



SPEChpc™ 2021 Small Result

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Supermicro

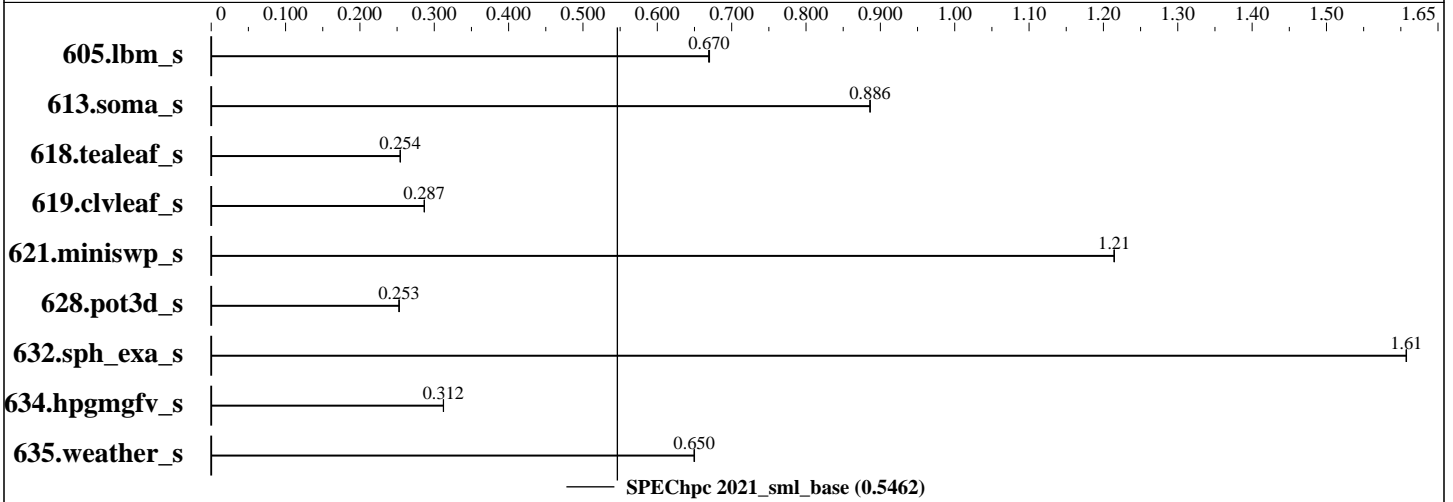
UP SuperServer SYS-521C-NR (Intel Xeon Platinum 8592+)

SPEChpc 2021_sml_base = 0.5462

SPEChpc 2021_sml_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	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio					
605.lbm_s	MPI	128	1	2313	0.670	2317	0.669	<u>2315</u>	<u>0.670</u>											
613.soma_s	MPI	128	1	1805	0.886	1806	0.886	<u>1805</u>	<u>0.886</u>											
618.tealeaf_s	MPI	128	1	8059	0.254	<u>8062</u>	<u>0.254</u>	8065	0.254											
619.clvleaf_s	MPI	128	1	5757	0.287	<u>5757</u>	<u>0.287</u>	5758	0.287											
621.miniswp_s	MPI	128	1	<u>906</u>	<u>1.21</u>	906	1.21	906	1.21											
628.pot3d_s	MPI	128	1	<u>6629</u>	<u>0.253</u>	6624	0.253	6632	0.253											
632.sph_exa_s	MPI	128	1	<u>1431</u>	<u>1.61</u>	1431	1.61	1431	1.61											
634.hpgmgfv_s	MPI	128	1	3120	0.313	<u>3122</u>	<u>0.312</u>	3122	0.312											
635.weather_s	MPI	128	1	4000	0.650	<u>4002</u>	<u>0.650</u>	4003	0.650											

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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: UP SuperServer SYS-521C-NR
Interconnect: None
Compute Nodes Used: 1
Total Chips: 1
Total Cores: 64
Total Threads: 128
Total Memory: 512 GB
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: MPI
Base Ranks Run: 128
Base Threads Run: 1
Peak Parallel Models: Not Run
Minimum Peak Ranks: --
Maximum Peak Ranks: --
Max. Peak Threads: --
Min. Peak Threads: --

Node Description: UP SuperServer SYS-521C-NR

Hardware

Number of nodes: 1
Uses of the node: compute
Vendor: Supermicro
Model: UP SuperServer SYS-521C-NR
CPU Name: Intel Xeon Platinum 8592+
CPU(s) orderable: 1 chip
Chips enabled: 1
Cores enabled: 64
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: 512 GB (8 x 64 GB 2Rx4 PC5-5600B-R)
Disk Subsystem: 1 x 240 GB SATA 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: 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: UP SuperServer SYS-521C-NR

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 632.sph_exa_s(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 605.lbm_s(base) 613.soma_s(base) 618.tealeaf_s(base) 621.miniswp_s(base)
634.hpgmgfv_s(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 619.clvleaf_s(base) 635.weather_s(base)
=====

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

=====
FC 628.pot3d_s(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

605.lbm_s: -lstdc++
613.soma_s: -lstdc++
618.tealeaf_s: -lstdc++
619.clvleaf_s: -lstdc++
621.miniswp_s: -lstdc++
628.pot3d_s: -lstdc++
632.sph_exa_s: -lstdc++
634.hpgmgfv_s: -lstdc++

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Base Portability Flags (Continued)

635.weather_s: -lstdc++

Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

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

Base Other Flags

Fortran benchmarks:

628.pot3d_s: -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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