



SPEChpc™ 2021 Small Result

Copyright 2021-2024 Standard Performance Evaluation Corporation

Supermicro

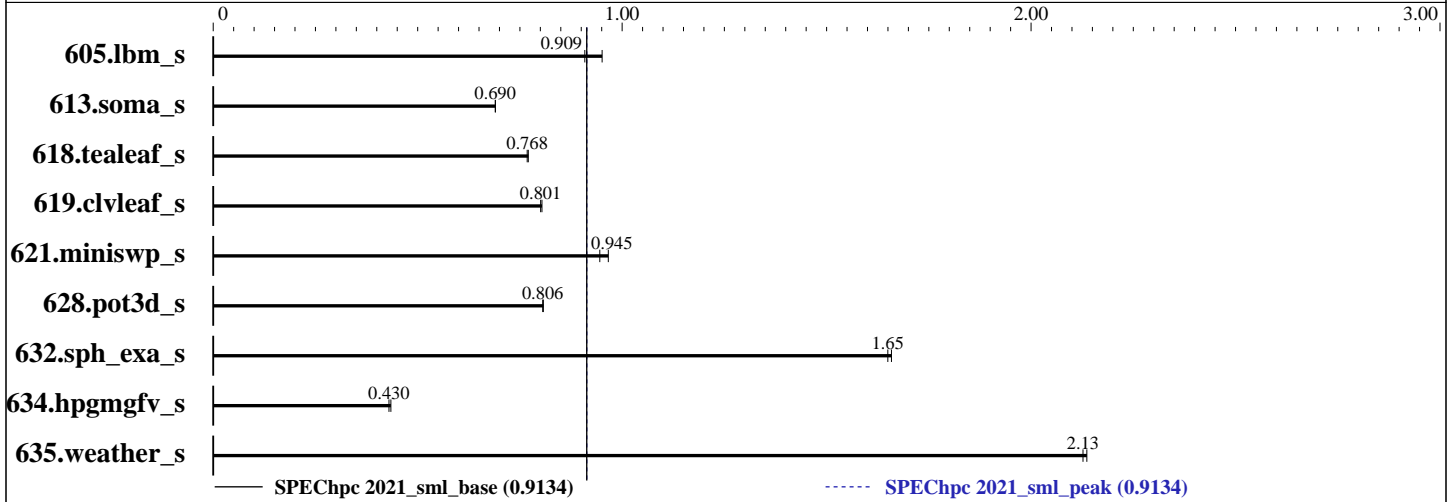
SPEChpc 2021_sml_base = 0.9134

Hyper A+ Server AS -2126HS-TN (AMD EPYC 9355)

SPEChpc 2021_sml_peak = 0.9134

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

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024



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
605.lbm_s	MPI	128	1	1630	0.951	1706	0.909			MPI	128	1	1630	0.951	1706	0.909		
613.soma_s	MPI	128	1	2320	0.690	2319	0.690			MPI	128	1	2320	0.690	2319	0.690		
618.tealeaf_s	MPI	128	1	2660	0.771	2670	0.768			MPI	128	1	2660	0.771	2670	0.768		
619.clvleaf_s	MPI	128	1	2061	0.801	2052	0.804			MPI	128	1	2061	0.801	2052	0.804		
621.miniswp_s	MPI	128	1	1164	0.945	1138	0.966			MPI	128	1	1164	0.945	1138	0.966		
628.pot3d_s	MPI	128	1	2079	0.806	2075	0.807			MPI	128	1	2079	0.806	2075	0.807		
632.sph_exa_s	MPI	128	1	1387	1.66	1394	1.65			MPI	128	1	1387	1.66	1394	1.65		
634.hpgmgfv_s	MPI	128	1	2244	0.434	2268	0.430			MPI	128	1	2244	0.434	2268	0.430		
635.weather_s	MPI	128	1	1222	2.13	1217	2.14			MPI	128	1	1222	2.13	1217	2.14		

SPEChpc 2021_sml_base = 0.9134

SPEChpc 2021_sml_peak = 0.9134

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



SPEChpc™ 2021 Small Result

Copyright 2021-2024 Standard Performance Evaluation Corporation

Supermicro

SPEChpc 2021_sml_base = 0.9134

Hyper A+ Server AS -2126HS-TN (AMD EPYC 9355)

SPEChpc 2021_sml_peak = 0.9134

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

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Hardware Summary

Type of System: Homogenous
Compute Node: Hyper A+ Server AS -2126HS-TN
Compute Nodes Used: 1
Total Chips: 2
Total Cores: 64
Total Threads: 128
Total Memory: 1536 GB
Max. Peak Threads: 1

Software Summary

Compiler: Intel oneAPI DPC++/C++ Compiler 2024.2.1
MPI Library: OpenMPI Version 5.0.5
Other MPI Info: None
Other Software: None
Base Parallel Model: MPI
Base Ranks Run: 128
Base Threads Run: 1
Peak Parallel Models: MPI
Minimum Peak Ranks: 128
Maximum Peak Ranks: 128
Max. Peak Threads: 1
Min. Peak Threads: 1

Node Description: Hyper A+ Server AS -2126HS-TN

Hardware

Number of nodes: 1
Uses of the node: compute
Vendor: Supermicro
Model: Hyper A+ Server AS -2126HS-TN
CPU Name: AMD EPYC 9355
CPU(s) orderable: 1,2 chips
Chips enabled: 2
Cores enabled: 64
Cores per chip: 32
Threads per core: 2
CPU Characteristics: Max. Boost Clock upto 4.4GHz
CPU MHz: 3550
Primary Cache: 32 KB I + 48 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core
L3 Cache: 256 MB I+D on chip per chip,
32 MB shared / 4 cores
Other Cache: None
Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R,
running at 6000)
Disk Subsystem: 1 x 3.5 TB NVMe SSD
Other Hardware: None
Accel Count: None
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

Software

Accelerator Driver: --
Adapter: None
Adapter Driver: None
Adapter Firmware: None
Operating System: Ubuntu 24.04 LTS
Kernel 6.8.0-44-generic
Local File System: ext4
Shared File System: None
System State: Multi-user, run level 3
Other Software: None

(Continued on next page)



SPEChpc™ 2021 Small Result

Copyright 2021-2024 Standard Performance Evaluation Corporation

Supermicro

SPEChpc 2021_sml_base = 0.9134

Hyper A+ Server AS -2126HS-TN (AMD EPYC 9355)

SPEChpc 2021_sml_peak = 0.9134

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

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Node Description: Hyper A+ Server AS -2126HS-TN

Hardware (Continued)

Ports Used: 0
Interconnect Type: None

Submit Notes

The config file option 'submit' was used.
mpirun -np \$ranks --bind-to core:overload-allowed --map-by ppr:1:numa:pe=16 --mca topo basic \$command

General Notes

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

Compiler Version Notes

=====
CXXC 632.sph_exa_s(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler 2024.2.1 (2024.2.1.20240711)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir:

/home/amd/spack/opt/spack/linux-ubuntu24.04-zen4/gcc-13.2.0/intel-oneapi-compilers-2024.2.1-njykuawredfxjir45iz3erssyetxux3c/compiler/2024.2/bin/compiler
Configuration file:

/home/amd/spack/opt/spack/linux-ubuntu24.04-zen4/gcc-13.2.0/intel-oneapi-compilers-2024.2.1-njykuawredfxjir45iz3erssyetxux3c/compiler/2024.2/bin/compiler/./icpx.cfg

=====
CC 605.lbm_s(base, peak) 613.soma_s(base, peak) 618.tealeaf_s(base, peak)
621.miniswp_s(base, peak) 634.hpgmgfv_s(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler 2024.2.1 (2024.2.1.20240711)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir:

/home/amd/spack/opt/spack/linux-ubuntu24.04-zen4/gcc-13.2.0/intel-oneapi-compilers-2024.2.1-njykuawredfxjir45iz3erssyetxux3c/compiler/2024.2/bin/compiler
Configuration file:

/home/amd/spack/opt/spack/linux-ubuntu24.04-zen4/gcc-13.2.0/intel-oneapi-compilers-2024.2.1-njykuawredfxjir45iz3erssyetxux3c/compiler/2024.2/bin/compiler/./icx.cfg

=====
FC 619.clvleaf_s(base, peak) 628.pot3d_s(base, peak) 635.weather_s(base, peak)

(Continued on next page)



SPEChpc™ 2021 Small Result

Copyright 2021-2024 Standard Performance Evaluation Corporation

Supermicro

SPEChpc 2021_sml_base = 0.9134

Hyper A+ Server AS -2126HS-TN (AMD EPYC 9355)

SPEChpc 2021_sml_peak = 0.9134

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

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Compiler Version Notes (Continued)

ifx (IFX) 2024.2.1 20240711
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
mpiicc -cc=icx

C++ benchmarks:
mpicpc -cxx=icpx

Fortran benchmarks:
mpiifort -fc=ifx

Base Portability Flags

605.lbm_s: -DSPEC_LP64
613.soma_s: -DSPEC_LP64
618.tealeaf_s: -DSPEC_LP64
621.miniswp_s: -DSPEC_LP64
632.sph_exa_s: -DSPEC_LP64
634.hpgmgfv_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-Ofast -ipo -mprefer-vector-width=512 -march=skylake-avx512
-mtune=skylake-avx512 -ansi-alias

C++ benchmarks:
-Ofast -ipo -mprefer-vector-width=512 -march=skylake-avx512
-mtune=skylake-avx512 -ansi-alias

Fortran benchmarks:
-Ofast -ipo -mprefer-vector-width=512 -march=skylake-avx512
-mtune=skylake-avx512 -ansi-alias -nostandard-realloc-lhs
-align array64byte



SPEChpc™ 2021 Small Result

Copyright 2021-2024 Standard Performance Evaluation Corporation

Supermicro

SPEChpc 2021_sml_base = 0.9134

Hyper A+ Server AS -2126HS-TN (AMD EPYC 9355)

SPEChpc 2021_sml_peak = 0.9134

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

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Base Other Flags

C benchmarks:

-limf

C++ benchmarks:

-limf

Fortran benchmarks:

-limf

Peak Compiler Invocation

C benchmarks:

mpiicc -cc=icx

C++ benchmarks:

mpiicpc -cxx=icpx

Fortran benchmarks:

mpiifort -fc=ifx

Peak Portability Flags

605.lbm_s: -DSPEC_LP64
613.soma_s: -DSPEC_LP64
618.tealeaf_s: -DSPEC_LP64
621.miniswp_s: -DSPEC_LP64
632.sph_exa_s: -DSPEC_LP64
634.hpgmgfv_s: -DSPEC_LP64

Peak Optimization Flags

C benchmarks:

605.lbm_s: basepeak = yes

613.soma_s: basepeak = yes

618.tealeaf_s: basepeak = yes

(Continued on next page)



SPEChpc™ 2021 Small Result

Copyright 2021-2024 Standard Performance Evaluation Corporation

Supermicro

SPEChpc 2021_sml_base = 0.9134

Hyper A+ Server AS -2126HS-TN (AMD EPYC 9355)

SPEChpc 2021_sml_peak = 0.9134

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

Test Date: Sep-2024
Hardware Availability: Oct-2024
Software Availability: Apr-2024

Peak Optimization Flags (Continued)

621.miniswp_s: basepeak = yes

634.hpgmgfv_s: basepeak = yes

C++ benchmarks:

632.sph_exa_s: basepeak = yes

Fortran benchmarks:

619.clvleaf_s: basepeak = yes

628.pot3d_s: basepeak = yes

635.weather_s: basepeak = yes

Peak Other Flags

C benchmarks:

-limf

C++ benchmarks:

-limf

Fortran benchmarks:

-limf

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

http://www.spec.org/hpc2021/flags/Intel_compiler_flags_hpc.2024.2024-10-10.html

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

http://www.spec.org/hpc2021/flags/Intel_compiler_flags_hpc.2024.2024-10-10.xml

SPEChpc is a trademark of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEChpc2021 v1.1.7 on 2024-09-17 03:01:30-0400.
Report generated on 2024-10-10 12:32:21 by hpc2021 PDF formatter v1.0.3.
Originally published on 2024-10-10.