



# SPEC® CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

## Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

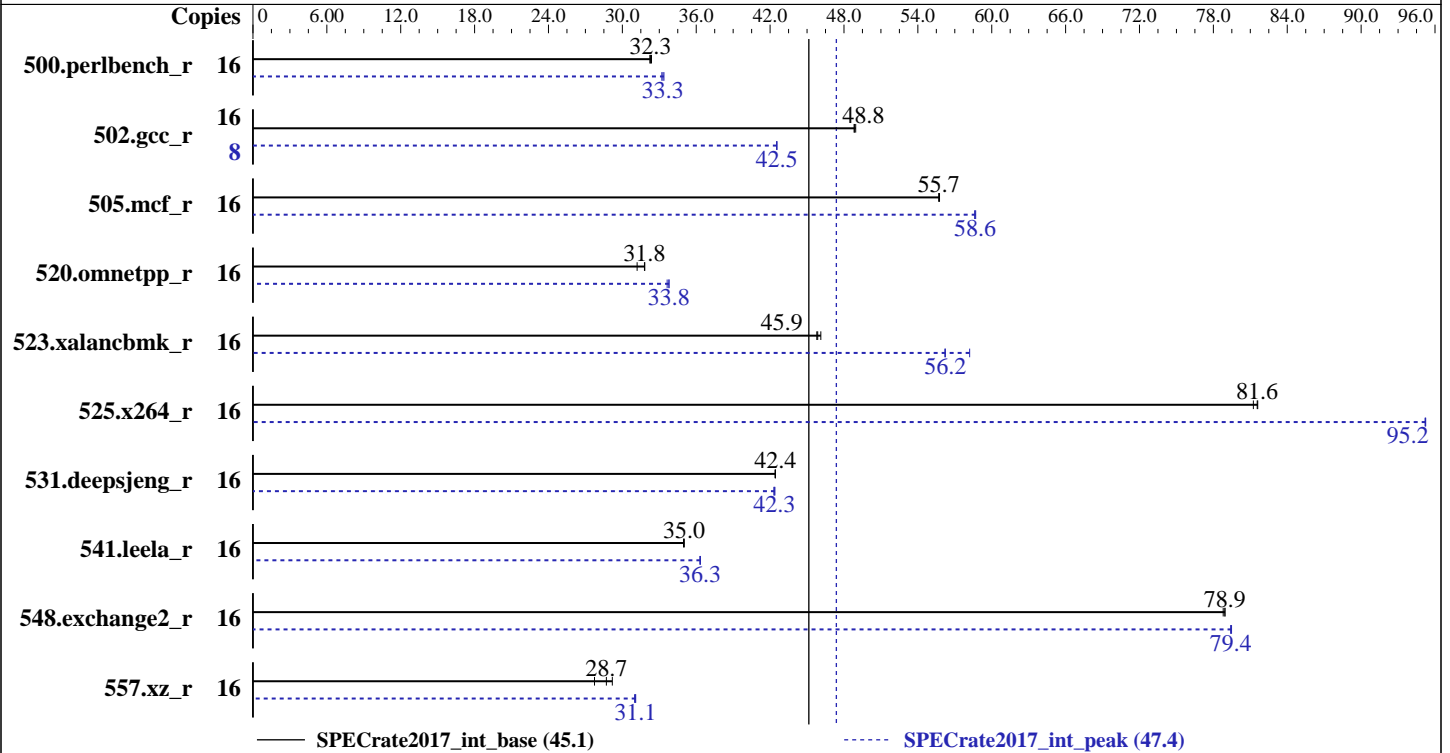
Test Date: Mar-2018

Test Sponsor: Dell Inc.

Hardware Availability: Feb-2018

Tested by: Dell Inc.

Software Availability: Dec-2017



### Hardware

CPU Name: AMD EPYC 7261  
 Max MHz.: 2900  
 Nominal: 2500  
 Enabled: 8 cores, 1 chip, 2 threads/core  
 Orderable: 1 chip  
 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: 512 GB (8 x 64 GB 4DRx4 PC4-2666V-L, running at 2666)  
 Storage: 1 x 480 GB SATA SSD  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 12 SP3 (x86\_64) kernel 4.4.114-94.11-default  
 Compiler: C/C++: Version 1.0.0 of AOCC  
 Fortran: Version 4.8.2 of GCC  
 Parallel: No  
 Firmware: Version 1.0.9 released Jan-2018  
 File System: xfs  
 System State: Run Level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other: jemalloc memory allocator library, version 4.5.0



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

Test Date: Mar-2018

Test Sponsor: Dell Inc.

Hardware Availability: Feb-2018

Tested by: Dell Inc.

Software Availability: Dec-2017

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	16	787	32.4	<b><u>789</u></b>	<b><u>32.3</u></b>	790	32.2	16	<b><u>765</u></b>	<b><u>33.3</u></b>	763	33.4	767	33.2
502.gcc_r	16	464	48.8	<b><u>464</u></b>	<b><u>48.8</u></b>	463	49.0	8	266	42.5	<b><u>266</u></b>	<b><u>42.5</u></b>	266	42.5
505.mcf_r	16	464	55.8	<b><u>464</u></b>	<b><u>55.7</u></b>	464	55.7	16	441	58.6	<b><u>441</u></b>	<b><u>58.6</u></b>	441	58.7
520.omnetpp_r	16	673	31.2	<b><u>660</u></b>	<b><u>31.8</u></b>	660	31.8	16	<b><u>621</u></b>	<b><u>33.8</u></b>	621	33.8	624	33.6
523.xalancbmk_r	16	369	45.8	366	46.1	<b><u>368</u></b>	<b><u>45.9</u></b>	16	301	56.2	290	58.2	<b><u>300</u></b>	<b><u>56.2</u></b>
525.x264_r	16	<b><u>344</u></b>	<b><u>81.6</u></b>	343	81.6	345	81.2	16	<b><u>294</u></b>	<b><u>95.2</u></b>	294	95.2	294	95.2
531.deepsjeng_r	16	432	42.4	432	42.4	<b><u>432</u></b>	<b><u>42.4</u></b>	16	433	42.4	<b><u>433</u></b>	<b><u>42.3</u></b>	433	42.3
541.leela_r	16	758	35.0	757	35.0	<b><u>757</u></b>	<b><u>35.0</u></b>	16	<b><u>729</u></b>	<b><u>36.3</u></b>	730	36.3	729	36.3
548.exchange2_r	16	<b><u>531</u></b>	<b><u>78.9</u></b>	532	78.8	531	78.9	16	<b><u>528</u></b>	<b><u>79.4</u></b>	528	79.4	527	79.5
557.xz_r	16	623	27.7	<b><u>602</u></b>	<b><u>28.7</u></b>	592	29.2	16	<b><u>556</u></b>	<b><u>31.1</u></b>	558	31.0	556	31.1

SPECrate2017\_int\_base = 45.1

SPECrate2017\_int\_peak = 47.4

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

## 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

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 were enabled for this run (OS default)

Huge pages were not configured for this run.



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2018

Hardware Availability: Feb-2018

Software Availability: Dec-2017

## General Notes

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

```
LD_LIBRARY_PATH = "/home/cpu2017-1.0.2/amd1704-rate-libs-revC/64:/home/cpu2017-1.0.2/amd1704-rate-libs-revC/32:"
MALLOCONF = "lg_chunk:26"
```

The AMD64 AOCC Compiler Suite is available at

<http://developer.amd.com/amd-aocc/>

The AOCC Gold Linker plugin was installed and used for the link stage.

The AOCC Fortran Plugin version 1.0 was used to leverage AOCC optimizers with gfortran.

Binaries were compiled on a system with 2x AMD EPYC 7601 CPU + 512GB Memory using RHEL 7.4

jemalloc, a general purpose malloc implementation, was obtained at

<https://github.com/jemalloc/jemalloc/releases/download/4.5.0/jemalloc-4.5.0.tar.bz2>

jemalloc was built with GCC v4.8.5 in RHEL v7.2 under default conditions.

jemalloc uses environment variable MALLOCONF 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  $2^{21} = 2\text{MiB}$ .

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.

## Platform Notes

Sysinfo program /home/cpu2017-1.0.2/bin/sysinfo

Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f

running on linux-j270 Wed Mar 7 11:33:29 2018

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

1 "physical id"s (chips)

16 "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 8 12 16 20 24 28

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2018

Hardware Availability: Feb-2018

Software Availability: Dec-2017

## Platform Notes (Continued)

From lscpu:

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:            Little Endian
CPU(s):                16
On-line CPU(s) list:   0-15
Thread(s) per core:    2
Core(s) per socket:    8
Socket(s):             1
NUMA node(s):         4
Vendor ID:             AuthenticAMD
CPU family:            23
Model:                1
Model name:            AMD EPYC 7261 8-Core Processor
Stepping:              2
CPU MHz:               2495.250
BogoMIPS:              4990.50
Virtualization:       AMD-V
L1d cache:            32K
L1i cache:            64K
L2 cache:              512K
L3 cache:              8192K
NUMA node0 CPU(s):    0,4,8,12
NUMA node1 CPU(s):    1,5,9,13
NUMA node2 CPU(s):    2,6,10,14
NUMA node3 CPU(s):    3,7,11,15

```

```

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 fl6c
rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
osvw skinit wdt tce topoext perfctr_core perfctr_nb bpeext perfctr_l2 mwaitx arat cpb
hw_pstate retpoline retpoline_amd 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
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: 4 nodes (0-3)
node 0 cpus: 0 4 8 12
node 0 size: 128622 MB
node 0 free: 128490 MB

```

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2018

Hardware Availability: Feb-2018

Software Availability: Dec-2017

## Platform Notes (Continued)

```

node 1 cpus: 1 5 9 13
node 1 size: 129019 MB
node 1 free: 128888 MB
node 2 cpus: 2 6 10 14
node 2 size: 129019 MB
node 2 free: 128878 MB
node 3 cpus: 3 7 11 15
node 3 size: 129017 MB
node 3 free: 128864 MB
node distances:
node  0  1  2  3
  0:  10  16  16  16
  1:  16  10  16  16
  2:  16  16  10  16
  3:  16  16  16  10

```

From /proc/meminfo

```

MemTotal:      528054576 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-j270 4.4.114-94.11-default #1 SMP Thu Feb 1 19:28:26 UTC 2018 (4309ff9)
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Mar 7 11:31

SPEC is set to: /home/cpu2017-1.0.2

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2018

Hardware Availability: Feb-2018

Software Availability: Dec-2017

## Platform Notes (Continued)

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	xfs	405G	4.9G	400G	2%	/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 Dell Inc. 1.0.9 01/05/2018

Memory:

8x 802C8632802C 72ASS8G72LZ-2G6B2 64 GB 4 rank 2666

8x Not Specified Not Specified

(End of data from sysinfo program)

## Compiler Version Notes

=====  
CC 502.gcc\_r(peak)

-----  
AOCC.LLVM.4.0.0.B35.2017\_04\_26 clang version 4.0.0 (CLANG:) (based on LLVM  
AOCC.LLVM.4.0.0.B35.2017\_04\_26)  
Target: i386-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /root/work/compilers/AOCC-1.0-Compiler/bin  
-----

=====  
CXXC 523.xalancbmk\_r(peak)

-----  
AOCC.LLVM.4.0.0.B35.2017\_04\_26 clang version 4.0.0 (CLANG:) (based on LLVM  
AOCC.LLVM.4.0.0.B35.2017\_04\_26)  
Target: i386-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /root/work/compilers/AOCC-1.0-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.4.0.0.B35.2017\_04\_26 clang version 4.0.0 (CLANG:) (based on LLVM  
AOCC.LLVM.4.0.0.B35.2017\_04\_26)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /root/work/compilers/AOCC-1.0-Compiler/bin  
-----

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2018

Hardware Availability: Feb-2018

Software Availability: Dec-2017

## Compiler Version Notes (Continued)

=====  
CXXC 520.omnetpp\_r(base, peak) 523.xalanbmk\_r(base) 531.deepsjeng\_r(base, peak) 541.leela\_r(base)  
=====

-----  
AOCC.LLVM.4.0.0.B35.2017\_04\_26 clang version 4.0.0 (CLANG:) (based on LLVM  
AOCC.LLVM.4.0.0.B35.2017\_04\_26)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /root/work/compilers/AOCC-1.0-Compiler/bin  
-----

=====  
CC 500.perlbench\_r(peak) 525.x264\_r(peak)  
=====

-----  
AOCC.LLVM.4.0.0.B35.2017\_04\_26 clang version 4.0.0 (CLANG:) (based on LLVM  
AOCC.LLVM.4.0.0.B35.2017\_04\_26)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /root/work/compilers/AOCC-1.0-Compiler/bin  
-----

=====  
CXXC 541.leela\_r(peak)  
=====

-----  
AOCC.LLVM.4.0.0.B35.2017\_04\_26 clang version 4.0.0 (CLANG:) (based on LLVM  
AOCC.LLVM.4.0.0.B35.2017\_04\_26)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /root/work/compilers/AOCC-1.0-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

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2018

Hardware Availability: Feb-2018

Software Availability: Dec-2017

## 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, -plugin-opt= -merge-constant -lsr-in-nested-loop
-disable-vect-cmp -O3 -ffast-math -march=znver1 -fstruct-layout=2
-mlvm -unroll-threshold=100 -fremap-arrays -mno-avx2
-inline-threshold=1000 -z muldefs -ljemalloc
```

C++ benchmarks:

```
-flto -Wl, -plugin-opt= -merge-constant -lsr-in-nested-loop
-disable-vect-cmp -O3 -march=znver1 -mlvm -unroll-threshold=100
-finline-aggressive -fremap-arrays -inline-threshold=1000 -z muldefs
-ljemalloc
```

Fortran benchmarks:

```
-flto -Wl, -plugin-opt= -merge-constant -lsr-in-nested-loop
-disable-vect-cmp -O3(gfortran) -O3(clang) -mavx -madox
-funroll-loops -ffast-math -z muldefs -Ofast -fdefault-integer-8
-fplugin=dragonegg.so -fplugin-arg-dragonegg-llvm-option="
-enable-iv-split -inline-threshold:1000 -disable-vect-cmp" -ljemalloc
```

(Continued on next page)





# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2018

Hardware Availability: Feb-2018

Software Availability: Dec-2017

## Base Optimization Flags (Continued)

Fortran benchmarks (continued):

-lgfortran -lamdlibm

## 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:

```
500.perlbench_r: -flto -Wl, -plugin-opt= -merge-constant
-lsr-in-nested-loop -fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -Ofast -march=znver1
-fstruct-layout=3 -mllvm -vectorize-memory-aggressively
-mno-avx2 -unroll-threshold=100 -fremap-arrays
-inline-threshold=1000 -ljemalloc
```

```
502.gcc_r: -m32 -flto -Wl, -plugin-opt= -merge-constant
-lsr-in-nested-loop -Ofast -march=znver1
```

(Continued on next page)



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2018

Hardware Availability: Feb-2018

Software Availability: Dec-2017

## Peak Optimization Flags (Continued)

502.gcc\_r (continued):

```
-fstruct-layout=3 -mllvm -vectorize-memory-aggressively
-mno-avx2 -unroll-threshold=100 -fremap-arrays
-inline-threshold=1000 -fgnu89-inline
-L/root/work/lib/jemalloc/lib32 -ljemalloc
```

```
505.mcf_r: -flto -Wl, -plugin-opt= -merge-constant
-lsr-in-nested-loop -Ofast -march=znver1
-fstruct-layout=3 -mllvm -vectorize-memory-aggressively
-mno-avx2 -unroll-threshold=100 -fremap-arrays
-inline-threshold=1000 -ljemalloc
```

525.x264\_r: Same as 500.perlbench\_r

557.xz\_r: Same as 505.mcf\_r

C++ benchmarks:

```
520.omnetpp_r: -flto -Wl, -plugin-opt= -merge-constant
-lsr-in-nested-loop -Ofast -march=znver1
-finline-aggressive -mllvm -unroll-threshold=100
-fremap-arrays -inline-threshold=1000 -ljemalloc
```

```
523.xalancbmk_r: -m32 -flto -Wl, -plugin-opt= -merge-constant
-lsr-in-nested-loop -Ofast -march=znver1
-finline-aggressive -mllvm -unroll-threshold=100
-fremap-arrays -inline-threshold=1000
-L/root/work/lib/jemalloc/lib32 -ljemalloc
```

531.deepsjeng\_r: Same as 520.omnetpp\_r

```
541.leela_r: -flto -Wl, -plugin-opt= -merge-constant
-lsr-in-nested-loop -fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -Ofast -march=znver1 -mllvm
-unroll-count=8 -unroll-threshold=100 -ljemalloc
```

Fortran benchmarks:

```
-flto -Wl, -plugin-opt= -merge-constant -lsr-in-nested-loop
-O3(gfortran) -O3(clang) -mavx2 -madx -funroll-loops -ffast-math
-Ofast -fdefault-integer-8 -fplugin=dragonegg.so
-fplugin-arg-dragonegg-llvm-option=" -enable-iv-split
-inline-threshold:1000 -disable-vect-cmp" -ljemalloc -lgfortran
-lamdlibm
```



# SPEC CPU2017 Integer Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017\_int\_base = 45.1

PowerEdge R6415 (AMD EPYC 7261, 2.50 GHz)

SPECrate2017\_int\_peak = 47.4

**CPU2017 License:** 55

**Test Date:** Mar-2018

**Test Sponsor:** Dell Inc.

**Hardware Availability:** Feb-2018

**Tested by:** Dell Inc.

**Software Availability:** Dec-2017

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

<http://www.spec.org/cpu2017/flags/gcc.2018-02-16.html>  
<http://www.spec.org/cpu2017/flags/aocc100-flags-revC-I.2018-02-16.html>  
<http://www.spec.org/cpu2017/flags/amd1704-Dell-platform-revB-I.html>

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

<http://www.spec.org/cpu2017/flags/gcc.2018-02-16.xml>  
<http://www.spec.org/cpu2017/flags/aocc100-flags-revC-I.2018-02-16.xml>  
<http://www.spec.org/cpu2017/flags/amd1704-Dell-platform-revB-I.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](mailto:info@spec.org).

Tested with SPEC CPU2017 v1.0.2 on 2018-03-07 12:33:28-0500.

Report generated on 2019-02-21 13:54:22 by CPU2017 PDF formatter v6067.

Originally published on 2018-04-03.