



SPEC® CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

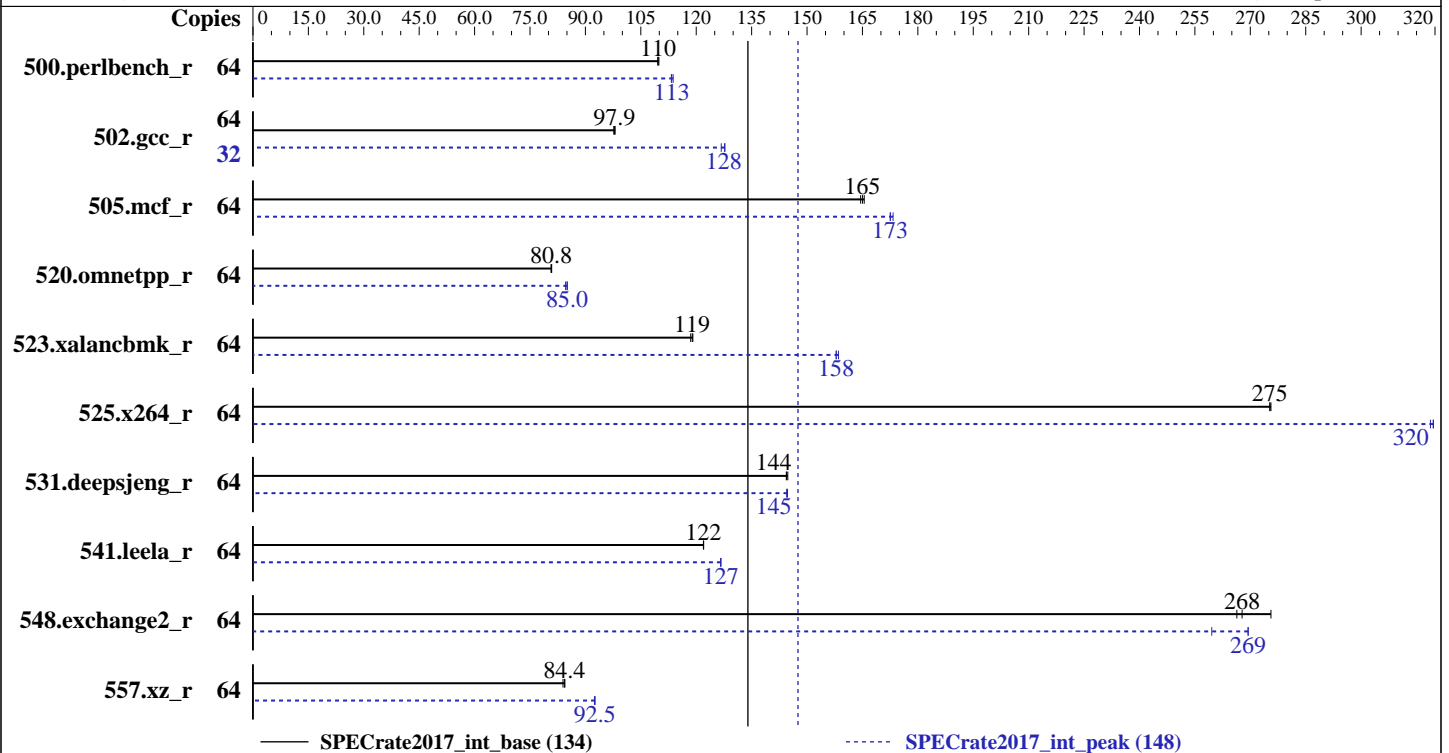
Test Date: Nov-2018

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2018

Tested by: Dell Inc.

Software Availability: Apr-2018



Hardware

CPU Name: AMD EPYC 7551P
 Max MHz.: 3000
 Nominal: 2000
 Enabled: 32 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, 8 MB shared / 4 cores
 Other: None
 Memory: 512 GB (8 x 64 GB 4DRx4 PC4-2667V-L)
 Storage: 1 x 480 GB SATA SSD
 Other: None

Software

OS: SUSE Linux Enterprise Server 12 SP3
 kernel 4.4.126-94.22-default
 Compiler: C/C++: Version 1.0.0 of AOCC
 Fortran: Version 4.8.2 of GCC
 Parallel: No
 Firmware: Version 1.6.7 released Oct-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
 V4.5.0



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Date: Nov-2018

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2018

Tested by: Dell Inc.

Software Availability: Apr-2018

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	64	927	110	<u>929</u>	<u>110</u>	930	110	64	896	114	900	113	<u>899</u>	<u>113</u>
502.gcc_r	64	<u>926</u>	<u>97.9</u>	928	97.7	924	98.0	32	355	128	357	127	<u>355</u>	<u>128</u>
505.mcf_r	64	629	165	625	165	<u>627</u>	<u>165</u>	64	599	173	<u>599</u>	<u>173</u>	597	173
520.omnetpp_r	64	1038	80.9	1040	80.7	<u>1040</u>	<u>80.8</u>	64	992	84.6	<u>988</u>	<u>85.0</u>	987	85.1
523.xalancbmk_r	64	570	118	<u>568</u>	<u>119</u>	568	119	64	426	159	<u>428</u>	<u>158</u>	428	158
525.x264_r	64	407	275	<u>407</u>	<u>275</u>	407	276	64	<u>351</u>	<u>320</u>	352	319	351	320
531.deepsjeng_r	64	<u>508</u>	<u>144</u>	508	144	507	145	64	<u>507</u>	<u>145</u>	507	145	507	145
541.leela_r	64	<u>869</u>	<u>122</u>	869	122	869	122	64	837	127	837	127	<u>837</u>	<u>127</u>
548.exchange2_r	64	<u>626</u>	<u>268</u>	630	266	608	276	64	<u>622</u>	<u>269</u>	622	269	646	260
557.xz_r	64	819	84.4	<u>819</u>	<u>84.4</u>	823	83.9	64	746	92.6	748	92.4	<u>747</u>	<u>92.5</u>

SPECrate2017_int_base = 134

SPECrate2017_int_peak = 148

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 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. It is available here: <http://developer.amd.com/amd-aocc/>

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

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2018

Hardware Availability: Dec-2018

Software Availability: Apr-2018

Operating System Notes (Continued)

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)

General Notes

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

```
LD_LIBRARY_PATH = "/home/cpu2017-1.0.5/amd1704-rate-libs-revD/64:/home/cpu2017-1.0.5/amd1704-rate-libs-revD/32:"
MALLOCCONF = "lg_chunk:26"
```

Binaries were compiled on a system with 2x AMD EPYC 7601 CPU + 512GB Memory using RHEL 7.4
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 v4.8.5 in RHEL v7.2 under default conditions.

jemalloc: sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

jemalloc uses environment variable MALLOCCONF 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.

Platform Notes

BIOS settings:

Memory Interleaving set to Channel Interleaving

Virtualization Technology disabled

System Profile set to Custom

CPU Power Management set to Maximum Performance

Memory Frequency set to Maximum Performance

Turbo Boost enabled

C States set to Autonomous

Memory Patrol Scrub disabled

Memory Refresh Rate set to 1x

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Date: Nov-2018

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2018

Tested by: Dell Inc.

Software Availability: Apr-2018

Platform Notes (Continued)

PCI ASPM L1 Link Power Management disabled
Determinism Slider set to Power Determinism
Sysinfo program /home/cpu2017-1.0.5/bin/sysinfo
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
running on linux-j270 Wed Nov 28 09:46:51 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 7551P 32-Core Processor
 1 "physical id"s (chips)
 64 "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 : 32
siblings : 64
physical 0: cores 0 1 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
29 30 31
```

From lscpu:

```
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 64
On-line CPU(s) list: 0-63
Thread(s) per core: 2
Core(s) per socket: 32
Socket(s): 1
NUMA node(s): 4
Vendor ID: AuthenticAMD
CPU family: 23
Model: 1
Model name: AMD EPYC 7551P 32-Core Processor
Stepping: 2
CPU MHz: 1996.199
BogoMIPS: 3992.39
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 64K
L2 cache: 512K
L3 cache: 8192K
NUMA node0 CPU(s): 0,4,8,12,16,20,24,28,32,36,40,44,48,52,56,60
NUMA node1 CPU(s): 1,5,9,13,17,21,25,29,33,37,41,45,49,53,57,61
NUMA node2 CPU(s): 2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62
NUMA node3 CPU(s): 3,7,11,15,19,23,27,31,35,39,43,47,51,55,59,63
```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Date: Nov-2018

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2018

Tested by: Dell Inc.

Software Availability: Apr-2018

Platform Notes (Continued)

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 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 16 20 24 28 32 36 40 44 48 52 56 60
node 0 size: 128621 MB
node 0 free: 128454 MB
node 1 cpus: 1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61
node 1 size: 129018 MB
node 1 free: 128852 MB
node 2 cpus: 2 6 10 14 18 22 26 30 34 38 42 46 50 54 58 62
node 2 size: 129018 MB
node 2 free: 128836 MB
node 3 cpus: 3 7 11 15 19 23 27 31 35 39 43 47 51 55 59 63
node 3 size: 129017 MB
node 3 free: 128854 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: 528052476 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)
```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2018

Hardware Availability: Dec-2018

Software Availability: Apr-2018

Platform Notes (Continued)

```

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 4.4.126-94.22-default #1 SMP Wed Apr 11 07:45:03 UTC 2018 (9649989)
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

```

```
run-level 3 Nov 28 09:40
```

```

SPEC is set to: /home/cpu2017-1.0.5
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda4        xfs   405G   16G  389G   4% /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. 1.6.7 10/29/2018
Memory:
8x 80CE863280CE M386A8K40BM2-CTD 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

```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2018

Hardware Availability: Dec-2018

Software Availability: Apr-2018

Compiler Version Notes (Continued)

```
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
```

```
=====
CXXC 520.omnetpp_r(base, peak) 523.xalancbmk_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
```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2018

Hardware Availability: Dec-2018

Software Availability: Apr-2018

Compiler Version Notes (Continued)

=====
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
=====

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

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Date: Nov-2018

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2018

Tested by: Dell Inc.

Software Availability: Apr-2018

Base Portability Flags (Continued)

548.exchange2_r: -DSPEC_LP64

557.xz_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

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

Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

clang gfortran



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2018

Hardware Availability: Dec-2018

Software Availability: Apr-2018

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
-Wl,-plugin-opt=-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 -mllvm -unroll-threshold=100 -fremap-arrays
-mllvm -inline-threshold=1000 -ljemalloc

```

```

502.gcc_r: -m32 -flto -Wl,-plugin-opt=-merge-constant
-Wl,-plugin-opt=-lsr-in-nested-loop -Ofast -march=znver1
-fstruct-layout=3 -mllvm -vectorize-memory-aggressively
-mno-avx2 -mllvm -unroll-threshold=100 -fremap-arrays
-mllvm -inline-threshold=1000 -fgnu89-inline -ljemalloc

```

```

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

```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2018

Hardware Availability: Dec-2018

Software Availability: Apr-2018

Peak Optimization Flags (Continued)

520.omnetpp_r (continued):

-fremap-arrays -mllvm -inline-threshold=1000 -ljemalloc

523.xalancbmk_r: -m32 -flto -Wl,-plugin-opt=-merge-constant

-Wl,-plugin-opt=-lsr-in-nested-loop -Ofast -march=znver1

-finline-aggressive -mllvm -unroll-threshold=100

-fremap-arrays -mllvm -inline-threshold=1000 -ljemalloc

531.deepsjeng_r: Same as 520.omnetpp_r

541.leela_r: -flto -Wl,-plugin-opt=-merge-constant

-Wl,-plugin-opt=-lsr-in-nested-loop

-fprofile-instr-generate(pass 1)

-fprofile-instr-use(pass 2) -Ofast -march=znver1

-mllvm -unroll-count=8 -mllvm -unroll-threshold=100

-ljemalloc

Fortran benchmarks:

-flto -Wl,-plugin-opt=-merge-constant

-Wl,-plugin-opt=-lsr-in-nested-loop -O3 -mavx2 -madx -funroll-loops

-ffast-math -Ofast -fdefault-integer-8 -fplugin=dragonegg.so

-fplugin-arg-dragonegg-llvm-option=-lsr-in-nested-loop

-fplugin-arg-dragonegg-llvm-option=-enable-iv-split

-fplugin-arg-dragonegg-llvm-option=-merge-constant

-fplugin-arg-dragonegg-llvm-option=-inline-threshold:1000

-fplugin-arg-dragonegg-llvm-option=-disable-vect-cmp -ljemalloc

-lgfortran -lamdlibm

Peak Other Flags

C benchmarks:

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

C++ benchmarks:

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

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

<http://www.spec.org/cpu2017/flags/aocc100-flags-revC-I.2018-11-13.html>

<http://www.spec.org/cpu2017/flags/gcc.2018-02-16.html>



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate2017_int_base = 134

PowerEdge R6415 (AMD EPYC 7551P, 2.00GHz)

SPECrate2017_int_peak = 148

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2018

Hardware Availability: Dec-2018

Software Availability: Apr-2018

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

<http://www.spec.org/cpu2017/flags/aocc100-flags-revC-I.2018-11-13.xml>

<http://www.spec.org/cpu2017/flags/gcc.2018-02-16.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 2018-11-28 10:46:50-0500.

Report generated on 2018-12-26 13:01:05 by CPU2017 PDF formatter v6067.

Originally published on 2018-12-25.