Dell Inc.

PowerEdge R7525 (AMD EPYC 7763 64-Core Processor)

SPEC CPU®2017 Integer Speed Result

**SPECspeed®2017_int_base = 11.8**

**SPECspeed®2017_int_peak = 11.9**

<table>
<thead>
<tr>
<th>Threads</th>
<th>SPECspeed®2017_int_base (11.8)</th>
<th>SPECspeed®2017_int_peak (11.9)</th>
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<tbody>
<tr>
<td>0</td>
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</tr>
<tr>
<td>2.00</td>
<td></td>
<td></td>
</tr>
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<td>4.00</td>
<td></td>
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</tr>
<tr>
<td>6.00</td>
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<td>8.00</td>
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<td>20.0</td>
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</table>

**CPU2017 License:** 55

**Test Sponsor:** Dell Inc.

**Test Date:** Mar-2021

**Hardware Availability:** Mar-2021

**Tested by:** Dell Inc.

**Software Availability:** Mar-2021

---

**CPU Name:** AMD EPYC 7763

**Max MHz:** 3500

**Nominal:** 2450

**Enabled:** 128 cores, 2 chips

**Orderable:** 1.2 chips

**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 / 8 cores

**Other:** None

**Memory:** 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R)

**Storage:** 225 GB on tmpfs

**Other:** None

---

**OS:** Red Hat Enterprise Linux 8.3 (Ootpa)

**Compiler:** C/C++/Fortran: Version 3.0.0 of AOCC

**Parallel:** Yes

**Firmware:** Version 2.0.3 released Jan-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 R7525 (AMD EPYC 7763 64-Core Processor)

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Seconds</th>
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<tbody>
<tr>
<td>600.perlbench_s</td>
<td>128</td>
<td>256</td>
<td>6.93</td>
<td>256</td>
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<td>605.mcf_s</td>
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<td>620.omnetpp_s</td>
<td>128</td>
<td>205</td>
<td>7.94</td>
<td>206</td>
<td>7.92</td>
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<td>205</td>
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<td>623.xalancbmk_s</td>
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<td>105</td>
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<td>12.8</td>
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<td>16.4</td>
<td>107</td>
<td>16.4</td>
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<td>641.leela_s</td>
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<td>648.exchange2_s</td>
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<td>657.xz_s</td>
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<td>24.4</td>
<td></td>
<td></td>
</tr>
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</table>

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. '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 R7525 (AMD EPYC 7763 64-Core Processor)

| SPECspeed®2017_int_base = 11.8 |
| SPECspeed®2017_int_peak = 11.9 |

**CPU2017 License:** 55

**Test Sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test Date:** Mar-2021

**Hardware Availability:** Mar-2021

**Software Availability:** Mar-2021

---

**Operating System Notes (Continued)**

'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and  
'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root to enable  
Transparent Hugepages (THP) for this run.  
'echo madvise > /sys/kernel/mm/transparent_hugepage/enabled' run as root for peak  
runs of 628.pop2_s and 638.imagick_s to enable THP only on request.

---

**Environment Variables Notes**

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

GOMP_CPU_AFFINITY = "0-127"

LD_LIBRARY_PATH =

"/mnt/ramdisk/cpu2017-1.1.5/amd_speed_aocc300_milan_B_lib/64;/mnt/ramdisk/cpu2017-1.1.5/amd_speed_aocc300_milan_B_lib/32;"

MALLOC_CONF = "retain:true"

OMP_DYNAMIC = "false"

OMP_SCHEDULE = "static"

OMP_STACKSIZE = "128M"

OMP_THREAD_LIMIT = "128"

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 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"

---

**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)

(Continued on next page)
Dell Inc.  
PowerEdge R7525 (AMD EPYC 7763 64-Core Processor)

**SPECspeed®2017_int_base = 11.8**

**SPECspeed®2017_int_peak = 11.9**

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<td>Dell Inc.</td>
</tr>
</tbody>
</table>

**Test Date:** Mar-2021  
**Hardware Availability:** Mar-2021  
**Software Availability:** Mar-2021

General Notes (Continued)

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.

Benchmark run from a 225 GB ramdisk created with the cmd: "mount -t tmpfs -o size=225G tmpfs /mnt/ramdisk"
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

Platform Notes

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

Sysinfo program /mnt/ramdisk/cpu2017-1.1.5/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on localhost.localdomain Mon Mar 1 11:46:37 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 7763 64-Core Processor
- 2 "physical id"s (chips)
- 128 "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 : 64
- siblings : 64
- 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
- physical 1: 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

From /proc/cpuinfo:

(Continued on next page)
Dell Inc. PowerEdge R7525 (AMD EPYC 7763 64-Core Processor)  

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

SPECspeed®2017_int_base = 11.8  
SPECspeed®2017_int_peak = 11.9  

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

Platform Notes (Continued)

Architecture: x86_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 128  
On-line CPU(s) list: 0-127  
Thread(s) per core: 1  
Core(s) per socket: 64  
Socket(s): 2  
NUMA node(s): 16  
Vendor ID: AuthenticAMD  
CPU family: 25  
Model: 1  
Model name: AMD EPYC 7763 64-Core Processor  
Stepping: 1  
CPU MHz: 2590.585  
BogoMIPS: 4890.35  
Virtualization: AMD-V  
L1d cache: 32K  
L1i cache: 32K  
L2 cache: 512K  
L3 cache: 32768K  
NUMA node0 CPU(s): 0-7  
NUMA node1 CPU(s): 8-15  
NUMA node2 CPU(s): 16-23  
NUMA node3 CPU(s): 24-31  
NUMA node4 CPU(s): 32-39  
NUMA node5 CPU(s): 40-47  
NUMA node6 CPU(s): 48-55  
NUMA node7 CPU(s): 56-63  
NUMA node8 CPU(s): 64-71  
NUMA node9 CPU(s): 72-79  
NUMA node10 CPU(s): 80-87  
NUMA node11 CPU(s): 88-95  
NUMA node12 CPU(s): 96-103  
NUMA node13 CPU(s): 104-111  
NUMA node14 CPU(s): 112-119  
NUMA node15 CPU(s): 120-127  

Flags: fpu vme de pse tsc msr pae mce 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 ibrsk ninit wdt tce topoext perfctr_core perfctr_nb bptext perfctr_l1d mwaitx cpb cat_l3 cdp_l3 invpcid_single hw_pstate sme ssbd mba sev ibrs ibpb stibp vmmcall fsgsbase bmi1 avx2 smep bmi2 invpcid cqm rdt_a rdseed adx smap clflushopt clwb sha ni xsaveopt xsavec xgetbv1 xsavec qm qcow qm占有 lock qcow_mbm_local clzero irperf xsaveappr wbnoinvd amd_pfrn arat npt lbrv svm_lock

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

Dell Inc.  
PowerEdge R7525 (AMD EPYC 7763 64-Core Processor)  

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<tr>
<th>SPECspeed®2017_int_base = 11.8</th>
<th>Test Date:</th>
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<td>SPECspeed®2017_int_peak = 11.9</td>
<td>Hardware Availability:</td>
<td>Mar-2021</td>
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<tbody>
<tr>
<td>Tested by:</td>
<td>Dell Inc.</td>
<td></td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

```
/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: 16 nodes (0-15)
nod
```
**SPEC CPU®2017 Integer Speed Result**

Dell Inc.  
PowerEdge R7525 (AMD EPYC 7763 64-Core Processor)  

**SPECspeed®2017_int_peak = 11.9**  
**SPECspeed®2017_int_base = 11.8**

**Platform Notes (Continued)**

- node 12 free: 64426 MB
- node 13 cpus: 104 105 106 107 108 109 110 111
- node 13 size: 64509 MB
- node 13 free: 64470 MB
- node 14 cpus: 112 113 114 115 116 117 118 119
- node 14 size: 64509 MB
- node 14 free: 64579 MB
- node 15 cpus: 120 121 122 123 124 125 126 127
- node 15 size: 64505 MB
- node 15 free: 64458 MB
- node distances:

<table>
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<tr>
<th>node 0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

- From /proc/meminfo
  - MemTotal: 1056422512 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"

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

Dell Inc. PowerEdge R7525 (AMD EPYC 7763 64-Core Processor)

SPECspeed®2017_int_base = 11.8
SPECspeed®2017_int_peak = 11.9

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

---

Platform Notes (Continued)

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 localhost.localdomain 4.18.0-240.10.1.el8_3.x86_64 #1 SMP Wed Dec 16 03:30:52 EST 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): Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2018-3639 (Speculative Store Bypass): Mitigation: usercopy/swapgs barriers and __user pointer sanitation
CVE-2017-5753 (Spectre variant 1):
CVE-2017-5715 (Spectre variant 2):
CVE-2018-3639 (Speculative Store Bypass):
CVE-2017-5753 (Spectre variant 1): Not affected
CVE-2017-5753 (Spectre variant 1):
CVE-2017-5753 (Spectre variant 1):
CVE-2017-5753 (Spectre variant 1):
CVE-2017-5753 (Spectre variant 1):
CVE-2017-5753 (Spectre variant 1):
CVE-2020-0543 (Special Register Buffer Data Sampling):
CVE-2019-11135 (TSX Asynchronous Abort):
run-level 3 Mar 1 05:42 last=5

SPEC is set to: /mnt/ramdisk/cpu2017-1.1.5

Filesystem Type Size Used Avail Use% Mounted on
tmpfs tmpfs 225G 4.8G 221G 3% /mnt/ramdisk

From /sys/devices/virtual/dmi/id
Vendor: Dell Inc.
Product: PowerEdge R7525
Product Family: PowerEdge
Serial: 48LN333

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:
    16x 80AD869D80AD HMAA8GR7AJR4N-XN 64 GB 2 rank 3200
    16x Not Specified Not Specified

BIOS:

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

**Dell Inc.**  
PowerEdge R7525 (AMD EPYC 7763 64-Core Processor)  

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**Test Sponsor:** Dell Inc.  
**Test Date:** Mar-2021  
**Hardware Availability:** Mar-2021  
**Tested by:** Dell Inc.  
**Software Availability:** Mar-2021

#### Platform Notes (Continued)

- **BIOS Vendor:** Dell Inc.  
- **BIOS Version:** 2.0.3  
- **BIOS Date:** 01/15/2021  
- **BIOS Revision:** 2.0

(End of data from sysinfo program)

#### Compiler Version Notes

<table>
<thead>
<tr>
<th>C</th>
<th>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)</th>
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<tbody>
<tr>
<td></td>
<td>AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on LLVM Mirror.Version.12.0.0)</td>
</tr>
</tbody>
</table>
|       | Target: x86_64-unknown-linux-gnu  
|       | Thread model: posix  
|       | InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin |

<table>
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<tr>
<th>C++</th>
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#### Base Compiler Invocation

- C benchmarks:  
  - clang

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

Dell Inc.
PowerEdge R7525 (AMD EPYC 7763 64-Core Processor) SPECspeed®2017_int_base = 11.8
SPECspeed®2017_int_peak = 11.9

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

Base Compiler Invocation (Continued)

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
-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-licm-vrp -mllvm -reduce-array-computations=3 -z muldefs
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc
-llflang -llflangrti

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

(Continued on next page)
Dell Inc. 
PowerEdge R7525 (AMD EPYC 7763 64-Core Processor)

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### Base Optimization Flags (Continued)

**C++ benchmarks (continued):**
- `-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,-lslr-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`

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

**Fortran benchmarks:**
- `-Wno-return-type`

### Peak Compiler Invocation

**C benchmarks:**
- `clang`

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

*Continued on next page*
Spec CPU® 2017 Integer Speed Result

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Peak Compiler Invocation (Continued)

Fortran benchmarks:
flang

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

600.perlbench_s: basepeak = yes

602.gcc_s: -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 -landlibm -ljemalloc -lflang

605.mcf_s: Same as 602.gcc_s

625.x264_s: basepeak = yes

657.xz_s: basepeak = yes

C++ benchmarks:

620.omnetpp_s: -m64 -std=c++98 -mno-adx -mno-sse4a
-Wl,-mllvm -Wl,-do-block-reorder=aggressive
-Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast

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**Peak Optimization Flags (Continued)**

620.omnetpp_s (continued):

```plaintext
-march=znver3 -fveclib=AMDLIBM -ffast-math -flto
-finline-aggressive -mllvm -unroll-threshold=100
-fly-function-specialization -mllvm -enable-licm-vrp
-mllvm -sref-loops -mllvm -aggressive-loop-unswitch
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp=true
-mllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm
-ljemalloc -lflang
```

623.xalancbmk_s: Same as 620.omnetpp_s

631.deepsjeng_s: basepeak = yes

641.leela_s: Same as 620.omnetpp_s

**Fortran benchmarks:**

```plaintext
-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 -mllvm -unroll-aggressive
-mllvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -fopenmp=libomp
-lomp -lamdlibm -ljemalloc -lflang
```

---

**Peak Other Flags**

**C benchmarks:**

```plaintext
-Wno-unused-command-line-argument -Wno-return-type
```

**C++ benchmarks:**

```plaintext
-Wno-unused-command-line-argument -Wno-return-type
```

**Fortran benchmarks:**

```plaintext
-Wno-return-type
```

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


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


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