# SPEC CPU®2017 Integer Speed Result

## Dell Inc.

**PowerEdge R6525 (AMD EPYC 7713P 64-Core Processor)**

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

## SPECspeed®2017_int_base = 12.5

**SPECspeed®2017_int_peak = 12.5**

### Threads

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<th>Threads</th>
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<th>SPECspeed®2017_int_peak</th>
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<tr>
<td>perlbench_s</td>
<td>64</td>
<td>7.33</td>
<td>12.5</td>
</tr>
<tr>
<td>gcc_s</td>
<td>64</td>
<td>13.4</td>
<td>13.5</td>
</tr>
<tr>
<td>mcf_s</td>
<td>64</td>
<td>8.58</td>
<td>8.59</td>
</tr>
<tr>
<td>omnetpp_s</td>
<td>64</td>
<td>20.9</td>
<td>20.9</td>
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<tr>
<td>xalancbmk_s</td>
<td>64</td>
<td>14.1</td>
<td>14.1</td>
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<tr>
<td>x264_s</td>
<td>64</td>
<td>6.43</td>
<td>6.43</td>
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<tr>
<td>deepsjeng_s</td>
<td>64</td>
<td>6.45</td>
<td>6.45</td>
</tr>
<tr>
<td>leela_s</td>
<td>64</td>
<td>5.81</td>
<td>5.81</td>
</tr>
<tr>
<td>exchange2_s</td>
<td>64</td>
<td>23.6</td>
<td>23.6</td>
</tr>
<tr>
<td>xz_s</td>
<td>64</td>
<td>24.3</td>
<td>24.5</td>
</tr>
</tbody>
</table>

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### Hardware

**CPU Name:** AMD EPYC 7713P

- **Max MHz:** 3675
- **Nominal:** 2000
- **Enabled:** 64 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 / 8 cores
- **Other:** None
- **Memory:** 1 TB (8 x 128 GB 4Rx4 PC4-3200AA-L)
- **Storage:** 125 GB on tmpfs
- **Other:** None

### Software

**OS:** Red Hat Enterprise Linux 8.3 (Ootpa) 4.18.0-240.el8.x86_64

- **Compiler:** C/C++/Fortran: Version 3.0.0 of AOCC
- **Parallel:** Yes
- **Firmware:** Version 2.2.5 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 R6525 (AMD EPYC 7713P 64-Core Processor)

**RESULTS TABLE**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base</th>
<th></th>
<th></th>
<th></th>
<th>Peak</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Threads</td>
<td>Seconds</td>
<td>Ratio</td>
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<td>Seconds</td>
<td>Ratio</td>
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<tr>
<td>600.perlbench_s</td>
<td>64</td>
<td>242</td>
<td>7.33</td>
<td>242</td>
<td>7.34</td>
<td>64</td>
<td>242</td>
<td>7.33</td>
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<tr>
<td>602.gcc_s</td>
<td>64</td>
<td>297</td>
<td>13.4</td>
<td>296</td>
<td>13.5</td>
<td>1</td>
<td>296</td>
<td>13.5</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>64</td>
<td>226</td>
<td>20.9</td>
<td>226</td>
<td>20.9</td>
<td>64</td>
<td>226</td>
<td>20.9</td>
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<td>620.omnetpp_s</td>
<td>64</td>
<td>189</td>
<td>8.63</td>
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<td>8.58</td>
<td>1</td>
<td>189</td>
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<tr>
<td>623.xalancbmk_s</td>
<td>64</td>
<td>100</td>
<td>14.1</td>
<td>98.3</td>
<td>14.4</td>
<td>64</td>
<td>100</td>
<td>14.1</td>
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<tr>
<td>625.x264_s</td>
<td>64</td>
<td>102</td>
<td>17.3</td>
<td>102</td>
<td>17.3</td>
<td>1</td>
<td>102</td>
<td>17.3</td>
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<tr>
<td>631.deepsjeng_s</td>
<td>64</td>
<td>221</td>
<td>6.47</td>
<td>223</td>
<td>6.43</td>
<td>1</td>
<td>222</td>
<td>6.46</td>
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<td>641.leela_s</td>
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<td>5.84</td>
<td>294</td>
<td>5.81</td>
<td>1</td>
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<td>5.86</td>
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<td>648.exchange2_s</td>
<td>64</td>
<td>125</td>
<td>23.6</td>
<td>125</td>
<td>23.6</td>
<td>1</td>
<td>125</td>
<td>23.6</td>
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<tr>
<td>657.xz_s</td>
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<td>252</td>
<td>24.5</td>
<td>254</td>
<td>24.3</td>
<td>64</td>
<td>252</td>
<td>24.5</td>
</tr>
</tbody>
</table>

SPECspeed®2017_int_base = 12.5
SPECspeed®2017_int_peak = 12.5

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>

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

To enable Transparent Hugepages (THP) for all allocations,
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Hardware Availability: Jul-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.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
GOMP_CPU_AFFINITY = "0-63"
LD_LIBRARY_PATH =
    "/mnt/ramdisk/cpu2017-1.1.8-aocc300-B2/amd_speed_aocc300_milan_B_lib/lib
    ";/mnt/ramdisk/cpu2017-1.1.8-aocc300-B2/amd_speed_aocc300_milan_B_lib/lib
    
32:" MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "64"

Environment variables set by runcpu during the 602.gcc_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 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"

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

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.
Dell Inc.
PowerEdge R6525 (AMD EPYC 7713P 64-Core Processor)

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

---

**General Notes (Continued)**

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 125 GB ramdisk created with the cmd: "mount -t tmpfs -o size=125G 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: Power Management: Disabled
- Algorithm Performance
- Boost Disable (ApbDis): Enabled

Sysinfo program /mnt/ramdisk/cpu2017-1.1.8-aocc300-B2/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0b891ef0e16a2af64d
running on rhel-8-3-amd Tue Jun 15 03:07:59 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
- 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

(Continued on next page)
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**SPECspeed®2017_int_base = 12.5**

**SPECspeed®2017_int_peak = 12.5**

**Platform Notes (Continued)**

```
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` from `util-linux 2.32.1`:
- **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:** 1861.649
- **BogoMIPS:** 3992.25
- **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
- mce
- sse
- sse2
- ssse3
- xmm
- move
- nonstop_tsc
- extd_apicid
- aperfmperf
- pni
- pclmulqdq
- venus
- monitor
- somm
- mwait
- mtrr
- pge
- mca
- cmov
- pat
- pse36
- clflush
- mmx
- fxsr
- sse
- sse2
- fmsiext
- fxsr_opt
- pdpe1gb
- rdtscp
- lm
- constant_tsc
- rep_good
- nopl
- nonstop_tsc
- cpuid
- extd_apicid
- cr8_legacy
- abm
- misalignsse
- 3dnowprefetch
- osuw
- ibs
- skinit
- wdt
- tce
- topext
- perfctr_core
- perfctr_nb
- bpxext
- perfctr_llc
- mwaitx
- cpb
- cat
- cdp
- invpcid
- single
- hwp	
- pstate
- sme
- ssbd
- mba
- mtrr
- sev
- ibrs
- ibpb
- vmbc.save
- tsc
- clock
- decode
- assists
- pfs
- threshold
- svm
- lock
- nrip
- save
- tzsc
- vmsave
- vmload

/proc/cpuinfo cache data
```

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

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SPECspeed®2017_int_base = 12.5
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CPU2017 License: 55
Test Sponsor: Dell Inc.
Test Date: Jun-2021
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Platform Notes (Continued)

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: 128458 MB
node 0 free: 128333 MB
node 1 cpus: 8 9 10 11 12 13 14 15
node 1 size: 128982 MB
node 1 free: 128876 MB
node 2 cpus: 16 17 18 19 20 21 22 23
node 2 size: 129021 MB
node 2 free: 128869 MB
node 3 cpus: 24 25 26 27 28 29 30 31
node 3 size: 129021 MB
node 3 free: 128824 MB
node 4 cpus: 32 33 34 35 36 37 38 39
node 4 size: 129021 MB
node 4 free: 128892 MB
node 5 cpus: 40 41 42 43 44 45 46 47
node 5 size: 129021 MB
node 5 free: 124649 MB
node 6 cpus: 48 49 50 51 52 53 54 55
node 6 size: 129021 MB
node 6 free: 128739 MB
node 7 cpus: 56 57 58 59 60 61 62 63
node 7 size: 116908 MB
node 7 free: 116755 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
MemTotal:       1043928104 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

/sbin/tuned-adm active
  Current active profile: throughput-performance

(Continued on next page)
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Platform Notes (Continued)

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 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/swapsps barriers and __user pointer sanitation
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 Jun 15 03:05

SPEC is set to: /mnt/ramdisk/cpu2017-1.1.8-aocc300-B2

Filesystem     Type     Size  Used  Avail Use% Mounted on
tmpfs           tmpfs     125G   4.0G  122G   4%  /mnt/ramdisk

From /sys/devices/virtual/dmi/id
Vendor: Dell Inc.
Product: PowerEdge R6525
Product Family: PowerEdge

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Platform Notes (Continued)

Serial: 1234567

Additional information from dmidecode 3.2 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
24x Not Specified Not Specified

BIOS:
BIOS Vendor: Dell Inc.
BIOS Version: 2.2.5
BIOS Date: 04/08/2021
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) |
==============================================================================

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
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Compiler Version Notes (Continued)

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,-mlllvm -Wl,-enable-licm-vrp -Wl,-mlllvm -Wl,-region-vectorize
-Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5
-mlllvm -unroll-threshold=50 -mlllvm -inline-threshold=1000
-fremap-arrays -mlllvm -function-specialize -flv-function-specialization

(Continued on next page)
Dell Inc.

PowerEdge R6525 (AMD EPYC 7713P 64-Core Processor)

SPECspeed®2017_int_base = 12.5
SPECspeed®2017_int_peak = 12.5

Base Optimization Flags (Continued)

C benchmarks (continued):
-mlllvm -enable-gvn-hoist -mlllvm -global-vectorize-slp=true
-mlllvm -enable-licm-vrp -mlllvm -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
-W1,-mlllvm -Wl,-do-block-reorder=aggressive
-Wl,-mlllvm -Wl,-region-vectorize -Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -mlllvm -enable-partial-unswitch
-mlllvm -unroll-threshold=100 -finline-aggressive
-flp-function-specialization -mlllvm -loop-unswitch-threshold=200000
-mlllvm -reroil-loops -mlllvm -aggressive-loop-unswitch
-mlllvm -extra-vectorizer-passes -mlllvm -reduce-array-computations=3
-mlllvm -global-vectorize-slp=true -mlllvm -convert-pow-exp-to-int=false
-z muldefs -mlllvm -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,-mlllvm -Wl,-inline-recursion=4
-Wl,-mlllvm -Wl,-lsr-in-nested-loop -Wl,-mlllvm -Wl,-enable-iv-split
-Wl,-mlllvm -Wl,-region-vectorize -Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -z muldefs
-mlllvm -unroll-aggressive -mlllvm -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
Dell Inc.

PowerEdge R6525 (AMD EPYC 7713P 64-Core Processor)

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<tr>
<td>SPECspeed®2017_int_peak</td>
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</table>

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

**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:

600.perlbench_s: basepeak = yes


605.mcf_s: basepeak = yes

625.x264_s: Same as 602.gcc_s

657.xz_s: Same as 602.gcc_s

C++ benchmarks:

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

Dell Inc.  
PowerEdge R6525 (AMD EPYC 7713P 64-Core Processor)

**SPECspeed®2017_int_base = 12.5**  
**SPECspeed®2017_int_peak = 12.5**

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

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**Peak Optimization Flags (Continued)**

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  
-march=znver3 -fveclib=AMDLIBM -ffast-math -flto  
-finline-aggressive -mllvm -unroll-threshold=100  
-flv-function-specialization -mllvm -enable-licm-verbose  
-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 -lamlbimb  
-ljemalloc -lflang

623.xalancbmk_s: basepeak = yes

631.deepsjeng_s: Same as 620.omnetpp_s

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 -lamlbimb -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
### Dell Inc.

**PowerEdge R6525 (AMD EPYC 7713P 64-Core Processor)**

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

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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