



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

CPU2017 License: 6573

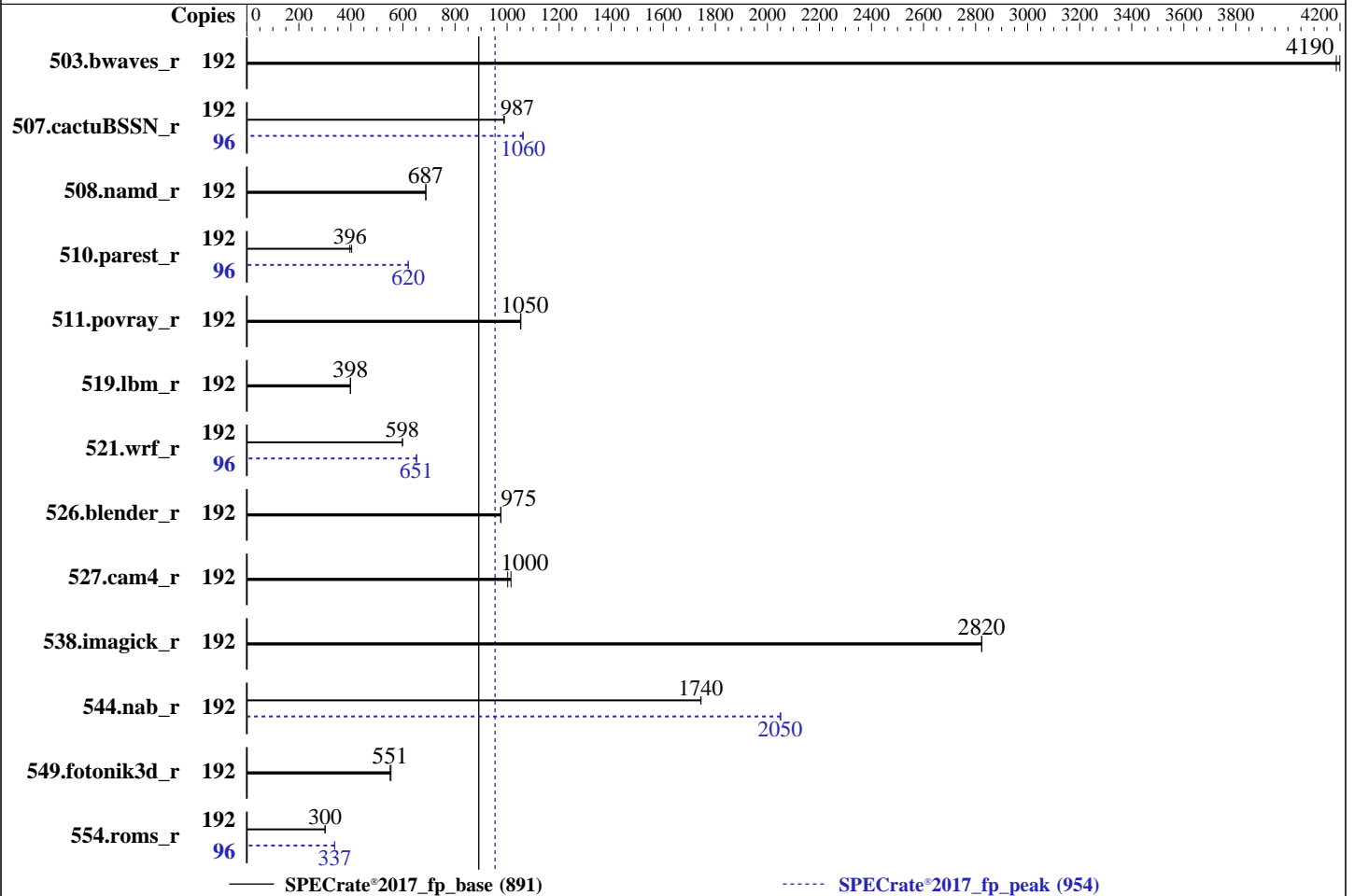
Test Date: Dec-2022

Test Sponsor: Dell Inc.

Hardware Availability: Feb-2023

Tested by: Dell Inc.

Software Availability: Jun-2022



Hardware

CPU Name: Intel Xeon Platinum 8468
 Max MHz: 3800
 Nominal: 2100
 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: 105 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: SUSE Linux Enterprise Server 15 SP4
 5.14.21-150400.22-default
 Compiler: C/C++: Version 2022.1 of Intel oneAPI DPC++/C++
 Compiler for Linux;
 Fortran: Version 2022.1 of Intel Fortran Compiler
 for Linux;
 Parallel: No
 Firmware: Version 0.3.1 released Nov-2022
 File System: tmpfs
 System State: Run level 3 (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.



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

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

Test Date: Dec-2022
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	192	460	4190	458	4200			192	460	4190	458	4200		
507.cactuBSSN_r	192	246	987	246	989			96	114	1060	115	1060		
508.namd_r	192	265	687	265	688			192	265	687	265	688		
510.parest_r	192	1268	396	1247	403			96	405	621	405	620		
511.povray_r	192	426	1050	426	1050			192	426	1050	426	1050		
519.lbm_r	192	508	398	509	398			192	508	398	509	398		
521.wrf_r	192	719	598	719	598			96	330	651	329	653		
526.blender_r	192	300	975	299	976			192	300	975	299	976		
527.cam4_r	192	331	1010	335	1000			192	331	1010	335	1000		
538.imagick_r	192	169	2820	169	2820			192	169	2820	169	2820		
544.nab_r	192	185	1740	185	1750			192	158	2050	158	2050		
549.fotonik3d_r	192	1351	554	1359	551			192	1351	554	1359	551		
554.roms_r	192	1014	301	1015	300			96	452	337	452	337		

SPECrate®2017_fp_base = **891**

SPECrate®2017_fp_peak = **954**

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)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

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

Test Date: Dec-2022
Hardware Availability: Feb-2023
Software Availability: Jun-2022

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 982a61ec0915b55891ef0e16acaf64d
running on localhost Fri Dec 9 17:49:09 2022

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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

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

Test Date: Dec-2022
Hardware Availability: Feb-2023
Software Availability: Jun-2022

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 8468
 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 2.37.2:
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:         46 bits physical, 57 bits virtual
Byte Order:            Little Endian
CPU(s):                192
On-line CPU(s) list:   0-191
Vendor ID:             GenuineIntel
Model name:            Intel(R) Xeon(R) Platinum 8468
CPU family:            6
Model:                143
Thread(s) per core:    2
Core(s) per socket:    48
Socket(s):             2
Stepping:              8
BogoMIPS:              4200.00
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 hle avx2 smep bmi2 erms invpcid rtm 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 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 avx512_fp16
amx_tile flush_l1d arch_capabilities
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

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

Test Date: Dec-2022
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Platform Notes (Continued)

```

L1d cache:                4.5 MiB (96 instances)
L1i cache:                3 MiB (96 instances)
L2 cache:                 192 MiB (96 instances)
L3 cache:                 210 MiB (2 instances)
NUMA node(s):             8
NUMA node0 CPU(s):
0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 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
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
Vulnerability Itlb multihit:    Not affected
Vulnerability L1tf:             Not affected
Vulnerability Mds:              Not affected
Vulnerability Meltdown:        Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1:       Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:       Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbds:            Not affected
Vulnerability Tsx async abort:  Not affected

```

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	4.5M	12	Data	1	64	1	64
L1i	32K	3M	8	Instruction	1	64	1	64
L2	2M	192M	16	Unified	2	2048	1	64
L3	105M	210M	15	Unified	3	114688	1	64

/proc/cpuinfo cache data
cache size : 107520 KB

From numactl --hardware

WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 8 nodes (0-7)

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Dec-2022

Hardware Availability: Feb-2023

Software Availability: Jun-2022

Platform Notes (Continued)

```

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: 128470 MB
node 0 free: 114158 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: 129017 MB
node 1 free: 119486 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: 129017 MB
node 2 free: 119425 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: 129017 MB
node 3 free: 119404 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
137 141
node 4 size: 128983 MB
node 4 free: 119353 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: 129017 MB
node 5 free: 119454 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: 129017 MB
node 6 free: 111604 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: 128970 MB
node 7 free: 119423 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: 1056270360 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

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

Test Date: Dec-2022
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Platform Notes (Continued)

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

```
os-release:
  NAME="SLES"
  VERSION="15-SP4"
  VERSION_ID="15.4"
  PRETTY_NAME="SUSE Linux Enterprise Server 15 SP4"
  ID="sles"
  ID_LIKE="suse"
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:suse:sles:15:sp4"
```

uname -a:

```
Linux localhost 5.14.21-150400.22-default #1 SMP PREEMPT_DYNAMIC Wed May 11 06:57:18
UTC 2022 (49db222) 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: Enhanced IBRS, IBPB: conditional, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling):	Not affected
CVE-2019-11135 (TSX Asynchronous Abort):	Not affected

run-level 3 Dec 9 13:29

```
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 R760
Product Family: PowerEdge
```

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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

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

Test Date: Dec-2022
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Platform Notes (Continued)

frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

Memory:

16x 00AD00B300AD HMC94MEBRA123N 64 GB 2 rank 4800

BIOS:

BIOS Vendor: Dell Inc.
BIOS Version: 0.3.1
BIOS Date: 11/24/2022
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,

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Dec-2022

Hardware Availability: Feb-2023

Software Availability: Jun-2022

Compiler Version Notes (Continued)

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.

```
=====
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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Dec-2022

Hardware Availability: Feb-2023

Software Availability: Jun-2022

Base Compiler Invocation (Continued)

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
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Dec-2022

Hardware Availability: Feb-2023

Software Availability: Jun-2022

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

```
-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
```

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



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

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

Test Date: Dec-2022
Hardware Availability: Feb-2023
Software Availability: Jun-2022

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
-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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 891

PowerEdge R760 (Intel Xeon Platinum 8468)

SPECrate®2017_fp_peak = 954

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Dec-2022

Hardware Availability: Feb-2023

Software Availability: Jun-2022

Peak Optimization Flags (Continued)

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>

SPEC CPU and SPECrate 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 v1.1.8 on 2022-12-09 04:49:09-0500.

Report generated on 2023-01-17 18:44:08 by CPU2017 PDF formatter v6442.

Originally published on 2023-01-17.