



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

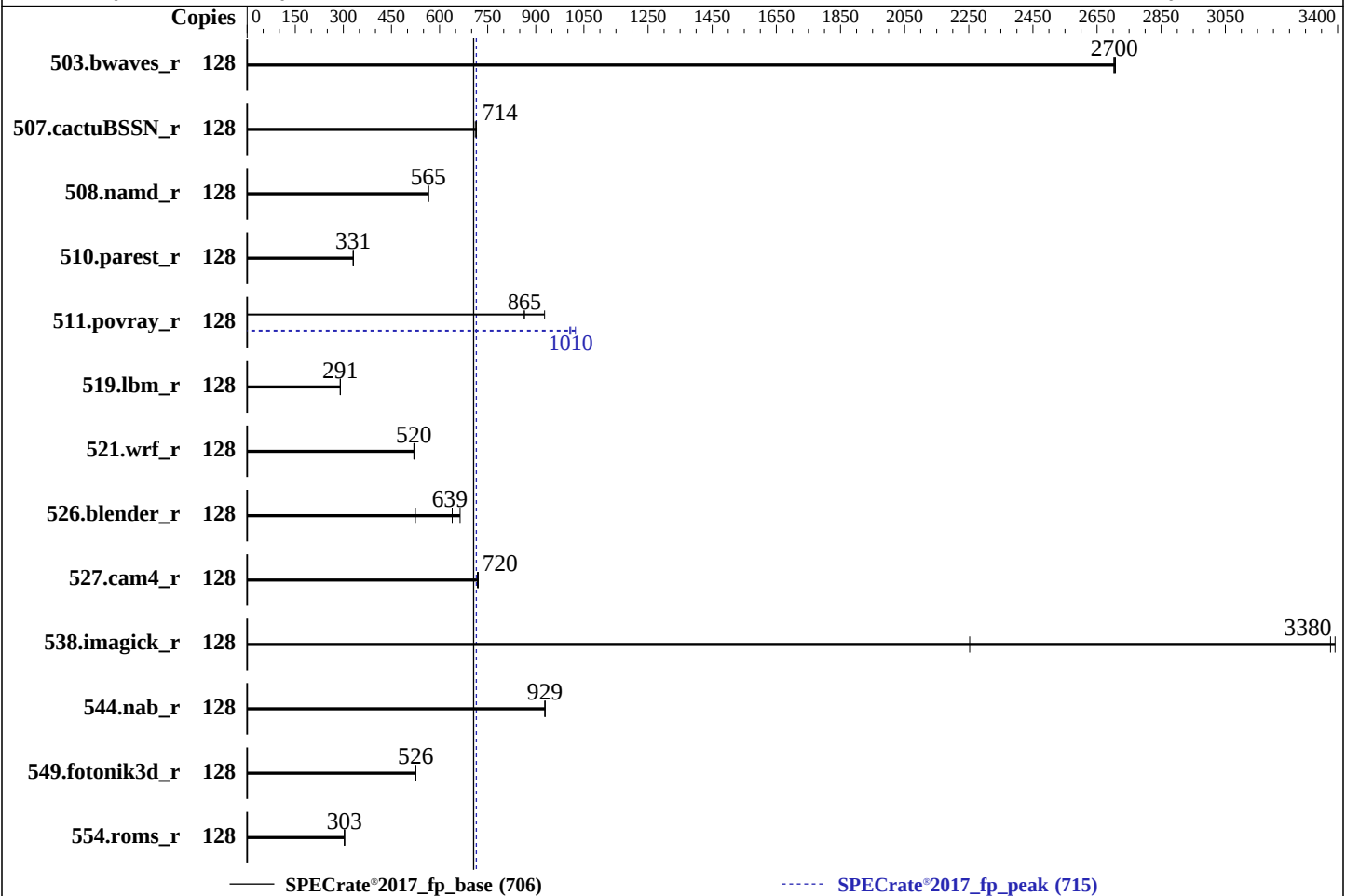
Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024



Hardware

CPU Name: Intel Xeon 6710E
Max MHz: 3200
Nominal: 2400
Enabled: 96 cores, 2 chips
Orderable: 1,2 chips
Cache L1: 64 KB I + 32 KB D on chip per core
L2: 4 MB I+D on chip per core
L3: 96 MB I+D on chip per chip
Other: None
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-6400B-R, running at 5600)
Storage: 1 x 960 GB SSD
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP6 6.4.0-150600.21-default
Compiler: C/C++: Version 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;
Fortran: Version 2024.1 of Intel Fortran Compiler for Linux;
Parallel: No
Firmware: Version 00.17.03 released Sep-2024
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 set to prefer performance at the cost of additional power usage.



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	128	475	2700	<u>475</u>	<u>2700</u>	474	2710	128	475	2700	<u>475</u>	<u>2700</u>	474	2710
507.cactuBSSN_r	128	227	715	228	711	<u>227</u>	<u>714</u>	128	227	715	228	711	<u>227</u>	<u>714</u>
508.namd_r	128	215	564	215	566	<u>215</u>	<u>565</u>	128	215	564	215	566	<u>215</u>	<u>565</u>
510.parest_r	128	1011	331	<u>1012</u>	<u>331</u>	1012	331	128	1011	331	<u>1012</u>	<u>331</u>	1012	331
511.povray_r	128	<u>346</u>	<u>865</u>	322	927	346	864	128	292	1020	<u>296</u>	<u>1010</u>	297	1010
519.lbm_r	128	464	291	464	290	<u>464</u>	<u>291</u>	128	464	291	464	290	<u>464</u>	<u>291</u>
521.wrf_r	128	550	521	551	520	<u>551</u>	<u>520</u>	128	550	521	551	520	<u>551</u>	<u>520</u>
526.blender_r	128	294	664	372	525	<u>305</u>	<u>639</u>	128	294	664	372	525	<u>305</u>	<u>639</u>
527.cam4_r	128	311	721	312	718	<u>311</u>	<u>720</u>	128	311	721	312	718	<u>311</u>	<u>720</u>
538.imagick_r	128	93.8	3390	141	2250	<u>94.2</u>	<u>3380</u>	128	93.8	3390	141	2250	<u>94.2</u>	<u>3380</u>
544.nab_r	128	232	929	232	929	<u>232</u>	<u>929</u>	128	232	929	232	929	<u>232</u>	<u>929</u>
549.fotonik3d_r	128	948	526	952	524	<u>949</u>	<u>526</u>	128	948	526	952	524	<u>949</u>	<u>526</u>
554.roms_r	128	669	304	671	303	<u>670</u>	<u>303</u>	128	669	304	671	303	<u>670</u>	<u>303</u>

SPECrate®2017_fp_base = 706

SPECrate®2017_fp_peak = 715

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

Submit Notes

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

Operating System Notes

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

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/CPU2017/lib/intel64:/home/CPU2017/je5.0.1-64"
MALLOCONF = "retain:true"

General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
Transparent Huge Pages enabled by default
Prior to runcpu invocation
Filesystem page cache synced and cleared with:
sync; echo 3> /proc/sys/vm/drop_caches

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 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

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:
ENERGY_PERF_BIAS_CFG mode set to Performance
Hardware Prefetch set to Disable
VT Support set to Disable

Sysinfo program /home/CPU2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Tue Jan 14 18:06:28 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 (254.10+suse.84.ge8d77af424)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. sysctl
16. /sys/kernel/mm/transparent_hugepage
17. /sys/kernel/mm/transparent_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS

1. uname -a
Linux localhost 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09)
x86_64 x86_64 x86_64 GNU/Linux

2. w
18:06:28 up 5:15, 1 user, load average: 73.19, 112.90, 120.99
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 12:52 5:13m 1.57s 0.05s sh
reportable-ic2024.1-lin-sierraforest-rate-20240308.sh

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

Platform Notes (Continued)

3. Username

From environment variable \$USER: root

4. ulimit -a

```
core file size          (blocks, -c) unlimited
data seg size           (kbytes, -d) unlimited
scheduling priority     (-e) 0
file size               (blocks, -f) unlimited
pending signals         (-i) 4124709
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) 4124709
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
```

5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize=31
login -- root
-bash
sh reportable-ic2024.1-lin-sierraforest-rate-20240308.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 -c
ic2024.1-lin-sierraforest-rate-20240308.cfg --define smt-on --define peakfpcopies=64 --define
physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base,peak -o all
fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 --configfile
ic2024.1-lin-sierraforest-rate-20240308.cfg --define smt-on --define peakfpcopies=64 --define
physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base,peak
--output-format all --nopower --runmode rate --tune base:peak --size refrate fprate --nopreenv
--note-preenv --logfile $SPEC/tmp/CPU2017.002/templogs/preenv.fprate.002.0.log --lognum 002.0
--from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/CPU2017
```

6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6710E
vendor_id      : GenuineIntel
cpu family     : 6
model          : 175
stepping       : 3
microcode      : 0x3000190
bugs           : spectre_v1 spectre_v2 spec_store_bypass swaps bhi
cpu cores      : 64
siblings       : 64
2 physical ids (chips)
128 processors (hardware threads)
physical id 0: core ids 0-63
physical id 1: core ids 0-63
physical id 0: apicids
0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

Platform Notes (Continued)

, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126

physical id 1: apicids

512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638

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

7. lscpu

From lscpu from util-linux 2.39.3:

Architecture:	x86_64
CPU op-mode(s):	32-bit, 64-bit
Address sizes:	52 bits physical, 48 bits virtual
Byte Order:	Little Endian
CPU(s):	128
On-line CPU(s) list:	0-127
Vendor ID:	GenuineIntel
BIOS Vendor ID:	Intel(R) Corporation
Model name:	Intel(R) Xeon(R) 6710E
BIOS Model name:	Intel(R) Xeon(R) 6710E CPU @ 2.4GHz
BIOS CPU family:	179
CPU family:	6
Model:	175
Thread(s) per core:	1
Core(s) per socket:	64
Socket(s):	2
Stepping:	3
Frequency boost:	enabled
CPU(s) scaling MHz:	38%
CPU max MHz:	2401.0000
CPU min MHz:	800.0000
BogoMIPS:	4800.00
Flags:	fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq dtes64 ds_cpl smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid cqm rdt_a rdseed adx smap clflushopt clwb intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect user_shstk avx_vnni lam wbnoinvd dtherm ida arat pln pts umip pku ospke waitpkg gfni vaes vpclmulqdq tme rdpid bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear serialize_pconfig arch_lbr ibt flush_l1d arch_capabilities
L1d cache:	4 MiB (128 instances)
L1i cache:	8 MiB (128 instances)
L2 cache:	128 MiB (32 instances)
L3 cache:	192 MiB (2 instances)
NUMA node(s):	2
NUMA node0 CPU(s):	0-63
NUMA node1 CPU(s):	64-127
Vulnerability Gather data sampling:	Not affected
Vulnerability Itlb multihit:	Not affected
Vulnerability L1tf:	Not affected
Vulnerability Mds:	Not affected

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

Platform Notes (Continued)

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/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling; PBRSE-eIBRS Not affected; BHI BHI_DIS_S
Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	32K	4M	8	Data	1	64	1	64
L1i	64K	8M	8	Instruction	1	128	1	64
L2	4M	128M	16	Unified	2	4096	1	64
L3	96M	192M	12	Unified	3	131072	1	64

8. numactl --hardware

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

available: 2 nodes (0-1)
node 0 cpus: 0-63
node 0 size: 515534 MB
node 0 free: 486650 MB
node 1 cpus: 64-127
node 1 size: 515668 MB
node 1 free: 489499 MB
node distances:
node 0 1
0: 10 21
1: 21 10

9. /proc/meminfo

MemTotal: 1055951776 kB

10. who -r

run-level 3 Jan 14 12:51

11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)

Default Target Status
multi-user running

12. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	apparmor auditd cron firewalld getty@ irqbalance issue-generator kbdsettings kdump kdump-early kdump-notify nvme-fc-boot-connections nvme-fc-autoconnect postfix purge-kernels rollback sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime	systemd-remount-fs
disabled	boot-sysctl ca-certificates chrony-wait chronyd console-getty debug-shell ebtables exchange-bmc-os-info fsidd grub2-once haveged ipmievad issue-add-ssh-keys kexec-load lunmask nfs nfs-blkmap rpcbind rpmconfigcheck serial-getty@ systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

Platform Notes (Continued)

generated jexec
indirect systemd-userdbd wickedd

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

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=3d2e35de-7a40-49d4-9b7e-5a61505ac35b
splash=silent
resume=/dev/disk/by-uuid/12ee3b15-7778-419b-ab9f-ab402e71e53d
mitigations=auto
quiet
security=apparmor
crashkernel=370M,high
crashkernel=72M,low
```

14. cpupower frequency-info

```
analyzing CPU 36:
  current policy: frequency should be within 800 MHz and 2.40 GHz.
                  The governor "ondemand" may decide which speed to use
                  within this range.

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

15. sysctl

```
kernel.numa_balancing      1
kernel.randomize_va_space  2
vm.compaction_proactiveness 20
vm.dirty_background_bytes   0
vm.dirty_background_ratio   10
vm.dirty_bytes              0
vm.dirty_expire_centisecs   3000
vm.dirty_ratio              20
vm.dirty_writeback_centisecs 500
vm.dirtytime_expire_seconds 43200
vm.extfrag_threshold        500
vm.min_unmapped_ratio       1
vm.nr_hugepages              0
vm.nr_hugepages_mempolicy   0
vm.nr_overcommit_hugepages  0
vm.swappiness                60
vm.watermark_boost_factor    15000
vm.watermark_scale_factor    10
vm.zone_reclaim_mode         0
```

16. /sys/kernel/mm/transparent_hugepage

```
defrag      always defer defer+madvice [madvice] never
enabled     [always] madvice never
hpage_pmd_size 2097152
shmem_enabled always within_size advise [never] deny force
```

17. /sys/kernel/mm/transparent_hugepage/khugepaged

```
alloc_sleep_millisecs 60000
defrag                 1
max_ptes_none          511
max_ptes_shared        256
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

Platform Notes (Continued)

max_ptes_swap 64
pages_to_scan 4096
scan_sleep_millisecs 10000

18. OS release

From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP6

19. Disk information

SPEC is set to: /home/CPU2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p3	xfs	381G	160G	221G	43%	/home

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

Vendor: IEIT SYSTEMS
Product: NF5180-M8-A0-R0-00
Product Family: Not specified
Serial: 000000000

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:

15x Samsung M321R8GA0PB2-CCPEC 64 GB 2 rank 6400, configured at 5600
1x Samsung M321R8GA0PB2-CCPWC 64 GB 2 rank 6400, configured at 5600

22. BIOS

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

BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 00.17.03
BIOS Date: 09/27/2024

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

=====
C++, C | 511.povray_r(base, peak) 526.blender_r(base, peak)
=====

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

Compiler Version Notes (Continued)

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.
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++, C, Fortran | 507.cactuBSSN_r(base, peak)

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

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

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



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

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
549.fotonik3d_r: -DSPEC_LP64
554.roms_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:

-w -std=c11 -m64 -Wl,-z,muldefs -xsierraforest -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 -xsierraforest -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 -xsierraforest -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 -xsierraforest -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 -xsierraforest -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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

Base Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++:

-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsierraforest -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

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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

Peak Optimization Flags (Continued)

C++ benchmarks:

508.namd_r: basepeak = yes

510.parest_r: basepeak = yes

Fortran benchmarks:

503.bwaves_r: basepeak = yes

549.fotonik3d_r: basepeak = yes

554.roms_r: basepeak = yes

Benchmarks using both Fortran and C:

521.wrf_r: basepeak = yes

527.cam4_r: basepeak = yes

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++:

507.cactuBSSN_r: basepeak = yes

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

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

<http://www.spec.org/cpu2017/flags/IEIT-Platform-Settings-intel-V1.2.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/IEIT-Platform-Settings-intel-V1.2.xml>



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017_fp_base = 706

meta brain NF5180G8 (Intel Xeon 6710E)

SPECrate®2017_fp_peak = 715

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Jan-2025

Hardware Availability: Oct-2024

Software Availability: Jun-2024

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.

Tested with SPEC CPU®2017 v1.1.9 on 2025-01-14 18:06:27-0500.

Report generated on 2025-04-09 15:01:42 by CPU2017 PDF formatter v6716.

Originally published on 2025-04-09.