### Dell Inc.

PowerEdge R6515 (AMD EPYC 7543P 32-Core Processor)

| SPECspeed®2017_int_base = 12.4 |
| SPECspeed®2017_int_peak = 12.4 |

- **CPU2017 License:** 55
- **Test Sponsor:** Dell Inc.
- **Tested by:** Dell Inc.
- **Test Date:** May-2021
- **Hardware Availability:** Apr-2021
- **Software Availability:** Mar-2021

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#### Hardware

- **CPU Name:** AMD EPYC 7543P
- **Max MHz:** 3700
- **Nominal:** 2800
- **Enabled:** 32 cores, 1 chip
- **Orderable:** 1 chip
- **Cache L1:** 32 KB I + 32 KB D on chip per core
- **L2:** 512 KB I+D on chip per core
- **L3:** 256 MB I+D on chip per chip, 32 MB shared / 4 cores
- **Other:** None
- **Memory:** 1 TB (8 x 128 GB 4Rx4 PC4-3200AA-L)
- **Storage:** 128 GB on tmpfs
- **Other:** None

#### Software

- **OS:** Red Hat Enterprise Linux 8.3 (Ootpa)
- **Compiler:** C/C++/Fortran: Version 3.0.0 of AOCC
- **Parallel:** Yes
- **Firmware:** Version 2.2.4 released Apr-2021
- **File System:** tmpfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 64-bit
- **Other:** jemalloc: jemalloc memory allocator library v5.1.0
- **Power Management:** BIOS and OS set to prefer performance at the cost of additional power usage.
Dell Inc.

PowerEdge R6515 (AMD EPYC 7543P 32-Core Processor)

Results Table

<table>
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<th>Benchmark</th>
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</table>

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/

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 limit
'ulimit -l 2097152' was used to set environment locked pages in memory limit

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

'echo 8 > /proc/sys/vm/dirty_ratio' run as root to limit dirty cache to 8% of memory.
'echo 1 > /proc/sys/vm/swappiness' run as root to limit swap usage to minimum necessary.
'echo 1 > /proc/sys/vm/zone_reclaim_mode' run as root to free node-local memory and avoid remote memory usage.
'sync; echo 3 > /proc/sys/vm/drop_caches' run as root to reset filesystem caches.
'sysctl -w kernel.randomize_va_space=0' run as root to disable address space layout randomization (ASLR) to reduce run-to-run variability.

(Continued on next page)
SPEC CPU®2017 Integer Speed Result

Dell Inc.

PowerEdge R6515 (AMD EPYC 7543P 32-Core Processor)

SPECspeed®2017_int_peak = 12.4
SPECspeed®2017_int_base = 12.4

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

Test Date: May-2021
Hardware Availability: Apr-2021
Software Availability: Mar-2021

Operating System Notes (Continued)

To enable Transparent Hugepages (THP) for all allocations,
'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
GOMP_CPU_AFFINITY = "0-31"
LD_LIBRARY_PATH =
"/mnt/ramdisk/cpu2017-1.1.7-aocc300/amd_speed_aocc300_milan_B_lib/64;/mnt/ramdisk/cpu2017-1.1.7-aocc300/amd_speed_aocc300_milan_B_lib/32:"
MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "32"

Environment variables set by runcpu during the 600.perlbench_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 602.gcc_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 605.mcf_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 620.omnetpp_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 623.xalancbmk_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 625.x264_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 631.deepsjeng_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 641.leela_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 648.exchange2_s peak run:
GOMP_CPU_AFFINITY = "0"

(Continued on next page)
**Environment Variables Notes (Continued)**

Environment variables set by runcpu during the 657.xz_s peak run:
GOMP_CPU_AFFINITY = "0-31"

**General Notes**

Binaries were compiled on a system with 2x AMD EPYC 7742 CPU + 1TiB Memory using openSUSE 15.2

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 7.4 (No options specified)
jemalloc 5.1.0 is available here:
https://github.com/jemalloc/jemalloc/releases/download/5.1.0/jemalloc-5.1.0.tar.bz2

Benchmark run from a 128 GB ramdisk created with the cmd: "mount -t tmpfs -o size=128G tmpfs /mnt/ramdisk"

**Platform Notes**

BIOS settings:
- Logical processor : Disabled
- L3 Cache as NUMA Domain : Enabled
- Virtualization Technology : Disabled
- DRAM Refresh Delay : Performance
- System Profile : Custom
  - CPU Power Management : Maximum Performance
  - Memory Patrol Scrub : Disabled
  - PCI ASPM L1 Link : Disabled
  - Power Management : Disabled

Sysinfo program /mnt/ramdisk/cpu2017-1.1.7-aocc300/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on rhel-8-3-amd Wed May  5 05:27:43 2021

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 7543P 32-Core Processor
# SPEC CPU®2017 Integer Speed Result

## Dell Inc.

PowerEdge R6515 (AMD EPYC 7543P 32-Core Processor)

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### CPU2017 License: 55

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</tr>
<tr>
<td>Software Availability:</td>
<td>Mar-2021</td>
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</table>

## Platform Notes (Continued)

1. "physical id"s (chips)
2. "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 : 32
   - physical 0: cores 0 1 2 3 4 5 6 7 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): 32
- On-line CPU(s) list: 0-31
- Thread(s) per core: 1
- Core(s) per socket: 32
- Socket(s): 1
- NUMA node(s): 8
- Vendor ID: AuthenticAMD
- CPU family: 25
- Model: 1
- Model name: AMD EPYC 7543P 32-Core Processor
- Stepping: 1
- CPU MHz: 3639.581
- BogoMIPS: 5589.56
- Virtualization: AMD-V
- L1d cache: 32K
- L1i cache: 32K
- L2 cache: 512K
- L3 cache: 32768K
- NUMA node0 CPU(s): 0-3
- NUMA node1 CPU(s): 4-7
- NUMA node2 CPU(s): 8-11
- NUMA node3 CPU(s): 12-15
- NUMA node4 CPU(s): 16-19
- NUMA node5 CPU(s): 20-23
- NUMA node6 CPU(s): 24-27
- NUMA node7 CPU(s): 28-31

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 cpuid extd_apicid aperfmperf pni pclmulqdq monitor ssse3 fma cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx f16c rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext perfctr_l1c mwaitx cpb cat_l3 cdp_l3 invpcid_single hw_pstate sme ssbd mba dev ibrs ibpb stibp svmcall fs.gsbase bmil avx2 smep bmi2 invpcid cqm rdt_a rdseed adx smap clflushopt clwb

(Continued on next page)
Platform Notes (Continued)

sha
ixsaveopt
xsave
xsavec
xgetbv1
xssaves
cqm.llc
cqm.occup.llc
cqm.mbm_total
cqm.mbm_local
clzero
irperf
xsaveerptr
wbnoinvd
amd.ppin
arat
npt
lbwr
svm.lock
nrip_save
tsc.scale
vmcb_clean
flushbyasid
decode_assists
pfthreshold
v_vmsave_vmload
vgif
umip
pku
ospke
vaes
vpclmulqdq
rdpid
overflow_recov
succeed
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 2 3
  node 0 size: 128585 MB
  node 0 free: 128470 MB
  node 1 cpus: 4 5 6 7
  node 1 size: 129016 MB
  node 1 free: 128904 MB
  node 2 cpus: 8 9 10 11
  node 2 size: 129020 MB
  node 2 free: 128839 MB
  node 3 cpus: 12 13 14 15
  node 3 size: 129018 MB
  node 3 free: 128828 MB
  node 4 cpus: 16 17 18 19
  node 4 size: 129016 MB
  node 4 free: 128858 MB
  node 5 cpus: 20 21 22 23
  node 5 size: 128979 MB
  node 5 free: 128879 MB
  node 6 cpus: 24 25 26 27
  node 6 size: 129016 MB
  node 6 free: 125038 MB
  node 7 cpus: 28 29 30 31
  node 7 size: 116907 MB
  node 7 free: 116785 MB
  node distances:
    node 0 1 2 3 4 5 6 7
    0: 10 11 11 11 11 11 11 11
    1: 11 10 11 11 11 11 11 11
    2: 11 11 10 11 11 11 11 11
    3: 11 11 11 10 11 11 11 11
    4: 11 11 11 11 10 11 11 11
    5: 11 11 11 11 11 10 11 11
    6: 11 11 11 11 11 11 10 11
    7: 11 11 11 11 11 11 11 10

From /proc/meminfo

(Continued on next page)
Dell Inc.

PowerEdge R6515 (AMD EPYC 7543P 32-Core Processor)  

CPU2017 License: 55  
Test Sponsor: Dell Inc.  
Tested by: Dell Inc.

SPECspeed\textsuperscript{®}2017\textsubscript{int\_base} = 12.4  
SPECspeed\textsuperscript{®}2017\textsubscript{int\_peak} = 12.4

Platform Notes (Continued)

\begin{verbatim}
MemTotal: 1044066228 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB
/sbin/tuned-adm active  
Current active profile: throughput-performance

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

os-release:
  NAME="Red Hat Enterprise Linux"
  VERSION="8.3 (Ootpa)"
  ID="rhel"
  ID_LIKE="fedora"
  VERSION_ID="8.3"
  PLATFORM_ID="platform:el8"
  PRETTY_NAME="Red Hat Enterprise Linux 8.3 (Ootpa)"
  ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.3:ga

uname -a:  
  Linux rhel-8-3-amd 4.18.0-240.el8.x86_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020 x86_64
  x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit): Not affected
CVE-2018-3620 (L1 Terminal Fault): Not affected
Microarchitectural Data Sampling: Not affected
CVE-2017-5754 (Meltdown): Not affected
CVE-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swaps barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBP: disabled, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 May 5 05:23
SPEC is set to: /mnt/ramdisk/cpu2017-1.1.7-aocc300

Filesystem Type Size Used Avail Use% Mounted on
\end{verbatim}

(Continued on next page)
Dell Inc.

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CPU2017 License: 55
Test Sponsor: Dell Inc.
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SPEC CPU®2017 Integer Speed Result

SPECspeed®2017_int_base = 12.4
SPECspeed®2017_int_peak = 12.4

Platform Notes (Continued)

tmpfs  tmpfs  128G  3.7G  125G  3%  /mnt/ramdisk

From /sys/devices/virtual/dmi/id
Vendor: Dell Inc.
Product: PowerEdge R6515
Product Family: PowerEdge
Serial: HTDRG13

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.

Memory:
  8x 802C8632802C 72ASS16G72LZ-3G2B3 128 GB 4 rank 3200
  8x Not Specified Not Specified

BIOS:
  BIOS Vendor: Dell Inc.
  BIOS Version: 2.2.4
  BIOS Date: 04/12/2021
  BIOS Revision: 2.2

(End of data from sysinfo program)

Compiler Version Notes

C       | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak) 657.xz_s(base, peak)
------------------------------------------------------------------------------------------------------------------
AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin
------------------------------------------------------------------------------------------------------------------

C++     | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak) 641.leela_s(base, peak)
------------------------------------------------------------------------------------------------------------------
AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
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------------------------------------------------------------------------------------------------------------------

(Continued on next page)
## Dell Inc.

### PowerEdge R6515 (AMD EPYC 7543P 32-Core Processor)

**SPECspeed®2017_int_base = 12.4**

**SPECspeed®2017_int_peak = 12.4**

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<td>May-2021</td>
<td>Apr-2021</td>
<td>Mar-2021</td>
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### Compiler Version Notes (Continued)

---

**Fortran | 648.exchange2_s(base, peak)**

---

**AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on LLVM Mirror.Version.12.0.0)**

**Target: x86_64-unknown-linux-gnu**

**Thread model: posix**

**InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin**

---

### Base Compiler Invocation

- **C benchmarks:**
  ```
  clang
  ```

- **C++ benchmarks:**
  ```
  clang++
  ```

- **Fortran benchmarks:**
  ```
  flang
  ```

### Base Portability Flags

- **600.perlbench_s:** `-DSPEC_LINUX_X64 -DSPEC_LP64`
- **602.gcc_s:** `-DSPEC_LP64`
- **605.mcf_s:** `-DSPEC_LP64`
- **620.omnetpp_s:** `-DSPEC_LP64`
- **623.xalancbmk_s:** `-DSPEC_LINUX -DSPEC_LP64`
- **625.x264_s:** `-DSPEC_LP64`
- **631.deepsjeng_s:** `-DSPEC_LP64`
- **641.leela_s:** `-DSPEC_LP64`
- **648.exchange2_s:** `-DSPEC_LP64`
- **657.xz_s:** `-DSPEC_LP64`

### Base Optimization Flags

- **C benchmarks:**
  ```
  -m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition -Wl,-mllvm -Wl,-enable-licm-vrp -Wl,-mllvm -Wl,-region-vectorize
  ```

(Continued on next page)
**SPEC CPU®2017 Integer Speed Result**

**Dell Inc.**

PowerEdge R6515 (AMD EPYC 7543P 32-Core Processor)  

**SPECspeed®2017_int_base = 12.4**  
**SPECspeed®2017_int_peak = 12.4**

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<td>Software Availability: Mar-2021</td>
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**Base Optimization Flags (Continued)**

C benchmarks (continued):
- `-Wl,-mllvm -Wl,-function-specialize`  
- `-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6`  
- `-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3`  
- `-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5`  
- `-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000`  
- `-freemap-arrays -mllvm -function-specialize -flv-function-specialization`  
- `-mllvm -enable-gvn-hoist -mllvm -global-vectorize-slp=true`  
- `-mllvm -enable-lcm-vrp -mllvm -reduce-array-computations=3 -z muldefs`  
- `-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc`  
- `-lflang -lflangrti`

C++ benchmarks:
- `-m64 -std=c++98 -mno-adx -mno-sse4a`  
- `-Wl,-mllvm -Wl,-do-block-reorder=aggressive`  
- `-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-function-specialize`  
- `-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6`  
- `-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3`  
- `-fveclib=AMDLIBM -ffast-math -flto -mllvm -enable-partial-unswitch`  
- `-mllvm -unroll-threshold=100 -finline-aggressive`  
- `-flv-function-specialization -mllvm -loop-unswitch-threshold=200000`  
- `-mllvm -reroll-loops -mllvm -aggressive-loop-unswitch`  
- `-mllvm -extra-vectorizer-passes -mllvm -reduce-array-computations=3`  
- `-mllvm -global-vectorize-slp=true -mllvm -convert-pow-exp-to-int=false`  
- `-z muldefs -mllvm -do-block-reorder=aggressive`  
- `-fvirtual-function-elimination -fvisibility=hidden -DSPEC_OPENMP`  
- `-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc`  
- `-lflang -lflangrti`

Fortran benchmarks:
- `-m64 -mno-adx -mno-sse4a -Wl,-mllvm -Wl,-inline-recursion=4`  
- `-Wl,-mllvm -Wl,-lsr-in-nested-loop -Wl,-mllvm -Wl,-enable-iv-split`  
- `-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-function-specialize`  
- `-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6`  
- `-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3`  
- `-fveclib=AMDLIBM -ffast-math -flto -z muldefs`  
- `-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -DSPEC_OPENMP`  
- `-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc`  
- `-lflang -lflangrti`

**Base Other Flags**

C benchmarks:
- `-Wno-unused-command-line-argument -Wno-return-type`

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SPEC CPU®2017 Integer Speed Result
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Dell Inc.  SPECspeed®2017_int_base = 12.4
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CPU2017 License: 55  Test Date: May-2021
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Base Other Flags (Continued)

C++ benchmarks:
- W-no-unused-command-line-argument  -Wno-return-type

Fortran benchmarks:
- W-no-return-type

Peak Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
-m64  -mno-adx  -mno-sse4a  -Wl,-allow-multiple-definition
-Wl,-mllvm -Wl,-enable-licm-vrp -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5
-mllvm -unroll-threshold=50  -fremap-arrays -flv-function-specialization
-mllvm -inline-threshold=1000 -mllvm -enable-gvn-hoist
-mllvm -global-vectorize-slp=true -mllvm -function-specialize
-mllvm -enable-licm-vrp -mllvm -reduce-array-computations=3
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc
-lflang

C++ benchmarks:
-m64  -std=c++98  -mno-adx  -mno-sse4a

(Continued on next page)
SPEC CPU®2017 Integer Speed Result
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Tested by: Dell Inc.

Test Date: May-2021
Hardware Availability: Apr-2021
Software Availability: Mar-2021

Peak Optimization Flags (Continued)

C++ benchmarks (continued):
-Wl,-mlllvm -Wl,-do-block-reorder=aggressive
-Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -Ofast -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -finline-aggressive
-mlllvm -unroll-threshold=100 -flv-function-specialization
-mlllvm -enable-licm-vrp -mlllvm -reroll-loops
-mlllvm -aggressive-loop-unswitch -mlllvm -reduce-array-computations=3
-mlllvm -global-vectorize-slp=true -mlllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden -DSPEC_OPENMP
-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc -lflang

Fortran benchmarks:
-m64 -mno-adx -mno-sse4a -Wl,-mllvm -Wl,-inline-recursion=4
-Wl,-mllvm -Wl,-lsr-in-nested-loop -Wl,-mllvm -Wl,-enable-iv-split
-Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -mlllvm -unroll-aggressive
-mlllvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -fopenmp=libomp
-lomp -lamdlibm -ljemalloc -lflang

Peak Other Flags

C benchmarks:
-Whno-unused-command-line-argument -Whno-return-type

C++ benchmarks:
-Whno-unused-command-line-argument -Whno-return-type

Fortran benchmarks:
-Whno-return-type

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

You can also download the XML flags sources by saving the following links:
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**Dell Inc.**

PowerEdge R6515 (AMD EPYC 7543P 32-Core Processor)

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