



SPEChpc™ 2021 Tiny Result

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Supermicro

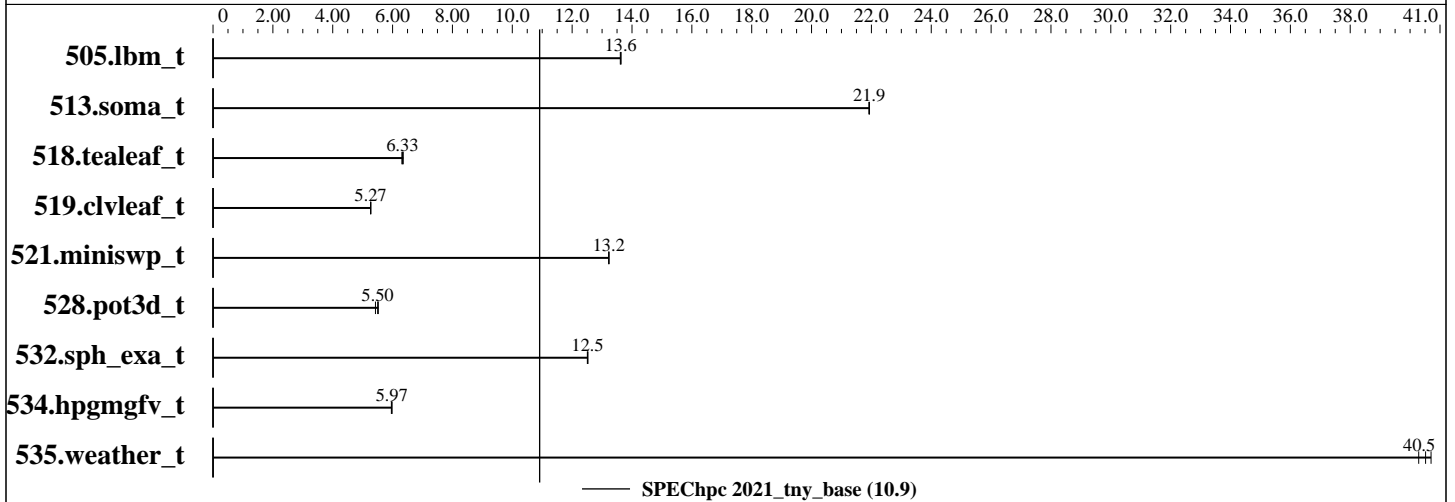
GPU SuperServer SYS-741GE-TNRT (Intel Xeon Platinum 8592+)

SPEChpc 2021_tny_base = 10.9

SPEChpc 2021_tny_peak = Not Run

hpc2021 License: 6569
Test Sponsor: Supermicro
Tested by: Supermicro

Test Date: Dec-2023
Hardware Availability: Dec-2023
Software Availability: Oct-2023



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	4	64	165	13.6	165	13.6	<u>165</u>	<u>13.6</u>									
513.soma_t	OMP	4	64	169	21.9	169	21.9	<u>169</u>	<u>21.9</u>									
518.tealeaf_t	OMP	4	64	<u>261</u>	<u>6.33</u>	260	6.36	261	6.31									
519.clvleaf_t	OMP	4	64	313	5.28	<u>313</u>	<u>5.27</u>	314	5.26									
521.miniswp_t	OMP	4	64	121	13.2	121	13.2	<u>121</u>	<u>13.2</u>									
528.pot3d_t	OMP	4	64	<u>386</u>	<u>5.50</u>	385	5.52	392	5.43									
532.sph_exa_t	OMP	4	64	156	12.5	156	12.5	<u>156</u>	<u>12.5</u>									
534.hpgmgfv_t	OMP	4	64	<u>197</u>	<u>5.97</u>	196	5.98	197	5.96									
535.weather_t	OMP	4	64	<u>79.6</u>	<u>40.5</u>	79.2	40.7	80.0	40.3									

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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: GPU SuperServer SYS-741GE-TNRT
Interconnect: None
Compute Nodes Used: 1
Total Chips: 2
Total Cores: 128
Total Threads: 256
Total Memory: 1 TB
Max. Peak Threads: --

Software Summary

Compiler: C/C++/Fortran: Version 2024.0.0 of Intel oneAPI Compiler
MPI Library: Intel MPI Library for Linux* OS, Version 2021.11 Build 20231005
Other MPI Info: None
Other Software: None
Base Parallel Model: OMP
Base Ranks Run: 4
Base Threads Run: 64
Peak Parallel Models: Not Run
Minimum Peak Ranks: --
Maximum Peak Ranks: --
Max. Peak Threads: --
Min. Peak Threads: --

Node Description: GPU SuperServer SYS-741GE-TNRT

Hardware

Number of nodes: 1
Uses of the node: compute
Vendor: Supermicro
Model: GPU SuperServer SYS-741GE-TNRT
CPU Name: Intel Xeon Platinum 8592+
CPU(s) orderable: 2 chips
Chips enabled: 2
Cores enabled: 128
Cores per chip: 64
Threads per core: 2
CPU Characteristics: Intel Turbo Boost Technology up to 3.9 GHz
CPU MHz: 1900
Primary Cache: 32 KB I + 48 KB D on chip per core
Secondary Cache: 2 MB I+D on chip per core
L3 Cache: 320 MB I+D on chip per chip
Other Cache: None
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-5600B-R)
Disk Subsystem: 1 x 512 GB M.2 NVMe 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: SUSE Linux Enterprise Server 15 SP5 Kernel 5.14.21-150500.53-default
Local File System: xfs
Shared File System: None
System State: Multi-user, run level 3
Other Software: None



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Node Description: GPU SuperServer SYS-741GE-TNRT

Hardware (Continued)

Ports Used: 0
Interconnect Type: None

Interconnect Description: None

Hardware

Vendor: None
Model: None
Switch Model: None
Number of Switches: 0
Number of Ports: 0
Data Rate: None
Firmware: None
Topology: None
Primary Use: None

Software

: --

Submit Notes

The config file option 'submit' was used.

General Notes

MPI startup command:
mpirun command (mpiexec.hydra) was used to start MPI jobs.

Compiler Version Notes

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

Intel(R) oneAPI DPC++/C++ Compiler 2024.0.0 (2024.0.0.20231017)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/intel/oneapi/compiler/2024.0/bin/compiler
Configuration file: /opt/intel/oneapi/compiler/2024.0/bin/compiler/./icpx.cfg

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

Intel(R) oneAPI DPC++/C++ Compiler 2024.0.0 (2024.0.0.20231017)

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Compiler Version Notes (Continued)

Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/intel/oneapi/compiler/2024.0/bin/compiler
Configuration file: /opt/intel/oneapi/compiler/2024.0/bin/compiler/./icx.cfg

=====
FC 519.clvleaf_t(base) 535.weather_t(base)
=====

ifx (IFX) 2024.0.0 20231017
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====
FC 528.pot3d_t(base)
=====

ifx: command line warning #10157: ignoring option '-W'; argument is of wrong type
ifx (IFX) 2024.0.0 20231017
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
mpiicc -cc=icx

C++ benchmarks:
mpiicpc -cxx=icpx

Fortran benchmarks:
mpiifort -fc=ifx

Base Portability Flags

505.lbm_t: -lstdc++
513.soma_t: -lstdc++ -DSPEC_NO_VAR_ARRAY_REDUCE
518.tealeaf_t: -lstdc++
519.clvleaf_t: -lstdc++
521.miniswp_t: -lstdc++
528.pot3d_t: -lstdc++
532.sph_exa_t: -lstdc++
534.hpgmgfv_t: -lstdc++

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Base Portability Flags (Continued)

535.weather_t: -lstdc++

Base Optimization Flags

C benchmarks:

-Ofast -ipo -xCORE-AVX512 -mprefer-vector-width=512 -fiopenmp
-ansi-alias

C++ benchmarks:

-Ofast -ipo -xCORE-AVX512 -mprefer-vector-width=512 -fiopenmp
-ansi-alias

Fortran benchmarks:

-Ofast -ipo -xCORE-AVX512 -mprefer-vector-width=512 -fiopenmp
-nostandard-realloc-lhs -align array64byte

Base Other Flags

Fortran benchmarks:

528.pot3d_t: -Wno-incompatible-function-pointer-types

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

http://www.spec.org/hpc2021/flags/Intel_compiler_flags.2023-06-05.html

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

http://www.spec.org/hpc2021/flags/Intel_compiler_flags.2023-06-05.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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