



# SPEC CPU®2017 Floating Point Speed Result

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## Hewlett Packard Enterprise

(Test Sponsor: HPE)

### Compute Scale-up Server 3250

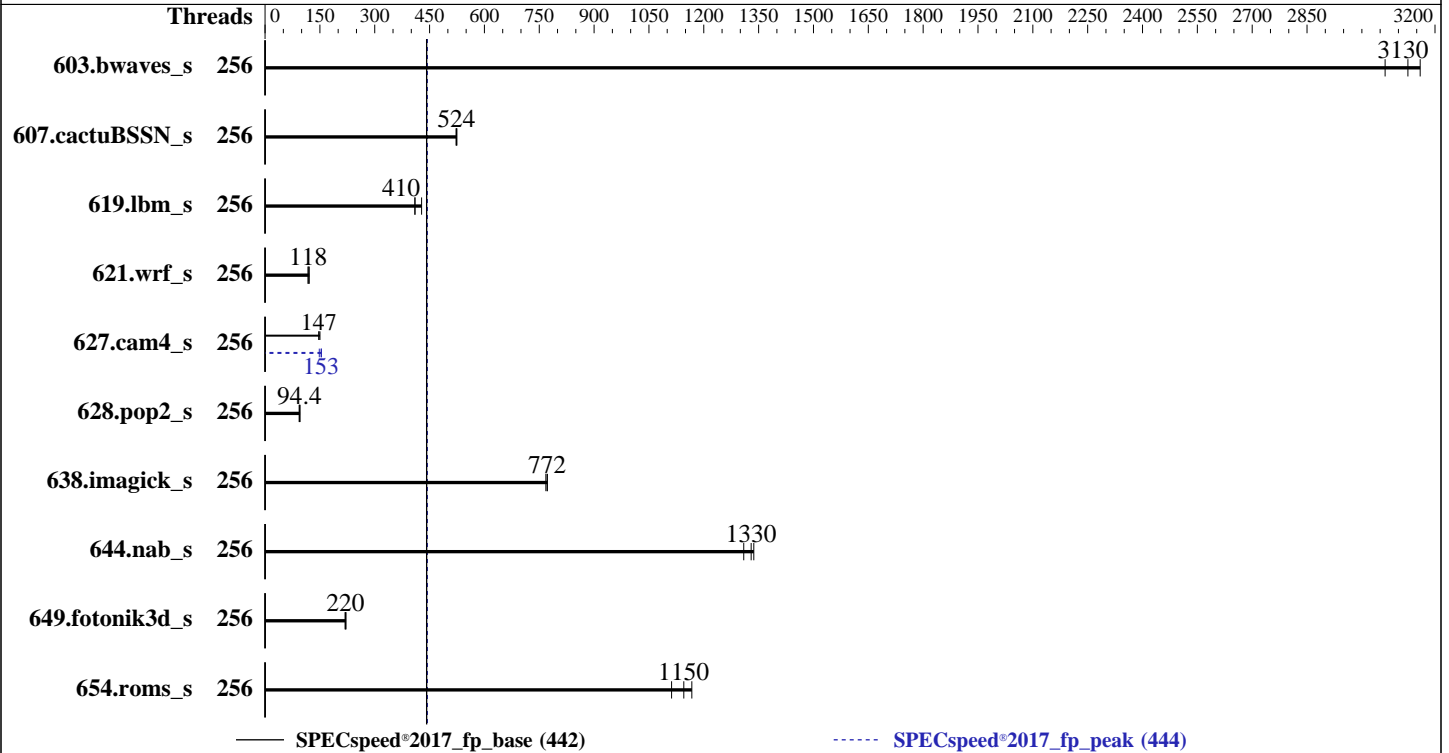
(2.00 GHz, Intel Xeon 6788P)

SPECspeed®2017\_fp\_base = 442

SPECspeed®2017\_fp\_peak = 444

CPU2017 License: 3  
Test Sponsor: HPE  
Tested by: HPE

Test Date: Mar-2026  
Hardware Availability: Apr-2026  
Software Availability: Feb-2026



### Hardware

CPU Name: Intel Xeon 6788P  
 Max MHz: 3800  
 Nominal: 2000  
 Enabled: 344 cores, 4 chips  
 Orderable: 4, 8, 12, 16 chip(s)  
 Cache L1: 64 KB I + 48 KB D on chip per core  
 L2: 2 MB I+D on chip per core  
 L3: 336 MB I+D on chip per chip  
 Other: None  
 Memory: 2 TB (32 x 64 GB 2Rx4 PC5-6400B-R)  
 Storage: 1 x 480 GB NVMe SSD  
 Other: CPU Cooling: Air

### Software

OS: SUSE Linux Enterprise Server 15 SP7  
 Kernel 6.4.0-150700.53.31-default  
 Compiler: C/C++: Version 2025.2 of Intel oneAPI DPC++/C++ Compiler for Linux;  
 Fortran: Version 2025.2 of Intel Fortran Compiler for Linux;  
 Parallel: Yes  
 Firmware: HPE Firmware Bundle Version 1.01.12 03/09/2026 released Mar-2026  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other: jemalloc memory allocator V5.0.1  
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage



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## Results Table

Benchmark	Base						Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Ratio	Seconds	Ratio
603.bwaves_s	256	18.7	3160	19.3	3060	<b>18.9</b>	<b>3130</b>	256	18.7	3160	19.3	3060	<b>18.9</b>	<b>3130</b>
607.cactuBSSN_s	256	31.8	525	31.9	522	<b>31.8</b>	<b>524</b>	256	31.8	525	31.9	522	<b>31.8</b>	<b>524</b>
619.lbm_s	256	<b>12.8</b>	<b>410</b>	12.2	428	12.8	410	256	<b>12.8</b>	<b>410</b>	12.2	428	12.8	410
621.wrf_s	256	112	118	<b>112</b>	<b>118</b>	109	121	256	112	118	<b>112</b>	<b>118</b>	109	121
627.cam4_s	256	60.3	147	59.0	150	<b>60.1</b>	<b>147</b>	256	<b>57.8</b>	<b>153</b>	57.5	154	59.8	148
628.pop2_s	256	<b>126</b>	<b>94.4</b>	127	93.2	124	95.7	256	<b>126</b>	<b>94.4</b>	127	93.2	124	95.7
638.imagick_s	256	18.8	768	18.7	772	<b>18.7</b>	<b>772</b>	256	18.8	768	18.7	772	<b>18.7</b>	<b>772</b>
644.nab_s	256	<b>13.1</b>	<b>1330</b>	13.3	1310	13.1	1340	256	<b>13.1</b>	<b>1330</b>	13.3	1310	13.1	1340
649.fotonik3d_s	256	41.2	221	41.6	219	<b>41.4</b>	<b>220</b>	256	41.2	221	41.6	219	<b>41.4</b>	<b>220</b>
654.roms_s	256	<b>13.7</b>	<b>1150</b>	14.2	1110	13.5	1170	256	<b>13.7</b>	<b>1150</b>	14.2	1110	13.5	1170

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

## Operating System Notes

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

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
KMP\_AFFINITY = "granularity=fine,compact"  
LD\_LIBRARY\_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-64"  
MALLOC\_CONF = "retain:true"  
OMP\_STACKSIZE = "192M"

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM  
memory using Redhat Enterprise Linux 8.0  
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)  
is mitigated in the system as tested and documented.  
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)  
is mitigated in the system as tested and documented.  
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)  
is mitigated in the system as tested and documented.  
jemalloc, a general purpose malloc implementation  
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:  
Workload Profile set to HPC  
Workload Profile set to Custom

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## Platform Notes (Continued)

Power Regulator set to OS Control  
 Energy Efficient Turbo set to Disabled  
 Intel Hyper-Threading set to Disabled  
 Adjacent Sector Prefetch set to Disabled  
 LLC Prefetch set to Enabled  
 Last Level Cache (LLC) Dead Line Allocation set to Disabled  
 Enhanced Processor Performance Profile set to Aggressive  
 Memory Patrol Scrubbing set to Disabled  
 Advanced Memory Protection set to Advanced ECC Support  
 SR-IOV set to Disabled  
 Intel Virtualization Technology (Intel VT, VT-x) set to Disabled  
 Dynamic Prefetch Throttling set to Disabled  
 Enabled Cores per Processor set to 64  
 Page Policy set to Open Adaptive

Sysinfo program /home/cpu2017/bin/sysinfo  
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
 running on gnh-051 Mon Mar 16 19:27:45 2026

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 (254.27+suse.179.g75eab961ea)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
16. sysctl
17. /sys/kernel/mm/transparent\_hugepage
18. /sys/kernel/mm/transparent\_hugepage/khugepaged
19. OS release
20. Disk information
21. /sys/devices/virtual/dmi/id
22. dmidecode
23. BIOS

```
1. uname -a
Linux gnh-051 6.4.0-150700.53.31-default #1 SMP PREEMPT_DYNAMIC Tue Feb 3 14:18:17 UTC 2026 (73f3a11)
x86_64 x86_64 x86_64 GNU/Linux
```

```
2. w
19:27:45 up 19:07, 1 user, load average: 139.08, 205.71, 220.11
USER  TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
test  ttyS0    -              00:46   9:42m  0.29s  0.03s login -- test
test  pts/0    -              00:46   9:42m  0.97s  0.28s sudo su
```

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## Platform Notes (Continued)

-----  
3. Username

From environment variable \$USER: root  
From the command 'logname': test

-----  
4. ulimit -a

```
core file size          (blocks, -c) 0
data seg size          (kbytes, -d) unlimited
scheduling priority    (-e) 0
file size              (blocks, -f) unlimited
pending signals        (-i) 8123229
max locked memory      (kbytes, -l) 8192
max memory size        (kbytes, -m) unlimited
open files             (-n) 40000
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) 8123229
virtual memory         (kbytes, -v) unlimited
file locks             (-x) unlimited
```

-----  
5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize=35
login -- test
-bash
sudo su
sudo su
su
bash
bash
runcpu --nobuild --action validate --define default-platform-flags -c
  ic2025.2-lin-graniterapids-speed-20250605.cfg --define cores=256 --tune base,peak -o all --define
  drop_caches fpspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
  ic2025.2-lin-graniterapids-speed-20250605.cfg --define cores=256 --tune base,peak --output_format all
  --define drop_caches --nopower --runmode speed --tune base:peak --size refspeed fpspeed --nopreenv
  --note-preenv --logfile $SPEC/tmp/CPU2017.017/templogs/preenv.fpspeed.017.0.log --lognum 017.0
  --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017
```

-----  
6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6788P
vendor_id       : GenuineIntel
cpu family      : 6
model           : 173
stepping        : 1
microcode       : 0x1000423
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi vmscape
cpu cores       : 64
siblings        : 64
4 physical ids (chips)
256 processors (hardware threads)
physical id 0: core ids 0-31,64-95
```

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## Platform Notes (Continued)

```

physical id 1: core ids 0-31,64-95
physical id 2: core ids 0-31,64-95
physical id 3: core ids 0-31,64-95
physical id 0: apicids
0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180,182,184,186,188,190
physical id 1: apicids
256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286,288,290,292,294,296,298,300,302,304,306,308,310,312,314,316,318,384,386,388,390,392,394,396,398,400,402,404,406,408,410,412,414,416,418,420,422,424,426,428,430,432,434,436,438,440,442,444,446
physical id 2: apicids
512,514,516,518,520,522,524,526,528,530,532,534,536,538,540,542,544,546,548,550,552,554,556,558,560,562,564,566,568,570,572,574,640,642,644,646,648,650,652,654,656,658,660,662,664,666,668,670,672,674,676,678,680,682,684,686,688,690,692,694,696,698,700,702
physical id 3: apicids
768,770,772,774,776,778,780,782,784,786,788,790,792,794,796,798,800,802,804,806,808,810,812,814,816,818,820,822,824,826,828,830,896,898,900,902,904,906,908,910,912,914,916,918,920,922,924,926,928,930,932,934,936,938,940,942,944,946,948,950,952,954,956,958

```

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
Byte Order:            Little Endian
CPU(s):                256
On-line CPU(s) list:   0-255
Vendor ID:             GenuineIntel
Model name:            Intel(R) Xeon(R) 6788P
CPU family:            6
Model:                 173
Thread(s) per core:    1
Core(s) per socket:    64
Socket(s):             4
Stepping:              1
CPU(s) scaling MHz:    21%
CPU max MHz:           3800.0000
CPU min MHz:           800.0000
BogoMIPS:              3999.54
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
pdpelgb rdtscp lm constant_tsc arch_perfmon pebs bts rep_good nopl
xtopology nonstop_tsc cpuid aperfmperf pni pclmulqdq dtes64
monitor 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 cat_l3 cat_l2
cdp_l3 intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced
fsgsbase tsc_adjust bml hle avx2 smep bmi2 erms invpcid rtm cqm
rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb
intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1
xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
split_lock_detect user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm
ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req avx512vbmi
umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq
avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid

```

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## Platform Notes (Continued)

```

bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear
serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16
amx_tile amx_int8 flush_llid arch_capabilities ibpb_exit_to_user
Lld cache: 12 MiB (256 instances)
Lli cache: 16 MiB (256 instances)
L2 cache: 512 MiB (256 instances)
L3 cache: 1.3 GiB (4 instances)
NUMA node(s): 8
NUMA node0 CPU(s): 0-31
NUMA node1 CPU(s): 32-63
NUMA node2 CPU(s): 64-95
NUMA node3 CPU(s): 96-127
NUMA node4 CPU(s): 128-159
NUMA node5 CPU(s): 160-191
NUMA node6 CPU(s): 192-223
NUMA node7 CPU(s): 224-255
Vulnerability Gather data sampling: Not affected
Vulnerability Indirect target selection: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability Lltf: 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; PBRSE-eIBRS Not affected; BHI BHI_DIS_S
Vulnerability Srbds: Not affected
Vulnerability Tsa: Not affected
Vulnerability Tsx async abort: Not affected
Vulnerability Vmscape: Mitigation; IBPB before exit to userspace

```

```

From lscpu --cache:
NAME ONE-SIZE ALL-SIZE WAYS TYPE LEVEL SETS PHY-LINE COHERENCY-SIZE
Lld 48K 12M 12 Data 1 64 1 64
Lli 64K 16M 16 Instruction 1 64 1 64
L2 2M 512M 16 Unified 2 2048 1 64
L3 336M 1.3G 16 Unified 3 344064 1 64

```

```

-----
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
available: 8 nodes (0-7)
node 0 cpus: 0-31
node 0 size: 257188 MB
node 0 free: 256040 MB
node 1 cpus: 32-63
node 1 size: 250021 MB
node 1 free: 247045 MB
node 2 cpus: 64-95
node 2 size: 258039 MB
node 2 free: 254903 MB
node 3 cpus: 96-127
node 3 size: 250037 MB
node 3 free: 248284 MB
node 4 cpus: 128-159

```

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```

node 4 size: 258000 MB
node 4 free: 257555 MB
node 5 cpus: 160-191
node 5 size: 250037 MB
node 5 free: 249565 MB
node 6 cpus: 192-223
node 6 size: 258039 MB
node 6 free: 256082 MB
node 7 cpus: 224-255
node 7 size: 249484 MB
node 7 free: 249040 MB
node distances:
node  0  1  2  3  4  5  6  7
0:  10 12 16 16 16 16 18 18
1:  12 10 16 16 16 16 18 18
2:  16 16 10 12 18 18 16 16
3:  16 16 12 10 18 18 16 16
4:  16 16 18 18 10 12 16 16
5:  16 16 18 18 12 10 16 16
6:  18 18 16 16 16 16 10 12
7:  18 18 16 16 16 16 12 10

```

```

-----
9. /proc/meminfo
MemTotal:      2079588732 kB

```

```

-----
10. who -r
run-level 3 Mar 16 00:21

```

```

-----
11. Systemd service manager version: systemd 254 (254.27+suse.179.g75eab961ea)
Default Target Status
multi-user      running

```

```

-----
12. Services, from systemctl list-unit-files
STATE UNIT FILES
enabled YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd bluetooth chronyd
cpuset_cpunodemap cpuset_memory_spread cron dcd dcdchkgracefulshutdown dcdshutdown
display-manager getty@ hpe-auto-config hpe_irqbalance iscsi issue-generator kbdsettings
kdump kdump-early kdump-notify klog lvm2-monitor nscd postfix purge-kernels rollback
rsyslog smartd sshd systemd-pstore vgauthd vmblock-fuse vmtoolsd vsftpd wicked
wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime systemd-fsck-root systemd-remount-fs
disabled accounts-daemon amavis apache2 apache2@ autofs autoyast-initscripts blk-availability
bluetooth-mesh boot-sysctl ca-certificates certmonger chrony-wait clamd clamonacc
console-getty cups cups-browsed cxi-monitor debug-shell ebttables exchange-bmc-os-info
firewalld fsidd gpm grub2-once haveged ipmi ipmievd irqbalance iscsi-init iscsid
issue-add-ssh-keys kexec-load lunmask man-db-create mariadb mariadb@ multipathd named
ndctl-monitor nfs nfs-blkmap nfs-server nfsserver nmb ostree-remount ostree-state-overlay@
rpcbind rpmconfigcheck rsyncd rtkit-daemon samba-bgqd smartd_generate_opts smb snmpd
snmptrapd spamd spampd speech-dispatcherd srp_daemon srp_daemon_port@ sysstat
sysstat_collect sysstat_summary systemd-boot-check-no-failures systemd-confext
systemd-network-generator systemd-sysextd systemd-time-wait-sync systemd-timesyncd tuned
udisks2 update-system-flatpaks upower vncserver@ winbind wsdd ybind
indirect serial-getty@ systemd-userdbd tftp wickedd

```

```

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

```

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## Platform Notes (Continued)

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.53.31-default
root=UUID=12eb63ab-41db-42ef-8b17-e4e0f4cae6ca
rd.auto=1
console=ttyS0,115200n8
selinux=0
security=
splash=silent
mitigations=auto
console=ttyS0,115200
udev.children-max=512
nmi_watchdog=0
uv_nmi.action=kdump
add_efi_memmap
tsc=nowatchdog
earlyprintk=ttyS0,115200
log_buf_len=8M
numa_balancing=disable
crashkernel=512M,high
watchdog_thresh=60
workqueue.watchdog_thresh=120
```

-----  
14. cpupower frequency-info

analyzing CPU 12:

current policy: frequency should be within 800 MHz and 3.80 GHz.  
The governor "performance" may decide which speed to use  
within this range.

boost state support:

Supported: yes  
Active: yes

-----  
15. tuned-adm active

No current active profile.

-----  
16. 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
```

-----  
17. /sys/kernel/mm/transparent\_hugepage

defrag always defer defer+madvice [madvice] never

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

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## Hewlett Packard Enterprise

(Test Sponsor: HPE)

Compute Scale-up Server 3250

(2.00 GHz, Intel Xeon 6788P)

SPECspeed®2017\_fp\_base = 442

SPECspeed®2017\_fp\_peak = 444

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Mar-2026

Hardware Availability: Apr-2026

Software Availability: Feb-2026

## Platform Notes (Continued)

```

enabled          [always] madvise never
hpage_pmd_size   2097152
shmem_enabled    always within_size advise [never] deny force

```

```

-----
18. /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

```

```

-----
19. OS release
From /etc/*-release /etc/*-version
os-release              SUSE Linux Enterprise Server 15 SP7
hpe-foundation-release HPE Foundation Software 2.5.9, Build 757.1570.260209T0200.a.sles15sp7hpe-260209T0200

```

```

-----
20. Disk information
SPEC is set to: /home/cpu2017
Filesystem  Type  Size  Used Avail Use% Mounted on
/dev/nvme0n1p2 xfs   447G  37G  411G   9% /

```

```

-----
21. /sys/devices/virtual/dmi/id
Vendor:      HPE
Product:     Compute Scale-up Server 3250
Product Family: 1590PID03030202
Serial:      5UFD2W0011-000

```

```

-----
22. 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:
  2x Samsung M321R8GA0EB2-CCPEC 64 GB 2 rank 6400
 29x Samsung M321R8GA0EB2-CCPKC 64 GB 2 rank 6400
  1x Samsung M321R8GA0EB2-CCPPC 64 GB 2 rank 6400

```

```

-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:      HPE
BIOS Version:     Bundle:1.01.12-20260310_095539 SFW:010.004.012.000.2603090240
BIOS Date:        03/09/2026

```

## Compiler Version Notes

```

=====
C | 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base, peak)
=====

```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605  
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(Continued on next page)



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**Test Sponsor:** HPE

**Tested by:** HPE

**Test Date:** Mar-2026

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**Software Availability:** Feb-2026

## Compiler Version Notes (Continued)

=====  
C++, C, Fortran | 607.cactuBSSN\_s(base, peak)  
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605  
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605  
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.  
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605  
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=====  
Fortran | 603.bwaves\_s(base, peak) 649.fotonik3d\_s(base, peak) 654.roms\_s(base, peak)  
=====

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605  
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=====  
Fortran, C | 621.wrf\_s(base, peak) 627.cam4\_s(base, peak) 628.pop2\_s(base, peak)  
=====

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605  
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605  
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## Base Compiler Invocation

C benchmarks:

icx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## Base Portability Flags

603.bwaves\_s: -DSPEC\_LP64  
607.cactuBSSN\_s: -DSPEC\_LP64  
619.lbm\_s: -DSPEC\_LP64  
621.wrf\_s: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG -convert big\_endian

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## Base Portability Flags (Continued)

```

627.cam4_s: -DSPEC_LP64 -DSPEC_CASE_FLAG
628.pop2_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
-assume byterecl
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -DSPEC_LP64

```

## Base Optimization Flags

C benchmarks:

```

-w -std=c11 -m64 -Wl,-z,muldefs -xgraniterapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

```

Fortran benchmarks:

```

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

```

Benchmarks using both Fortran and C:

```

-w -m64 -std=c11 -Wl,-z,muldefs -xgraniterapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

```

Benchmarks using Fortran, C, and C++:

```

-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xgraniterapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-mprefer-vector-width=512 -nostandard-realloc-lhs -align array32byte
-auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

```

## Peak Compiler Invocation

C benchmarks:

icx

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**CPU2017 License:** 3

**Test Sponsor:** HPE

**Tested by:** HPE

**Test Date:** Mar-2026

**Hardware Availability:** Apr-2026

**Software Availability:** Feb-2026

## Peak Compiler Invocation (Continued)

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

619.lbm\_s: basepeak = yes

638.imagick\_s: basepeak = yes

644.nab\_s: basepeak = yes

Fortran benchmarks:

603.bwaves\_s: basepeak = yes

649.fotonik3d\_s: basepeak = yes

654.roms\_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf\_s: basepeak = yes

```
627.cam4_s: -w -m64 -std=c11 -Wl,-z,muldefs -xgraniterapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

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## Peak Optimization Flags (Continued)

628.pop2\_s: basepeak = yes

Benchmarks using Fortran, C, and C++:

607.cactuBSSN\_s: basepeak = yes

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

<http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-CSS-GNR-rev1.3.html>

<http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.html>

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

<http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-CSS-GNR-rev1.3.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.xml>

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