



SPEC® CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

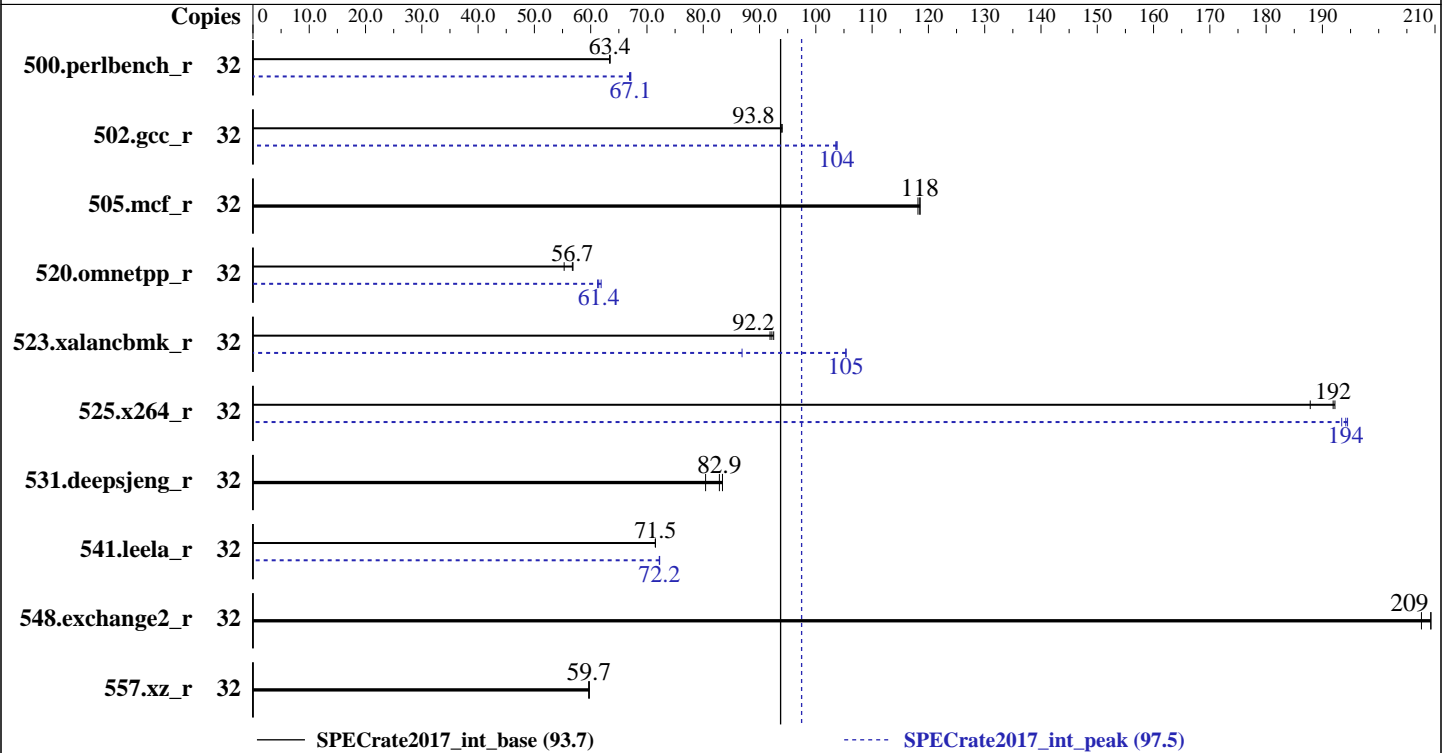
Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018



Hardware

CPU Name: AMD EPYC 7261
 Max MHz.: 2900
 Nominal: 2500
 Enabled: 16 cores, 2 chips, 2 threads/core
 Orderable: 1, 2 chip(s)
 Cache L1: 64 KB I + 32 KB D on chip per core
 L2: 512 KB I+D on chip per core
 L3: 64 MB I+D on chip per chip
 Other: None
 Memory: 256 GB (16 x 16 GB 1Rx4 PC4-2666V-L)
 Storage: 2 x 600 GB 10K SAS, RAID 1
 Other: None

Software

OS: SUSE Linux Enterprise Server 12 (x86_64) SP3
 Kernel 4.4.162-94.72-default
 Compiler: C/C++: Version 1.3.0 of AOCC
 Fortran: Version 4.8.2 of GCC
 Parallel: No
 Firmware: HPE BIOS Version A40 01/25/2019 released Feb-2019
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other: jemalloc memory allocator library v5.1.0



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

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

Test Date: Jun-2019
Hardware Availability: Feb-2019
Software Availability: Dec-2018

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	32	804	63.4	803	63.4	803	63.4	32	759	67.1	759	67.1	761	66.9
502.gcc_r	32	482	94.0	483	93.8	483	93.8	32	437	104	438	104	437	104
505.mcf_r	32	436	119	437	118	438	118	32	436	119	437	118	438	118
520.omnetpp_r	32	740	56.7	759	55.3	738	56.9	32	683	61.4	686	61.2	679	61.9
523.xalancbmk_r	32	367	92.2	365	92.5	368	91.9	32	321	105	321	105	389	86.9
525.x264_r	32	291	192	292	192	298	188	32	290	193	289	194	288	194
531.deepsjeng_r	32	443	82.9	440	83.4	456	80.4	32	443	82.9	440	83.4	456	80.4
541.leela_r	32	741	71.5	741	71.5	741	71.5	32	733	72.3	734	72.2	734	72.2
548.exchange2_r	32	404	208	401	209	401	209	32	404	208	401	209	401	209
557.xz_r	32	578	59.8	579	59.7	579	59.7	32	578	59.8	579	59.7	579	59.7

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

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

Compiler Notes

The AMD64 AOCC Compiler Suite is available at
<http://developer.amd.com/amd-aocc/>

The AOCC Fortran Plugin version 1.3.0 was used to leverage AOCC optimizers with gfortran. It is available here:
<http://developer.amd.com/amd-aocc/>

jemalloc: configured and built with GCC v4.8.2 in RHEL v7.2 under default conditions.
<https://github.com/jemalloc/jemalloc/releases/download/5.1.0/jemalloc-5.1.0.tar.bz2>

jemalloc uses environment variable MALLOC_CONF with values narenas and lg_chunk:
narenas: sets the maximum number of arenas to use for automatic multiplexing of threads and arenas.
lg_chunk: set the virtual memory chunk size (log base 2). For example,
lg_chunk:21 sets the default chunk size to 2^21 = 2MiB.

Submit Notes

The config file option 'submit' was used.
'numactl' was used to bind copies to the cores.
See the configuration file for details.

Operating System Notes

'ulimit -s unlimited' was used to set environment stack size
'ulimit -l 2097152' was used to set environment locked pages in memory limit

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018

Operating System Notes (Continued)

runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Set dirty_ratio=8 to limit dirty cache to 8% of memory
Set swappiness=1 to swap only if necessary
Set zone_reclaim_mode=1 to free local node memory and avoid remote memory
sync then drop_caches=3 to reset caches before invoking runcpu

dirty_ratio, swappiness, zone_reclaim_mode and drop_caches were
all set using privileged echo (e.g. echo 1 > /proc/sys/vm/swappiness).

Transparent huge pages set to 'always' for this run (OS default)

General Notes

Environment variables set by runcpu before the start of the run:

LD_LIBRARY_PATH = "/home/cpu2017_rate/amd1812na_rate_revA_lib/64:/home/cpu2017_rate/amd1812na_rate_revA_lib/32:"

Binaries were compiled on a system with 2p AMD EPYC 7601 CPU + 512GB Memory using RHEL 7.6

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: configured and built with GCC v4.8.2

in RHEL v7.2 under default conditions.

jemalloc: sources available from jemalloc.net or

<https://github.com/jemalloc/jemalloc/releases>

jemalloc uses environment variable MALLOC_CONF

with values narenas and lg_chunk:

narenas: sets the maximum number of arenas to use for automatic multiplexing

of threads and arenas.

lg_chunk: set the virtual memory chunk size (log

base 2). For example,

lg_chunk:21 sets the default chunk size to 2²¹ =

2MiB.

Platform Notes

BIOS Configuration:

Thermal Configuration set to Maximum Cooling

Performance Determinism set to Power Deterministic

Memory Patrol Scrubbing set to Disabled

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018

Platform Notes (Continued)

Workload Profile set to General Throughput Compute
Sysinfo program /home/cpu2017_rate/bin/sysinfo
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
running on linux-ubi7 Tue Jun 11 02:59:29 2019

SUT (System Under Test) info as seen by some common utilities.
For more information on this section, see
<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

From /proc/cpuinfo

```
model name : AMD EPYC 7261 8-Core Processor
  2 "physical id"s (chips)
  32 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following
excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 8
siblings  : 16
physical 0: cores 0 4 8 12 16 20 24 28
physical 1: cores 0 4 8 12 16 20 24 28
```

From lscpu:

```
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:            Little Endian
CPU(s):                32
On-line CPU(s) list:   0-31
Thread(s) per core:    2
Core(s) per socket:    8
Socket(s):             2
NUMA node(s):         8
Vendor ID:             AuthenticAMD
CPU family:            23
Model:                 1
Model name:            AMD EPYC 7261 8-Core Processor
Stepping:              2
CPU MHz:               2500.000
CPU max MHz:           2500.0000
CPU min MHz:           1200.0000
BogoMIPS:              4990.58
Virtualization:        AMD-V
L1d cache:             32K
L1i cache:             64K
L2 cache:              512K
L3 cache:              8192K
NUMA node0 CPU(s):    0,1,16,17
NUMA node1 CPU(s):    2,3,18,19
NUMA node2 CPU(s):    4,5,20,21
```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018

Platform Notes (Continued)

```

NUMA node3 CPU(s):      6,7,22,23
NUMA node4 CPU(s):      8,9,24,25
NUMA node5 CPU(s):      10,11,26,27
NUMA node6 CPU(s):      12,13,28,29
NUMA node7 CPU(s):      14,15,30,31

```

```

Flags:                    fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm
constant_tsc rep_good nopl nonstop_tsc extd_apicid amd_dcm aperfmperf eagerfpu pni
pclmulqdq monitor ssse3 fma cx16 sse4_1 sse4_2 movbe popcnt aes xsave avx f16c
rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
osvw skinit wdt tce topoext perfctr_core perfctr_nb bpext perfctr_l2 mwaitx arat cpb
hw_pstate ssbd ibpb npt lbrv svm_lock nrip_save tsc_scale vmcb_clean flushbyasid
decodeassists pausefilter pfthreshold vmmcall avic fsgsbase bmi1 avx2 smep bmi2
rdseed adx smap clflushopt sha_ni xsaveopt xsavec xgetbv1 clzero irperf amd_ibpb
overflow_recov succor smca

```

```

/proc/cpuinfo cache data
cache size : 512 KB

```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a physical chip.

```

available: 8 nodes (0-7)
node 0 cpus: 0 1 16 17
node 0 size: 32000 MB
node 0 free: 31902 MB
node 1 cpus: 2 3 18 19
node 1 size: 32254 MB
node 1 free: 32145 MB
node 2 cpus: 4 5 20 21
node 2 size: 32254 MB
node 2 free: 32147 MB
node 3 cpus: 6 7 22 23
node 3 size: 32254 MB
node 3 free: 32168 MB
node 4 cpus: 8 9 24 25
node 4 size: 32254 MB
node 4 free: 32168 MB
node 5 cpus: 10 11 26 27
node 5 size: 32254 MB
node 5 free: 32167 MB
node 6 cpus: 12 13 28 29
node 6 size: 32254 MB
node 6 free: 32168 MB
node 7 cpus: 14 15 30 31
node 7 size: 32122 MB
node 7 free: 32033 MB
node distances:

```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018

Platform Notes (Continued)

node	0	1	2	3	4	5	6	7
0:	10	16	16	16	32	32	32	32
1:	16	10	16	16	32	32	32	32
2:	16	16	10	16	32	32	32	32
3:	16	16	16	10	32	32	32	32
4:	32	32	32	32	10	16	16	16
5:	32	32	32	32	16	10	16	16
6:	32	32	32	32	16	16	10	16
7:	32	32	32	32	16	16	16	10

From /proc/meminfo

MemTotal: 263835136 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

/usr/bin/lsb_release -d

SUSE Linux Enterprise Server 12 SP3

From /etc/*release* /etc/*version*

SuSE-release:

SUSE Linux Enterprise Server 12 (x86_64)

VERSION = 12

PATCHLEVEL = 3

This file is deprecated and will be removed in a future service pack or release.

Please check /etc/os-release for details about this release.

os-release:

NAME="SLES"

VERSION="12-SP3"

VERSION_ID="12.3"

PRETTY_NAME="SUSE Linux Enterprise Server 12 SP3"

ID="sles"

ANSI_COLOR="0;32"

CPE_NAME="cpe:/o:suse:sles:12:sp3"

uname -a:

Linux linux-ubi7 4.4.162-94.72-default #1 SMP Mon Nov 12 18:57:45 UTC 2018 (9de753f)

x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2017-5754 (Meltdown): Not affected

CVE-2017-5753 (Spectre variant 1): Mitigation: __user pointer sanitization

CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB, RSB filling

run-level 3 Jun 11 02:52

SPEC is set to: /home/cpu2017_rate

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

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

Test Date: Jun-2019
Hardware Availability: Feb-2019
Software Availability: Dec-2018

Platform Notes (Continued)

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	xfs	518G	48G	470G	10%	/home

Additional information from dmidecode 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.

BIOS HPE A40 01/25/2019

Memory:

16x HPE 840757-191 16 GB 1 rank 2666

16x UNKNOWN NOT AVAILABLE

(End of data from sysinfo program)

Compiler Version Notes

=====
CC 502.gcc_r(peak)

AOCC.LLVM.1.3.0.B34.2018_10_22 clang version 7.0.0 (CLANG: Jenkins
AOCC_1_3_0_Release-Build#34) (based on LLVM AOCC.LLVM.1.3.0.B34.2018_10_22)
Target: i386-unknown-linux-gnu
Thread model: posix
InstalledDir: /root/work/compilers/aoccl.3.0/AOCC-1.3.0-Compiler/bin

=====
CXXC 523.xalancbmk_r(peak)

AOCC.LLVM.1.3.0.B34.2018_10_22 clang version 7.0.0 (CLANG: Jenkins
AOCC_1_3_0_Release-Build#34) (based on LLVM AOCC.LLVM.1.3.0.B34.2018_10_22)
Target: i386-unknown-linux-gnu
Thread model: posix
InstalledDir: /root/work/compilers/aoccl.3.0/AOCC-1.3.0-Compiler/bin

=====
CC 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
525.x264_r(base) 557.xz_r(base, peak)

AOCC.LLVM.1.3.0.B34.2018_10_22 clang version 7.0.0 (CLANG: Jenkins
AOCC_1_3_0_Release-Build#34) (based on LLVM AOCC.LLVM.1.3.0.B34.2018_10_22)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /root/work/compilers/aoccl.3.0/AOCC-1.3.0-Compiler/bin

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018

Compiler Version Notes (Continued)

=====
CXXC 520.omnetpp_r(base, peak) 523.xalanbmk_r(base) 531.deepsjeng_r(base, peak) 541.leela_r(base)
=====

AOCCL.LLVM.1.3.0.B34.2018_10_22 clang version 7.0.0 (CLANG: Jenkins
AOCCL_1_3_0_Release-Build#34) (based on LLVM AOCCL.LLVM.1.3.0.B34.2018_10_22)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /root/work/compilers/aoccl.3.0/AOCCL-1.3.0-Compiler/bin

=====
CC 500.perlbench_r(peak) 525.x264_r(peak)
=====

AOCCL.LLVM.1.3.0.B34.2018_10_22 clang version 7.0.0 (CLANG: Jenkins
AOCCL_1_3_0_Release-Build#34) (based on LLVM AOCCL.LLVM.1.3.0.B34.2018_10_22)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /root/work/compilers/aoccl.3.0/AOCCL-1.3.0-Compiler/bin

=====
CXXC 541.leela_r(peak)
=====

AOCCL.LLVM.1.3.0.B34.2018_10_22 clang version 7.0.0 (CLANG: Jenkins
AOCCL_1_3_0_Release-Build#34) (based on LLVM AOCCL.LLVM.1.3.0.B34.2018_10_22)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /root/work/compilers/aoccl.3.0/AOCCL-1.3.0-Compiler/bin

=====
FC 548.exchange2_r(base, peak)
=====

GNU Fortran (GCC) 4.8.2
Copyright (C) 2013 Free Software Foundation, Inc.
GNU Fortran comes with NO WARRANTY, to the extent permitted by law.
You may redistribute copies of GNU Fortran
under the terms of the GNU General Public License.
For more information about these matters, see the file named COPYING



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018

Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

clang gfortran

Base Portability Flags

```
500.perlbench_r: -DSPEC_LINUX_X64 -DSPEC_LP64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LINUX -DSPEC_LP64
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:

```
-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-enable-vectorize-compares -O3 -ffast-math
-march=znver1 -mno-avx2 -fstruct-layout=3 -mllvm -unroll-threshold=50
-freemap-arrays -mllvm -inline-threshold=1000
-flv-function-specialization -mllvm -enable-gvn-hoist
-mllvm -function-specialize -z muldefs -lpthread -ldl -ljemalloc
-lamdlibm
```

C++ benchmarks:

```
-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-enable-vectorize-compares -O3 -march=znver1
-mllvm -unroll-threshold=100 -finline-aggressive -freemap-arrays
-mllvm -inline-threshold=1000 -mllvm -enable-vectorize-compares=false
-z muldefs -lpthread -ldl -ljemalloc -lamdlibm
```

Fortran benchmarks:

```
-Wl,-mllvm -Wl,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop
```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-Wl,-mllvm -Wl,-enable-iv-split -Wl,-mllvm -Wl,-merge-constant
-Wl,-mllvm -Wl,-unroll-aggressive -Wl,-mllvm -Wl,-unroll-threshold=150
-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-enable-vectorize-compares -O3 -mavx -madx
-funroll-loops -ffast-math -fpack-arrays -z muldefs
-fplugin=dragonegg.so -specs=integrated-as.specs
-fplugin-arg-dragonegg-llvm-option=-disable-indvar-simplify
-fplugin-arg-dragonegg-llvm-option=-unroll-aggressive
-fplugin-arg-dragonegg-llvm-option=-unroll-threshold:150 -lpthread -ldl
-ljemalloc -lamdlibm -lgfortran
```

Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

clang gfortran

Peak Portability Flags

```
500.perlbench_r: -DSPEC_LINUX_X64 -DSPEC_LP64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LINUX -D_FILE_OFFSET_BITS=64
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:

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018

Peak Optimization Flags (Continued)

```
500.perlbench_r: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-enable-vectorize-compares
-fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -Ofast -march=znver1
-fstruct-layout=3 -mllvm -vectorize-memory-aggressively
-mno-avx2 -mllvm -unroll-threshold=100 -fremap-arrays
-mllvm -inline-threshold=1000 -lpthread -ldl -ljemalloc
```

```
502 gcc_r: -m32 -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-enable-vectorize-compares -Ofast
-march=znver1 -fstruct-layout=3
-mllvm -vectorize-memory-aggressively -mno-avx2
-mllvm -unroll-threshold=100 -fremap-arrays
-mllvm -inline-threshold=1000 -fgnu89-inline -lpthread
-ldl -ljemalloc
```

505.mcf_r: basepeak = yes

```
525.x264_r: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-enable-vectorize-compares
-fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -Ofast -march=znver1
-mno-avx2 -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -inline-threshold=1000 -mllvm -enable-gvn-hoist
-flv-function-specialization -lamdlibm -ljemalloc
-lpthread -ldl
```

557.xz_r: basepeak = yes

C++ benchmarks:

```
520.omnetpp_r: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-enable-vectorize-compares -Ofast
-march=znver1 -finline-aggressive
-mllvm -unroll-threshold=100 -fremap-arrays
-mllvm -inline-threshold=1000 -lpthread -ldl -ljemalloc
```

```
523.xalancbmk_r: -m32 -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-enable-vectorize-compares -Ofast
-march=znver1 -finline-aggressive
-mllvm -unroll-threshold=100 -fremap-arrays
-mllvm -inline-threshold=1000 -lpthread -ldl -ljemalloc
```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10

(2.50 GHz, AMD EPYC 7261)

SPECrate2017_int_base = 93.7

SPECrate2017_int_peak = 97.5

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Jun-2019

Hardware Availability: Feb-2019

Software Availability: Dec-2018

Peak Optimization Flags (Continued)

531.deepsjeng_r: basepeak = yes

```
541.leela_r: -flt0 -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-enable-vectorize-compares
-fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -Ofast -march=znver1
-mllvm -unroll-count=8 -mllvm -unroll-threshold=100
-lpthread -ldl -ljemalloc
```

Fortran benchmarks:

548.exchange2_r: basepeak = yes

Peak Other Flags

C benchmarks:

502.gcc_r: -L/root/work/lib/jemalloc510/lib32

C++ benchmarks:

523.xalancbmk_r: -L/root/work/lib/jemalloc510/lib32

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

<http://www.spec.org/cpu2017/flags/aocc130-flags-revA-I.html>

<http://www.spec.org/cpu2017/flags/gcc.2017-11-20.html>

<http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-AMD-V1.2-EPYC-revD.html>

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

<http://www.spec.org/cpu2017/flags/aocc130-flags-revA-I.xml>

<http://www.spec.org/cpu2017/flags/gcc.2017-11-20.xml>

<http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-AMD-V1.2-EPYC-revD.xml>

SPEC is a registered trademark 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 CPU2017 v1.0.5 on 2019-06-10 20:59:28-0400.

Report generated on 2019-07-22 11:40:43 by CPU2017 PDF formatter v6067.

Originally published on 2019-07-21.