# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Dell Inc.

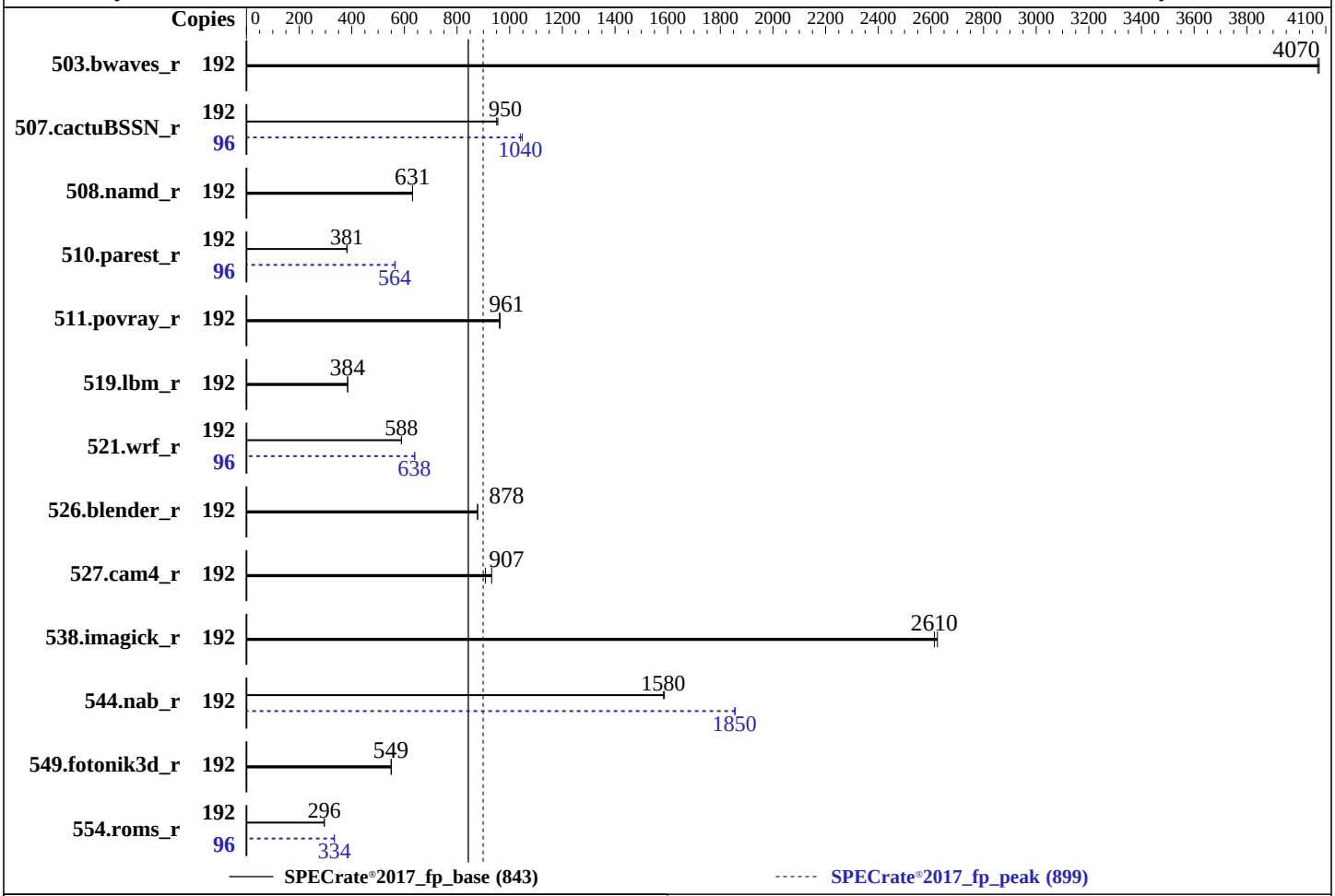
PowerEdge MX760c (Intel Xeon Platinum 8468V)

SPECrate®2017_fp_base = 843

SPECrate®2017_fp_peak = 899

**CPU2017 License:** 6573
**Test Sponsor:** Dell Inc.
**Tested by:** Dell Inc.

**Test Date:** Dec-2022
**Hardware Availability:** Feb-2023
**Software Availability:** Nov-2022




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon Platinum 8468V |
| Max MHz: | 3800 |
| Nominal: | 2400 |
| Enabled: | 96 cores, 2 chips, 2 threads/core |
| Orderable: | 1,2 chips |
| Cache L1: | 32 KB I + 48 KB D on chip per core |
| L2: | 2 MB I+D on chip per core |
| L3: | 97.5 MB I+D on chip per chip |
| Other: | None |
| Memory: | 1 TB (16 x 64 GB 2Rx4 PC5-4800B-R) |
| Storage: | 125 GB on tmpfs |
| Other: | None |

## Software

| | |
|---|---|
| OS: | Red Hat Enterprise Linux 8.7 (Ootpa)<br>4.18.0-425.3.1.el8.x86_64 |
| Compiler: | C/C++: Version 2022.1 of Intel oneAPI DPC++/C++ Compiler for Linux;<br>Fortran: Version 2022.1 of Intel Fortran Compiler for Linux; |
| Parallel: | No |
| Firmware: | Version 0.3.2 released Nov-2022 |
| File System: | tmpfs |
| System State: | Run level 5 (graphical multi-user) |
| Base Pointers: | 64-bit |
| Peak Pointers: | 64-bit |
| Other: | jemalloc memory allocator V5.0.1 |
| Power Management: | BIOS and OS set to prefer performance at the cost of additional power usage. |

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## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 503.bwaves_r | 192 | **473** | **4070** | 472 | 4080 | | | 192 | **473** | **4070** | 472 | 4080 | | |
| 507.cactuBSSN_r | 192 | **256** | **950** | 255 | 955 | | | 96 | **117** | **1040** | 116 | 1050 | | |
| 508.namd_r | 192 | 289 | 631 | **289** | **631** | | | 192 | 289 | 631 | **289** | **631** | | |
| 510.parest_r | 192 | 1312 | 383 | **1318** | **381** | | | 96 | 444 | 565 | **445** | **564** | | |
| 511.povray_r | 192 | **467** | **961** | 465 | 963 | | | 192 | **467** | **961** | 465 | 963 | | |
| 519.lbm_r | 192 | **527** | **384** | 526 | 384 | | | 192 | **527** | **384** | 526 | 384 | | |
| 521.wrf_r | 192 | 730 | 589 | **731** | **588** | | | 96 | **337** | **638** | 336 | 640 | | |
| 526.blender_r | 192 | 333 | 878 | **333** | **878** | | | 192 | 333 | 878 | **333** | **878** | | |
| 527.cam4_r | 192 | 361 | 931 | **370** | **907** | | | 192 | 361 | 931 | **370** | **907** | | |
| 538.imagick_r | 192 | **183** | **2610** | 182 | 2620 | | | 192 | **183** | **2610** | 182 | 2620 | | |
| 544.nab_r | 192 | 204 | 1590 | **204** | **1580** | | | 192 | **174** | **1850** | 174 | 1860 | | |
| 549.fotonik3d_r | 192 | **1363** | **549** | 1359 | 551 | | | 192 | **1363** | **549** | 1359 | 551 | | |
| 554.roms_r | 192 | **1032** | **296** | 1031 | 296 | | | 96 | 457 | 334 | **457** | **334** | | |

**SPECrate®2017_fp_base = 843**

**SPECrate®2017_fp_peak = 899**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## 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/cpu2017-1.1.8-ic2022.1/lib/intel64:/mnt/ramdisk/cpu2017-1.
     1.8-ic2022.1/je5.0.1-64"
MALLOC_CONF = "retain:true"
```

## General Notes

```
Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
Transparent Huge Pages enabled by default
```

**(Continued on next page)**

## General Notes (Continued)

```
 Prior to runcpu invocation
 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
 sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases

 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:
                 ADDDC Setting : Disabled
       DIMM Self Healing on
   Uncorrectable Memory Error : Disabled
    Virtualization Technology : Disabled
              Sub NUMA Cluster : 4-way Clustering
      DCU Streamer Prefetcher : Disabled
                  LLC Prefetch : Disabled
          Dead Line LLC Alloc : Disabled
               Optimizer Mode : Enabled

               System Profile : Custom
         CPU Power Management : Maximum Performance
                          C1E : Disabled
                     C States : Autonomous
          Memory Patrol Scrub : Disabled
     Energy Efficiency Policy : Performance
           PCI ASPM L1 Link
             Power Management : Disabled

 Sysinfo program /mnt/ramdisk/cpu2017-1.1.8-ic2022.1/bin/sysinfo
 Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
 running on localhost.localdomain Tue Dec 13 08:09:49 2022

 SUT (System Under Test) info as seen by some common utilities.
```

**(Continued on next page)**

## Platform Notes (Continued)

```
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) Platinum 8468V
      2  "physical id"s (chips)
      192 "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 : 48
      siblings  : 96
      physical 0: cores 0 1 2 3 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
      physical 1: cores 0 1 2 3 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

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):              192
     On-line CPU(s) list: 0-191
     Thread(s) per core:  2
     Core(s) per socket:  48
     Socket(s):           2
     NUMA node(s):        8
     Vendor ID:           GenuineIntel
     BIOS Vendor ID:      Intel
     CPU family:          6
     Model:               143
     Model name:          Intel(R) Xeon(R) Platinum 8468V
     BIOS Model name:     Intel(R) Xeon(R) Platinum 8468V
     Stepping:            8
     CPU MHz:             2400.000
     BogoMIPS:            4800.00
     L1d cache:           48K
     L1i cache:           32K
     L2 cache:            2048K
     L3 cache:            99840K
     NUMA node0 CPU(s):
     0,4,8,12,16,20,24,28,32,36,40,44,96,100,104,108,112,116,120,124,128,132,136,140
     NUMA node1 CPU(s):
     48,52,56,60,64,68,72,76,80,84,88,92,144,148,152,156,160,164,168,172,176,180,184,188
     NUMA node2 CPU(s):
     2,6,10,14,18,22,26,30,34,38,42,46,98,102,106,110,114,118,122,126,130,134,138,142
     NUMA node3 CPU(s):
     50,54,58,62,66,70,74,78,82,86,90,94,146,150,154,158,162,166,170,174,178,182,186,190
```

**(Continued on next page)**

## Platform Notes (Continued)

```
      NUMA node4 CPU(s):
      1,5,9,13,17,21,25,29,33,37,41,45,97,101,105,109,113,117,121,125,129,133,137,141
      NUMA node5 CPU(s):
      49,53,57,61,65,69,73,77,81,85,89,93,145,149,153,157,161,165,169,173,177,181,185,189
      NUMA node6 CPU(s):
      3,7,11,15,19,23,27,31,35,39,43,47,99,103,107,111,115,119,123,127,131,135,139,143
      NUMA node7 CPU(s):
      51,55,59,63,67,71,75,79,83,87,91,95,147,151,155,159,163,167,171,175,179,183,187,191
      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 tsc_known_freq pni pclmulqdq dtes64 monitor ds_cpl 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 cat_l2 cdp_l3
      invpcid_single cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced fsgsbase tsc_adjust
      bmi1 avx2 smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
      avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt
      xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
      split_lock_detect avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hfi
      avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni
      avx512_bitalg tme avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote movdiri
      movdir64b enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr amx_bf16
      avx512_fp16 amx_tile amx_int8 flush_l1d arch_capabilities

  /proc/cpuinfo cache data
     cache size : 99840 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 4 8 12 16 20 24 28 32 36 40 44 96 100 104 108 112 116 120 124 128 132
    136 140
    node 0 size: 128215 MB
    node 0 free: 113919 MB
    node 1 cpus: 48 52 56 60 64 68 72 76 80 84 88 92 144 148 152 156 160 164 168 172 176
    180 184 188
    node 1 size: 129018 MB
    node 1 free: 119885 MB
    node 2 cpus: 2 6 10 14 18 22 26 30 34 38 42 46 98 102 106 110 114 118 122 126 130 134
    138 142
    node 2 size: 129018 MB
    node 2 free: 111611 MB
    node 3 cpus: 50 54 58 62 66 70 74 78 82 86 90 94 146 150 154 158 162 166 170 174 178
    182 186 190
    node 3 size: 129018 MB
    node 3 free: 119924 MB
    node 4 cpus: 1 5 9 13 17 21 25 29 33 37 41 45 97 101 105 109 113 117 121 125 129 133
```

**(Continued on next page)**

## Platform Notes (Continued)

```
   137 141
   node 4 size: 129018 MB
   node 4 free: 119926 MB
   node 5 cpus: 49 53 57 61 65 69 73 77 81 85 89 93 145 149 153 157 161 165 169 173 177
   181 185 189
   node 5 size: 129018 MB
   node 5 free: 119977 MB
   node 6 cpus: 3 7 11 15 19 23 27 31 35 39 43 47 99 103 107 111 115 119 123 127 131 135
   139 143
   node 6 size: 128976 MB
   node 6 free: 119873 MB
   node 7 cpus: 51 55 59 63 67 71 75 79 83 87 91 95 147 151 155 159 163 167 171 175 179
   183 187 191
   node 7 size: 129006 MB
   node 7 free: 119980 MB
   node distances:
   node   0   1   2   3   4   5   6   7
     0:  10  12  12  12  21  21  21  21
     1:  12  10  12  12  21  21  21  21
     2:  12  12  10  12  21  21  21  21
     3:  12  12  12  10  21  21  21  21
     4:  21  21  21  21  10  12  12  12
     5:  21  21  21  21  12  10  12  12
     6:  21  21  21  21  12  12  10  12
     7:  21  21  21  21  12  12  12  10

 From /proc/meminfo
    MemTotal:       1056043120 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="8.7 (Ootpa)"
       ID="rhel"
       ID_LIKE="fedora"
       VERSION_ID="8.7"
       PLATFORM_ID="platform:el8"
       PRETTY_NAME="Red Hat Enterprise Linux 8.7 (Ootpa)"
       ANSI_COLOR="0;31"
    redhat-release: Red Hat Enterprise Linux release 8.7 (Ootpa)
    system-release: Red Hat Enterprise Linux release 8.7 (Ootpa)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:8::baseos
```

**(Continued on next page)**

## Platform Notes (Continued)

```
uname -a:
   Linux localhost.localdomain 4.18.0-425.3.1.el8.x86_64 #1 SMP Fri Sep 30 11:45:06 EDT
   2022 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
mmio_stale_data:                                         Not affected
retbleed:                                                Not affected
CVE-2018-3639 (Speculative Store Bypass):                Mitigation: Speculative Store
                                                         Bypass disabled via prctl
CVE-2017-5753 (Spectre variant 1):                       Mitigation: usercopy/swapgs
                                                         barriers and __user pointer
                                                         sanitization
CVE-2017-5715 (Spectre variant 2):                      Mitigation: Enhanced IBRS, IBPB:
                                                         conditional, RSB filling,
                                                         PBRSB-eIBRS: SW sequence
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort):                 Not affected

run-level 5 Dec 13 03:31

SPEC is set to: /mnt/ramdisk/cpu2017-1.1.8-ic2022.1
   Filesystem     Type   Size  Used Avail Use% Mounted on
   tmpfs          tmpfs  125G   77G   49G  61% /mnt/ramdisk

From /sys/devices/virtual/dmi/id
    Vendor:          Dell Inc.
    Product:         PowerEdge MX760c
    Product Family: PowerEdge
    Serial:          MWCFG04

Additional information from dmidecode 3.3 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 002C0632002C MTC40F2046S1RC48BA1 64 GB 2 rank 4800

BIOS:
   BIOS Vendor:       Dell Inc.
   BIOS Version:      0.3.2
   BIOS Date:         11/30/2022
```

**(Continued on next page)**

## Platform Notes (Continued)

```
    BIOS Revision:     0.3

 (End of data from sysinfo program)
```

## Compiler Version Notes

```
==============================================================================
C               | 519.lbm_r(base, peak) 538.imagick_r(base, peak)
                | 544.nab_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++             | 508.namd_r(base, peak) 510.parest_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++, C          | 511.povray_r(base, peak) 526.blender_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version
  2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
```

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## Compiler Version Notes (Continued)

```
------------------------------------------------------------------------------

==============================================================================
Fortran         | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak)
                | 554.roms_r(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version
  2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
Fortran, C      | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version
  2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

## Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

Benchmarks using both Fortran and C:
ifx icx

Benchmarks using both C and C++:
icpx icx

Benchmarks using Fortran, C, and C++:
icpx icx ifx

## Base Portability Flags

503.bwaves_r: -DSPEC_LP64
507.cactuBSSN_r: -DSPEC_LP64
508.namd_r: -DSPEC_LP64
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.lbm_r: -DSPEC_LP64
521.wrf_r: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
526.blender_r: -DSPEC_LP64 -DSPEC_LINUX -funsigned-char
527.cam4_r: -DSPEC_LP64 -DSPEC_CASE_FLAG
538.imagick_r: -DSPEC_LP64
544.nab_r: -DSPEC_LP64
549.fotonik3d_r: -DSPEC_LP64
554.roms_r: -DSPEC_LP64

## Base Optimization Flags

C benchmarks:
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

C++ benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Benchmarks using both Fortran and C:
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Benchmarks using both C and C++:
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

**(Continued on next page)**

## Base Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++:
`-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib`

## Peak Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Benchmarks using both Fortran and C:
`ifx icx`

Benchmarks using both C and C++:
`icpx icx`

Benchmarks using Fortran, C, and C++:
`icpx icx ifx`

## Peak Portability Flags

`Same as Base Portability Flags`

## Peak Optimization Flags

C benchmarks:

519.lbm_r: `basepeak = yes`

538.imagick_r: `basepeak = yes`

544.nab_r: `-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops`

**(Continued on next page)**

## Peak Optimization Flags (Continued)

544.nab_r (continued):
-qopt-mem-layout-trans=4 -qopt-zmm-usage=high -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

C++ benchmarks:

508.namd_r: basepeak = yes

510.parest_r: -w -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Fortran benchmarks:

503.bwaves_r: basepeak = yes

549.fotonik3d_r: basepeak = yes

554.roms_r: -w -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Benchmarks using both Fortran and C:

521.wrf_r: -w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

527.cam4_r: basepeak = yes

Benchmarks using both C and C++:

511.povray_r: basepeak = yes

526.blender_r: basepeak = yes

Benchmarks using Fortran, C, and C++:
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

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

http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64-revB.html
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.2.html

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

http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64-revB.xml
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.2.xml


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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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