



SPEChpc™ 2021 Tiny Result

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Lenovo Global Technology

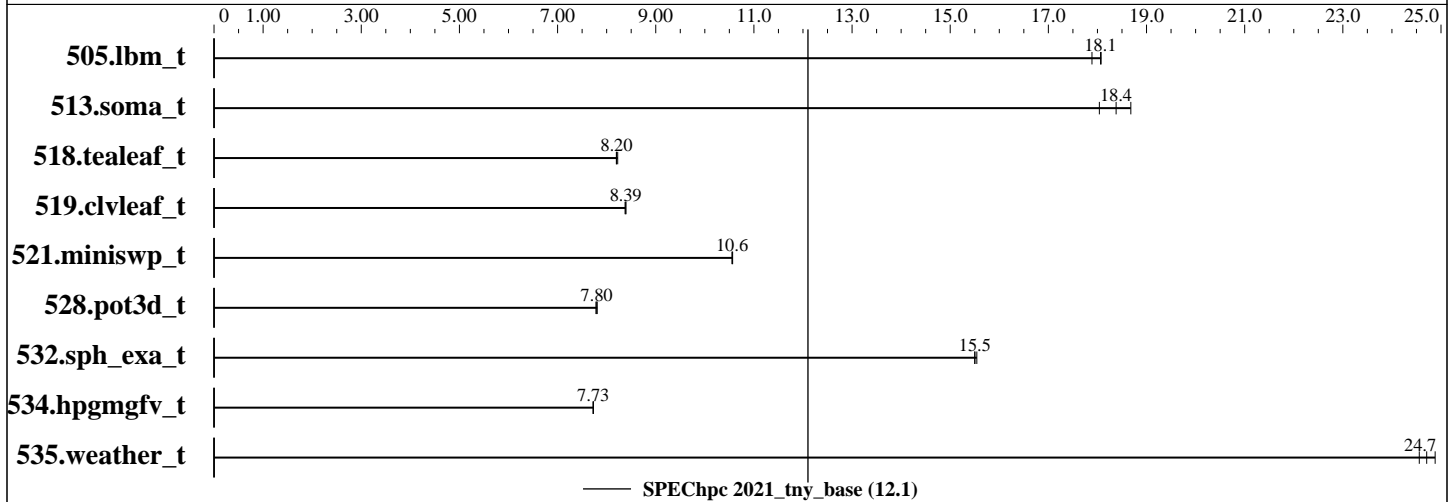
SPEChpc 2021_tny_base = 12.1

ThinkSystem SR950 (Intel Xeon Platinum 8280L)

SPEChpc 2021_tny_peak = Not Run

hpc2021 License: 28
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Aug-2021
Hardware Availability: Apr-2019
Software Availability: Sep-2020



Results Table

Benchmark	Base										Peak							
	Model	Ranks	Thrds/Rnk	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Model	Ranks	Thrds/Rnk	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
505.lbm_t	OMP	32	7	126	17.9	124	18.1	<u>125</u>	<u>18.1</u>									
513.soma_t	OMP	32	7	<u>201</u>	<u>18.4</u>	205	18.0	198	18.7									
518.tealeaf_t	OMP	32	7	201	8.20	201	8.22	<u>201</u>	<u>8.20</u>									
519.clvleaf_t	OMP	32	7	197	8.39	<u>197</u>	<u>8.39</u>	197	8.38									
521.miniswp_t	OMP	32	7	152	10.6	<u>152</u>	<u>10.6</u>	151	10.6									
528.pot3d_t	OMP	32	7	273	7.78	272	7.81	<u>273</u>	<u>7.80</u>									
532.sph_exa_t	OMP	32	7	125	15.5	126	15.5	<u>126</u>	<u>15.5</u>									
534.hpgmgfv_t	OMP	32	7	<u>152</u>	<u>7.73</u>	152	7.73	152	7.72									
535.weather_t	OMP	32	7	131	24.6	<u>131</u>	<u>24.7</u>	130	24.9									

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



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Hardware Summary

Type of System: Homogenous
Compute Node: ThinkSystem SR950
Interconnect: N/A
Compute Nodes Used: 1
Total Chips: 8
Total Cores: 224
Total Threads: 224
Total Memory: 1536 GB
Max. Peak Threads: --

Software Summary

Compiler: Intel oneAPI C/C++/Fortran Compiler
Version 2021.2.0 Build 20210228
MPI Library: Intel oneAPI MPI Library for Linux* OS
Version 2020 Version 2021.2 Build 20210302
Other MPI Info: --
Other Software: --
Base Parallel Model: OMP
Base Ranks Run: 32
Base Threads Run: 7
Peak Parallel Models: Not Run
Minimum Peak Ranks: --
Maximum Peak Ranks: --
Max. Peak Threads: --
Min. Peak Threads: --

Node Description: ThinkSystem SR950

Hardware

Number of nodes: 1
Uses of the node: compute
Vendor: Lenovo Global Technology
Model: ThinkSystem SR950
CPU Name: Intel Xeon Platinum 8280L
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: Intel Turbo Boost Technology up to 4.0 GHz
CPU MHz: 2700
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
Other Cache: None
Memory: 1536 GB (96 x 16 GB 2Rx8 PC4-2933Y-R)
Disk Subsystem: 1 x 960 GB NVME 2.5" SSD
Other Hardware: None
Accel Count: 0
Accel Model: None
Accel Vendor: None
Accel Type: None
Accel Connection: None
Accel ECC enabled: None
Accel Description: None
Adapter: None
Number of Adapters: 0
Slot Type: None
Data Rate: None

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Software

Accelerator Driver: --
Adapter: None
Adapter Driver: None
Adapter Firmware: None
Operating System: Red Hat Enterprise Linux Server release 7.6,
Kernel 3.10.0-957.el7.x86_64
Local File System: xfs
Shared File System: None
System State: Multi-user, run level 3
Other Software: None



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Node Description: ThinkSystem SR950

Hardware (Continued)

Ports Used: 0
Interconnect Type: None

Interconnect Description: N/A

Hardware

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

Software

: --

Submit Notes

The config file option 'submit' was used.
submit = mpirun -host localhost -genv coll_hcoll_enable 1 -genv HCOLL_MAIN_IB=mlx5_0:1
-genv UCX_TLS=sm -genv pml ucx --map-by numa -np \$ranks \$command

Compiler Version Notes

=====
CC 505.lbm_t(base) 513.soma_t(base) 518.tealeaf_t(base) 521.miniswp_t(base)
534.hpgmgfv_t(base)
=====

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 2021.2.0 Build 20210228_000000
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.
=====

=====
CXXC 532.sph_exa_t(base)
=====

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 2021.2.0 Build 20210228_000000
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Compiler Version Notes (Continued)

FC 519.clvleaf_t(base) 528.pot3d_t(base) 535.weather_t(base)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 2021.2.0 Build 20210228_000000
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Base Compiler Invocation

C benchmarks:
mpiicc

C++ benchmarks:
mpiicpc

Fortran benchmarks:
mpiifort

Base Portability Flags

513.soma_t: -DSPEC_NO_VAR_ARRAY_REDUCE
521.miniswp_t: -DUSE_KBA -DUSE_ACCELDIR
532.sph_exa_t: -DSPEC_USE_LT_IN_KERNELS

Base Optimization Flags

C benchmarks:
-Ofast -xCORE-AVX512 -no-prec-div -ipo -qopenmp -ansi-alias

C++ benchmarks:
-Ofast -xCORE-AVX512 -no-prec-div -ipo -qopenmp -ansi-alias

Fortran benchmarks:
-Ofast -xCORE-AVX512 -no-prec-div -ipo -qopenmp

The flags file that was used to format this result can be browsed at

http://www.spec.org/hpc2021/flags/Intel_compiler_flags.2021-10-20.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/hpc2021/flags/Intel_compiler_flags.2021-10-20.xml



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

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