SPEC® CPU2017 Integer Rate Result

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Sugon
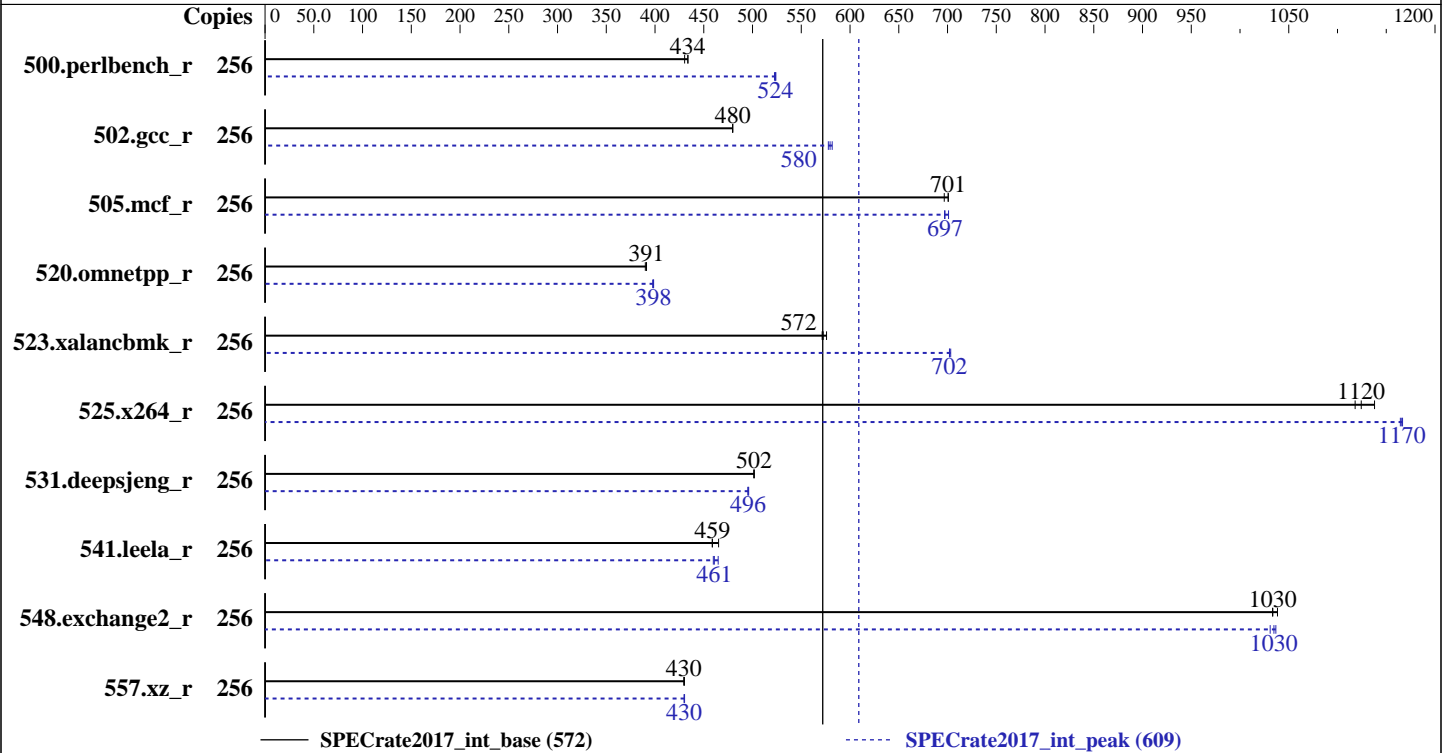
I980-G30 (Intel Xeon Platinum 8153)

SPECrate2017_int_base = 572

SPECrate2017_int_peak = 609

CPU2017 License: 9046

Test Sponsor: Sugon

Tested by: Sugon

Test Date: Jan-2019

Hardware Availability: Nov-2018

Software Availability: Apr-2019

Benchmark	Copies	base	peak
500.perlbench_r	256	434	524
502.gcc_r	256	480	580
505.mcf_r	256	701	697
520.omnetpp_r	256	391	398
523.xalancbmk_r	256	572	702
525.x264_r	256	1120	1170
531.deepsjeng_r	256	502	496
541.leela_r	256	459	461
548.exchange2_r	256	1030	1030
557.xz_r	256	430	430

SPECrate2017_int_base (572) — — — — SPECrate2017_int_peak (609)

Hardware

CPU Name: Intel Xeon Platinum 8153
 Max MHz.:   2800
 Nominal: 2000
Enabled: 128 cores, 8 chips, 2 threads/core
Orderable: 2,4,8 chips
Cache L1:   32 KB I + 32 KB D on chip per core
 L2:   1 MB I+D on chip per core
 L3:   22 MB I+D on chip per chip
 Other: None
Memory: 3 TB (96 x 32 GB 2Rx4 PC4-2666V-R)
Storage: 1.4 TB (4x 480GB SATA SSD, RAID5)
Other: None

Software

OS: SUSE Linux Enterprise Server 15
   4.12.14-25.25-default
Compiler: C/C++: Version 19.0.0.117 of Intel C/C++ Compiler
   for Linux Build 20180804;
   Fortran: Version 19.0.0.117 of Intel Fortran
   Compiler for Linux Build 20180804;
Parallel: No
Firmware: BIOS Version 0WDSL014 released Nov-2018
File System: btrfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other: jemalloc memory allocator V5.0.1

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

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Results Table

Benchmark	Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
500.perlbench_r	256	939	434	**940**	**434**	947	430	256	**778**	**524**	780	523	778	524
502.gcc_r	256	756	479	**756**	**480**	756	480	256	627	578	**626**	**580**	623	582
505.mcf_r	256	594	697	590	701	**590**	**701**	256	590	701	594	697	**593**	**697**
520.omnetpp_r	256	861	390	**859**	**391**	858	391	256	845	398	**843**	**398**	843	399
523.xalancbmk_r	256	**472**	**572**	473	571	469	576	256	385	702	**385**	**702**	384	703
525.x264_r	256	401	1120	394	1140	**399**	**1120**	256	**384**	**1170**	384	1170	385	1160
531.deepsjeng_r	256	585	501	**585**	**502**	585	502	256	**592**	**496**	591	496	592	495
541.leela_r	256	924	459	**924**	**459**	911	465	256	922	460	**920**	**461**	912	465
548.exchange2_r	256	649	1030	646	1040	**649**	**1030**	256	**648**	**1030**	647	1040	651	1030
557.xz_r	256	644	430	**643**	**430**	643	430	256	**643**	**430**	643	430	643	430

SPECrate2017_int_base = **572**

SPECrate2017_int_peak = **609**

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"

General Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/admin/benchmarks/cpu2017/lib/ia32:/home/admin/benchmarks/cpu2017/lib/
  intel64:/home/admin/benchmarks/cpu2017/je5.0.1-32:/home/admin/benchmarks/cpu2017/je5.0.1-64""
 Binaries compiled on a system with 1x Intel Core i9-799X 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.:
 numactl --interleave=all runcpu <etc>
Yes: 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)

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CPU2017 License: 9046   **Test Date:** Jan-2019
Test Sponsor: Sugon   **Hardware Availability:** Nov-2018
Tested by: Sugon   **Software Availability:** Apr-2019

General Notes (Continued)

```
is mitigated in the system as tested and documented.
 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
```

Platform Notes

```
BIOS Settings:
Intel Hyper Threading Technology set to Enabled
SNC set to Enabled
IMC Interleaving set to 1-way Interleave
Patrol Scrub set to Disabled
 Sysinfo program /home/admin/benchmarks/cpu2017/bin/sysinfo
 Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
 running on linux-xuei Tue Jan  8 11:30:07 2019

 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) Platinum 8153 CPU @ 2.00GHz
       8  "physical id"s (chips)
       256 "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 : 16
       siblings  : 32
       physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 4: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 5: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 6: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 7: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

 From lscpu:
       Architecture:        x86_64
       CPU op-mode(s):      32-bit, 64-bit
       Byte Order:          Little Endian
       CPU(s):              256
       On-line CPU(s) list: 0-255
       Thread(s) per core:  2
       Core(s) per socket:  16
       Socket(s):           8
```

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Platform Notes (Continued)

```
         NUMA node(s):          16
         Vendor ID:             GenuineIntel
         CPU family:            6
         Model:                 85
         Model name:            Intel(R) Xeon(R) Platinum 8153 CPU @ 2.00GHz
         Stepping:              4
         CPU MHz:               2000.000
         CPU max MHz:           2800.0000
         CPU min MHz:           1000.0000
         BogoMIPS:              4000.00
         Virtualization:        VT-x
         L1d cache:             32K
         L1i cache:             32K
         L2 cache:              1024K
         L3 cache:              22528K
         NUMA node0 CPU(s):     0-3,8-11,128-131,136-139
         NUMA node1 CPU(s):     4-7,12-15,132-135,140-143
         NUMA node2 CPU(s):     16-19,24-27,144-147,152-155
         NUMA node3 CPU(s):     20-23,28-31,148-151,156-159
         NUMA node4 CPU(s):     32-35,40-43,160-163,168-171
         NUMA node5 CPU(s):     36-39,44-47,164-167,172-175
         NUMA node6 CPU(s):     48-51,56-59,176-179,184-187
         NUMA node7 CPU(s):     52-55,60-63,180-183,188-191
         NUMA node8 CPU(s):     64-67,72-75,192-195,200-203
         NUMA node9 CPU(s):     68-71,76-79,196-199,204-207
         NUMA node10 CPU(s):    80-83,88-91,208-211,216-219
         NUMA node11 CPU(s):    84-87,92-95,212-215,220-223
         NUMA node12 CPU(s):    96-99,104-107,224-227,232-235
         NUMA node13 CPU(s):    100-103,108-111,228-231,236-239
         NUMA node14 CPU(s):    112-115,120-123,240-243,248-251
         NUMA node15 CPU(s):    116-119,124-127,244-247,252-255
         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 cdp_l3
     invpcid_single pti intel_ppin ssbd mba ibrs ibpb stibp 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 intel_pt avx512cd avx512bw avx512vl
     xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
     dtherm ida arat pln pts pku ospke flush_l1d

 /proc/cpuinfo cache data
    cache size : 22528 KB

 From numactl --hardware  WARNING: a numactl 'node' might or might not correspond to a
```

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Platform Notes (Continued)

```
 physical chip.
   available: 16 nodes (0-15)
   node 0 cpus: 0 1 2 3 8 9 10 11 128 129 130 131 136 137 138 139
   node 0 size: 192118 MB
   node 0 free: 191748 MB
   node 1 cpus: 4 5 6 7 12 13 14 15 132 133 134 135 140 141 142 143
   node 1 size: 193532 MB
   node 1 free: 193309 MB
   node 2 cpus: 16 17 18 19 24 25 26 27 144 145 146 147 152 153 154 155
   node 2 size: 193532 MB
   node 2 free: 193194 MB
   node 3 cpus: 20 21 22 23 28 29 30 31 148 149 150 151 156 157 158 159
   node 3 size: 193503 MB
   node 3 free: 193338 MB
   node 4 cpus: 32 33 34 35 40 41 42 43 160 161 162 163 168 169 170 171
   node 4 size: 193532 MB
   node 4 free: 193326 MB
   node 5 cpus: 36 37 38 39 44 45 46 47 164 165 166 167 172 173 174 175
   node 5 size: 193532 MB
   node 5 free: 193373 MB
   node 6 cpus: 48 49 50 51 56 57 58 59 176 177 178 179 184 185 186 187
   node 6 size: 193532 MB
   node 6 free: 193363 MB
   node 7 cpus: 52 53 54 55 60 61 62 63 180 181 182 183 188 189 190 191
   node 7 size: 193532 MB
   node 7 free: 193146 MB
   node 8 cpus: 64 65 66 67 72 73 74 75 192 193 194 195 200 201 202 203
   node 8 size: 193532 MB
   node 8 free: 193359 MB
   node 9 cpus: 68 69 70 71 76 77 78 79 196 197 198 199 204 205 206 207
   node 9 size: 193532 MB
   node 9 free: 193352 MB
   node 10 cpus: 80 81 82 83 88 89 90 91 208 209 210 211 216 217 218 219
   node 10 size: 193532 MB
   node 10 free: 193354 MB
   node 11 cpus: 84 85 86 87 92 93 94 95 212 213 214 215 220 221 222 223
   node 11 size: 193532 MB
   node 11 free: 193315 MB
   node 12 cpus: 96 97 98 99 104 105 106 107 224 225 226 227 232 233 234 235
   node 12 size: 193532 MB
   node 12 free: 193372 MB
   node 13 cpus: 100 101 102 103 108 109 110 111 228 229 230 231 236 237 238 239
   node 13 size: 193532 MB
   node 13 free: 193359 MB
   node 14 cpus: 112 113 114 115 120 121 122 123 240 241 242 243 248 249 250 251
   node 14 size: 193532 MB
   node 14 free: 193335 MB
```

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Platform Notes (Continued)

```
   node 15 cpus: 116 117 118 119 124 125 126 127 244 245 246 247 252 253 254 255
   node 15 size: 193530 MB
   node 15 free: 193365 MB
   node distances:
   node   0    1    2    3    4    5    6    7    8    9   10   11   12   13   14   15
     0:  10   20   20   20   20   20   20   20   20   20   20   20   20   20   20   20
     1:  20   10   20   20   20   20   20   20   20   20   20   20   20   20   20   20
     2:  20   20   10   20   20   20   20   20   20   20   20   20   20   20   20   20
     3:  20   20   20   10   20   20   20   20   20   20   20   20   20   20   20   20
     4:  20   20   20   20   10   20   20   20   20   20   20   20   20   20   20   20
     5:  20   20   20   20   20   10   20   20   20   20   20   20   20   20   20   20
     6:  20   20   20   20   20   20   10   20   20   20   20   20   20   20   20   20
     7:  20   20   20   20   20   20   20   10   20   20   20   20   20   20   20   20
     8:  20   20   20   20   20   20   20   20   10   20   20   20   20   20   20   20
     9:  20   20   20   20   20   20   20   20   20   10   20   20   20   20   20   20
    10:  20   20   20   20   20   20   20   20   20   20   10   20   20   20   20   20
    11:  20   20   20   20   20   20   20   20   20   20   20   10   20   20   20   20
    12:  20   20   20   20   20   20   20   20   20   20   20   20   10   20   20   20
    13:  20   20   20   20   20   20   20   20   20   20   20   20   20   10   20   20
    14:  20   20   20   20   20   20   20   20   20   20   20   20   20   20   10   20
    15:  20   20   20   20   20   20   20   20   20   20   20   20   20   20   20   10


 From /proc/meminfo
    MemTotal:       3169360568 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 From /etc/*release* /etc/*version*
    os-release:
       NAME="SLES"
       VERSION="15"
       VERSION_ID="15"
       PRETTY_NAME="SUSE Linux Enterprise Server 15"
       ID="sles"
       ID_LIKE="suse"
       ANSI_COLOR="0;32"
       CPE_NAME="cpe:/o:suse:sles:15"

 uname -a:
    Linux linux-xuei 4.12.14-25.25-default #1 SMP Thu Oct 25 16:07:27 UTC 2018 (d2d8b17)
    x86_64 x86_64 x86_64 GNU/Linux

 Kernel self-reported vulnerability status:

 CVE-2017-5754 (Meltdown):          Mitigation: PTI
 CVE-2017-5753 (Spectre variant 1): Mitigation: __user pointer sanitization
 CVE-2017-5715 (Spectre variant 2): Mitigation: Indirect Branch Restricted Speculation,
```

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CPU2017 License:	9046	**Test Date:**	Jan-2019
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Tested by:	Sugon	**Software Availability:**	Apr-2019

Platform Notes (Continued)

```
  IBPB, IBRS_FW

  run-level 3 Jan 8 11:27

  SPEC is set to: /home/admin/benchmarks/cpu2017
    Filesystem      Type   Size   Used Avail Use% Mounted on
    /dev/sda2       btrfs  1.4T   210G  1.2T  16% /home

  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.
    BIOS American Megatrends Inc. 0WDSL014 11/12/2018
    Memory:
     96x Samsung M393A4K40CB2-CTD 32 GB 2 rank 2666

  (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
  CC   502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler for applications running on IA-32, Version
  19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
  CC   500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
        525.x264_r(base, peak) 557.xz_r(base, peak)
------------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
  CC   500.perlbench_r(peak)
------------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
```

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Software Availability: Apr-2019

Compiler Version Notes (Continued)

```
CXXC 523.xalancbmk_r(peak)
--------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on IA-32, Version
  19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
--------------------------------------------------------------------------


==========================================================================
 CXXC 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base)
      541.leela_r(base)
--------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
--------------------------------------------------------------------------


==========================================================================
CXXC 520.omnetpp_r(peak) 531.deepsjeng_r(peak) 541.leela_r(peak)
--------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
--------------------------------------------------------------------------


==========================================================================
 FC  548.exchange2_r(base, peak)
--------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.0.0.117 Build 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
--------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
icc -m64 -std=c11

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

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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:
`-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc`

C++ benchmarks:
`-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc`

Fortran benchmarks:
`-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte`
`-L/usr/local/je5.0.1-64/lib -ljemalloc`

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc -m64 -std=c11`

502.gcc_r: `icc -m32 -std=c11 -L/usr/local/IntelCompiler19/compilers_and_libraries_2019.0.117/linux/compiler/lib/ia32_lin`

C++ benchmarks (except as noted below):
`icpc -m64`

523.xalancbmk_r: `icpc -m32 -L/usr/local/IntelCompiler19/compilers_and_libraries_2019.0.117/linux/compiler/lib/ia32_lin`

Fortran benchmarks:
`ifort -m64`

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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: `-D_FILE_OFFSET_BITS=64 -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`

Peak Optimization Flags

C benchmarks:

500.perlbench_r: `-Wl,-z,muldefs` -prof-gen(pass 1) -prof-use(pass 2) `-ipo`
`-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3`
`-fno-strict-overflow -L/usr/local/je5.0.1-64/lib`
`-ljemalloc`

502.gcc_r: `-Wl,-z,muldefs` -prof-gen(pass 1) -prof-use(pass 2) `-ipo`
`-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3`
`-L/usr/local/je5.0.1-32/lib -ljemalloc`

505.mcf_r: `-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib`
`-ljemalloc`

525.x264_r: `-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=3 -fno-alias`
`-L/usr/local/je5.0.1-64/lib -ljemalloc`

557.xz_r: `Same as 505.mcf_r`

C++ benchmarks:

520.omnetpp_r: `-Wl,-z,muldefs` -prof-gen(pass 1) -prof-use(pass 2) `-ipo`
`-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3`
`-L/usr/local/je5.0.1-64/lib -ljemalloc`

523.xalancbmk_r: `-Wl,-z,muldefs` -prof-gen(pass 1) -prof-use(pass 2) `-ipo`
`-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3`
`-L/usr/local/je5.0.1-32/lib -ljemalloc`

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

Sugon

I980-G30 (Intel Xeon Platinum 8153)

SPECrate2017_int_base = 572

SPECrate2017_int_peak = 609

Peak Optimization Flags (Continued)

531.deepsjeng_r: `Same as 520.omnetpp_r`

541.leela_r: `Same as 520.omnetpp_r`

Fortran benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

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

http://www.spec.org/cpu2017/flags/Intel-ic19.0-official-linux64.2019-01-15.html
http://www.spec.org/cpu2017/flags/Sugon-Platform-Settings-revC-I.html

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

http://www.spec.org/cpu2017/flags/Intel-ic19.0-official-linux64.2019-01-15.xml
http://www.spec.org/cpu2017/flags/Sugon-Platform-Settings-revC-I.xml

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

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