**SPEC® MPIM2007 Result**

**Lenovo Global Technology**

ThinkSystem SR950  
(Intel Xeon Platinum 8180 CPU, 2.50 GHz)

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**Results Table**

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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 SR950
(Intel Xeon Platinum 8180 CPU, 2.50 GHz)

SPECmpiM_peak2007 = Not Run
SPECmpiM_base2007 = 53.5

Results Table (Continued)

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</table>

Hardware Summary
Type of System: Homogeneous
Compute Node: ThinkSystem SR950
Interconnect: N/A
Total Compute Nodes: 1
Total Chips: 8
Total Cores: 224
Total Threads: 224
Total Memory: 1536 GB
Base Ranks Run: 224
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 SR950

Hardware
Number of nodes: 1
Uses of the node: compute
Vendor: Lenovo Global Technology
Model: SR950
CPU Name: Intel Xeon Platinum 8180
CPU(s) orderable: 2,3,4,6,8 chips
Chips enabled: 8
Cores enabled: 224
Cores per chip: 28
Threads per core: 1
CPU Characteristics: None
CPU MHz: 2500
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core
L3 Cache: 39424 KB I+D on chip per chip
shared / 28 cores
Other Cache: None
Memory: 1536 GB (96 x 16GB 2Rx8 PC4-2666V)
Disk Subsystem: 960GB NVME SSD
Other Hardware: ThinkSystem RAID 930-8i 2GB Flash
Adapter: N/A
Number of Adapters: 0
Slot Type: N/A
Data Rate: N/A

Software
Adapter: N/A
Adapter Driver: N/A
Adapter Firmware: N/A
Operating System: Red Hat Enterprise Linux Server release 7.3,
Kernel 3.10.0-514.48.5.el7.x86_64
Local File System: xfs
Shared File System: None
System State: None
Other Software: None

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.
**SPEC MPI M2007 Result**

**Lenovo Global Technology**

ThinkSystem SR950  
(Intel Xeon Platinum 8180 CPU, 2.50 GHz)

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**MPI2007 license:** 28  
**Test date:** Aug-2018  
**Test sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology

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<tr>
<th>Hardware</th>
<th>Software</th>
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</table>
| Vendor: N/A  
Model: N/A  
Switch Model: N/A  
Number of Switches: 0  
Number of Ports: 0  
Data Rate: N/A  
Firmware: N/A  
Topology: N/A  
Primary Use: N/A |

**Node Description:** ThinkSystem SR950

| Ports Used: 0  
Interconnect Type: None |

**Interconnect Description:** N/A

**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 2x16GB RDIMM on each memory channel.

Add "intel_idle.max_cstate=0 intel_pstate=disable" into grub

BIOS settings:

Operating Mode : Maximum Performance Mode  
Intel Hyper-Threading Technology (SMT): Disabled  
SNC (Sub-NUMA Cluster): Enable

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.
Lenovo Global Technology
ThinkSystem SR950
(Intel Xeon Platinum 8180 CPU, 2.50 GHz)

SPECmpiM_peak2007 = Not Run
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Base Compiler Invocation

C benchmarks:
 mpiicc

C++ benchmarks:

 126.lammps: mpiicpc

Fortran benchmarks:
 mpiifort

Benchmarks using both Fortran and C:
 mpiicc mpiifort

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 -ipo -xCORE-AVX512 -no-prec-div

C++ benchmarks:

 126.lammps: -O3 -ipo -xCORE-AVX512 -no-prec-div

Fortran benchmarks:
 -O3 -ipo -xCORE-AVX512 -no-prec-div

Benchmarks using both Fortran and C:
 -O3 -ipo -xCORE-AVX512 -no-prec-div

The flags files that were used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/Lenovo-SPECmpiM_Platform_Flags.20180912.html
http://www.spec.org/mpi2007/flags/EM64T_Intel121_flags.20170711.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/mpi2007/flags/Lenovo-SPECmpiM_Platform_Flags.20180912.xml
http://www.spec.org/mpi2007/flags/EM64T_Intel121_flags.20170711.xml
## SPEC MPI2007 Result

**Lenovo Global Technology**

ThinkSystem SR950  
(Intel Xeon Platinum 8180 CPU, 2.50 GHz)

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<td>Hardware Availability: Aug-2017</td>
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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC MPI2007 v2.0.1.
Originally published on 12 September 2018.