## Lenovo Global Technology

### ThinkSystem SR655
(AMD EPYC 7742 CPU, 2.25 GHz)

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<th>Ranks</th>
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</tbody>
</table>

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.
Lenovo Global Technology
ThinkSystem SR655
(AMD EPYC 7742 CPU, 2.25 GHz)

SPECmpiM_peak2007 = Not Run
SPECmpiM_base2007 = 17.4

Results Table (Continued)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Ranks</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
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</tr>
</tbody>
</table>

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

Hardware Summary

- Type of System: Homogeneous
- Compute Node: ThinkSystem SR655
- Total Compute Nodes: 1
- Total Chips: 1
- Total Cores: 64
- Total Threads: 64
- Total Memory: 256 GB
- Base Ranks Run: 64
- Minimum Peak Ranks: --
- Maximum Peak Ranks: --

Software Summary

- C Compiler: Intel C++ Compiler 17.0 Update 7 for Linux Version 17.0.7 Build 20180403
- C++ Compiler: Intel C++ Compiler 17.0 Update 7 for Linux Version 17.0.7 Build 20180403
- Fortran Compiler: Intel Fortran Compiler 17.0 Update 7 for Linux Version 17.0.7 Build 20180403
- Base Pointers: 64-bit
- Peak Pointers: Not Applicable
- MPI Library: Intel MPI Library for Linux* OS Version 2018 Update 3 Build 20180411
- Other MPI Info: None
- Pre-processors: No
- Other Software: None

Node Description: ThinkSystem SR655

Hardware

- Number of nodes: 1
- Uses of the node: compute
- Vendor: Lenovo Global Technology
- Model: SR655
- CPU Name: AMD EPYC 7742 CPU
- CPU(s) orderable: 1 chips
- Chips enabled: 1
- Cores enabled: 64
- Cores per chip: 64
- Threads per core: 1
- CPU Characteristics: Turbo up to 3.4 GHz
- CPU MHz: 2250
- Primary Cache: 32 KB L1 + 32 KB D on chip per core
- Secondary Cache: 512 KB L1+D on chip per core
- L3 Cache: 256 MB L1+D on chip per core
- Other Cache: None
- Memory: 256 GB (8 x 32 GB 2Rx8 PC4-3200AA-R)
- Disk Subsystem: 1 x 480 GB SATA 2.5" SSD
- Other Hardware: None
- Adapter: None
- Number of Adapters: 0
- Slot Type: None
- Data Rate: None

Software

- Adapter: None
- Adapter Driver: None
- Adapter Firmware: None
- Local File System: xfs
- Shared File System: None
- System State: Multi-user, run level 3
- Other Software: None

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Lenovo Global Technology
ThinkSystem SR655  
(AMD EPYC 7742 CPU, 2.25 GHz)

SPECmpiM_peak2007 = Not Run
SPECmpiM_base2007 = 17.4

MPI2007 license: 28
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Node Description: ThinkSystem SR655

Ports Used: 0
Interconnect Type: None

Submit Notes

The config file option 'submit' was used.

General Notes

MPI startup command:
mpiexec command was used to start MPI jobs.

RAM configuration:
Compute nodes have 1 x 32 GB RDIMM on each memory channel.

BIOS settings:
Operating Mode: Maximum Performance Mode
Symmetric Multithreading: Disabled
NUMA node per socket: NPS4

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

Base Compiler Invocation

C benchmarks:
mpiicc

C++ benchmarks:
126.lammps: mpiicpc

Fortran benchmarks:
mpiifort

Benchmarks using both Fortran and C:
mpiicc mpiifort
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SPECmpiM_base2007 = 17.4

MPI2007 license: 28
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Base Portability Flags

121.pop2: -DSPEC_MPI_CASE_FLAG
126.lammps: -DMPICH_IGNORE_CXX SEEK
127.wrf2: -DSPEC_MPI_CASE_FLAG -DSPEC_MPI_LINUX
130.socorro: -assume nostd_intent_in

Base Optimization Flags

C benchmarks:
-O3 -march=core-avx2 -no-prec-div -ipo

C++ benchmarks:
126.lammps: -O3 -march=core-avx2 -no-prec-div -ipo

Fortran benchmarks:
-O3 -march=core-avx2 -no-prec-div -ipo

Benchmarks using both Fortran and C:
-O3 -march=core-avx2 -no-prec-div -ipo

The flags files that were used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/EM64T_Intel121_flags.20190807.html
http://www.spec.org/mpi2007/flags/Lenovo-SPECmpiM_Platform_Flags.20190807.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/mpi2007/flags/EM64T_Intel121_flags.20190807.xml
http://www.spec.org/mpi2007/flags/Lenovo-SPECmpiM_Platform_Flags.20190807.xml