Dell Inc.

PowerEdge C6520 (Intel Xeon Gold 6348, 2.60 GHz)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base = 424</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak = 440</td>
</tr>
</tbody>
</table>

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

**Test Date:** May-2021  
**Hardware Availability:** Apr-2021  
**Software Availability:** Dec-2020

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base (424)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak (440)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU Name: Intel Xeon Gold 6348</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max MHz: 3500</td>
</tr>
<tr>
<td>Nominal: 2600</td>
</tr>
<tr>
<td>Enabled: 56 cores, 2 chips, 2 threads/core</td>
</tr>
<tr>
<td>Orderable: 1.2 chips</td>
</tr>
<tr>
<td>Cache L1: 32 KB I + 48 KB D on chip per core</td>
</tr>
<tr>
<td>L2: 1.25 MB I+D on chip per core</td>
</tr>
<tr>
<td>L3: 42 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other: None</td>
</tr>
<tr>
<td>Memory: 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R)</td>
</tr>
<tr>
<td>Storage: 125 GB on tmpfs</td>
</tr>
<tr>
<td>Other: None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hardware</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS: Red Hat Enterprise Linux 8.2 (Ootpa) 4.18.0-193.ell.x86_64</td>
</tr>
<tr>
<td>Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++ Compiler Build 20201113 for Linux; Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux; C/C++: Version 2021.1 of Intel C/C++ Compiler Classic Build 20201112 for Linux</td>
</tr>
<tr>
<td>Parallel: No</td>
</tr>
<tr>
<td>Firmware: Version 1.1.2 released Apr-2021</td>
</tr>
<tr>
<td>File System: tmpfs</td>
</tr>
<tr>
<td>System State: Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers: 64-bit</td>
</tr>
<tr>
<td>Peak Pointers: 32/64-bit</td>
</tr>
<tr>
<td>Other: jemalloc memory allocator V5.0.1</td>
</tr>
<tr>
<td>Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.</td>
</tr>
</tbody>
</table>
Dell Inc.

PowerEdge C6520 (Intel Xeon Gold 6348, 2.60 GHz)

CPU2017 License: 55
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SPECrater®2017_int_base = 424
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Test Date: May-2021
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Copies</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Peak Copies</th>
<th>Peak Seconds</th>
<th>Peak Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>112</td>
<td>602</td>
<td>296</td>
<td>112</td>
<td>523</td>
<td>341</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>112</td>
<td>485</td>
<td>327</td>
<td>112</td>
<td>408</td>
<td>389</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>112</td>
<td>265</td>
<td>683</td>
<td>112</td>
<td>265</td>
<td>683</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>112</td>
<td>596</td>
<td>246</td>
<td>112</td>
<td>596</td>
<td>246</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>112</td>
<td>225</td>
<td>526</td>
<td>112</td>
<td>225</td>
<td>526</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>112</td>
<td>220</td>
<td>890</td>
<td>112</td>
<td>211</td>
<td>931</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>112</td>
<td>377</td>
<td>341</td>
<td>112</td>
<td>377</td>
<td>341</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>112</td>
<td>543</td>
<td>341</td>
<td>112</td>
<td>543</td>
<td>341</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>112</td>
<td>317</td>
<td>926</td>
<td>112</td>
<td>317</td>
<td>926</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>112</td>
<td>518</td>
<td>233</td>
<td>112</td>
<td>526</td>
<td>230</td>
</tr>
</tbody>
</table>

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Environment Variables Notes

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

LD_LIBRARY_PATH = 
"/mnt/ramdisk/cpu2017-1.1.7-ic2021.1/lib/intel64:/mnt/ramdisk/cpu2017-1.1.7-ic2021.1/lib/ia32:/mnt/ramdisk/cpu2017-1.1.7-ic2021.1/je5.0.1-32"

MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 1x Intel Core i9–7980XE CPU + 64GB RAM memory using Red Hat Enterprise Linux 8.1

Transparent Huge Pages enabled by default
Prior to runcpu invocation

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

**Dell Inc.**

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- **Test Date:** May-2021
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**General Notes (Continued)**

Filesystem page cache synced and cleared with:
```
sync; echo 3 > /proc/sys/vm/drop_caches
```
runcpu command invoked through numactl i.e.:
```
numactl --interleave=all runcpu <etc>
```
jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

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 125 GB ramdisk created with the cmd: "mount -t tmpfs -o size=125G tmpfs /mnt/ramdisk"

**Platform Notes**

- **BIOS Settings:**
  - Sub NUMA Cluster : 2-Way Clustering
  - Virtualization Technology : Disabled
  - System Profile : Custom
  - CPU Power Management : Maximum Performance
    - C1E : Disabled
    - C States : Autonomous
  - Memory Patrol Scrub : Disabled
  - Energy Efficiency Policy : Performance
  - CPU Interconnect Bus Link
    - Power Management : Disabled

Sysinfo program /mnt/ramdisk/cpu2017-1.1.7-ic2021.1/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e6ed2d7080afeaa89d4b38e2f1c
running on localhost.localdomain Thu May  6 15:58:11 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 : Intel(R) Xeon(R) Gold 6348 CPU @ 2.60GHz
  2 "physical id"s (chips)
  112 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following

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

**Dell Inc.**

**PowerEdge C6520 (Intel Xeon Gold 6348, 2.60 GHz)**

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**Test Sponsor:** Dell Inc.  
**Test Date:** May-2021  
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**Tested by:** Dell Inc.  
**Software Availability:** Dec-2020

**Platform Notes (Continued)**

Excerpts from /proc/cpuinfo might not be reliable. Use with caution.

```plaintext
cpu cores : 28  
siblings : 56  
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  
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 25 26 27
```

From `lscpu`:

```plaintext
Architecture: x86_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 112  
On-line CPU(s) list: 0-111  
Thread(s) per core: 2  
Core(s) per socket: 28  
Socket(s): 2  
NUMA node(s): 4  
Vendor ID: GenuineIntel  
CPU family: 6  
Model: 106  
Model name: Intel(R) Xeon(R) Gold 6348 CPU @ 2.60GHz  
Stepping: 6  
CPU MHz: 3400.974  
BogoMIPS: 5200.00  
Virtualization: VT-x  
L1d cache: 48K  
L1i cache: 32K  
L2 cache: 1280K  
L3 cache: 43008K  
NUMA node0 CPU(s): 0-13,56-69  
NUMA node1 CPU(s): 14-27,70-83  
NUMA node2 CPU(s): 28-41,84-97  
NUMA node3 CPU(s): 42-55,98-111  
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 invpcid_single ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi hle avx2 smep bmi2 erm sinvpcid rtm cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma cfip斛shopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaves opt xsaves xgetbv1 xsaves cm_llc cm_occup_llc cm_mbb_total cm_mbb_local wbinvd dtherm ida arat pln pts avx512vmbi umip pku ospke avx512_vmbi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdrpid md_clear pconfig flush_lld arch_capabilities
```

(Continued on next page)
Dell Inc.

PowerEdge C6520 (Intel Xeon Gold 6348, 2.60 GHz)

SPEC CPU®2017 Integer Rate Result

CPU2017 License: 55
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SPECrate®2017_int_base = 424
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Platform Notes (Continued)

/proc/cpuinfo cache data
  cache size : 43008 KB

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
  physical chip.
  available: 4 nodes (0-3)
  node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 56 57 58 59 60 61 62 63 64 65 66 67 68 69
  node 0 size: 257408 MB
  node 0 free: 247700 MB
  node 1 cpus: 14 15 16 17 18 19 20 21 22 23 24 25 26 27 70 71 72 73 74 75 76 77 78 79 80
     81 82 83
  node 1 size: 258041 MB
  node 1 free: 257795 MB
  node 2 cpus: 28 29 30 31 32 33 34 35 36 37 38 39 40 41 84 85 86 87 88 89 90 91 92 93 94
     95 96 97
  node 2 size: 258041 MB
  node 2 free: 257895 MB
  node 3 cpus: 42 43 44 45 46 47 48 49 50 51 52 53 54 55 98 99 100 101 102 103 104 105
    106 107 108 109 110 111
  node 3 size: 258039 MB
  node 3 free: 257818 MB
  node distances:
  node  0  1  2  3
  0:  10 11 20 20
  1:  11 10 20 20
  2:  20 20 10 11
  3:  20 20 11 10

From /proc/meminfo
  MemTotal:         1056287872 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="8.2 (Ootpa)"
    ID="rhel"
    ID_LIKE="fedora"
    VERSION_ID="8.2"
    PLATFORM_ID="platform:el8"
    PRETTY_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"
    ANSI_COLOR="0;31"

(Continued on next page)
Dell Inc.  
PowerEdge C6520 (Intel Xeon Gold 6348, 2.60 GHz)  

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

**Dell Inc.**  
**PowerEdge C6520 (Intel Xeon Gold 6348, 2.60 GHz)**  

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

---  

**Platform Notes (Continued)**  

redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)  
system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)  
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.2:ga

uname -a:  
Linux localhost.localdomain 4.18.0-193.el8.x86_64 #1 SMP Fri Mar 27 14:35:58 UTC 2020  
x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

<table>
<thead>
<tr>
<th>CVE</th>
<th>Status</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVE-2018-12207 (iTLB Multihit):</td>
<td>Not affected</td>
<td></td>
</tr>
<tr>
<td>CVE-2018-3620 (L1 Terminal Fault):</td>
<td>Not affected</td>
<td></td>
</tr>
<tr>
<td>Microarchitectural Data Sampling:</td>
<td>Not affected</td>
<td></td>
</tr>
<tr>
<td>CVE-2017-5754 (Meltdown):</td>
<td>Not affected</td>
<td></td>
</tr>
<tr>
<td>CVE-2018-3639 (Speculative Store Bypass):</td>
<td>Mitigation: Speculative Store Bypass disabled via prctl and seccomp</td>
<td></td>
</tr>
<tr>
<td>CVE-2017-5753 (Spectre variant 1):</td>
<td>Mitigation: usercopy/swapgs barriers and __user pointer sanitation</td>
<td></td>
</tr>
<tr>
<td>CVE-2017-5715 (Spectre variant 2):</td>
<td>Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling</td>
<td></td>
</tr>
<tr>
<td>CVE-2020-0543 (Special Register Buffer Data Sampling):</td>
<td>No status reported</td>
<td></td>
</tr>
<tr>
<td>CVE-2019-11135 (TSX Asynchronous Abort):</td>
<td>Not affected</td>
<td></td>
</tr>
</tbody>
</table>

run-level 3 May 6 15:52

**SPEC is set to:** /mnt/ramdisk/cpu2017-1.1.7-ic2021.1

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>tmpfs</td>
<td>tmpfs</td>
<td>125G</td>
<td>4.4G</td>
<td>121G</td>
<td>4%</td>
<td>/mnt/ramdisk</td>
</tr>
</tbody>
</table>

From /sys/devices/virtual/dmi/id

<table>
<thead>
<tr>
<th>Vendor:</th>
<th>Dell Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product:</td>
<td>PowerEdge C6520</td>
</tr>
<tr>
<td>Product Family:</td>
<td>PowerEdge</td>
</tr>
<tr>
<td>Serial:</td>
<td>SDPT078</td>
</tr>
</tbody>
</table>

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 0OAD063200AD HMAA8GR7A4R4N-XN 64 GB 2 rank 3200

BIOS:

<table>
<thead>
<tr>
<th>BIOS Vendor:</th>
<th>Dell Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS Version:</td>
<td>1.1.2</td>
</tr>
</tbody>
</table>
### Platform Notes (Continued)

- **BIOS Date:** 04/09/2021
- **BIOS Revision:** 1.1

(End of data from sysinfo program)

### Compiler Version Notes

<table>
<thead>
<tr>
<th>Compiler Version</th>
<th>Benchmark(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000</td>
<td>500.perlbench_r(peak), 557.xz_r(peak)</td>
</tr>
<tr>
<td>Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2021.1 Build 20201113</td>
<td>502.gcc_r(peak)</td>
</tr>
<tr>
<td>Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2021.1 Build 20201113</td>
<td>500.perlbench_r(base), 502.gcc_r(base), 505.mcf_r(base, peak), 525.x264_r(base, peak), 557.xz_r(base)</td>
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<tr>
<td>Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) 64, Version 2021.1 Build 20201112_000000</td>
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Compiler Version Notes (Continued)

==============================================================================
| C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak) |
|         | 525.x264_r(base, peak) 557.xz_r(base) |
| Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, |
| Version 2021.1 Build 20201113 |
| Copyright (C) 1985-2020 Intel Corporation. All rights reserved. |
==============================================================================
| C       | 500.perlbench_r(peak) 557.xz_r(peak) |
| Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R) |
| 64, Version 2021.1 Build 20201112_000000 |
| Copyright (C) 1985-2020 Intel Corporation. All rights reserved. |
==============================================================================
| C       | 502.gcc_r(peak) |
| Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version |
| 2021.1 Build 20201113 |
| Copyright (C) 1985-2020 Intel Corporation. All rights reserved. |
==============================================================================
| C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak) |
|         | 525.x264_r(base, peak) 557.xz_r(base) |
| Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, |
| Version 2021.1 Build 20201113 |
| Copyright (C) 1985-2020 Intel Corporation. All rights reserved. |
==============================================================================
| C++     | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak) |
|         | 531.deepsjeng_r(base, peak) 541.leela_r(base, peak) |
| Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, |
| Version 2021.1 Build 20201113 |
| Copyright (C) 1985-2020 Intel Corporation. All rights reserved. |
==============================================================================
| Fortran | 548.exchange2_r(base, peak) |

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

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Compiler Version Notes (Continued)

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifort

Base Portability Flags

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

C++ benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto

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

**Dell Inc.**

PowerEdge C6520 (Intel Xeon Gold 6348, 2.60 GHz)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base = 424</th>
</tr>
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<tbody>
<tr>
<td>SPECrate®2017_int_peak = 440</td>
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**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** May-2021  
**Hardware Availability:** Apr-2021  
**Software Availability:** Dec-2020

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**Base Optimization Flags (Continued)**

C++ benchmarks (continued):
- `mfpmath=sse`  
- `-funroll-loops`  
- `-qopt-mem-layout-trans=4`  
- `-mbranches-within-32B-boundaries`  
- `-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin`  
- `-lqkmalloc`

Fortran benchmarks:
- `-w`  
- `-m64`  
- `-Wl,-z,muldefs`  
- `-xCORE-AVX512`  
- `-O3`  
- `-ipo`  
- `-no-prec-div`  
- `-qopt-mem-layout-trans=4`  
- `-nostandard-realloc-lhs`  
- `-align array32byte`  
- `-auto`  
- `-mbranches-within-32B-boundaries`  
- `-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin`  
- `-lqkmalloc`

---

**Peak Compiler Invocation**

C benchmarks (except as noted below):

```
icx
```

500.perlbench_r: `icc`

557.xz_r: `icc`

C++ benchmarks:

```
icpx
```

Fortran benchmarks:

```
ifort
```

---

**Peak Portability Flags**

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64
```
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Peak Optimization Flags

C benchmarks:

500.perlbench_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2)
-xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -fno-strict-overflow
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -m32
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/ia32_lin
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX512 -flto
-Ofast(pass 1) -O3 -ffast-math -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc

505.mcf_r: basepeak = yes

525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -flto
-O3 -ffast-math -qopt-mem-layout-trans=4 -fno-alias
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

557.xz_r: -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalanchmk_r: basepeak = yes

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes

Fortran benchmarks:

548.exchange2_r: basepeak = yes
## Dell Inc.

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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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