SPEC® CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920
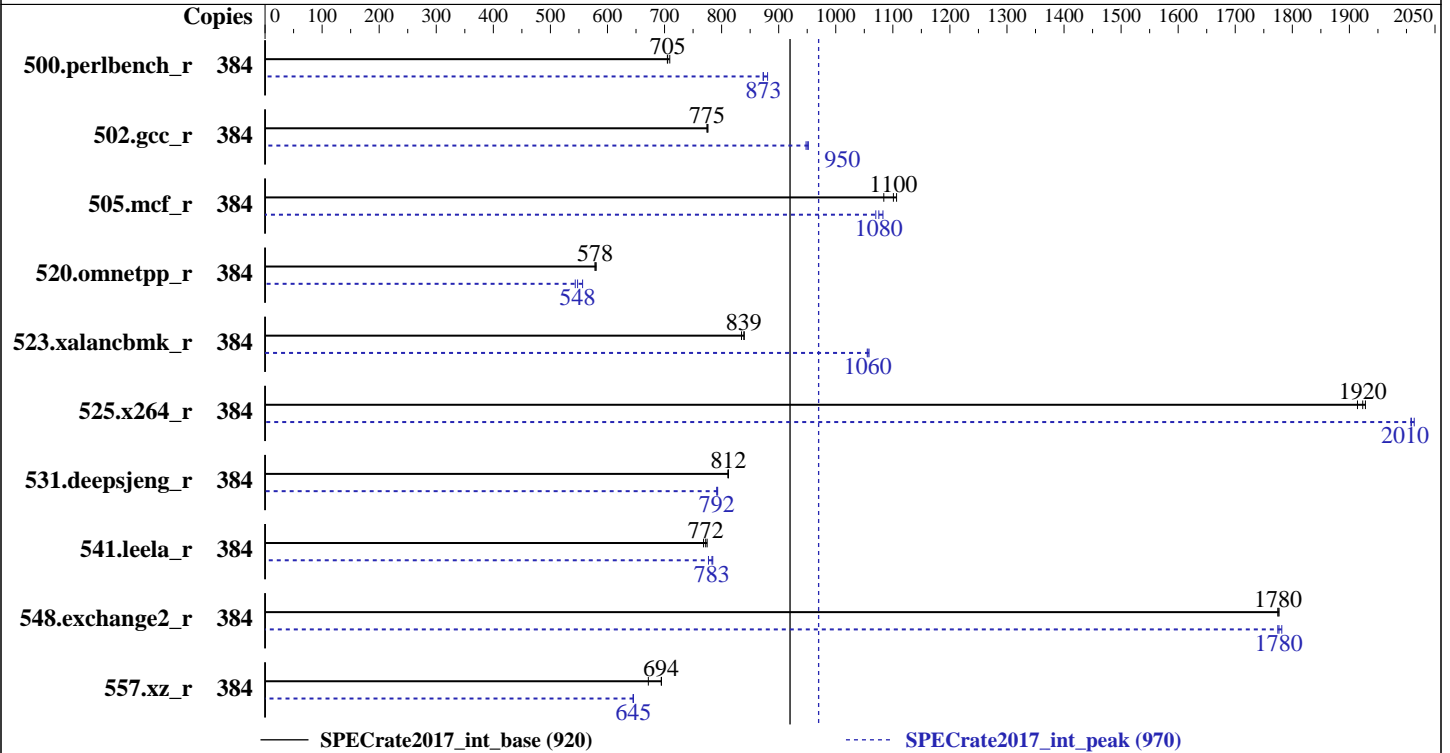
SPECrate2017_int_peak = 970

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Dec-2017
Hardware Availability: Sep-2017
Software Availability: Sep-2017

Benchmark	Copies	base	peak
500.perlbench_r	384	705	873
502.gcc_r	384	775	950
505.mcf_r	384	1100	1080
520.omnetpp_r	384	578	548
523.xalancbmk_r	384	839	1060
525.x264_r	384	1920	2010
531.deepsjeng_r	384	812	792
541.leela_r	384	772	783
548.exchange2_r	384	1780	1780
557.xz_r	384	694	645

SPECrate2017_int_base (920)   SPECrate2017_int_peak (970)

Hardware

CPU Name: Intel Xeon Platinum 8160M
 Max MHz.: 3700
 Nominal: 2100
Enabled: 192 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: 33 MB I+D on chip per chip
 Other: None
Memory: 3 TB (96 x 32 GB 2Rx4 PC4-2666V-R)
Storage: 800 GB tmpfs
Other: None

Software

OS: SUSE Linux Enterprise Server 12 SP2 (x86_64)
 Kernel 4.4.21-69-default
Compiler: C/C++: Version 18.0.0.128 of Intel C/C++
 Compiler for Linux;
 Fortran: Version 18.0.0.128 of Intel Fortran
 Compiler for Linux
Parallel: No
Firmware: Lenovo BIOS Version PSE105X 1.00 released Aug-2017
File System: tmpfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other: jemalloc: jemalloc memory allocator library
 V5.0.1;
 jemalloc: configured and built at default for
 32bit (i686) and 64bit (x86_64) targets;
 jemalloc: built with the RedHat Enterprise 7.4,
 and the system compiler gcc 4.8.5;
 jemalloc: sources avilable from jemalloc.net or
 releases

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

SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Dec-2017
Hardware Availability: Sep-2017
Software Availability: Sep-2017

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	384	867	705	**867**	**705**	862	709	384	694	881	700	873	**700**	**873**
502.gcc_r	384	701	776	**702**	**775**	702	774	384	574	948	571	952	**572**	**950**
505.mcf_r	384	**564**	**1100**	561	1110	572	1080	384	573	1080	580	1070	**577**	**1080**
520.omnetpp_r	384	871	578	**871**	**578**	868	580	384	905	556	927	544	**920**	**548**
523.xalancbmk_r	384	486	835	**483**	**839**	483	840	384	383	1060	384	1060	**384**	**1060**
525.x264_r	384	351	1910	349	1930	**350**	**1920**	384	335	2010	334	2010	**335**	**2010**
531.deepsjeng_r	384	542	812	**542**	**812**	543	811	384	555	793	556	792	**556**	**792**
541.leela_r	384	828	768	821	775	**824**	**772**	384	**812**	**783**	811	784	818	777
548.exchange2_r	384	**567**	**1780**	567	1770	566	1780	384	567	1770	**566**	**1780**	565	1780
557.xz_r	384	597	695	**597**	**694**	618	672	384	642	646	643	645	**643**	**645**
SPECrate2017_int_base =		**920**												
SPECrate2017_int_peak =		**970**												

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"
Tmpfs filesystem can be set with:
 mount -t tmpfs -o size=800g tmpfs /home
Process tuning setting:
 echo 50000      > /proc/sys/kernel/sched_cfs_bandwidth_slice_us
 echo 240000000 > /proc/sys/kernel/sched_latency_ns
 echo 5000000   > /proc/sys/kernel/sched_migration_cost_ns
 echo 100000000 > /proc/sys/kernel/sched_min_granularity_ns
 echo 150000000 > /proc/sys/kernel/sched_wakeup_granularity_ns
```

General Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2017.1.0.2.ic18.0/lib/ia32:/home/cpu2017.1.0.2.ic18.0/lib/intel64"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/cpu2017.1.0.2.ic18.0/je5.0.1-32:/home/cpu2017.1.0.2.ic18.0/je5.0.1-64"
 Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
 memory using Redhat Enterprise Linux 7.4
 Transparent Huge Pages enabled by default
 Prior to runcpu invocation
 Filesystem page cache synced and cleared with:
```

(Continued on next page)

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

SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Dec-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

General Notes (Continued)

```
 sync; echo 3>          /proc/sys/vm/drop_caches
 runcpu command invoked through numactl i.e.:
 numactl --interleave=all runcpu <etc>
```

Platform Notes

```
BIOS configuration:
Choose Operating Mode set to Maximum Performance
SNC set to Enable
DCU Streamer Prefetcher set to Disable
MONITORMWAIT set to Enable
Execute Disable Bit set to Disable
Trusted Execution Technology set to Enable
Per Core Pstate set to Disable
XPT Prefetcher set to Enable
Stale AtoS set to Enable
LLC Deadline Alloc set to Enable
 Sysinfo program /home/cpu2017.1.0.2.ic18.0/bin/sysinfo
 Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
 running on linux-boxi Mon Dec 18 04:52:01 2017

 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 8160M CPU @ 2.10GHz
       8  "physical id"s (chips)
       384 "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 : 24
       siblings  : 48
       physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
       physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
       physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
       physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
       physical 4: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
       physical 5: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
       physical 6: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
       physical 7: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29

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

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

Lenovo Global Technology

SPECrate2017_int_base = 920

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_peak = 970

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Dec-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

Platform Notes (Continued)

```
CPU(s):                384
On-line CPU(s) list:   0-383
Thread(s) per core:    2
Core(s) per socket:    24
Socket(s):             8
NUMA node(s):          16
Vendor ID:             GenuineIntel
CPU family:            6
Model:                 85
Model name:            Intel(R) Xeon(R) Platinum 8160M CPU @ 2.10GHz
Stepping:              4
CPU MHz:               2095.080
BogoMIPS:              4190.16
Virtualization:        VT-x
L1d cache:             32K
L1i cache:             32K
L2 cache:              1024K
L3 cache:              33792K
NUMA node0 CPU(s):     0-2,6-8,12-14,18-20,192-194,198-200,204-206,210-212
NUMA node1 CPU(s):     3-5,9-11,15-17,21-23,195-197,201-203,207-209,213-215
NUMA node2 CPU(s):     24-26,30-32,36-38,42-44,216-218,222-224,228-230,234-236
NUMA node3 CPU(s):     27-29,33-35,39-41,45-47,219-221,225-227,231-233,237-239
NUMA node4 CPU(s):     48-50,54-56,60-62,66-68,240-242,246-248,252-254,258-260
NUMA node5 CPU(s):     51-53,57-59,63-65,69-71,243-245,249-251,255-257,261-263
NUMA node6 CPU(s):     72-74,78-80,84-86,90-92,264-266,270-272,276-278,282-284
NUMA node7 CPU(s):     75-77,81-83,87-89,93-95,267-269,273-275,279-281,285-287
NUMA node8 CPU(s):     96-98,102-104,108-110,114-116,288-290,294-296,300-302,306-308
NUMA node9 CPU(s):
99-101,105-107,111-113,117-119,291-293,297-299,303-305,309-311
NUMA node10 CPU(s):
120-122,126-128,132-134,138-140,312-314,318-320,324-326,330-332
NUMA node11 CPU(s):
123-125,129-131,135-137,141-143,315-317,321-323,327-329,333-335
NUMA node12 CPU(s):
144-146,150-152,156-158,162-164,336-338,342-344,348-350,354-356
NUMA node13 CPU(s):
147-149,153-155,159-161,165-167,339-341,345-347,351-353,357-359
NUMA node14 CPU(s):
168-170,174-176,180-182,186-188,360-362,366-368,372-374,378-380
NUMA node15 CPU(s):
171-173,177-179,183-185,189-191,363-365,369-371,375-377,381-383
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 ida arat epb pln pts dtherm intel_pt
```

(Continued on next page)

SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Dec-2017
Hardware Availability: Sep-2017
Software Availability: Sep-2017

Platform Notes (Continued)

```
     tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2
     erms invpcid rtm cqm mpx avx512f avx512dq rdseed adx smap clflushopt clwb avx512cd
     avx512bw avx512vl xsaveopt xsavec xgetbv1 cqm_llc cqm_occup_llc

 /proc/cpuinfo cache data
    cache size : 33792 KB

 From numactl --hardware  WARNING: a numactl 'node' might or might not correspond to a
 physical chip.
    available: 16 nodes (0-15)
    node 0 cpus: 0 1 2 6 7 8 12 13 14 18 19 20 192 193 194 198 199 200 204 205 206 210 211
    212
    node 0 size: 192984 MB
    node 0 free: 192131 MB
    node 1 cpus: 3 4 5 9 10 11 15 16 17 21 22 23 195 196 197 201 202 203 207 208 209 213
    214 215
    node 1 size: 193528 MB
    node 1 free: 184509 MB
    node 2 cpus: 24 25 26 30 31 32 36 37 38 42 43 44 216 217 218 222 223 224 228 229 230
    234 235 236
    node 2 size: 193528 MB
    node 2 free: 193011 MB
    node 3 cpus: 27 28 29 33 34 35 39 40 41 45 46 47 219 220 221 225 226 227 231 232 233
    237 238 239
    node 3 size: 193528 MB
    node 3 free: 188000 MB
    node 4 cpus: 48 49 50 54 55 56 60 61 62 66 67 68 240 241 242 246 247 248 252 253 254
    258 259 260
    node 4 size: 193528 MB
    node 4 free: 193012 MB
    node 5 cpus: 51 52 53 57 58 59 63 64 65 69 70 71 243 244 245 249 250 251 255 256 257
    261 262 263
    node 5 size: 193528 MB
    node 5 free: 193017 MB
    node 6 cpus: 72 73 74 78 79 80 84 85 86 90 91 92 264 265 266 270 271 272 276 277 278
    282 283 284
    node 6 size: 193528 MB
    node 6 free: 193014 MB
    node 7 cpus: 75 76 77 81 82 83 87 88 89 93 94 95 267 268 269 273 274 275 279 280 281
    285 286 287
    node 7 size: 193528 MB
    node 7 free: 193030 MB
    node 8 cpus: 96 97 98 102 103 104 108 109 110 114 115 116 288 289 290 294 295 296 300
    301 302 306 307 308
    node 8 size: 193528 MB
    node 8 free: 192930 MB
    node 9 cpus: 99 100 101 105 106 107 111 112 113 117 118 119 291 292 293 297 298 299 303
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Dec-2017
Hardware Availability: Sep-2017
Software Availability: Sep-2017

Platform Notes (Continued)

```
     304 305 309 310 311
     node 9 size: 193528 MB
     node 9 free: 193018 MB
     node 10 cpus: 120 121 122 126 127 128 132 133 134 138 139 140 312 313 314 318 319 320
     324 325 326 330 331 332
     node 10 size: 193528 MB
     node 10 free: 193019 MB
     node 11 cpus: 123 124 125 129 130 131 135 136 137 141 142 143 315 316 317 321 322 323
     327 328 329 333 334 335
     node 11 size: 193528 MB
     node 11 free: 192983 MB
     node 12 cpus: 144 145 146 150 151 152 156 157 158 162 163 164 336 337 338 342 343 344
     348 349 350 354 355 356
     node 12 size: 193528 MB
     node 12 free: 193009 MB
     node 13 cpus: 147 148 149 153 154 155 159 160 161 165 166 167 339 340 341 345 346 347
     351 352 353 357 358 359
     node 13 size: 193528 MB
     node 13 free: 193010 MB
     node 14 cpus: 168 169 170 174 175 176 180 181 182 186 187 188 360 361 362 366 367 368
     372 373 374 378 379 380
     node 14 size: 193528 MB
     node 14 free: 192928 MB
     node 15 cpus: 171 172 173 177 178 179 183 184 185 189 190 191 363 364 365 369 370 371
     375 376 377 381 382 383
     node 15 size: 193523 MB
     node 15 free: 193019 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
```

(Continued on next page)

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

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Dec-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

Platform Notes (Continued)

```
    MemTotal:       3170207908 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 From /etc/*release* /etc/*version*
    SuSE-release:
       SUSE Linux Enterprise Server 12 (x86_64)
       VERSION = 12
       PATCHLEVEL = 2
       # This file is deprecated and will be removed in a future service pack or release.
       # Please check /etc/os-release for details about this release.
    os-release:
       NAME="SLES"
       VERSION="12-SP2"
       VERSION_ID="12.2"
       PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
       ID="sles"
       ANSI_COLOR="0;32"
       CPE_NAME="cpe:/o:suse:sles:12:sp2"

 uname -a:
    Linux linux-boxi 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016 (9464f67)
    x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 Dec 18 04:47

 SPEC is set to: /home/cpu2017.1.0.2.ic18.0
    Filesystem      Type   Size  Used Avail Use% Mounted on
    tmpfs           tmpfs  800G   11G  790G   2% /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 Lenovo -[PSE105X-1.00]- 08/17/2017
   Memory:
    96x Samsung M393A4K40BB2-CTD 32 GB 2 rank 2666

 (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
  CC  500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
      525.x264_r(base, peak) 557.xz_r(base, peak)
------------------------------------------------------------------------------
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Dec-2017
Hardware Availability: Sep-2017
Software Availability: Sep-2017

Compiler Version Notes (Continued)

```
icc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------


==============================================================================
CC   500.perlbench_r(peak) 502.gcc_r(peak)
------------------------------------------------------------------------
icc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------


==============================================================================
 CXXC 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base)
      541.leela_r(base)
------------------------------------------------------------------------
icpc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------


==============================================================================
CXXC 520.omnetpp_r(peak) 523.xalancbmk_r(peak) 531.deepsjeng_r(peak)
      541.leela_r(peak)
------------------------------------------------------------------------
icpc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------


==============================================================================
 FC  548.exchange2_r(base, peak)
------------------------------------------------------------------------
ifort (IFORT) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Dec-2017
Hardware Availability: Sep-2017
Software Availability: Sep-2017

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

Base Other Flags

C benchmarks:
-m64 -std=c11

C++ benchmarks:
-m64

Fortran benchmarks:
-m64

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

SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Dec-2017
Hardware Availability: Sep-2017
Software Availability: Sep-2017

Peak Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Fortran benchmarks:
`ifort`

Peak Portability Flags

500.perlbench_r: `-DSPEC_LP64 -DSPEC_LINUX_X64`
502.gcc_r: `-D_FILE_OFFSET_BITS=64`
505.mcf_r: `-DSPEC_LP64`
520.omnetpp_r: `-DSPEC_LP64`
523.xalancbmk_r: `-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: `-L/opt/intel/compilers_and_libraries_2018/linux/lib/ia32 -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`

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Dec-2017
Hardware Availability: Sep-2017
Software Availability: Sep-2017

Peak Optimization Flags (Continued)

525.x264_r (continued):
`-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: `-L/opt/intel/compilers_and_libraries_2018/linux/lib/ia32`
`-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`

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`

Peak Other Flags

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

502.gcc_r: `-m32 -std=c11`

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

523.xalancbmk_r: `-m32`

Fortran benchmarks:
`-m64`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.html
http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-A.html

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

SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.10 GHz, Intel Xeon Platinum 8160M)

SPECrate2017_int_base = 920

SPECrate2017_int_peak = 970

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Dec-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

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

http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.xml
http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-A.xml

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

Tested with SPEC CPU2017 v1.0.2 on 2017-12-17 15:52:00-0500.
Report generated on 2018-10-31 17:04:10 by CPU2017 PDF formatter v6067.
Originally published on 2018-01-10.