Dell Inc.

PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed\textsuperscript{2017_int_base}</th>
<th>SPECspeed\textsuperscript{2017_int_peak}</th>
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<tr>
<td>xz</td>
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</tbody>
</table>

**Hardware**

CPU Name: AMD EPYC 7262  
Max MHz: 3400  
Nominal: 3200  
Enabled: 16 cores, 2 chips, 2 threads/core  
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: 128 MB I+D on chip per chip, 16 MB per core  
Other: None  
Memory: 512 GB (16 x 32 GB 2Rx4 PC4-3200AA-R)  
Storage: 2 x 960 GB SAS SSD  
Other: None

**Software**

OS: SUSE Linux Enterprise Server 15 SP1  
kernel 4.12.14-195-default  
Compiler: C/C++/Fortran: Version 2.0.0 of AOCC  
Parallel: Yes  
Firmware: Version 1.2.6 released Nov-2019  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other: jemalloc: jemalloc memory allocator library v5.1.0  
Power Management: BIOS set to prefer performance at the cost of additional power usage.
### SPEC CPU®2017 Integer Speed Result

**Dell Inc.**

PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

**Copyright 2017-2019 Standard Performance Evaluation Corporation**

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</tbody>
</table>

**SPECspeed®2017_int_base = 8.77**

**SPECspeed®2017_int_peak = 9.00**

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

'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>

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)
SPEC CPU®2017 Integer Speed Result

Dell Inc.

PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

<table>
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<tr>
<th>SPECspeed®2017_int_base = 8.77</th>
<th>SPECspeed®2017_int_peak = 9.00</th>
</tr>
</thead>
</table>

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

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
GOMP_CPU_AFFINITY = "0-31"
LD_LIBRARY_PATH =
    "/root/cpu2017-1.1.0/amd_speed_aocc200_rome_C_lib/64;/root/cpu2017-1.1.0/amd_speed_aocc200_rome_C_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"
OMP_STACKSIZE = "128M"

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 648.exchange2_s peak run:
GOMP_CPU_AFFINITY = "0"

General Notes

Binaries were compiled on a system with 2x AMD EPYC 7601 CPU + 512GB Memory using Fedora 26

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)

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

Dell Inc.

PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

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<tr>
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<tr>
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<td>Hardware Availability: Feb-2020</td>
</tr>
<tr>
<td>Tested by: Dell Inc.</td>
<td>Software Availability: Aug-2019</td>
</tr>
</tbody>
</table>

**General Notes (Continued)**

is mitigated in the system as tested and documented.

jemalloc: configured and built with GCC v9.1.0 in Ubuntu 19.04 with -O3 -znver2 -flto
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:
- NUMA Nodes Per Socket set to 4
- CCX as NUMA Domain set to Enabled
- System Profile set to Custom
- CPU Power Management set to Maximum Performance
- Memory Frequency set to Maximum Performance
- Turbo Boost Enabled
- Cstates set to Enabled
- Memory Patrol Scrub Disabled
- Memory Refresh Rate set to 1x
- PCI ASPM L1 Link Power Management Disabled
- Determinism Slider set to Power Determinism
- Efficiency Optimized Mode Disabled
- Memory Interleaving set to Disabled

Sysinfo program /root/cpu2017-1.1.0/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edf1e6e46a485a0011
running on linux-g3ob Fri Nov 29 20:17:39 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 7262 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

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

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**CPU2017 License:** 55  
**Test Date:** Nov-2019  
**Hardware Availability:** Feb-2020  
**Software Availability:** Aug-2019

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**Platform Notes (Continued)**

Byte Order: Little Endian  
Address sizes: 43 bits physical, 48 bits virtual  
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): 16  
Vendor ID: AuthenticAMD  
CPU family: 23  
Model: 49  
Model name: AMD EPYC 7262 8-Core Processor  
Stepping: 0  
CPU MHz: 3194.142  
BogoMIPS: 6388.28  
Virtualization: AMD-V  
L1d cache: 32K  
L1i cache: 32K  
L2 cache: 512K  
L3 cache: 16384K  
NUMA node0 CPU(s): 0,16  
NUMA node1 CPU(s): 1,17  
NUMA node2 CPU(s): 2,18  
NUMA node3 CPU(s): 3,19  
NUMA node4 CPU(s): 4,20  
NUMA node5 CPU(s): 5,21  
NUMA node6 CPU(s): 6,22  
NUMA node7 CPU(s): 7,23  
NUMA node8 CPU(s): 8,24  
NUMA node9 CPU(s): 9,25  
NUMA node10 CPU(s): 10,26  
NUMA node11 CPU(s): 11,27  
NUMA node12 CPU(s): 12,28  
NUMA node13 CPU(s): 13,29  
NUMA node14 CPU(s): 14,30  
NUMA node15 CPU(s): 15,31  

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 xtopology nonstop_tsc cpuid extd_apicid aperfmperf 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 ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext perfctr_l2 mwaitx cpb cat_l3 cdp_l3 hw_pstate sme ssbd sev ibrs ibpb stibp vmmcall bmi1 avx2 smep bmi2 cqm rdt_a rdseed adx smap clflushopt clwb sha ni xsaveopt xsaves xsave xcgetbv1 xsavec cqm_llc cqm_occup_llc cqm_mmb_total cqm_mmb_local clzero irperf xsaverptr arat npt lbv svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter pfthreshold avic v_vmsave_vmload vgif umip rdpid overflow_recov succor smca
Dell Inc.

PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

<table>
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</table>

**SPEC CPU®2017 Integer Speed Result**

| SPECspeed®2017_int_base = 8.77 | SPECspeed®2017_int_peak = 9.00 |

**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)
node 0 cpus: 0 16
node 0 size: 31805 MB
node 0 free: 31759 MB
node 1 cpus: 1 17
node 1 size: 32225 MB
node 1 free: 32179 MB
node 2 cpus: 2 18
node 2 size: 32255 MB
node 2 free: 32219 MB
node 3 cpus: 3 19
node 3 size: 32254 MB
node 3 free: 32208 MB
node 4 cpus: 4 20
node 4 size: 32255 MB
node 4 free: 32220 MB
node 5 cpus: 5 21
node 5 size: 32254 MB
node 5 free: 32219 MB
node 6 cpus: 6 22
node 6 size: 32255 MB
node 6 free: 32185 MB
node 7 cpus: 7 23
node 7 size: 32242 MB
node 7 free: 32205 MB
node 8 cpus: 8 24
node 8 size: 32255 MB
node 8 free: 32214 MB
node 9 cpus: 9 25
node 9 size: 32254 MB
node 9 free: 32215 MB
node 10 cpus: 10 26
node 10 size: 32255 MB
node 10 free: 32223 MB
node 11 cpus: 11 27
node 11 size: 32254 MB
node 11 free: 32221 MB
node 12 cpus: 12 28
node 12 size: 32255 MB
node 12 free: 32175 MB
node 13 cpus: 13 29
```

(Continued on next page)
### Dell Inc.

**PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)**

<table>
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#### Platform Notes (Continued)

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</table>

From /proc/meminfo

<table>
<thead>
<tr>
<th>MemTotal:</th>
<th>527965280 kB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HugePages_Total:</td>
<td>0</td>
</tr>
<tr>
<td>Hugepagesize:</td>
<td>2048 kB</td>
</tr>
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</table>

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

<table>
<thead>
<tr>
<th>os-release:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME=&quot;SLES&quot;</td>
</tr>
<tr>
<td>VERSION=&quot;15-SP1&quot;</td>
</tr>
<tr>
<td>VERSION_ID=&quot;15.1&quot;</td>
</tr>
<tr>
<td>PRETTY_NAME=&quot;SUSE Linux Enterprise Server 15 SP1&quot;</td>
</tr>
<tr>
<td>ID=&quot;sles&quot;</td>
</tr>
<tr>
<td>ID_LIKE=&quot;suse&quot;</td>
</tr>
<tr>
<td>ANSI_COLOR=&quot;0;32&quot;</td>
</tr>
<tr>
<td>CPE_NAME=&quot;cpe:/o:suse:sles:15:sp1&quot;</td>
</tr>
</tbody>
</table>

uname -a:

```
Linux linux-g3ob 4.12.14-195-default #1 SMP Tue May 7 10:55:11 UTC 2019 (8fba516)
x86_64 x86_64 x86_64 GNU/Linux
```
Dell Inc.

PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

Dell Inc.

Test Sponsor: Dell Inc.
Tested by: Dell Inc.

CPU2017 License: 55
Test Date: Nov-2019
Hardware Availability: Feb-2020
Software Availability: Aug-2019

SPECperformance®2017_int_base = 8.77
SPECperformance®2017_int_peak = 9.00

Platform Notes (Continued)

Kernel self-reported vulnerability status:

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: __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBP: conditional, RSB filling

run-level 3 Nov 29 10:39 last=5

SPEC is set to: /root/cpu2017-1.1.0
Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda2      xfs   440G   46G  395G  11% /

From /sys/devices/virtual/dmi/id
BIOS:    Dell Inc. 1.2.6 11/21/2019
Vendor:  Dell Inc.
Product: PowerEdge R7525
Product Family: PowerEdge

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 802C869D802C 36ASF4G72PZ-3G2E2 32 GB 2 rank 3200
16x Not Specified Not Specified

(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>
</tr>
</thead>
</table>
A0CC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
A0CC_2_0_0-Build#191) (based on LLVM A0CC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

(Continued on next page)
# Dell Inc.

**PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)**

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base</th>
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<tr>
<td>SPECspeed®2017_int_peak</td>
<td>9.00</td>
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**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** Nov-2019  
**Hardware Availability:** Feb-2020  
**Software Availability:** Aug-2019

## Compiler Version Notes (Continued)

---

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<th>C++</th>
<th>623.xalancbmk_s(peak)</th>
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**AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins**  
**AOCC_2_0_0-Build#191)** (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)  
**Target:** i386-unknown-linux-gnu  
**Thread model:** posix  
**InstalledDir:** /sppo/dev/compilers/aocc-compiler-2.0.0/bin

---

<table>
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<tr>
<th>C++</th>
<th>620.omnetpp_s(base, peak) 623.xalancbmk_s(base) 631.deepsjeng_s(base, peak) 641.leela_s(base, peak)</th>
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**AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins**  
**AOCC_2_0_0-Build#191)** (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)  
**Target:** x86_64-unknown-linux-gnu  
**Thread model:** posix  
**InstalledDir:** /sppo/dev/compilers/aocc-compiler-2.0.0/bin

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**InstalledDir:** /sppo/dev/compilers/aocc-compiler-2.0.0/bin

---

<table>
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<tr>
<th>Fortran</th>
<th>648.exchange2_s(base, peak)</th>
</tr>
</thead>
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**AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins**

(Continued on next page)
Dell Inc.

PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

<table>
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SPECspeed®2017_int_base = 8.77
SPECspeed®2017_int_peak = 9.00

**Compiler Version Notes (Continued)**

AoCc_2_0_0-Build#191) (based on LLVM AoC.C.LLVM.2.0.0.8191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/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:
-ff1to -Wl,-mllvm -Wl,-function-specialize
-ff1to -Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-ff1to -Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math
-march=znver2 -fstruct-layout=3 -mllvm -unroll-threshold=50
-fremap-arrays -mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp
-mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000
-flv-function-specialization -z muldefs -DSPEC_OPENM -fopenmp

(Continued on next page)
<table>
<thead>
<tr>
<th>Base Optimization Flags (Continued)</th>
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</thead>
<tbody>
<tr>
<td><strong>C benchmarks</strong></td>
</tr>
<tr>
<td>-Wno-return-type</td>
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<tr>
<td><strong>C benchmarks</strong></td>
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<td>-Wno-return-type</td>
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<table>
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<th>Peak Compiler Invocation (Continued)</th>
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<tr>
<td>clang</td>
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<td>Software Availability: Aug-2019</td>
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Base Other Flags

- Wno-return-type

Peak Compiler Invocation (Continued)

- clang
Dell Inc.
PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

SPECspeed®2017_int_base = 8.77
SPECspeed®2017_int_peak = 9.00

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.
Test Date: Nov-2019
Hardware Availability: Feb-2020
Software Availability: Aug-2019

Peak Compiler Invocation (Continued)

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Peak 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 -D_FILE_OFFSET_BITS=64
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

Peak Optimization Flags

C benchmarks:

600.perlbench_s: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3
-fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -Ofast -march=znver2
-mno-sse4a -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-qvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp -mllvm -inline-threshold=1000
-fllvm-function-specialization -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -lmvec -lamlbarf -fopenmp=libomp -lomp
-lpthread -ldl -ljemalloc -lflang

(Continued on next page)
Dell Inc.

PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

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

Test Date: Nov-2019
Hardware Availability: Feb-2020
Software Availability: Aug-2019

SPEC CPU®2017 Integer Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

SPECspeed®2017_int_base = 8.77
SPECspeed®2017_int_peak = 9.00

Peak Optimization Flags (Continued)

602.gcc_s: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -mno-sse4a -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp -mllvm -inline-threshold=1000
-llvm-function-specialization -z muldefs -DSPEC_OPENMP
-fopenmp -DUSE_OPENMP -fgnu89-inline -fopenmp=libomp
-lomp -lpthread -ldl -ljemalloc

605.mcf_s: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -mno-sse4a -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp -mllvm -inline-threshold=1000
-llvm-function-specialization -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -lvmvec -lamdlibm -fopenmp=libomp -lomp
-lpthread -ldl -ljemalloc -lflang

625.x264_s: Same as 600.perlbench_s

657.xz_s: basepeak = yes

C++ benchmarks:

620.omnetpp_s: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -flv-function-specialization
-mllvm -unroll-threshold=100
-mllvm -function-specialize -mllvm -function-specialize
-mllvm -unroll-threshold=1000 -Ofast -fremap-arrays
-mllvm -loop-unswitch-threshold=200000
-mllvm -function-specialize -mllvm -function-specialize
-mllvm -unroll-threshold=1000 -DSPEC_OPENMP -fopenmp

(Continued on next page)
Peak Optimization Flags (Continued)

620.omnetpp_s (continued):
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-ilmvec -lamdlibm -ljemalloc -lflang

623.xalancbmk_s: -m32 -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -flv-function-specialization
-mlvm -unroll-threshold=100
-mlvm -enable-partial-unswitch
-mlvm -loop-unswitch-threshold=200000
-mlvm -vector-library=LIBMVEC
-mlvm -inline-threshold=1000 -DSPEC_OPENMP -fopenmp
-USE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-ljemalloc

631.deepsjeng_s: Same as 620.omnetpp_s

641.leela_s: basepeak = yes

Fortran benchmarks:
-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -ffast-math
-Wl,-mllvm -Wl,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop
-Wl,-mllvm -Wl,-enable-iv-split -O3 -march=znver2 -funroll-loops
-Mrecursive -mllvm -vector-library=LIBMVEC
-mlvm -disable-indvar-simplify -mlvm -unroll-aggressive
-mlvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -DUSE_OPENMP
-fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm -ljemalloc
-lflang

Peak Other Flags

C benchmarks:
-Wno-return-type

C++ benchmarks (except as noted below):
-Wno-return-type

623.xalancbmk_s: -Wno-return-type
-L/sppo/dev/cpu2017/v110/amd_speed_aocc200_rome_C_lib/32

(Continued on next page)
Dell Inc.

PowerEdge R7525 (AMD EPYC 7262, 3.20 GHz)

| SPECspeed®2017_int_base = 8.77 |
| SPECspeed®2017_int_peak = 9.00 |

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

Peak Other Flags (Continued)

Fortran benchmarks:
-Wno-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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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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