



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

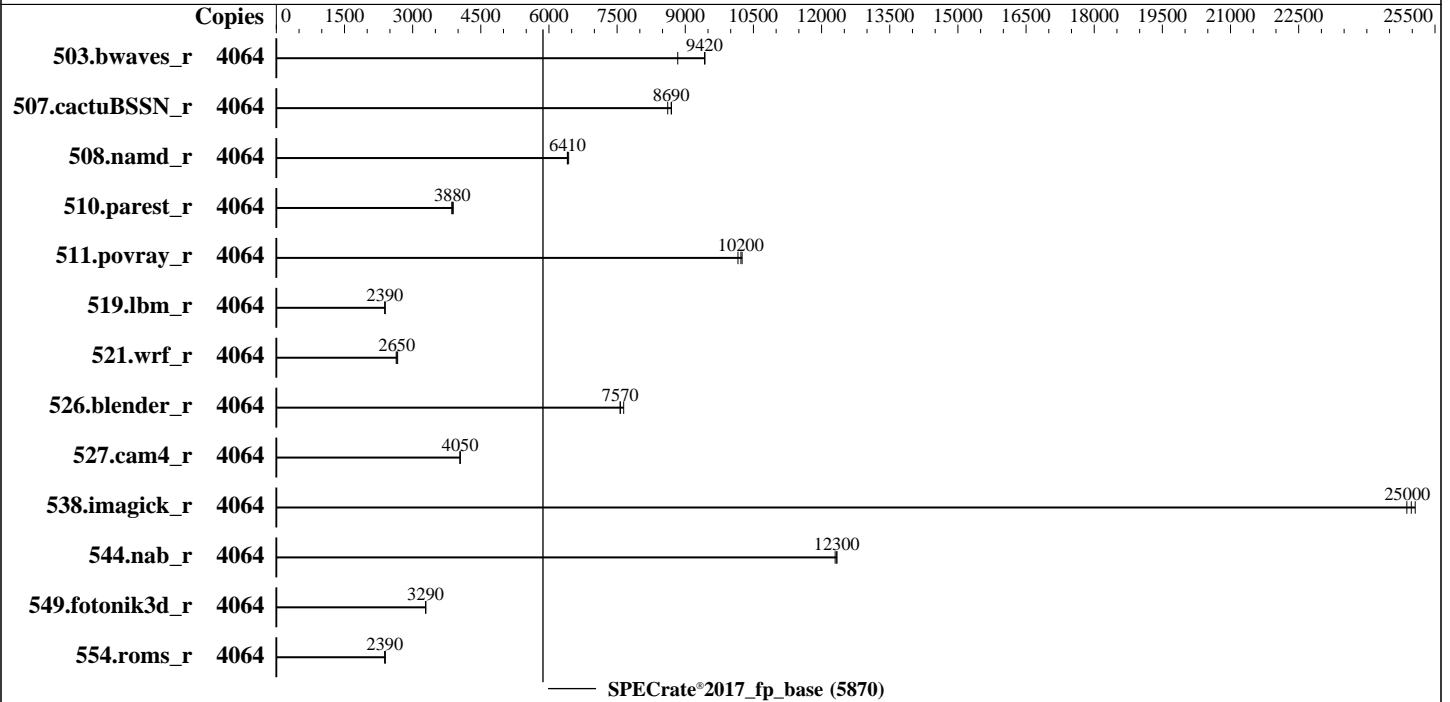
vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019



Hardware

CPU Name: AMD EPYC 7702
 Max MHz: 3350
 Nominal: 2000
 Enabled: 2048 cores, 32 chips, 2 threads/core
 Orderable: 1-32 chips
 Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 512 KB I+D on chip per core
 L3: 256 MB I+D on chip per chip, 16 MB shared / 4 cores
 Other: None
 Memory: 8 TB (256 x 32 GB 2Rx4 PC4-2667V-L)

Storage: 8 TB ramfs
 Other: ScaleMP vSMP Foundation aggregates multiple servers into one shared-memory system.
 Hardware Details:
 vSMP System was aggregated using 16 units of Supermicro A+ Server 2123BT-HNC0R.
 The servers were connected using Mellanox InfiniBand EDR fabric.

Software

OS: SUSE Linux Enterprise Server 15 SP1, kernel version 4.12.14-197.21.1.vSMP.2-default
 Compiler: C/C++/Fortran: Version 2.0.0 of AOCC
 Parallel: No
 Firmware: ScaleMP vSMP Foundation version 9.5.195.18 released Dec-2019
 File System: ramfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: Not Applicable
 Other: jemalloc: jemalloc memory allocator library v5.2.1
 Power Management: --



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Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
503.bwaves_r	4064	4613	8830	4320	9430	4325	9420									
507.cactuBSSN_r	4064	597	8610	592	8690	592	8700									
508.namd_r	4064	603	6400	602	6410	600	6430									
510.parest_r	4064	2753	3860	2730	3890	2744	3880									
511.povray_r	4064	928	10200	934	10200	926	10300									
519.lbm_r	4064	1791	2390	1794	2390	1790	2390									
521.wrf_r	4064	3451	2640	3431	2650	3410	2670									
526.blender_r	4064	810	7640	818	7570	818	7570									
527.cam4_r	4064	1758	4040	1756	4050	1756	4050									
538.imagick_r	4064	405	25000	406	24900	403	25100									
544.nab_r	4064	554	12300	556	12300	555	12300									
549.fotonik3d_r	4064	4818	3290	4818	3290	4819	3290									
554.roms_r	4064	2693	2400	2707	2390	2702	2390									

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Notes

The AMD64 AOCC Compiler Suite is available at
<http://developer.amd.com/amd-aocc/>

Submit Notes

The config file option 'submit' was used.
'numactl' was used to bind copies to the cores.
See the configuration file for details.

Operating System Notes

'ulimit -s unlimited' was used to set environment stack size
'ulimit -l 2097152' was used to set environment locked pages in memory limit

runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>

Set dirty_ratio=8 to limit dirty cache to 8% of memory
Set swappiness=1 to swap only if necessary
Set zone_reclaim_mode=1 to free local node memory and avoid remote memory
sync then drop_caches=3 to reset caches before invoking runcpu
Set numa_stat=0 to improve page allocation performance

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Operating System Notes (Continued)

Set stat_interval=60 to reduce OS jitter

dirty_ratio, swappiness, zone_reclaim_mode, drop_caches, numa_stat and stat_interval were all set using privileged echo (e.g. echo 1 > /proc/sys/vm/swappiness).

Transparent huge pages set to 'always' for this run (OS default)

Kernel Boot Parameter set with : nohz_full=!0

Environment Variables Notes

Environment variables set by runcpu before the start of the run:

```
LD_LIBRARY_PATH =
"/dev/shm/amd_rate_aocc200_rome_C_lib/64;/dev/shm/amd_rate_aocc200_rome_
C_lib/32:/usr/local/lib:/usr/lib:/usr/lib64:/mnt/aocc-compiler-2.0.0/lib
:/mnt/aocc-compiler-2.0.0/lib32:"
MALLOCCONF = "retain:true,metadata_thp:always,thp:always,dirty_decay_ms:-1"
```

General Notes

Environment variables set by runcpu before the start of the run:

```
LD_LIBRARY_PATH=/usr/local/lib:$LD_LIBRARY_PATH
LIBRARY_PATH=/usr/local/lib:$LIBRARY_PATH
MALLOCCONF=$(16777216)
MALLOCCONF=$(16777216)
```

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.

jemalloc: configured and built with AMD64 AOCC v2.0.0 on this system with -Ofast -march=znver2 jemalloc 5.2.1 is available here:

<https://github.com/jemalloc/jemalloc/releases/download/5.2.1/jemalloc-5.2.1.tar.bz2>

Platform Notes

BIOS settings:

```
Determinism Control = Manual
Determinism Slider = Power
cTDP Control = Manual
```

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Platform Notes (Continued)

cTDP = 180
Package Power Limit Control = Manual
Package Power Limit = 180
IOMMU = Enabled
APBDIS = 1
NUMA Nodes Per Socket = NPS4

Sysinfo program /dev/shm/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011
running on 13d Fri Dec 20 08:06:29 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 : AMD EPYC 7702 64-Core Processor
 32 "physical id"s (chips)
4096 "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 : 64
siblings  : 128
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 4: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 5: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 6: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 7: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
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Platform Notes (Continued)

```

physical 8: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 9: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 10: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 11: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 12: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 13: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 14: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 15: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 16: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 17: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 18: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 19: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 20: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 21: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 22: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 23: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

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Platform Notes (Continued)

```

53 54 55 56 57 58 59 60 61 62 63
physical 24: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 25: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 26: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 27: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 28: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 29: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 30: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63
physical 31: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63

```

From lscpu:

```

Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
Address sizes: 47 bits physical, 48 bits virtual
CPU(s): 4096
On-line CPU(s) list: 0-4095
Thread(s) per core: 2
Core(s) per socket: 64
Socket(s): 32
NUMA node(s): 128
Vendor ID: AuthenticAMD
CPU family: 23
Model: 49
Model name: AMD EPYC 7702 64-Core Processor
Stepping: 0
CPU MHz: 2000.000
CPU max MHz: 2000.0000
CPU min MHz: 1800.0000
BogoMIPS: 4000.00
L1d cache: 32K

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Platform Notes (Continued)

```

L1i cache:          32K
L2 cache:           512K
L3 cache:           16384K
NUMA node0 CPU(s): 0-15, 2048-2063
NUMA node1 CPU(s): 16-31, 2064-2079
NUMA node2 CPU(s): 32-47, 2080-2095
NUMA node3 CPU(s): 48-63, 2096-2111
NUMA node4 CPU(s): 64-79, 2112-2127
NUMA node5 CPU(s): 80-95, 2128-2143
NUMA node6 CPU(s): 96-111, 2144-2159
NUMA node7 CPU(s): 112-127, 2160-2175
NUMA node8 CPU(s): 128-143, 2176-2191
NUMA node9 CPU(s): 144-159, 2192-2207
NUMA node10 CPU(s): 160-175, 2208-2223
NUMA node11 CPU(s): 176-191, 2224-2239
NUMA node12 CPU(s): 192-207, 2240-2255
NUMA node13 CPU(s): 208-223, 2256-2271
NUMA node14 CPU(s): 224-239, 2272-2287
NUMA node15 CPU(s): 240-255, 2288-2303
NUMA node16 CPU(s): 256-271, 2304-2319
NUMA node17 CPU(s): 272-287, 2320-2335
NUMA node18 CPU(s): 288-303, 2336-2351
NUMA node19 CPU(s): 304-319, 2352-2367
NUMA node20 CPU(s): 320-335, 2368-2383
NUMA node21 CPU(s): 336-351, 2384-2399
NUMA node22 CPU(s): 352-367, 2400-2415
NUMA node23 CPU(s): 368-383, 2416-2431
NUMA node24 CPU(s): 384-399, 2432-2447
NUMA node25 CPU(s): 400-415, 2448-2463
NUMA node26 CPU(s): 416-431, 2464-2479
NUMA node27 CPU(s): 432-447, 2480-2495
NUMA node28 CPU(s): 448-463, 2496-2511
NUMA node29 CPU(s): 464-479, 2512-2527
NUMA node30 CPU(s): 480-495, 2528-2543
NUMA node31 CPU(s): 496-511, 2544-2559
NUMA node32 CPU(s): 512-527, 2560-2575
NUMA node33 CPU(s): 528-543, 2576-2591
NUMA node34 CPU(s): 544-559, 2592-2607
NUMA node35 CPU(s): 560-575, 2608-2623
NUMA node36 CPU(s): 576-591, 2624-2639
NUMA node37 CPU(s): 592-607, 2640-2655
NUMA node38 CPU(s): 608-623, 2656-2671
NUMA node39 CPU(s): 624-639, 2672-2687
NUMA node40 CPU(s): 640-655, 2688-2703
NUMA node41 CPU(s): 656-671, 2704-2719
NUMA node42 CPU(s): 672-687, 2720-2735
NUMA node43 CPU(s): 688-703, 2736-2751

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Platform Notes (Continued)

NUMA node44 CPU(s): 704-719, 2752-2767
 NUMA node45 CPU(s): 720-735, 2768-2783
 NUMA node46 CPU(s): 736-751, 2784-2799
 NUMA node47 CPU(s): 752-767, 2800-2815
 NUMA node48 CPU(s): 768-783, 2816-2831
 NUMA node49 CPU(s): 784-799, 2832-2847
 NUMA node50 CPU(s): 800-815, 2848-2863
 NUMA node51 CPU(s): 816-831, 2864-2879
 NUMA node52 CPU(s): 832-847, 2880-2895
 NUMA node53 CPU(s): 848-863, 2896-2911
 NUMA node54 CPU(s): 864-879, 2912-2927
 NUMA node55 CPU(s): 880-895, 2928-2943
 NUMA node56 CPU(s): 896-911, 2944-2959
 NUMA node57 CPU(s): 912-927, 2960-2975
 NUMA node58 CPU(s): 928-943, 2976-2991
 NUMA node59 CPU(s): 944-959, 2992-3007
 NUMA node60 CPU(s): 960-975, 3008-3023
 NUMA node61 CPU(s): 976-991, 3024-3039
 NUMA node62 CPU(s): 992-1007, 3040-3055
 NUMA node63 CPU(s): 1008-1023, 3056-3071
 NUMA node64 CPU(s): 1024-1039, 3072-3087
 NUMA node65 CPU(s): 1040-1055, 3088-3103
 NUMA node66 CPU(s): 1056-1071, 3104-3119
 NUMA node67 CPU(s): 1072-1087, 3120-3135
 NUMA node68 CPU(s): 1088-1103, 3136-3151
 NUMA node69 CPU(s): 1104-1119, 3152-3167
 NUMA node70 CPU(s): 1120-1135, 3168-3183
 NUMA node71 CPU(s): 1136-1151, 3184-3199
 NUMA node72 CPU(s): 1152-1167, 3200-3215
 NUMA node73 CPU(s): 1168-1183, 3216-3231
 NUMA node74 CPU(s): 1184-1199, 3232-3247
 NUMA node75 CPU(s): 1200-1215, 3248-3263
 NUMA node76 CPU(s): 1216-1231, 3264-3279
 NUMA node77 CPU(s): 1232-1247, 3280-3295
 NUMA node78 CPU(s): 1248-1263, 3296-3311
 NUMA node79 CPU(s): 1264-1279, 3312-3327
 NUMA node80 CPU(s): 1280-1295, 3328-3343
 NUMA node81 CPU(s): 1296-1311, 3344-3359
 NUMA node82 CPU(s): 1312-1327, 3360-3375
 NUMA node83 CPU(s): 1328-1343, 3376-3391
 NUMA node84 CPU(s): 1344-1359, 3392-3407
 NUMA node85 CPU(s): 1360-1375, 3408-3423
 NUMA node86 CPU(s): 1376-1391, 3424-3439
 NUMA node87 CPU(s): 1392-1407, 3440-3455
 NUMA node88 CPU(s): 1408-1423, 3456-3471
 NUMA node89 CPU(s): 1424-1439, 3472-3487
 NUMA node90 CPU(s): 1440-1455, 3488-3503

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NUMA node91 CPU(s): 1456-1471,3504-3519
 NUMA node92 CPU(s): 1472-1487,3520-3535
 NUMA node93 CPU(s): 1488-1503,3536-3551
 NUMA node94 CPU(s): 1504-1519,3552-3567
 NUMA node95 CPU(s): 1520-1535,3568-3583
 NUMA node96 CPU(s): 1536-1551,3584-3599
 NUMA node97 CPU(s): 1552-1567,3600-3615
 NUMA node98 CPU(s): 1568-1583,3616-3631
 NUMA node99 CPU(s): 1584-1599,3632-3647
 NUMA node100 CPU(s): 1600-1615,3648-3663
 NUMA node101 CPU(s): 1616-1631,3664-3679
 NUMA node102 CPU(s): 1632-1647,3680-3695
 NUMA node103 CPU(s): 1648-1663,3696-3711
 NUMA node104 CPU(s): 1664-1679,3712-3727
 NUMA node105 CPU(s): 1680-1695,3728-3743
 NUMA node106 CPU(s): 1696-1711,3744-3759
 NUMA node107 CPU(s): 1712-1727,3760-3775
 NUMA node108 CPU(s): 1728-1743,3776-3791
 NUMA node109 CPU(s): 1744-1759,3792-3807
 NUMA node110 CPU(s): 1760-1775,3808-3823
 NUMA node111 CPU(s): 1776-1791,3824-3839
 NUMA node112 CPU(s): 1792-1807,3840-3855
 NUMA node113 CPU(s): 1808-1823,3856-3871
 NUMA node114 CPU(s): 1824-1839,3872-3887
 NUMA node115 CPU(s): 1840-1855,3888-3903
 NUMA node116 CPU(s): 1856-1871,3904-3919
 NUMA node117 CPU(s): 1872-1887,3920-3935
 NUMA node118 CPU(s): 1888-1903,3936-3951
 NUMA node119 CPU(s): 1904-1919,3952-3967
 NUMA node120 CPU(s): 1920-1935,3968-3983
 NUMA node121 CPU(s): 1936-1951,3984-3999
 NUMA node122 CPU(s): 1952-1967,4000-4015
 NUMA node123 CPU(s): 1968-1983,4016-4031
 NUMA node124 CPU(s): 1984-1999,4032-4047
 NUMA node125 CPU(s): 2000-2015,4048-4063
 NUMA node126 CPU(s): 2016-2031,4064-4079
 NUMA node127 CPU(s): 2032-2047,4080-4095

Flags: fpu vme de pse tsc msr pae cx8 apic sep mtrr pge mca cmov pat
 pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm
 constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid aperfmperf pni pclmulqdq
 ssse3 fma cx16 sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx f16c rdrand lahf_lm
 cmp_legacy extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch osvw skinit wdt
 tce topoext perfctr_core perfctr_nb bpext perfctr_l2 mwaitx cpb cat_l3 cdp_l3
 hw_pstate ssbd ibrs ibpb stibp vmmcall fsgsbase bmi1 avx2 smep bmi2 cqm rdt_a rdseed
 adx smap clflushopt clwb sha_ni xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc
 cqm_mbm_total cqm_mbm_local clzero irperf xsaveerptr arat npt lbrv svm_lock
 nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter pfthreshold

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Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

avic v_vmsave_vmload vgif umip rdpid overflow_recov succor smca

```
/proc/cpuinfo cache data
cache size : 512 KB
```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a physical chip.

```
available: 128 nodes (0-127)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 2048 2049 2050 2051 2052 2053 2054
2055 2056 2057 2058 2059 2060 2061 2062 2063
node 0 size: 39056 MB
node 0 free: 35420 MB
node 1 cpus: 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 2064 2065 2066 2067 2068
2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079
node 1 size: 59461 MB
node 1 free: 59322 MB
node 2 cpus: 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 2080 2081 2082 2083 2084
2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095
node 2 size: 59461 MB
node 2 free: 59287 MB
node 3 cpus: 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 2096 2097 2098 2099 2100
2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111
node 3 size: 59461 MB
node 3 free: 59291 MB
node 4 cpus: 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 2112 2113 2114 2115 2116
2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127
node 4 size: 59461 MB
node 4 free: 59310 MB
node 5 cpus: 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 2128 2129 2130 2131 2132
2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143
node 5 size: 59461 MB
node 5 free: 59319 MB
node 6 cpus: 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 2144 2145 2146
2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159
node 6 size: 59461 MB
node 6 free: 59292 MB
node 7 cpus: 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 2160 2161
2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175
node 7 size: 59461 MB
node 7 free: 59243 MB
node 8 cpus: 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 2176 2177
2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191
node 8 size: 39553 MB
node 8 free: 39497 MB
node 9 cpus: 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 2192 2193
2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207
node 9 size: 59461 MB
```

(Continued on next page)



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Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

node 9 free: 59405 MB
node 10 cpus: 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 2208 2209
2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223
node 10 size: 59461 MB
node 10 free: 59405 MB
node 11 cpus: 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 2224 2225
2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239
node 11 size: 59461 MB
node 11 free: 59405 MB
node 12 cpus: 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 2240 2241
2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255
node 12 size: 59461 MB
node 12 free: 59405 MB
node 13 cpus: 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 2256 2257
2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271
node 13 size: 59461 MB
node 13 free: 59405 MB
node 14 cpus: 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 2272 2273
2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287
node 14 size: 59461 MB
node 14 free: 59405 MB
node 15 cpus: 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 2288 2289
2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303
node 15 size: 59461 MB
node 15 free: 59405 MB
node 16 cpus: 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 2304 2305
2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319
node 16 size: 39553 MB
node 16 free: 39491 MB
node 17 cpus: 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 2320 2321
2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335
node 17 size: 59696 MB
node 17 free: 59640 MB
node 18 cpus: 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 2336 2337
2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351
node 18 size: 59461 MB
node 18 free: 59405 MB
node 19 cpus: 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 2352 2353
2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367
node 19 size: 59461 MB
node 19 free: 59405 MB
node 20 cpus: 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 2368 2369
2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383
node 20 size: 59461 MB
node 20 free: 59405 MB
node 21 cpus: 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 2384 2385
2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399

```

(Continued on next page)



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vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

node 21 size: 59461 MB
node 21 free: 59405 MB
node 22 cpus: 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 2400 2401
2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415
node 22 size: 59461 MB
node 22 free: 59405 MB
node 23 cpus: 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 2416 2417
2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431
node 23 size: 59461 MB
node 23 free: 59405 MB
node 24 cpus: 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 2432 2433
2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447
node 24 size: 39553 MB
node 24 free: 39482 MB
node 25 cpus: 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 2448 2449
2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463
node 25 size: 59461 MB
node 25 free: 59405 MB
node 26 cpus: 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 2464 2465
2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479
node 26 size: 59461 MB
node 26 free: 59405 MB
node 27 cpus: 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 2480 2481
2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495
node 27 size: 59461 MB
node 27 free: 59405 MB
node 28 cpus: 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 2496 2497
2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511
node 28 size: 59461 MB
node 28 free: 59405 MB
node 29 cpus: 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 2512 2513
2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527
node 29 size: 59461 MB
node 29 free: 59406 MB
node 30 cpus: 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 2528 2529
2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543
node 30 size: 59461 MB
node 30 free: 59405 MB
node 31 cpus: 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 2544 2545
2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559
node 31 size: 59461 MB
node 31 free: 59405 MB
node 32 cpus: 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 2560 2561
2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575
node 32 size: 39553 MB
node 32 free: 39497 MB
node 33 cpus: 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 2576 2577

```

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SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591
node 33 size: 59461 MB
node 33 free: 59398 MB
node 34 cpus: 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 2592 2593
2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607
node 34 size: 59461 MB
node 34 free: 59405 MB
node 35 cpus: 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 2608 2609
2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623
node 35 size: 59461 MB
node 35 free: 59405 MB
node 36 cpus: 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 2624 2625
2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639
node 36 size: 59461 MB
node 36 free: 59405 MB
node 37 cpus: 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 2640 2641
2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655
node 37 size: 59461 MB
node 37 free: 59405 MB
node 38 cpus: 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 2656 2657
2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671
node 38 size: 59461 MB
node 38 free: 59405 MB
node 39 cpus: 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 2672 2673
2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687
node 39 size: 59461 MB
node 39 free: 59405 MB
node 40 cpus: 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 2688 2689
2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703
node 40 size: 39553 MB
node 40 free: 39497 MB
node 41 cpus: 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 2704 2705
2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719
node 41 size: 59461 MB
node 41 free: 59405 MB
node 42 cpus: 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 2720 2721
2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735
node 42 size: 59461 MB
node 42 free: 59405 MB
node 43 cpus: 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 2736 2737
2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751
node 43 size: 59461 MB
node 43 free: 59405 MB
node 44 cpus: 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 2752 2753
2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767
node 44 size: 59461 MB
node 44 free: 59405 MB

```

(Continued on next page)



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CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

node 45 cpus: 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 2768 2769
2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783
node 45 size: 59461 MB
node 45 free: 59406 MB
node 46 cpus: 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 2784 2785
2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798 2799
node 46 size: 59461 MB
node 46 free: 59405 MB
node 47 cpus: 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 2800 2801
2802 2803 2804 2805 2806 2807 2808 2809 2810 2811 2812 2813 2814 2815
node 47 size: 59461 MB
node 47 free: 59406 MB
node 48 cpus: 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 2816 2817
2818 2819 2820 2821 2822 2823 2824 2825 2826 2827 2828 2829 2830 2831
node 48 size: 39553 MB
node 48 free: 39497 MB
node 49 cpus: 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 2832 2833
2834 2835 2836 2837 2838 2839 2840 2841 2842 2843 2844 2845 2846 2847
node 49 size: 59461 MB
node 49 free: 59406 MB
node 50 cpus: 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 2848 2849
2850 2851 2852 2853 2854 2855 2856 2857 2858 2859 2860 2861 2862 2863
node 50 size: 59461 MB
node 50 free: 59405 MB
node 51 cpus: 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 2864 2865
2866 2867 2868 2869 2870 2871 2872 2873 2874 2875 2876 2877 2878 2879
node 51 size: 59461 MB
node 51 free: 59405 MB
node 52 cpus: 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 2880 2881
2882 2883 2884 2885 2886 2887 2888 2889 2890 2891 2892 2893 2894 2895
node 52 size: 59461 MB
node 52 free: 59405 MB
node 53 cpus: 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 2896 2897
2898 2899 2900 2901 2902 2903 2904 2905 2906 2907 2908 2909 2910 2911
node 53 size: 59461 MB
node 53 free: 59405 MB
node 54 cpus: 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 2912 2913
2914 2915 2916 2917 2918 2919 2920 2921 2922 2923 2924 2925 2926 2927
node 54 size: 59461 MB
node 54 free: 59405 MB
node 55 cpus: 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 2928 2929
2930 2931 2932 2933 2934 2935 2936 2937 2938 2939 2940 2941 2942 2943
node 55 size: 59461 MB
node 55 free: 59405 MB
node 56 cpus: 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 2944 2945
2946 2947 2948 2949 2950 2951 2952 2953 2954 2955 2956 2957 2958 2959
node 56 size: 39553 MB

```

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Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

node 56 free: 39496 MB
node 57 cpus: 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 2960 2961
2962 2963 2964 2965 2966 2967 2968 2969 2970 2971 2972 2973 2974 2975
node 57 size: 59461 MB
node 57 free: 59406 MB
node 58 cpus: 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 2976 2977
2978 2979 2980 2981 2982 2983 2984 2985 2986 2987 2988 2989 2990 2991
node 58 size: 59461 MB
node 58 free: 59405 MB
node 59 cpus: 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 2992 2993
2994 2995 2996 2997 2998 2999 3000 3001 3002 3003 3004 3005 3006 3007
node 59 size: 59461 MB
node 59 free: 59405 MB
node 60 cpus: 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 3008 3009
3010 3011 3012 3013 3014 3015 3016 3017 3018 3019 3020 3021 3022 3023
node 60 size: 59461 MB
node 60 free: 59405 MB
node 61 cpus: 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 3024 3025
3026 3027 3028 3029 3030 3031 3032 3033 3034 3035 3036 3037 3038 3039
node 61 size: 59461 MB
node 61 free: 59406 MB
node 62 cpus: 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007
3040 3041 3042 3043 3044 3045 3046 3047 3048 3049 3050 3051 3052 3053 3054 3055
node 62 size: 59461 MB
node 62 free: 59405 MB
node 63 cpus: 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021
1022 1023 3056 3057 3058 3059 3060 3061 3062 3063 3064 3065 3066 3067 3068 3069 3070
3071
node 63 size: 59461 MB
node 63 free: 59405 MB
node 64 cpus: 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037
1038 1039 3072 3073 3074 3075 3076 3077 3078 3079 3080 3081 3082 3083 3084 3085 3086
3087
node 64 size: 39553 MB
node 64 free: 39497 MB
node 65 cpus: 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053
1054 1055 3088 3089 3090 3091 3092 3093 3094 3095 3096 3097 3098 3099 3100 3101 3102
3103
node 65 size: 59461 MB
node 65 free: 59405 MB
node 66 cpus: 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069
1070 1071 3104 3105 3106 3107 3108 3109 3110 3111 3112 3113 3114 3115 3116 3117 3118
3119
node 66 size: 59461 MB
node 66 free: 59405 MB
node 67 cpus: 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085
1086 1087 3120 3121 3122 3123 3124 3125 3126 3127 3128 3129 3130 3131 3132 3133 3134

```

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SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

3135
node 67 size: 59461 MB
node 67 free: 59406 MB
node 68 cpus: 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101
1102 1103 3136 3137 3138 3139 3140 3141 3142 3143 3144 3145 3146 3147 3148 3149 3150
3151
node 68 size: 59461 MB
node 68 free: 59405 MB
node 69 cpus: 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117
1118 1119 3152 3153 3154 3155 3156 3157 3158 3159 3160 3161 3162 3163 3164 3165 3166
3167
node 69 size: 59461 MB
node 69 free: 59405 MB
node 70 cpus: 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133
1134 1135 3168 3169 3170 3171 3172 3173 3174 3175 3176 3177 3178 3179 3180 3181 3182
3183
node 70 size: 59461 MB
node 70 free: 59405 MB
node 71 cpus: 1136 1137 1138 1139 1140 1141 1142 1143 1144 1145 1146 1147 1148 1149
1150 1151 3184 3185 3186 3187 3188 3189 3190 3191 3192 3193 3194 3195 3196 3197 3198
3199
node 71 size: 59461 MB
node 71 free: 59405 MB
node 72 cpus: 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165
1166 1167 3200 3201 3202 3203 3204 3205 3206 3207 3208 3209 3210 3211 3212 3213 3214
3215
node 72 size: 39553 MB
node 72 free: 39497 MB
node 73 cpus: 1168 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181
1182 1183 3216 3217 3218 3219 3220 3221 3222 3223 3224 3225 3226 3227 3228 3229 3230
3231
node 73 size: 59461 MB
node 73 free: 59405 MB
node 74 cpus: 1184 1185 1186 1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197
1198 1199 3232 3233 3234 3235 3236 3237 3238 3239 3240 3241 3242 3243 3244 3245 3246
3247
node 74 size: 59461 MB
node 74 free: 59405 MB
node 75 cpus: 1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210 1211 1212 1213
1214 1215 3248 3249 3250 3251 3252 3253 3254 3255 3256 3257 3258 3259 3260 3261 3262
3263
node 75 size: 59461 MB
node 75 free: 59405 MB
node 76 cpus: 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229
1230 1231 3264 3265 3266 3267 3268 3269 3270 3271 3272 3273 3274 3275 3276 3277 3278
3279
node 76 size: 59461 MB

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

node 76 free: 59405 MB
node 77 cpus: 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244 1245
1246 1247 3280 3281 3282 3283 3284 3285 3286 3287 3288 3289 3290 3291 3292 3293 3294
3295
node 77 size: 59461 MB
node 77 free: 59406 MB
node 78 cpus: 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261
1262 1263 3296 3297 3298 3299 3300 3301 3302 3303 3304 3305 3306 3307 3308 3309 3310
3311
node 78 size: 59461 MB
node 78 free: 59406 MB
node 79 cpus: 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277
1278 1279 3312 3313 3314 3315 3316 3317 3318 3319 3320 3321 3322 3323 3324 3325 3326
3327
node 79 size: 59461 MB
node 79 free: 59405 MB
node 80 cpus: 1280 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290 1291 1292 1293
1294 1295 3328 3329 3330 3331 3332 3333 3334 3335 3336 3337 3338 3339 3340 3341 3342
3343
node 80 size: 39553 MB
node 80 free: 39497 MB
node 81 cpus: 1296 1297 1298 1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309
1310 1311 3344 3345 3346 3347 3348 3349 3350 3351 3352 3353 3354 3355 3356 3357 3358
3359
node 81 size: 59461 MB
node 81 free: 59405 MB
node 82 cpus: 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325
1326 1327 3360 3361 3362 3363 3364 3365 3366 3367 3368 3369 3370 3371 3372 3373 3374
3375
node 82 size: 59461 MB
node 82 free: 59405 MB
node 83 cpus: 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341
1342 1343 3376 3377 3378 3379 3380 3381 3382 3383 3384 3385 3386 3387 3388 3389 3390
3391
node 83 size: 59461 MB
node 83 free: 59405 MB
node 84 cpus: 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357
1358 1359 3392 3393 3394 3395 3396 3397 3398 3399 3400 3401 3402 3403 3404 3405 3406
3407
node 84 size: 59461 MB
node 84 free: 59405 MB
node 85 cpus: 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373
1374 1375 3408 3409 3410 3411 3412 3413 3414 3415 3416 3417 3418 3419 3420 3421 3422
3423
node 85 size: 59461 MB
node 85 free: 59405 MB
node 86 cpus: 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

1390 1391 3424 3425 3426 3427 3428 3429 3430 3431 3432 3433 3434 3435 3436 3437 3438
3439
node 86 size: 59461 MB
node 86 free: 59405 MB
node 87 cpus: 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405
1406 1407 3440 3441 3442 3443 3444 3445 3446 3447 3448 3449 3450 3451 3452 3453 3454
3455
node 87 size: 59461 MB
node 87 free: 59405 MB
node 88 cpus: 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421
1422 1423 3456 3457 3458 3459 3460 3461 3462 3463 3464 3465 3466 3467 3468 3469 3470
3471
node 88 size: 39553 MB
node 88 free: 39497 MB
node 89 cpus: 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437
1438 1439 3472 3473 3474 3475 3476 3477 3478 3479 3480 3481 3482 3483 3484 3485 3486
3487
node 89 size: 59461 MB
node 89 free: 59405 MB
node 90 cpus: 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453
1454 1455 3488 3489 3490 3491 3492 3493 3494 3495 3496 3497 3498 3499 3500 3501 3502
3503
node 90 size: 59461 MB
node 90 free: 59405 MB
node 91 cpus: 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469
1470 1471 3504 3505 3506 3507 3508 3509 3510 3511 3512 3513 3514 3515 3516 3517 3518
3519
node 91 size: 59461 MB
node 91 free: 59405 MB
node 92 cpus: 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485
1486 1487 3520 3521 3522 3523 3524 3525 3526 3527 3528 3529 3530 3531 3532 3533 3534
3535
node 92 size: 59461 MB
node 92 free: 59405 MB
node 93 cpus: 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501
1502 1503 3536 3537 3538 3539 3540 3541 3542 3543 3544 3545 3546 3547 3548 3549 3550
3551
node 93 size: 59461 MB
node 93 free: 59405 MB
node 94 cpus: 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517
1518 1519 3552 3553 3554 3555 3556 3557 3558 3559 3560 3561 3562 3563 3564 3565 3566
3567
node 94 size: 59461 MB
node 94 free: 59405 MB
node 95 cpus: 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533
1534 1535 3568 3569 3570 3571 3572 3573 3574 3575 3576 3577 3578 3579 3580 3581 3582
3583

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

node 95 size: 59461 MB
node 95 free: 59405 MB
node 96 cpus: 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549
1550 1551 3584 3585 3586 3587 3588 3589 3590 3591 3592 3593 3594 3595 3596 3597 3598
3599
node 96 size: 39553 MB
node 96 free: 39498 MB
node 97 cpus: 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565
1566 1567 3600 3601 3602 3603 3604 3605 3606 3607 3608 3609 3610 3611 3612 3613 3614
3615
node 97 size: 59461 MB
node 97 free: 59405 MB
node 98 cpus: 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581
1582 1583 3616 3617 3618 3619 3620 3621 3622 3623 3624 3625 3626 3627 3628 3629 3630
3631
node 98 size: 59461 MB
node 98 free: 59405 MB
node 99 cpus: 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597
1598 1599 3632 3633 3634 3635 3636 3637 3638 3639 3640 3641 3642 3643 3644 3645 3646
3647
node 99 size: 59461 MB
node 99 free: 59405 MB
node 100 cpus: 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613
1614 1615 3648 3649 3650 3651 3652 3653 3654 3655 3656 3657 3658 3659 3660 3661 3662
3663
node 100 size: 59461 MB
node 100 free: 59405 MB
node 101 cpus: 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629
1630 1631 3664 3665 3666 3667 3668 3669 3670 3671 3672 3673 3674 3675 3676 3677 3678
3679
node 101 size: 59461 MB
node 101 free: 59405 MB
node 102 cpus: 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645
1646 1647 3680 3681 3682 3683 3684 3685 3686 3687 3688 3689 3690 3691 3692 3693 3694
3695
node 102 size: 59461 MB
node 102 free: 59405 MB
node 103 cpus: 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661
1662 1663 3696 3697 3698 3699 3700 3701 3702 3703 3704 3705 3706 3707 3708 3709 3710
3711
node 103 size: 59461 MB
node 103 free: 59405 MB
node 104 cpus: 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677
1678 1679 3712 3713 3714 3715 3716 3717 3718 3719 3720 3721 3722 3723 3724 3725 3726
3727
node 104 size: 39301 MB
node 104 free: 39245 MB

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

node 105 cpus: 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693
1694 1695 3728 3729 3730 3731 3732 3733 3734 3735 3736 3737 3738 3739 3740 3741 3742
3743
node 105 size: 59209 MB
node 105 free: 59153 MB
node 106 cpus: 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709
1710 1711 3744 3745 3746 3747 3748 3749 3750 3751 3752 3753 3754 3755 3756 3757 3758
3759
node 106 size: 59209 MB
node 106 free: 59153 MB
node 107 cpus: 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725
1726 1727 3760 3761 3762 3763 3764 3765 3766 3767 3768 3769 3770 3771 3772 3773 3774
3775
node 107 size: 59209 MB
node 107 free: 59153 MB
node 108 cpus: 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741
1742 1743 3776 3777 3778 3779 3780 3781 3782 3783 3784 3785 3786 3787 3788 3789 3790
3791
node 108 size: 59209 MB
node 108 free: 59153 MB
node 109 cpus: 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757
1758 1759 3792 3793 3794 3795 3796 3797 3798 3799 3800 3801 3802 3803 3804 3805 3806
3807
node 109 size: 59209 MB
node 109 free: 59153 MB
node 110 cpus: 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773
1774 1775 3808 3809 3810 3811 3812 3813 3814 3815 3816 3817 3818 3819 3820 3821 3822
3823
node 110 size: 59209 MB
node 110 free: 59153 MB
node 111 cpus: 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789
1790 1791 3824 3825 3826 3827 3828 3829 3830 3831 3832 3833 3834 3835 3836 3837 3838
3839
node 111 size: 59209 MB
node 111 free: 59153 MB
node 112 cpus: 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805
1806 1807 3840 3841 3842 3843 3844 3845 3846 3847 3848 3849 3850 3851 3852 3853 3854
3855
node 112 size: 39301 MB
node 112 free: 39245 MB
node 113 cpus: 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821
1822 1823 3856 3857 3858 3859 3860 3861 3862 3863 3864 3865 3866 3867 3868 3869 3870
3871
node 113 size: 59209 MB
node 113 free: 59153 MB
node 114 cpus: 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837
1838 1839 3872 3873 3874 3875 3876 3877 3878 3879 3880 3881 3882 3883 3884 3885 3886

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(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

3887
node 114 size: 59209 MB
node 114 free: 59153 MB
node 115 cpus: 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853
1854 1855 3888 3889 3890 3891 3892 3893 3894 3895 3896 3897 3898 3899 3900 3901 3902
3903
node 115 size: 59209 MB
node 115 free: 59154 MB
node 116 cpus: 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869
1870 1871 3904 3905 3906 3907 3908 3909 3910 3911 3912 3913 3914 3915 3916 3917 3918
3919
node 116 size: 59209 MB
node 116 free: 59153 MB
node 117 cpus: 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885
1886 1887 3920 3921 3922 3923 3924 3925 3926 3927 3928 3929 3930 3931 3932 3933 3934
3935
node 117 size: 59209 MB
node 117 free: 59154 MB
node 118 cpus: 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901
1902 1903 3936 3937 3938 3939 3940 3941 3942 3943 3944 3945 3946 3947 3948 3949 3950
3951
node 118 size: 59209 MB
node 118 free: 59153 MB
node 119 cpus: 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917
1918 1919 3952 3953 3954 3955 3956 3957 3958 3959 3960 3961 3962 3963 3964 3965 3966
3967
node 119 size: 59209 MB
node 119 free: 59153 MB
node 120 cpus: 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933
1934 1935 3968 3969 3970 3971 3972 3973 3974 3975 3976 3977 3978 3979 3980 3981 3982
3983
node 120 size: 39301 MB
node 120 free: 39171 MB
node 121 cpus: 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949
1950 1951 3984 3985 3986 3987 3988 3989 3990 3991 3992 3993 3994 3995 3996 3997 3998
3999
node 121 size: 59209 MB
node 121 free: 59154 MB
node 122 cpus: 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965
1966 1967 4000 4001 4002 4003 4004 4005 4006 4007 4008 4009 4010 4011 4012 4013 4014
4015
node 122 size: 59209 MB
node 122 free: 59151 MB
node 123 cpus: 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981
1982 1983 4016 4017 4018 4019 4020 4021 4022 4023 4024 4025 4026 4027 4028 4029 4030
4031
node 123 size: 59209 MB

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

SPECrate®2017_fp_base = 5870

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

node 123 free: 59154 MB
node 124 cpus: 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997
1998 1999 4032 4033 4034 4035 4036 4037 4038 4039 4040 4041 4042 4043 4044 4045 4046
4047
node 124 size: 59209 MB
node 124 free: 59153 MB
node 125 cpus: 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013
2014 2015 4048 4049 4050 4051 4052 4053 4054 4055 4056 4057 4058 4059 4060 4061 4062
4063
node 125 size: 59209 MB
node 125 free: 59154 MB
node 126 cpus: 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029
2030 2031 4064 4065 4066 4067 4068 4069 4070 4071 4072 4073 4074 4075 4076 4077 4078
4079
node 126 size: 59209 MB
node 126 free: 59153 MB
node 127 cpus: 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045
2046 2047 4080 4081 4082 4083 4084 4085 4086 4087 4088 4089 4090 4091 4092 4093 4094
4095
node 127 size: 58923 MB
node 127 free: 58867 MB
node distances:
node 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85
86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105
106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122
123 124 125 126 127
0: 10 12 12 12 32 32 32 32 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254
1: 12 10 12 12 32 32 32 32 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254
2: 12 12 10 12 32 32 32 32 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254

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(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
3:	12	12	12	10	32	32	32	32	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
4:	32	32	32	32	10	12	12	12	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
5:	32	32	32	32	12	10	12	12	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
6:	32	32	32	32	12	12	10	12	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
7:	32	32	32	32	12	12	12	10	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
8:	254	254	254	254	254	254	254	254	10	12	12	12	32	32	32	32
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254									
32:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	10
12	12	32	32	32	32	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
33:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	12
12	12	32	32	32	32	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
34:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	12
10	12	32	32	32	32	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
35:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	12
12	10	32	32	32	32	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
36:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	32
32	32	10	12	12	12	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
37:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	32
32	32	12	10	12	12	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
38:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
32	32	12	12	10	12	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
39:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
32	32	12	12	12	10	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
40:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	10	12	12	12	32	32	32	32	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
41:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	12	10	12	12	32	32	32	32	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
42:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	12	12	10	12	32	32	32	32	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
43:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	12	12	12	10	32	32	32	32	254	254

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
44:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	32	32	32	32	10	12	12	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
45:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	32	32	32	32	12	10	12	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
46:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	32	32	32	32	12	12	10	12	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
47:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	32	32	32	32	12	12	12	10	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
48:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
12	32	32	32	32	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
49:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	12	10	12
12	32	32	32	32	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
50:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	12	12	10
12	32	32	32	32	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
51:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	12	12
10	32	32	32	32	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
52:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	32	32
32	10	12	12	12	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
53:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	32	32
32	12	10	12	12	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
54:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	32	32
32	12	12	10	12	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
55:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

61:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	32	32	32	32	12	10	12	12	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
62:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	32	32	32	32	12	12	10	12	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
63:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	32	32	32	32	12	12	12	10	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
64:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	10	12	12
32	32	32	32	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
65:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	12	10	12
32	32	32	32	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
66:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	12	12	10
32	32	32	32	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254		
67:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254		
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254		
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254		
254	254	254	254	254	254	254	254	254	254	254	254	254	254	12	12	12	10	
32	32	32	32	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
68:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	32	32	32	32
10	12	12	12	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
69:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	32	32	32	32
12	10	12	12	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
70:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	32	32	32	32
12	12	10	12	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
71:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	32	32	32	32
12	12	12	10	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
72:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	10	12	12	12	32	32	32	32	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254										
73:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	12	10	12	12	32	32	32	32	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
74:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	12	12	10	12	32	32	32	32	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
75:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	12	12	12	10	32	32	32	32	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
76:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	32	32	32	32	10	12	12	12	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	32	32	32	32	12	10	12	12	254	254	254	254	254
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
78:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	32	32	32	32	12	12	10	12	254	254	254	254	254

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254		
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254		
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254		
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254		
254	254	254	254	254	254	254	254	254	254	254	254	32	32	32	32	12	12	10
12	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
103:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	32	32	32	32	12	12	12
10	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
104:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	10	12	12	12	32	32	32	32	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
105:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	12	12	10	12	32	32	32	32	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
107:	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
254	254	254	12	12	12	10	32	32	32	32	254	254	254	254	254	254	254	
254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

SPECrate®2017_fp_base = 5870

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

```

254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 32 32 32 32 12 10 12 12
126: 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 32 32 32 32 12 12 10 12
127: 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 254 254 254 254 254 254 254 254 254 254 254 254 254 254
254 254 32 32 32 32 12 12 12 10

```

From /proc/meminfo

```

MemTotal:      7460774764 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

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

```

os-release:
NAME="SLES"
VERSION="15-SP1"
VERSION_ID="15.1"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP1"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp1"

```

uname -a:

```

Linux 13d 4.12.14-197.21.1.vSMP.2-default #1 SMP Mon Oct 7 08:41:58 EDT 2019 (8ef2efd)
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

```

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Platform Notes (Continued)

CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swaggs barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBP: conditional, RSB filling

run-level 3 Dec 20 07:10

SPEC is set to: /dev/shm

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
ramfs	ramfs	0	0	0	-	/dev/shm

From /sys/devices/virtual/dmi/id
BIOS: ScaleMP 9.5.195.18 12/19/2019
Vendor: ScaleMP
Product: vSMP Foundation
Serial: 1122334

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:
20x Micron Technology 36ASF4G72PZ-2G6D1 32 kB 2 rank 2667
44x Micron Technology 36ASF4G72PZ-2G6E1 32 kB 2 rank 2667
192x SK Hynix HMA84GR7AFR4N-VK 32 kB 2 rank 2667

(End of data from sysinfo program)

Compiler Version Notes

=====
C | 519.lbm_r(base) 538.imagick_r(base) 544.nab_r(base)
=====

AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /mnt/aocc-compiler-2.0.0/bin
=====

=====
C++ | 508.namd_r(base) 510.parest_r(base)
=====

AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Compiler Version Notes (Continued)

Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /mnt/aocc-compiler-2.0.0/bin

=====
C++, C | 511.povray_r(base) 526.blender_r(base)
=====

AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /mnt/aocc-compiler-2.0.0/bin
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /mnt/aocc-compiler-2.0.0/bin

=====
C++, C, Fortran | 507.cactuBSSN_r(base)
=====

AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /mnt/aocc-compiler-2.0.0/bin
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /mnt/aocc-compiler-2.0.0/bin
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /mnt/aocc-compiler-2.0.0/bin

=====
Fortran | 503.bwaves_r(base) 549.fotonik3d_r(base) 554.roms_r(base)
=====

AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix

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SPEC CPU®2017 Floating Point Rate Result

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ScaleMP

vSMP ServerONE
Supermicro A+ Server 2123BT-HNC0R (AMD EPYC 7702)

SPECrate®2017_fp_base = 5870

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 2929
Test Sponsor: ScaleMP
Tested by: ScaleMP

Test Date: Dec-2019
Hardware Availability: Nov-2019
Software Availability: Nov-2019

Compiler Version Notes (Continued)

InstalledDir: /mnt/aocc-compiler-2.0.0/bin

=====
Fortran, C | 521.wrf_r(base) 527.cam4_r(base)

AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /mnt/aocc-compiler-2.0.0/bin
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /mnt/aocc-compiler-2.0.0/bin

Base Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Benchmarks using both Fortran and C:
flang clang

Benchmarks using both C and C++:
clang++ clang

Benchmarks using Fortran, C, and C++:
clang++ clang flang

Base Portability Flags

503.bwaves_r: -DSPEC_LP64
507.cactuBSSN_r: -DSPEC_LP64
508.namd_r: -DSPEC_LP64

(Continued on next page)



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Base Portability Flags (Continued)

```
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.lbm_r: -DSPEC_LP64
521.wrf_r: -DSPEC_CASE_FLAG -Mbyteswapio -DSPEC_LP64
526.blender_r: -funsigned-char -D__BOOL_DEFINED -DSPEC_LP64
527.cam4_r: -DSPEC_CASE_FLAG -DSPEC_LP64
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:

```
-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math
-march=znver2 -fstruct-layout=3 -mllvm -unroll-threshold=50
-fremap-arrays -mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp
-mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000
-flv-function-specialization -z muldefs -lmvec -lamdlibm -ljemalloc
-lflang
```

C++ benchmarks:

```
-std=c++98 -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-suppress-fmas -O3 -ffast-math -march=znver2
-mllvm -loop-unswitch-threshold=200000 -mllvm -vector-library=LIBMVEC
-mllvm -unroll-threshold=100 -flv-function-specialization
-mllvm -enable-partial-unswitch -z muldefs -lmvec -lamdlibm
-ljemalloc -lflang
```

Fortran benchmarks:

```
-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver2
-funroll-loops -Mrecursive -mllvm -vector-library=LIBMVEC -z muldefs
-Kieee -fno-finite-math-only -lmvec -lamdlibm -ljemalloc -lflang
```

Benchmarks using both Fortran and C:

```
-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
```

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

```
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math
-march=znver2 -fstruct-layout=3 -mllvm -unroll-threshold=50
-freemap-arrays -mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp
-mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000
-flv-function-specialization -funroll-loops -Mrecursive -z muldefs
-Kieee -fno-finite-math-only -lmvec -lamdlibm -ljemalloc -lflang
```

Benchmarks using both C and C++:

```
-std=c++98 -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-suppress-fmas -O3 -ffast-math -march=znver2
-fstruct-layout=3 -mllvm -unroll-threshold=50 -freemap-arrays
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp
-mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000
-flv-function-specialization -mllvm -loop-unswitch-threshold=200000
-mllvm -unroll-threshold=100 -mllvm -enable-partial-unswitch -z muldefs
-lmvec -lamdlibm -ljemalloc -lflang
```

Benchmarks using Fortran, C, and C++:

```
-std=c++98 -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-suppress-fmas -O3 -ffast-math -march=znver2
-fstruct-layout=3 -mllvm -unroll-threshold=50 -freemap-arrays
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp
-mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000
-flv-function-specialization -mllvm -loop-unswitch-threshold=200000
-mllvm -unroll-threshold=100 -mllvm -enable-partial-unswitch
-funroll-loops -Mrecursive -z muldefs -Kieee -fno-finite-math-only
-lmvec -lamdlibm -ljemalloc -lflang
```

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

<http://www.spec.org/cpu2017/flags/aocc200-flags-B1.html>

<http://www.spec.org/cpu2017/flags/ScaleMP-Supermicro-Platform-Settings-V1.2-Rome-revB.html>

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

<http://www.spec.org/cpu2017/flags/aocc200-flags-B1.xml>

<http://www.spec.org/cpu2017/flags/ScaleMP-Supermicro-Platform-Settings-V1.2-Rome-revB.xml>



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