Dell Inc.

PowerEdge C6525 (AMD EPYC 7713P 64-Core Processor)

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

<table>
<thead>
<tr>
<th>CPU2017 License</th>
<th>Test Date</th>
<th>Hardware Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>Mar-2021</td>
<td>Mar-2021</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>CPU Name</th>
<th>Max MHz</th>
<th>Nominal</th>
<th>Enabled</th>
<th>Orderable</th>
<th>Cache L1</th>
<th>L2</th>
<th>L3</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMD EPYC 7713P</td>
<td>3675</td>
<td>2000</td>
<td>64 cores, 1 chip</td>
<td>1 chip</td>
<td>32 KB I + 32 KB D on chip per core</td>
<td>512 KB I+D on chip per core</td>
<td>256 MB I+D on chip per chip, 32 MB shared / 8 cores</td>
<td>None</td>
</tr>
</tbody>
</table>

Memory: 512 GB (8 x 64 GB 2Rx4 PC4-3200AA-R)
Storage: 252 GB on tmpfs

<table>
<thead>
<tr>
<th>Software</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>OS</td>
<td>Red Hat Enterprise Linux 8.3 (Ootpa)</td>
<td>4.18.0-240.el8.x86_64</td>
</tr>
<tr>
<td>Compiler</td>
<td>C/C++/Fortran: Version 3.0.0 of AOCC</td>
<td>Yes</td>
</tr>
<tr>
<td>Parallel</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Firmware</td>
<td>Version 2.2.0 released Jan-2021</td>
<td></td>
</tr>
<tr>
<td>File System</td>
<td>tmpfs</td>
<td></td>
</tr>
<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
<td></td>
</tr>
<tr>
<td>Base Pointers</td>
<td>64-bit</td>
<td></td>
</tr>
<tr>
<td>Peak Pointers</td>
<td>64-bit</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>jemalloc: jemalloc memory allocator library v5.1.0</td>
<td>Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.</td>
</tr>
</tbody>
</table>

Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed®2017_int_base (12.4)</th>
<th>SPECspeed®2017_int_peak (12.4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>perlbench_s</td>
<td>64</td>
<td>7.32</td>
<td></td>
</tr>
<tr>
<td>gcc_s</td>
<td>64</td>
<td>7.33</td>
<td></td>
</tr>
<tr>
<td>mcf_s</td>
<td>64</td>
<td>13.4</td>
<td></td>
</tr>
<tr>
<td>omnetpp_s</td>
<td>64</td>
<td>8.32</td>
<td></td>
</tr>
<tr>
<td>xalancbmk_s</td>
<td>64</td>
<td>14.1</td>
<td></td>
</tr>
<tr>
<td>x264_s</td>
<td>64</td>
<td>6.33</td>
<td></td>
</tr>
<tr>
<td>deepsjeng_s</td>
<td>64</td>
<td>5.83</td>
<td></td>
</tr>
<tr>
<td>leela_s</td>
<td>64</td>
<td>5.85</td>
<td></td>
</tr>
<tr>
<td>exchange2_s</td>
<td>64</td>
<td>23.5</td>
<td></td>
</tr>
<tr>
<td>xz_s</td>
<td>64</td>
<td>24.4</td>
<td></td>
</tr>
</tbody>
</table>

Hardware

Software
## Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>64</td>
<td>242</td>
<td>7.33</td>
<td>242</td>
<td>7.32</td>
<td></td>
<td>1</td>
<td>242</td>
<td>7.33</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>64</td>
<td>298</td>
<td>13.4</td>
<td>297</td>
<td>13.4</td>
<td></td>
<td>1</td>
<td>296</td>
<td>13.4</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>64</td>
<td>227</td>
<td>20.8</td>
<td>228</td>
<td>20.7</td>
<td></td>
<td>1</td>
<td>227</td>
<td>20.8</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>64</td>
<td>196</td>
<td>8.32</td>
<td>196</td>
<td>8.32</td>
<td></td>
<td>1</td>
<td>194</td>
<td>8.43</td>
</tr>
<tr>
<td>623.xalancbmk_s</td>
<td>64</td>
<td>100</td>
<td>14.1</td>
<td>99.6</td>
<td>14.2</td>
<td></td>
<td>64</td>
<td>100</td>
<td>14.1</td>
</tr>
<tr>
<td>625.x264_s</td>
<td>64</td>
<td>103</td>
<td>17.2</td>
<td>102</td>
<td>17.2</td>
<td></td>
<td>1</td>
<td>102</td>
<td>17.2</td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>64</td>
<td>226</td>
<td>6.34</td>
<td>227</td>
<td>6.33</td>
<td></td>
<td>64</td>
<td>226</td>
<td>6.34</td>
</tr>
<tr>
<td>641.leela_s</td>
<td>64</td>
<td>292</td>
<td>5.83</td>
<td>292</td>
<td>5.84</td>
<td></td>
<td>1</td>
<td>291</td>
<td>5.85</td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>64</td>
<td>125</td>
<td>23.5</td>
<td>125</td>
<td>23.6</td>
<td></td>
<td>1</td>
<td>125</td>
<td>23.5</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>64</td>
<td>254</td>
<td>24.3</td>
<td>255</td>
<td>24.3</td>
<td></td>
<td>64</td>
<td>253</td>
<td>24.4</td>
</tr>
</tbody>
</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 C6525 (AMD EPYC 7713P 64-Core Processor)  

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

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>55</th>
<th>Test Date:</th>
<th>Mar-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Dell Inc.</td>
<td>Hardware Availability:</td>
<td>Mar-2021</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Dell Inc.</td>
<td>Software Availability:</td>
<td>Mar-2021</td>
</tr>
</tbody>
</table>

### Operating System Notes (Continued)

To enable Transparent Hugepages (THP) for all allocations,  
'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and  
'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:

```plaintext
GOMP_CPU_AFFINITY = "0-63"  
LD_LIBRARY_PATH =  
"/dev/shm/cpu2017-1.1.5/amd_speed_aocc300_milan_B_lib/64;/dev/shm/cpu2017-1.1.5/amd_speed_aocc300_milan_B_lib/32:"  
MALLOCONF = "retain:true"  
OMP_DYNAMIC = "false"  
OMP_SCHEDULE = "static"  
OMP_STACKSIZE = "128M"  
OMP_THREADLIMIT = "64"
```

Environment variables set by runcpu during the 600.perlbench_s peak run:

```plaintext
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 602.gcc_s peak run:

```plaintext
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 605.mcf_s peak run:

```plaintext
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 620.omnetpp_s peak run:

```plaintext
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 625.x264_s peak run:

```plaintext
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 641.leela_s peak run:

```plaintext
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 648.exchange2_s peak run:

```plaintext
GOMP_CPU_AFFINITY = "0"
```

Environment variables set by runcpu during the 657.xz_s peak run:

```plaintext
GOMP_CPU_AFFINITY = "0-63"
```
General Notes

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

ejemalloc: configured and built with GCC v4.8.2 in RHEL 7.4 (No options specified)
ejemalloc 5.1.0 is available here:
https://github.com/jemalloc/jemalloc/releases/download/5.1.0/jemalloc-5.1.0.tar.bz2

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.

Benchmark run from a 252 GB ramdisk created with the cmd: "mount -t tmpfs -o size=252G 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 /dev/shm/cpu2017-1.1.5/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on rhel-8-3-amd Sat Mar  6 05:53:20 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 7713P 64-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 : 64

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

Dell Inc.

PowerEdge C6525 (AMD EPYC 7713P 64-Core Processor)

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

Platform Notes (Continued)

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 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

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: 1
Core(s) per socket: 64
Socket(s): 1
NUMA node(s): 8
Vendor ID: AuthenticAMD
CPU family: 25
Model: 1
Model name: AMD EPYC 7713P 64-Core Processor
Stepping: 1
CPU MHz: 2519.664
BogoMIPS: 3992.26
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
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 lbs kint wdt tce topoext perfctr_core perfctr_nb b救治 perfctr(llc mwaitx cpb cat_l3 cdp_l3 invpcid_single hw_pstate sme ssbd mba sev ibrs ibpb stibp vmmcall fsqsbase bni1 avx2 smep bmi2 invpcid cqm rdt_a rdsseed adv smap clflushopt clwb sha_ni xsaveopt xsave xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local clzero irperf xsaveerptr wboinvd amd_ppin arat npt lbv svm_lock nrp_save tsc_scale vmcb_clean flushbyasid decodeassist pfthreshold v_vmsave_vmload vgif umip pk uoske vaes vpclmulqdq rpdpd deferover_reco succor smca

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

Dell Inc.
PowerEdge C6525 (AMD EPYC 7713P 64-Core Processor)

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base</th>
<th>12.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_int_peak</td>
<td>12.4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Mar-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Availability:</td>
<td>Mar-2021</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Mar-2021</td>
</tr>
</tbody>
</table>

Platform Notes (Continued)

/platforms/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 4 5 6 7
  node 0 size: 64074 MB
  node 0 free: 63948 MB
  node 1 cpus: 8 9 10 11 12 13 14 15
  node 1 size: 64507 MB
  node 1 free: 64408 MB
  node 2 cpus: 16 17 18 19 20 21 22 23
  node 2 size: 64466 MB
  node 2 free: 64380 MB
  node 3 cpus: 24 25 26 27 28 29 30 31
  node 3 size: 64503 MB
  node 3 free: 62363 MB
  node 4 cpus: 32 33 34 35 36 37 38 39
  node 4 size: 64505 MB
  node 4 free: 64438 MB
  node 5 cpus: 40 41 42 43 44 45 46 47
  node 5 size: 64507 MB
  node 5 free: 54803 MB
  node 6 cpus: 48 49 50 51 52 53 54 55
  node 6 size: 64509 MB
  node 6 free: 64307 MB
  node 7 cpus: 56 57 58 59 60 61 62 63
  node 7 size: 64491 MB
  node 7 free: 64166 MB

node distances:
  node 0 1 2 3 4 5 6 7
  0: 10 11 11 11 11 11 11
  1: 11 10 11 11 11 11 11
  2: 11 11 10 11 11 11 11
  3: 11 11 11 10 11 11 11
  4: 11 11 11 11 10 11 11
  5: 11 11 11 11 11 10 11
  6: 11 11 11 11 11 11 11
  7: 11 11 11 11 11 11 11

From /proc/meminfo
  MemTotal: 527962316 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB
Dell Inc.

PowerEdge C6525 (AMD EPYC 7713P 64-Core Processor)

SPEC CPU®2017 Integer Speed Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

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: Mar-2021
Hardware Availability: Mar-2021
Software Availability: Mar-2021

Platform Notes (Continued)

/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 Nov 25 11:37

SPEC is set to: /dev/shm/cpu2017-1.1.5

Filesystem  Type  Size  Used Avail Use% Mounted on
    tmpfs  tmpfs  252G 5.7G 247G  3% /dev/shm

From /sys/devices/virtual/dmi/id
    Vendor: Dell Inc.

(Continued on next page)
SPEC CPU®2017 Integer Speed Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

Dell Inc.  
PowerEdge C6525 (AMD EPYC 7713P 64-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.  

Platform Notes (Continued)

Product: PowerEdge C6525  
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:
8x 80AD863280AD HMAA8GR7AJR4N-XN 64 GB 2 rank 3200
8x Not Specified Not Specified

BIOS:
BIOS Vendor: Dell Inc.  
BIOS Version: 2.2.0  
BIOS Date: 01/21/2021  
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
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin

Fortran | 648.exchange2_s(base, peak)

(Continued on next page)
Dell Inc.

PowerEdge C6525 (AMD EPYC 7713P 64-Core Processor)

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base = 12.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_int_peak = 12.4</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 55

**Test Sponsor:** Dell Inc.

**Test Date:** Mar-2021

**Tested by:** Dell Inc.

**Hardware Availability:** Mar-2021

**Software Availability:** Mar-2021

---

**Compiler Version Notes (Continued)**

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 -W1,-allow-multiple-definition
-W1,-mllvm -W1,-enable-licm-vrp -W1,-mllvm -W1,-region-vectorize
-W1,-mllvm -W1,-function-specialize
-W1,-mllvm -W1,-align-all-nofallthru-blocks=6
-W1,-mllvm -W1,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000

(Continued on next page)
Dell Inc.
PowerEdge C6525 (AMD EPYC 7713P 64-Core Processor)

SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Dell Inc.

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: Mar-2021
Hardware Availability: Mar-2021
Software Availability: Mar-2021

Base Optimization Flags (Continued)

C benchmarks (continued):
- -fremap-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
- -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

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

(Continued on next page)
Dell Inc.
PowerEdge C6525 (AMD EPYC 7713P 64-Core Processor)

SPECspeak®2017_int_base = 12.4
SPECspeak®2017_int_peak = 12.4

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

Base Other Flags (Continued)

Fortran benchmarks:
-Wno-return-type

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Peak Compiler Invocation

C benchmarks:

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

620.omnetpp_s: -m64 -std=c++98 -mno-adx -mno-sse4a
-<W1,-allow-multiple-definition
-<W1,-mllvm -W1,-enable-licm-vrp -W1,-mllvm -W1,-function-specialize
-<W1,-mllvm -W1,-align-all-nofallthru-blocks=6
-<W1,-mllvm -W1,-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
-<flang

C++ benchmarks:

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

Dell Inc.

PowerEdge C6525 (AMD EPYC 7713P 64-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.

Peak Optimization Flags (Continued)

620.omnetpp_s (continued):
-march=znver3 -fveclib=AMDLIBM -ffast-math -flto
-finline-aggressive -mllvm -unroll-threshold=100
-flv-function-specialization -mllvm -enable-licm-vrp
-mllvm -reroll-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: basepeak = yes
631.deepsjeng_s: basepeak = yes
641.leela_s: Same as 620.omnetpp_s

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

Peak 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

The flags files that were used to format this result can be browsed at
## SPEC CPU®2017 Integer Speed Result

**Dell Inc.**
PowerEdge C6525 (AMD EPYC 7713P 64-Core Processor)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_int_base</td>
<td>12.4</td>
</tr>
<tr>
<td>SPECspeed®2017_int_peak</td>
<td>12.4</td>
</tr>
</tbody>
</table>

### CPU2017 License:
55

### Test Sponsor:
Dell Inc.

### Tested by:
Dell Inc.

### Test Date:
Mar-2021

### Hardware Availability:
Mar-2021

### Software Availability:
Mar-2021

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


SPEC CPU and SPECspeed are registered trademarks 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 CPU®2017 v1.1.5 on 2021-03-06 06:53:19-0500.


Originally published on 2021-05-25.