



SPEC® CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

CPU2017 License: 9017

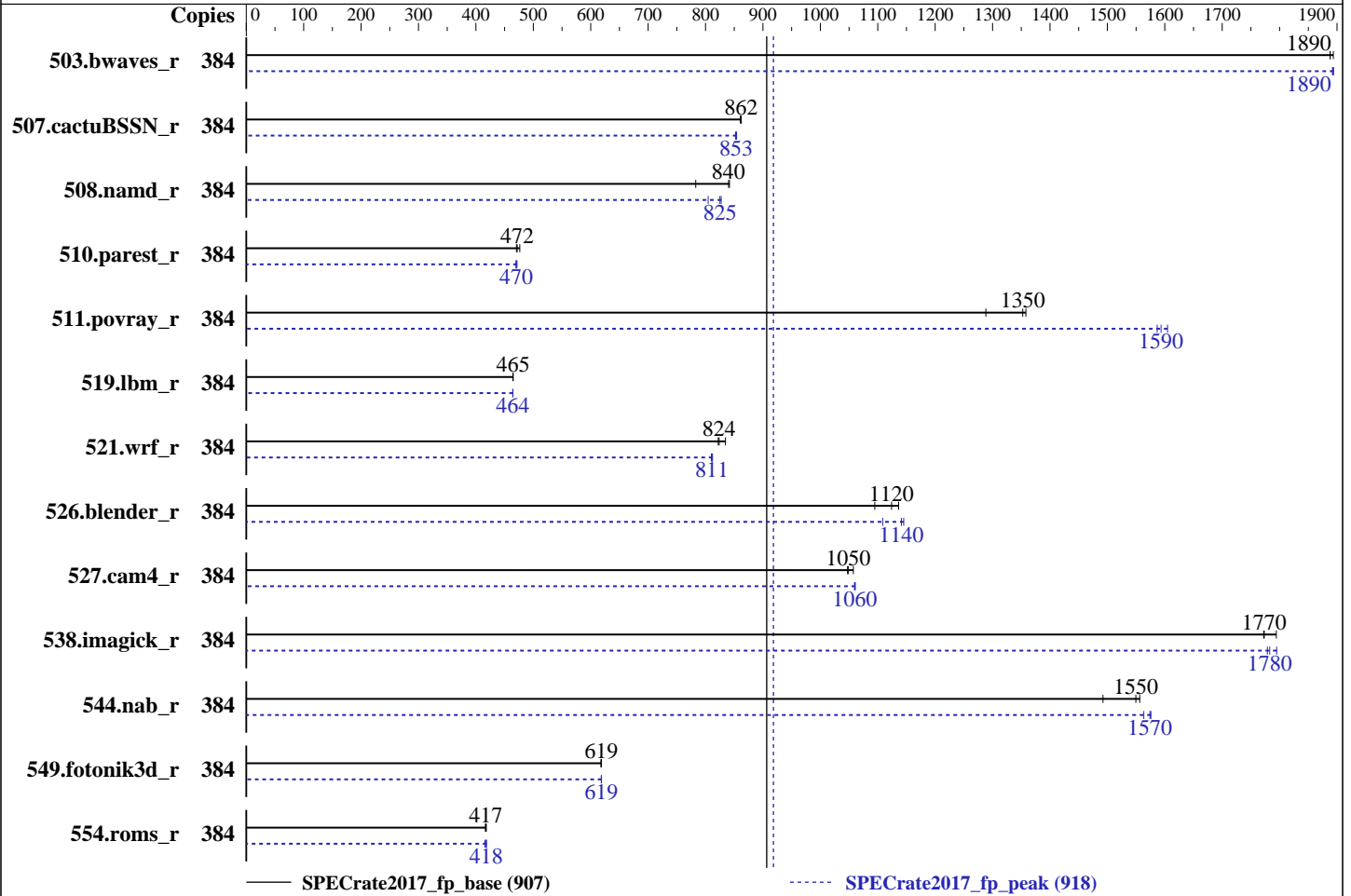
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Dec-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017



Hardware

CPU Name: Intel Xeon Platinum 8168
 Max MHz.: 3700
 Nominal: 2700
 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: 64-bit
 Other: None



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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
503.bwaves_r	384	2039	1890	2034	1890	2040	1890	384	2033	1890	2035	1890	2035	1890
507.cactuBSSN_r	384	564	862	565	861	564	862	384	569	854	570	852	570	853
508.namd_r	384	434	840	466	783	433	842	384	441	827	453	805	442	825
510.parest_r	384	2108	476	2129	472	2134	471	384	2138	470	2135	470	2130	472
511.povray_r	384	663	1350	660	1360	696	1290	384	565	1590	559	1600	563	1590
519.lbm_r	384	871	465	871	465	871	464	384	872	464	871	465	871	464
521.wrf_r	384	1030	835	1046	822	1044	824	384	1059	812	1062	810	1060	811
526.blender_r	384	520	1120	534	1090	515	1140	384	511	1150	528	1110	512	1140
527.cam4_r	384	635	1060	641	1050	641	1050	384	633	1060	634	1060	634	1060
538.imagick_r	384	539	1770	532	1790	539	1770	384	537	1780	536	1780	532	1790
544.nab_r	384	417	1550	415	1560	433	1490	384	413	1560	410	1580	411	1570
549.fotonik3d_r	384	2419	619	2423	618	2419	619	384	2419	619	2420	618	2419	619
554.roms_r	384	1462	417	1465	417	1459	418	384	1458	418	1468	416	1460	418

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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)

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>

Platform Notes

BIOS configuration:
Choose Operating Mode set to Maximum Performance
SNC set to Enable
Hardware Prefetcher set to Disable
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 Sat Dec 9 18:02:24 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 8168 CPU @ 2.70GHz
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

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECrate2017_fp_base = 907

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_peak = 918

CPU2017 License: 9017

Test Date: Dec-2017

Test Sponsor: Lenovo Global Technology

Hardware Availability: Sep-2017

Tested by: Lenovo Global Technology

Software Availability: Sep-2017

Platform Notes (Continued)

From lscpu:

```

Architecture:          x86_64
CPU op-mode(s):       32-bit, 64-bit
Byte Order:           Little Endian
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 8168 CPU @ 2.70GHz
Stepping:             4
CPU MHz:              2693.669
BogoMIPS:             5387.33
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

```

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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)

```

lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc
aperfmpperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 sse3 sdbg
fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
xsave avx fl6c rdrand lahf_lm abm 3dnowprefetch ida arat epb pln pts dtherm intel_pt
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: 192389 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: 192986 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: 192924 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: 188004 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: 193008 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: 184456 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: 193022 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: 193020 MB
node 8 cpus: 96 97 98 102 103 104 108 109 110 114 115 116 288 289 290 294 295 296 300

```

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECrate2017_fp_base = 907

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_peak = 918

CPU2017 License: 9017

Test Date: Dec-2017

Test Sponsor: Lenovo Global Technology

Hardware Availability: Sep-2017

Tested by: Lenovo Global Technology

Software Availability: Sep-2017

Platform Notes (Continued)

```

301 302 306 307 308
node 8 size: 193528 MB
node 8 free: 192919 MB
node 9 cpus: 99 100 101 105 106 107 111 112 113 117 118 119 291 292 293 297 298 299 303
304 305 309 310 311
node 9 size: 193528 MB
node 9 free: 193011 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: 192988 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: 193025 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: 193029 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: 192841 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: 193019 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

```

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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)

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: 3170207936 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 9 18:00

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)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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

=====
CC 519.lbm_r(base) 538.imagick_r(base, peak) 544.nab_r(base)

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

=====
CC 519.lbm_r(peak) 544.nab_r(peak)

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

=====
CXXC 508.namd_r(base) 510.parest_r(base)

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

=====
CXXC 508.namd_r(peak) 510.parest_r(peak)

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

=====
CC 511.povray_r(base) 526.blender_r(base)

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

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

=====
CC 511.povray_r(peak) 526.blender_r(peak)

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

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

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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)

FC 507.cactuBSSN_r(base)

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

=====
FC 507.cactuBSSN_r(peak)

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

=====
FC 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base)

ifort (IFORT) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====
FC 554.roms_r(peak)

ifort (IFORT) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====
CC 521.wrf_r(base) 527.cam4_r(base)

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

=====
CC 521.wrf_r(peak) 527.cam4_r(peak)

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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)

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

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

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



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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 Optimization Flags

C benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3
```

Fortran benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -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=3 -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=3
```

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
```

Base Other Flags

C benchmarks:

```
-m64 -std=c11
```

C++ benchmarks:

```
-m64
```

Fortran benchmarks:

```
-m64
```

Benchmarks using both Fortran and C:

```
-m64 -std=c11
```

Benchmarks using both C and C++:

```
-m64 -std=c11
```

Benchmarks using Fortran, C, and C++:

```
-m64 -std=c11
```



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

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=3

538.imagick_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3

544.nab_r: Same as 519.lbm_r

C++ benchmarks:

-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3

Fortran benchmarks:

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECrate2017_fp_base = 907

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_peak = 918

CPU2017 License: 9017

Test Date: Dec-2017

Test Sponsor: Lenovo Global Technology

Hardware Availability: Sep-2017

Tested by: Lenovo Global Technology

Software Availability: Sep-2017

Peak Optimization Flags (Continued)

503.bwaves_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3
-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=3 -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=3 -nostandard-realloc-lhs -align array32byte

Benchmarks using both C 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=3

Benchmarks using Fortran, C, 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=3 -nostandard-realloc-lhs -align array32byte

Peak Other Flags

C benchmarks:

-m64 -std=c11

C++ benchmarks:

-m64

Fortran benchmarks:

-m64

Benchmarks using both Fortran and C:

-m64 -std=c11

Benchmarks using both C and C++:

-m64 -std=c11

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR950
(2.70 GHz, Intel Xeon Platinum 8168)

SPECrate2017_fp_base = 907

SPECrate2017_fp_peak = 918

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 Other Flags (Continued)

Benchmarks using Fortran, C, and C++:

-m64 -std=c11

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>

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>

SPEC is a registered trademark 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 CPU2017 v1.0.2 on 2017-12-09 05:02:24-0500.

Report generated on 2018-10-31 13:10:07 by CPU2017 PDF formatter v6067.

Originally published on 2017-12-26.