SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

NEC Corporation
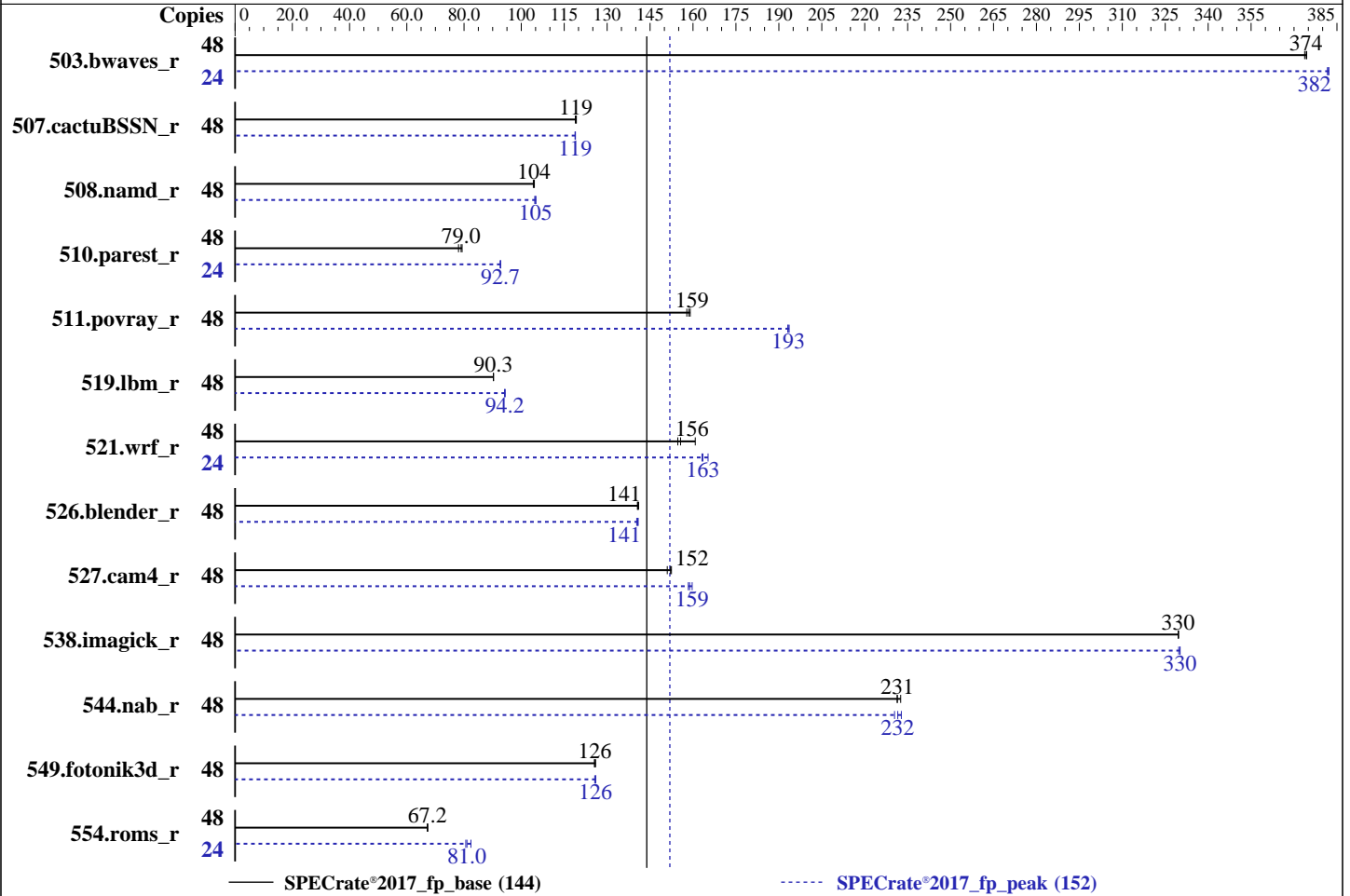
Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_base = 144

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006

Test Sponsor: NEC Corporation

Tested by: NEC Corporation

Test Date: Aug-2020

Hardware Availability: May-2020

Software Availability: Sep-2019

Benchmark	Copies	base	peak
503.bwaves_r	48 / 24	374	382
507.cactuBSSN_r	48	119	119
508.namd_r	48	104	105
510.parest_r	48 / 24	79.0	92.7
511.povray_r	48	159	193
519.lbm_r	48	90.3	94.2
521.wrf_r	48 / 24	156	163
526.blender_r	48	141	141
527.cam4_r	48	152	159
538.imagick_r	48	330	330
544.nab_r	48	231	232
549.fotonik3d_r	48	126	126
554.roms_r	48 / 24	67.2	81.0

SPECrate®2017_fp_base (144)

SPECrate®2017_fp_peak (152)

Hardware

CPU Name: Intel Xeon Silver 4214R

Max MHz: 3500

Nominal: 2400

Enabled: 24 cores, 2 chips, 2 threads/core

Orderable: 1,2 chips

Cache L1: 32 KB I + 32 KB D on chip per core

L2: 1 MB I+D on chip per core

L3: 16.5 MB I+D on chip per chip

Other: None

Memory: 384 GB (24 x 16 GB 2Rx8 PC4-2933Y-R, running at 2400)

Storage: 1 x 1 TB SATA, 7200 RPM, RAID 0

Other: None

Software

OS: Red Hat Enterprise Linux Server release 7.7 (Maipo)

Kernel 3.10.0-1062.1.1.el7.x86_64

Compiler: C/C++: Version 19.0.4.227 of Intel C/C++ Compiler Build 20190416 for Linux; Fortran: Version 19.0.4.227 of Intel Fortran Compiler Build 20190416 for Linux

Parallel: No

Firmware: NEC BIOS Version U32 v2.32 03/09/2020 released Jun-2020

File System: ext4

System State: Run level 3 (multi-user)

Base Pointers: 64-bit

Peak Pointers: 64-bit

Other: None

Power Management: BIOS set to prefer performance at the cost of additional power usage.

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

SPEC CPU®2017 Floating Point Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_base = 144

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006	**Test Date:** Aug-2020
Test Sponsor: NEC Corporation	**Hardware Availability:** May-2020
Tested by: NEC Corporation	**Software Availability:** Sep-2019

Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
503.bwaves_r	48	1288	374	**1286**	**374**	1286	374	24	**630**	**382**	630	382	631	382
507.cactuBSSN_r	48	**510**	**119**	510	119	511	119	48	**511**	**119**	511	119	512	119
508.namd_r	48	438	104	**437**	**104**	436	105	48	436	105	434	105	**435**	**105**
510.parest_r	48	1583	79.3	**1590**	**79.0**	1608	78.1	24	678	92.6	**677**	**92.7**	677	92.8
511.povray_r	48	705	159	710	158	**707**	**159**	48	579	194	**580**	**193**	580	193
519.lbm_r	48	560	90.3	**560**	**90.3**	560	90.3	48	537	94.2	536	94.4	**537**	**94.2**
521.wrf_r	48	**691**	**156**	669	161	695	155	24	330	163	**329**	**163**	325	165
526.blender_r	48	518	141	**520**	**141**	520	141	48	521	140	**520**	**141**	519	141
527.cam4_r	48	551	152	556	151	**552**	**152**	48	530	158	526	160	**529**	**159**
538.imagick_r	48	362	330	362	330	**362**	**330**	48	**362**	**330**	362	330	362	330
544.nab_r	48	349	231	**349**	**231**	347	233	48	351	230	**349**	**232**	347	233
549.fotonik3d_r	48	1485	126	1490	126	**1488**	**126**	48	**1485**	**126**	1489	126	1485	126
554.roms_r	48	1136	67.2	**1134**	**67.2**	1133	67.3	24	473	80.6	**471**	**81.0**	463	82.4

SPECrate®2017_fp_base =	**144**
SPECrate®2017_fp_peak =	**152**

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 = "/home/cpu2017/lib/intel64"

General Notes

Binaries compiled on a system with 1x Intel Core i9-7900X CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.5
Transparent Huge Pages enabled by default
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.:

(Continued on next page)

SPEC CPU®2017 Floating Point Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_base = 144

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Tested by: NEC Corporation

Test Date: Aug-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

General Notes (Continued)

```
numactl --interleave=all runcpu <etc>

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.
```

Platform Notes

```
BIOS Settings:
 Thermal Configuration: Maximum Cooling
 Workload Profile: General Throughput Compute
 Memory Patrol Scrubbing: Disabled
 LLC Dead Line Allocation: Disabled
 LLC Prefetch: Enabled
 Enhanced Processor Performance: Enabled
 Workload Profile: Custom
  Advanced Memory Protection: Advanced ECC Support


Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edb1e6e46a485a0011
running on r120h1m Tue Aug 11 23:21:32 2020

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) Silver 4214R CPU @ 2.40GHz
      2  "physical id"s (chips)
      48 "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 : 12
      siblings  : 24
      physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13

From lscpu:
      Architecture:          x86_64
      CPU op-mode(s):        32-bit, 64-bit
      Byte Order:            Little Endian
      CPU(s):                48
```

(Continued on next page)

NEC Corporation

SPECrate®2017_fp_base = 144

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006　　　　　　　　　　　　　　　　　　　　　**Test Date:** Aug-2020
Test Sponsor: NEC Corporation　　　　　　　　　　　　　　**Hardware Availability:** May-2020
Tested by: NEC Corporation　　　　　　　　　　　　　　　**Software Availability:** Sep-2019

Platform Notes (Continued)

```
      On-line CPU(s) list:    0-47
      Thread(s) per core:     2
      Core(s) per socket:     12
      Socket(s):              2
      NUMA node(s):           4
      Vendor ID:              GenuineIntel
      CPU family:             6
      Model:                  85
      Model name:             Intel(R) Xeon(R) Silver 4214R CPU @ 2.40GHz
      Stepping:               7
      CPU MHz:                2400.000
      BogoMIPS:               4800.00
      Virtualization:         VT-x
      L1d cache:              32K
      L1i cache:              32K
      L2 cache:               1024K
      L3 cache:               16896K
      NUMA node0 CPU(s):      0-5,24-29
      NUMA node1 CPU(s):      6-11,30-35
      NUMA node2 CPU(s):      12-17,36-41
      NUMA node3 CPU(s):      18-23,42-47
      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
    aperfmperf eagerfpu 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 epb cat_l3 cdp_l3 invpcid_single
    intel_ppin intel_pt ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi
    flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm
    cqm mpx rdt_a avx512f avx512dq rdseed adx smap clflushopt clwb avx512cd avx512bw
    avx512vl xsaveopt xsavec xgetbv1 cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
    dtherm ida arat pln pts pku ospke avx512_vnni md_clear spec_ctrl intel_stibp
    flush_l1d arch_capabilities

  /proc/cpuinfo cache data
     cache size : 16896 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 24 25 26 27 28 29
    node 0 size: 97961 MB
    node 0 free: 95559 MB
    node 1 cpus: 6 7 8 9 10 11 30 31 32 33 34 35
    node 1 size: 98304 MB
    node 1 free: 96032 MB
    node 2 cpus: 12 13 14 15 16 17 36 37 38 39 40 41
```

(Continued on next page)

NEC Corporation

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_base = 144

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Tested by: NEC Corporation

Test Date: Aug-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

Platform Notes (Continued)

```
  node 2 size: 98304 MB
  node 2 free: 96045 MB
  node 3 cpus: 18 19 20 21 22 23 42 43 44 45 46 47
  node 3 size: 98303 MB
  node 3 free: 95995 MB
  node distances:
  node   0   1   2   3
    0:  10  21  21  21
    1:  21  10  21  21
    2:  21  21  10  21
    3:  21  21  21  10

From /proc/meminfo
   MemTotal:       395921668 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux Server"
      VERSION="7.7 (Maipo)"
      ID="rhel"
      ID_LIKE="fedora"
      VARIANT="Server"
      VARIANT_ID="server"
      VERSION_ID="7.7"
      PRETTY_NAME="Red Hat Enterprise Linux Server 7.7 (Maipo)"
   redhat-release: Red Hat Enterprise Linux Server release 7.7 (Maipo)
   system-release: Red Hat Enterprise Linux Server release 7.7 (Maipo)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:7.7:ga:server

uname -a:
   Linux r120h1m 3.10.0-1062.1.1.el7.x86_64 #1 SMP Tue Aug 13 18:39:59 UTC 2019 x86_64
   x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

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: Load fences, usercopy/swapgs
                                           barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):         Mitigation: Full retpoline, IBPB

run-level 3 Aug 11 23:15
```

(Continued on next page)

NEC Corporation

SPECrate®2017_fp_base = 144

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Tested by: NEC Corporation

Test Date: Aug-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

Platform Notes (Continued)

```
  SPEC is set to: /home/cpu2017
     Filesystem      Type  Size  Used Avail Use% Mounted on
     /dev/sda3       ext4  908G  184G  678G  22% /

  From /sys/devices/virtual/dmi/id
      BIOS:    NEC U32 03/09/2020
      Vendor:  NEC
      Product: Express5800/R120h-1M
      Serial:  JPN0084094


  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:
      24x HPE P03050-091 16 GB 2 rank 2933


  (End of data from sysinfo program)
Regarding the sysinfo display about the memory speed, the correct configured
memory speed is 2400 MT/s. The dmidecode description should be as follows:
24x HPE P03050-091 16 GB 2 rank 2933, configured at 2400
```

Compiler Version Notes

```
==============================================================================
C                 | 519.lbm_r(base, peak) 538.imagick_r(base, peak)
                  | 544.nab_r(base, peak)
------------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C++               | 508.namd_r(base, peak) 510.parest_r(base, peak)
------------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C++, C            | 511.povray_r(base, peak) 526.blender_r(base, peak)
------------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
```

(Continued on next page)

NEC Corporation

SPECrate®2017_fp_base = 144

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Tested by: NEC Corporation

Test Date: Aug-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

Compiler Version Notes (Continued)

```
   Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------


==============================================================================
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
------------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran          | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak)
                 | 554.roms_r(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran, C       | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
```
icc -m64 -std=c11
```

(Continued on next page)

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_base = 144

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Tested by: NEC Corporation

Test Date: Aug-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

Base Compiler Invocation (Continued)

C++ benchmarks:
`icpc -m64`

Fortran benchmarks:
`ifort -m64`

Benchmarks using both Fortran and C:
`ifort -m64 icc -m64 -std=c11`

Benchmarks using both C and C++:
`icpc -m64 icc -m64 -std=c11`

Benchmarks using Fortran, C, and C++:
`icpc -m64 icc -m64 -std=c11 ifort -m64`

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:
`-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4`

C++ benchmarks:
`-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4`

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org) https://www.spec.org/

NEC Corporation

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_base = 144

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006　　　　　　　　　　　　　　　　　　**Test Date:** Aug-2020
Test Sponsor: NEC Corporation　　　　　　　　　　　　**Hardware Availability:** May-2020
Tested by: NEC Corporation　　　　　　　　　　　　**Software Availability:** Sep-2019

Base Optimization Flags (Continued)

Fortran benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs
-align array32byte
```

Benchmarks using both Fortran and C:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs
-align array32byte
```

Benchmarks using both C and C++:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4
```

Benchmarks using Fortran, C, and C++:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs
-align array32byte
```

Peak Compiler Invocation

C benchmarks:
```
icc -m64 -std=c11
```

C++ benchmarks:
```
icpc -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
ifort -m64 icc -m64 -std=c11
```

Benchmarks using both C and C++:
```
icpc -m64 icc -m64 -std=c11
```

Benchmarks using Fortran, C, and C++:
```
icpc -m64 icc -m64 -std=c11 ifort -m64
```

SPEC CPU®2017 Floating Point Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_base = 144

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Tested by: NEC Corporation

Test Date: Aug-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

519.lbm_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

538.imagick_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

544.nab_r: Same as 538.imagick_r

C++ benchmarks:

508.namd_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

510.parest_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

Fortran benchmarks:

503.bwaves_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte

549.fotonik3d_r: Same as 503.bwaves_r

554.roms_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs
-align array32byte

Benchmarks using both Fortran and C:
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs
-align array32byte

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

NEC Corporation

Express5800/R120h-1M (Intel Xeon Silver 4214R)

SPECrate®2017_fp_base = 144

SPECrate®2017_fp_peak = 152

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Tested by: NEC Corporation

Test Date: Aug-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

Peak Optimization Flags (Continued)

Benchmarks using both C and C++:

511.povray_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

526.blender_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

Benchmarks using Fortran, C, and C++:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs
-align array32byte

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic19.0u1-official-linux64.2019-07-09.html
http://www.spec.org/cpu2017/flags/NEC-Platform-Settings-V1.2-R120h-RevE.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic19.0u1-official-linux64.2019-07-09.xml
http://www.spec.org/cpu2017/flags/NEC-Platform-Settings-V1.2-R120h-RevE.xml

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

Tested with SPEC CPU®2017 v1.1.0 on 2020-08-11 10:21:31-0400.
Report generated on 2020-09-01 19:13:19 by CPU2017 PDF formatter v6255.
Originally published on 2020-09-01.