®2017 Integer Rate Result

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**Fsas Technologies Inc.**

(Test Sponsor: Fujitsu)

**SPECrate®2017\_int\_base = 299**

**PRIMERGY RX2540 M8, Intel Xeon 6521P, 2.60GHz**

**SPECrate®2017\_int\_peak = Not Run**

**CPU2017 License:** 19

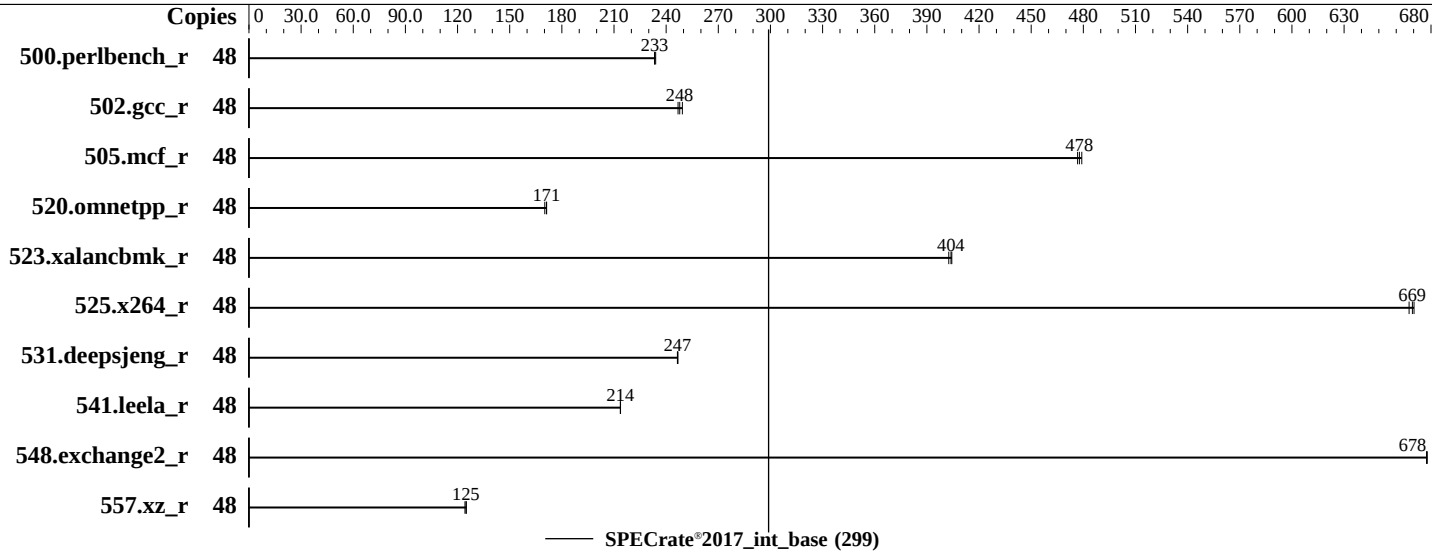
**Test Sponsor:** Fujitsu

**Tested by:** Fsas Technologies Inc.

**Test Date:** Sep-2025

**Hardware Availability:** Oct-2025

**Software Availability:** Jun-2025



## Hardware

CPU Name: Intel Xeon 6521P  
Max MHz: 4100  
Nominal: 2600  
Enabled: 24 cores, 1 chip, 2 threads/core  
Orderable: 1 chip  
Cache L1: 64 KB I + 48 KB D on chip per core  
L2: 2 MB I+D on chip per core  
L3: 144 MB I+D on chip per chip  
Other: None  
Memory: 256 GB (8 x 32 GB 2Rx8 PC5-6400B-R)  
Storage: 1 x SSD PCIe M.2, 960GB  
Other: CPU Cooling: Air

## Software

OS: SUSE Linux Enterprise Server 15 SP7  
6.4.0-150700.51-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: Fsas Technologies Inc. BIOS Version V1.0.0.0  
R1.1.0 for D4135-A1x. Released Oct-2025  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: Not Applicable  
Other: None  
Power Management: BIOS set to prefer performance at the cost  
of additional power usage



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## Results Table

| Benchmark       | Base   |                   |                   |                   |                   |                   |                   | Peak   |         |       |         |       |         |       |
|-----------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------|---------|-------|---------|-------|---------|-------|
|                 | Copies | Seconds           | Ratio             | Seconds           | Ratio             | Seconds           | Ratio             | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 500.perlbench_r | 48     | <b><u>327</u></b> | <b><u>233</u></b> | 327               | 234               | 327               | 233               |        |         |       |         |       |         |       |
| 502.gcc_r       | 48     | <b><u>274</u></b> | <b><u>248</u></b> | 273               | 249               | 275               | 247               |        |         |       |         |       |         |       |
| 505.mcf_r       | 48     | 162               | 479               | 163               | 477               | <b><u>162</u></b> | <b><u>478</u></b> |        |         |       |         |       |         |       |
| 520.omnetpp_r   | 48     | 368               | 171               | 370               | 170               | <b><u>368</u></b> | <b><u>171</u></b> |        |         |       |         |       |         |       |
| 523.xalancbmk_r | 48     | <b><u>126</u></b> | <b><u>404</u></b> | 125               | 404               | 126               | 403               |        |         |       |         |       |         |       |
| 525.x264_r      | 48     | 125               | 670               | <b><u>126</u></b> | <b><u>669</u></b> | 126               | 667               |        |         |       |         |       |         |       |
| 531.deepsjeng_r | 48     | <b><u>223</u></b> | <b><u>247</u></b> | 223               | 246               | 223               | 247               |        |         |       |         |       |         |       |
| 541.leela_r     | 48     | 372               | 214               | 372               | 214               | <b><u>372</u></b> | <b><u>214</u></b> |        |         |       |         |       |         |       |
| 548.exchange2_r | 48     | 186               | 677               | <b><u>186</u></b> | <b><u>678</u></b> | 186               | 678               |        |         |       |         |       |         |       |
| 557.xz_r        | 48     | 417               | 124               | <b><u>415</u></b> | <b><u>125</u></b> | 415               | 125               |        |         |       |         |       |         |       |

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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/Benchmark/speccpu-24.1/lib/intel64:/home/Benchmark/speccpu-24.1/lib/ia32:/home/Benchmark/speccp

u-24.1/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>

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.

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## General Notes (Continued)

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:

Fan Control = Full

CPU Performance Boost = Aggressive

APS rocketing = Enabled

Sysinfo program /home/Benchmark/speccpu-24.1/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Wed Sep 24 18:40:33 2025

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 254 (254.24+suse.148.g83b9060b6e)
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 6.4.0-150700.51-default #1 SMP PREEMPT\_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611)  
x86\_64 x86\_64 x86\_64 GNU/Linux  
-----

-----  
2. w  
18:40:33 up 1 min, 1 user, load average: 0.12, 0.05, 0.02  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - 18:40 8.00s 1.01s 0.08s -bash  
-----

-----  
3. Username  
From environment variable \$USER: root  
-----

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## Platform Notes (Continued)

```
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) 1029490
max locked memory       (kbytes, -l) 8192
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) 1029490
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=48 -c
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=24 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base -o all intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=48 --configfile
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=24 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base --output_format all --nopower --runmode
rate --tune base --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.002/temlogs/preenv.intrate.002.0.log --lognum 002.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/Benchmark/speccpu-24.1
-----
```

```
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) 6521P
vendor_id      : GenuineIntel
cpu family     : 6
model          : 173
stepping       : 1
microcode      : 0xa0000f2
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores      : 24
siblings       : 48
1 physical ids (chips)
48 processors (hardware threads)
physical id 0: core ids 0-23
physical id 0: apicids 0-47
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 2.40.4:
Architecture:      x86_64
CPU op-mode(s):    32-bit, 64-bit
Address sizes:      52 bits physical, 57 bits virtual
```

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## Platform Notes (Continued)

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Byte Order:                           | Little Endian                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CPU(s):                               | 48                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| On-line CPU(s) list:                  | 0-47                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Vendor ID:                            | GenuineIntel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Model name:                           | Intel(R) Xeon(R) 6521P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CPU family:                           | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Model:                                | 173                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Thread(s) per core:                   | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Core(s) per socket:                   | 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Socket(s):                            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Stepping:                             | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CPU(s) scaling MHz:                   | 25%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CPU max MHz:                          | 4100.0000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CPU min MHz:                          | 800.0000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| BogoMIPS:                             | 5200.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Flags:                                | fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat<br>pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx<br>pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good<br>nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni<br>pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16<br>xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt<br>tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm<br>3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin cdp_l2<br>ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept<br>vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid cqm<br>rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb<br>intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1<br>xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local<br>split_lock_detect user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida<br>arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req vnmi avx512vbmi<br>umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpc1mulqdq avx512_vnni<br>avx512_bitalg tme avx512_vpopcntdq la57 rdpid bus_lock_detect<br>cldemote movdiri movdir64b enqcmd fsrm md_clear serialize tsxldtrk<br>pconfig arch_lbr ibt amx_bf16 avx512_fp16 amx_tile amx_int8 flush_l1d<br>arch_capabilities |
| Virtualization:                       | VT-x                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| L1d cache:                            | 1.1 MiB (24 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| L1i cache:                            | 1.5 MiB (24 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| L2 cache:                             | 48 MiB (24 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| L3 cache:                             | 144 MiB (1 instance)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NUMA node(s):                         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NUMA node0 CPU(s):                    | 0-47                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Vulnerability Gather data sampling:   | Not affected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Vulnerability Itlb multihit:          | Not affected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Vulnerability L1tf:                   | 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;<br>PBRSE-eIBRS Not affected; BHI BHI_DIS_S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Vulnerability Srbds:                  | Not affected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Vulnerability Tsx async abort:        | Not affected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

From lscpu --cache:

| NAME | ONE-SIZE | ALL-SIZE | WAYS | TYPE | LEVEL | SETS | PHY-LINE | COHERENCY-SIZE |
|------|----------|----------|------|------|-------|------|----------|----------------|
|------|----------|----------|------|------|-------|------|----------|----------------|

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## Platform Notes (Continued)

|     |      |      |                |   |        |   |    |
|-----|------|------|----------------|---|--------|---|----|
| L1d | 48K  | 1.1M | 12 Data        | 1 | 64     | 1 | 64 |
| L1i | 64K  | 1.5M | 16 Instruction | 1 | 64     | 1 | 64 |
| L2  | 2M   | 48M  | 16 Unified     | 2 | 2048   | 1 | 64 |
| L3  | 144M | 144M | 16 Unified     | 3 | 147456 | 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: 0-47

node 0 size: 257399 MB

node 0 free: 256499 MB

node distances:

node 0  
0: 10

9. /proc/meminfo

MemTotal: 263577268 kB

10. who -r

run-level 3 Sep 24 18:39

11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)

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 display-manager getty@ irqbalance  
issue-generator kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections  
nvmmf-autoconnect postfix purge-kernels rollback rsyslog sep5 smartd sshd systemd-pstore  
wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny

enabled-runtime systemd-remount-fs

disabled autofs autostart-initscripts blk-availability boot-sysctl ca-certificates chrony-wait  
chronyd console-getty cups cups-browsed debug-shell ebttables exchange-bmc-os-info  
firewalld fsidd gpm grub2-once haveged 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-confext  
systemd-network-generator systemd-sysexit systemd-time-wait-sync systemd-timesyncd  
vncserver@

indirect systemd-userdbd wickedd

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

BOOT\_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default

root=UUID=2066019a-dbc1-4a27-addf-ad53fb60bbb7

splash=silent

quiet

security=apparmor

mitigations=auto

14. cpupower frequency-info

analyzing CPU 7:

current policy: frequency should be within 800 MHz and 4.10 GHz.

The governor "powersave" may decide which speed to use

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

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**Fsas Technologies Inc.**

(Test Sponsor: Fujitsu)

**SPECrate®2017\_int\_base = 299**

**PRIMERGY RX2540 M8, Intel Xeon 6521P, 2.60GHz**

**SPECrate®2017\_int\_peak = Not Run**

**CPU2017 License:** 19

**Test Sponsor:** Fujitsu

**Tested by:** Fsas Technologies Inc.

**Test Date:** Sep-2025

**Hardware Availability:** Oct-2025

**Software Availability:** Jun-2025

## Platform Notes (Continued)

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              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 SP7
```

### 19. Disk information

```
SPEC is set to: /home/Benchmark/speccpu-24.1
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p3 xfs 852G 60G 792G 7% /home
```

### 20. /sys/devices/virtual/dmi/id

```
Vendor:      Fsas Technologies
Product:     PRIMERGY RX2540 M8
Product Family: SERVER
```

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## Platform Notes (Continued)

Serial: xxxxxxxxxx

### 21. dmidecode

Additional information from dmidecode 3.6 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:

8x Micron MTC20F2085S1RC64BD2 MWFF 32 GB 2 rank 6400

### 22. BIOS

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

BIOS Vendor: Fsas Technologies  
BIOS Version: V1.0.0.0 R1.1.0 for D4135-A1x  
BIOS Date: 09/05/2025  
BIOS Revision: 1.1  
Firmware Revision: 3.1

## 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 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 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 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.  
=====

=====  
Fortran | 548.exchange2\_r(base)  
=====

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



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## 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 -xsapphirerapids -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 -xsapphirerapids -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 -xsapphirerapids -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

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/Fsas-Platform-Settings-V1.0-GNR-RevA.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/Fsas-Platform-Settings-V1.0-GNR-RevA.xml>

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

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