



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

### meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

CPU2017 License: 3358

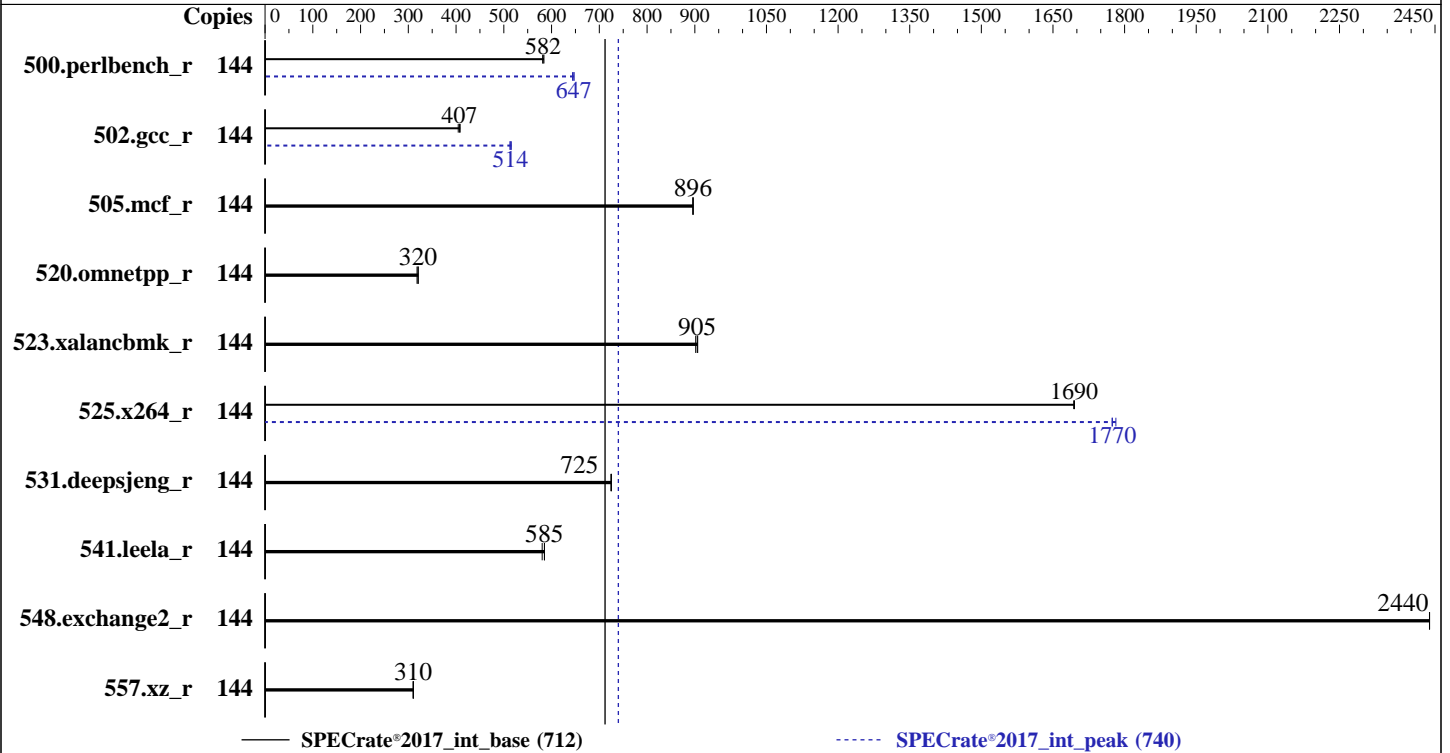
Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Oct-2024

Hardware Availability: Oct-2024

Software Availability: Jun-2024



### Hardware

CPU Name: Intel Xeon 6780E  
 Max MHz: 3000  
 Nominal: 2200  
 Enabled: 144 cores, 1 chip  
 Orderable: 1 chip  
 Cache L1: 64 KB I + 32 KB D on chip per core  
 L2: 4 MB I+D on chip per core  
 L3: 108 MB I+D on chip per chip  
 Other: None  
 Memory: 512 GB (8 x 64 GB 2Rx4 PC5-6400B-R)  
 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 00.17.02 released Sep-2024  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other: jemalloc memory allocator V5.0.1  
 Power Management: BIOS and OS set to prefer performance at the cost  
 of additional power usage.



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Oct-2024

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
500.perlbench_r	144	<b>394</b>	<b>582</b>	394	581	393	584	144	354	647	356	644	<b>355</b>	<b>647</b>
502.gcc_r	144	499	409	504	405	<b>501</b>	<b>407</b>	144	395	516	398	513	<b>397</b>	<b>514</b>
505.mcf_r	144	260	897	260	896	<b>260</b>	<b>896</b>	144	260	897	260	896	<b>260</b>	<b>896</b>
520.omnetpp_r	144	589	321	594	318	<b>590</b>	<b>320</b>	144	589	321	594	318	<b>590</b>	<b>320</b>
523.xalancbmk_r	144	169	902	<b>168</b>	<b>905</b>	168	906	144	169	902	<b>168</b>	<b>905</b>	168	906
525.x264_r	144	<b>149</b>	<b>1690</b>	149	1700	149	1690	144	142	1780	142	1770	<b>142</b>	<b>1770</b>
531.deepsjeng_r	144	228	725	<b>228</b>	<b>725</b>	228	725	144	228	725	<b>228</b>	<b>725</b>	228	725
541.leela_r	144	411	580	408	585	<b>408</b>	<b>585</b>	144	411	580	408	585	<b>408</b>	<b>585</b>
548.exchange2_r	144	155	2440	<b>155</b>	<b>2440</b>	155	2440	144	155	2440	<b>155</b>	<b>2440</b>	155	2440
557.xz_r	144	501	310	501	311	<b>501</b>	<b>310</b>	144	501	310	501	311	<b>501</b>	<b>310</b>

SPECrate®2017\_int\_base = 712

SPECrate®2017\_int\_peak = 740

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

## Submit Notes

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

## Operating System Notes

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

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH = "/home/CPU2017/lib/intel64:/home/CPU2017/lib/ia32:/home/CPU2017/je5.0.1-32"  
MALLOC\_CONF = "retain:true"

## General Notes

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

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.  
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.  
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Oct-2024

Hardware Availability: Oct-2024

Software Availability: Jun-2024

## General Notes (Continued)

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 Thu Oct 10 13:57:56 2024

SUT (System Under Test) info as seen by some common utilities.

### Table of contents

1. uname -a
2. w
3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 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
13:57:56 up 1:31, 1 user, load average: 0.06, 1.05, 28.43
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
root     tty1    -             12:35   12.00s  1.42s  0.02s  sh
reportable-ic2024.1-lin-sierraforest-rate-20240308.sh

```

```

3. Username
From environment variable $USER: root

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Oct-2024

Hardware Availability: Oct-2024

Software Availability: Jun-2024

### 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) 2059541
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) 2059541
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
sh reportable-ic2024.1-lin-sierraforest-rate-20240308.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=144 -c
ic2024.1-lin-sierraforest-rate-20231213.cfg --define smt-on --define cores=144 --define physicalfirst
--define no-numa --reportable --tune base,peak -o all --define drop_caches intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=144 --configfile
ic2024.1-lin-sierraforest-rate-20231213.cfg --define smt-on --define cores=144 --define physicalfirst
--define no-numa --reportable --tune base,peak --output_format all --define drop_caches --nopower
--runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.001/temlogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/CPU2017

```

```

-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) 6780E
vendor_id      : GenuineIntel
cpu family     : 6
model          : 175
stepping       : 3
microcode      : 0x3000190
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores      : 144
siblings       : 144
1 physical ids (chips)
144 processors (hardware threads)
physical id 0: core ids 0-143
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
,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,1
32,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180,182,18
4,186,188,190,192,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222,224,226,228,230,232,234,236
,238,240,242,244,246,248,250,252,254,256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286
Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
virtualized systems. Use the above data carefully.

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

### meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

**CPU2017 License:** 3358

**Test Sponsor:** IEIT Systems Co., Ltd.

**Tested by:** IEIT Systems Co., Ltd.

**Test Date:** Oct-2024

**Hardware Availability:** Oct-2024

**Software Availability:** Jun-2024

## Platform Notes (Continued)

### 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):                       144
On-line CPU(s) list:         0-143
Vendor ID:                    GenuineIntel
BIOS Vendor ID:              Intel(R) Corporation
Model name:                   Intel(R) Xeon(R) 6780E
BIOS Model name:             Intel(R) Xeon(R) 6780E  CPU @ 2.2GHz
BIOS CPU family:             179
CPU family:                   6
Model:                        175
Thread(s) per core:          1
Core(s) per socket:          144
Socket(s):                    1
Stepping:                     3
Frequency boost:              enabled
CPU(s) scaling MHz:          105%
CPU max MHz:                  2201.0000
CPU min MHz:                  800.0000
BogoMIPS:                     4400.00
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_lld arch_capabilities

L1d cache:                    4.5 MiB (144 instances)
L1i cache:                    9 MiB (144 instances)
L2 cache:                     144 MiB (36 instances)
L3 cache:                     108 MiB (1 instance)
NUMA node(s):                 1
NUMA node0 CPU(s):           0-143
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/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

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

### meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

**CPU2017 License:** 3358  
**Test Sponsor:** IEIT Systems Co., Ltd.  
**Tested by:** IEIT Systems Co., Ltd.

**Test Date:** Oct-2024  
**Hardware Availability:** Oct-2024  
**Software Availability:** Jun-2024

## Platform Notes (Continued)

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	4.5M	8	Data	1	64	1	64
L1i	64K	9M	8	Instruction	1	128	1	64
L2	4M	144M	16	Unified	2	4096	1	64
L3	108M	108M	12	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: 0-143
node 0 size: 514911 MB
node 0 free: 485424 MB
node distances:
node 0
0: 10
```

9. /proc/meminfo

```
MemTotal: 527269600 kB
```

10. who -r

```
run-level 3 Oct 10 12:26
```

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	YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager firewallld getty@ irqbalance issue-generator kbdsettings kdump kdump-early kdump-notify klog lvm2-monitor nsd nvme-fc-boot-connections nvme-fc-autoconnect postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime	systemd-remount-fs
disabled	autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait chronyd console-getty cups cups-browsed debug-shell ebttables exchange-bmc-os-info 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 udisks2 vncserver@
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=18377317-737e-4218-af3f-1dfefc7f1bec
splash=silent
mitigations=auto
quiet
security=apparmor
crashkernel=371M,high
crashkernel=72M,low
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Oct-2024

Hardware Availability: Oct-2024

Software Availability: Jun-2024

## Platform Notes (Continued)

```

-----
14. cpupower frequency-info
analyzing CPU 119:
  current policy: frequency should be within 800 MHz and 2.20 GHz.
                  The governor "performance" may decide which speed to use
                  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 SP6

```

```

-----
19. Disk information
SPEC is set to: /home/CPU2017
Filesystem  Type  Size  Used Avail Use% Mounted on
/dev/nvme0n1p2  xfs  892G  204G  689G  23% /

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Oct-2024

Hardware Availability: Oct-2024

Software Availability: Jun-2024

## Platform Notes (Continued)

20. /sys/devices/virtual/dmi/id  
Product Family: Not specified

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:  
8x Samsung M321R8GA0PB2-CCPEC 64 GB 2 rank 6400

22. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: American Megatrends International, LLC.  
BIOS Version: 00.17.02  
BIOS Date: 09/18/2024

## Compiler Version Notes

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

C | 500.perlbench\_r(base, peak) 502.gcc\_r(base) 505.mcf\_r(base, peak) 525.x264\_r(base, peak)  
| 557.xz\_r(base, peak)

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

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

C | 500.perlbench\_r(base, peak) 502.gcc\_r(base) 505.mcf\_r(base, peak) 525.x264\_r(base, peak)  
| 557.xz\_r(base, peak)

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

C++ | 520.omnetpp\_r(base, peak) 523.xalancbnk\_r(base, peak) 531.deepsjeng\_r(base, peak)  
| 541.leela\_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308

(Continued on next page)





# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Oct-2024

Hardware Availability: Oct-2024

Software Availability: Jun-2024

## Compiler Version Notes (Continued)

Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

-----  
Fortran | 548.exchange2\_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.  
-----

## Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

## Base Portability Flags

500.perlbench\_r: -DSPEC\_LP64 -DSPEC\_LINUX\_X64  
502.gcc\_r: -DSPEC\_LP64  
505.mcf\_r: -DSPEC\_LP64  
520.omnetpp\_r: -DSPEC\_LP64  
523.xalancbmk\_r: -DSPEC\_LP64 -DSPEC\_LINUX  
525.x264\_r: -DSPEC\_LP64  
531.deepsjeng\_r: -DSPEC\_LP64  
541.leela\_r: -DSPEC\_LP64  
548.exchange2\_r: -DSPEC\_LP64  
557.xz\_r: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-w -std=c11 -m64 -Wl,-z,muldefs -xsierraforest -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 -xsierraforest -O3 -ffast-math

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Oct-2024

Hardware Availability: Oct-2024

Software Availability: Jun-2024

## Base Optimization Flags (Continued)

C++ benchmarks (continued):

-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 -xsierraforest -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

## Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

## Peak Portability Flags

500.perlbench\_r: -DSPEC\_LP64 -DSPEC\_LINUX\_X64  
502.gcc\_r: -D\_FILE\_OFFSET\_BITS=64  
505.mcf\_r: -DSPEC\_LP64  
520.omnetpp\_r: -DSPEC\_LP64  
523.xalancbmk\_r: -DSPEC\_LP64 -DSPEC\_LINUX  
525.x264\_r: -DSPEC\_LP64  
531.deepsjeng\_r: -DSPEC\_LP64  
541.leela\_r: -DSPEC\_LP64  
548.exchange2\_r: -DSPEC\_LP64  
557.xz\_r: -DSPEC\_LP64

## Peak Optimization Flags

C benchmarks:

500.perlbench\_r: -w -std=c11 -m64 -Wl,-z,muldefs  
-fprofile-generate(pass 1)

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

CPU2017 License: 3358

Test Sponsor: IEIT Systems Co., Ltd.

Tested by: IEIT Systems Co., Ltd.

Test Date: Oct-2024

Hardware Availability: Oct-2024

Software Availability: Jun-2024

## Peak Optimization Flags (Continued)

500.perlbench\_r (continued):

```
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2 -flto  
-Ofast -ffast-math -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fno-strict-overflow  
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmallo
```

```
502.gcc_r: -m32 -L/opt/intel/oneapi/compiler/2024.1/lib32 -std=gnu89  
-Wl,-z,muldefs -fprofile-generate(pass 1)  
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2 -flto  
-Ofast -ffast-math -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -L/usr/local/jemalloc32-5.0.1/lib  
-ljemalloc
```

505.mcf\_r: basepeak = yes

```
525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xsierraforest -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fno-alias  
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmallo
```

557.xz\_r: basepeak = yes

C++ benchmarks:

520.omnetpp\_r: basepeak = yes

523.xalancbmk\_r: basepeak = yes

531.deepsjeng\_r: basepeak = yes

541.leela\_r: basepeak = yes

Fortran benchmarks:

548.exchange2\_r: basepeak = yes

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

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

<http://www.spec.org/cpu2017/flags/IEIT-Platform-Settings-intel-V1.1.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-V1.1.xml>



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

IEIT Systems Co., Ltd.

SPECrate®2017\_int\_base = 712

meta brain NF3180G8 (Intel Xeon 6780E)

SPECrate®2017\_int\_peak = 740

**CPU2017 License:** 3358

**Test Sponsor:** IEIT Systems Co., Ltd.

**Tested by:** IEIT Systems Co., Ltd.

**Test Date:** Oct-2024

**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](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2024-10-10 13:57:55-0400.

Report generated on 2024-11-06 12:20:29 by CPU2017 PDF formatter v6716.

Originally published on 2024-11-05.