



SPEChpc™ 2021 Small Result

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Supermicro

SPEChpc 2021_sml_base = 0.6725

A+ Server 1015CS-TNR (AMD EPYC 9754)

SPEChpc 2021_sml_peak = Not Run

hpc2021 License: 6569

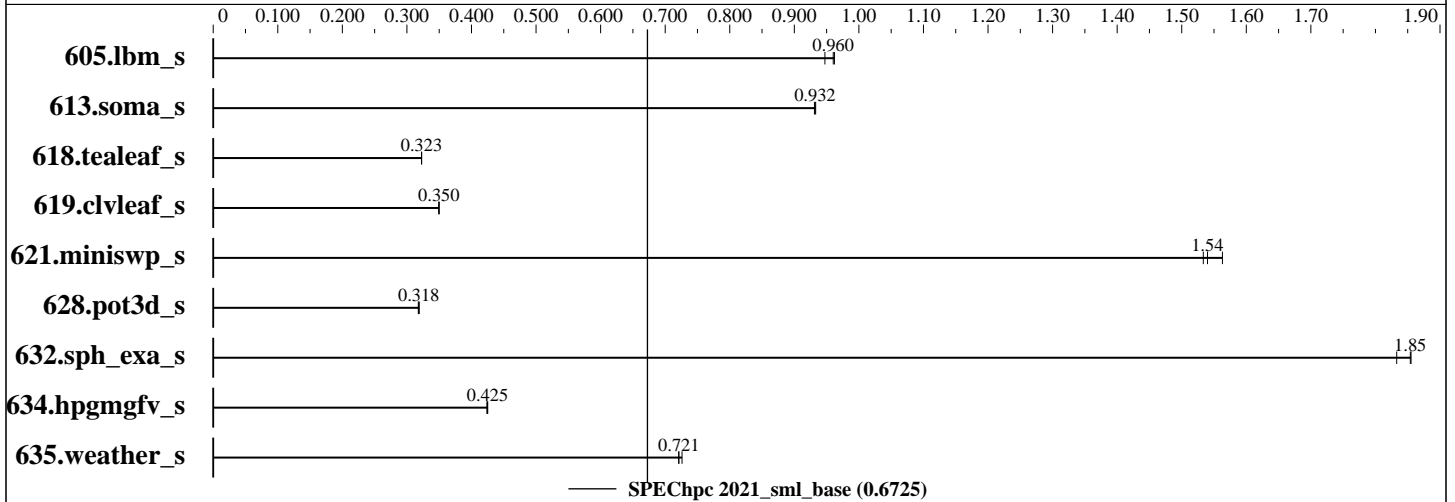
Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: May-2023

Hardware Availability: Jun-2023

Software Availability: Feb-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
605.lbm_s	MPI	256	1	1611	0.962	1614	0.960	1636	0.947									
613.soma_s	MPI	256	1	1718	0.931	1717	0.932	1715	0.933									
618.tealeaf_s	MPI	256	1	6350	0.323	6355	0.323	6354	0.323									
619.clvleaf_s	MPI	256	1	4719	0.350	4719	0.350	4719	0.350									
621.miniswp_s	MPI	256	1	714	1.54	704	1.56	717	1.53									
628.pot3d_s	MPI	256	1	5251	0.319	5260	0.318	5274	0.318									
632.sph_exa_s	MPI	256	1	1241	1.85	1240	1.86	1255	1.83									
634.hpgmgfv_s	MPI	256	1	2294	0.425	2294	0.425	2300	0.424									
635.weather_s	MPI	256	1	3605	0.721	3581	0.726	3607	0.721									

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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: A+ Server 1015CS-TNR
Compute Nodes Used: 1
Total Chips: 1
Total Cores: 128
Total Threads: 256
Total Memory: 768 GB
Max. Peak Threads: --

Software Summary

Compiler: AMD Optimizing C/C++ and Fortran Compilers (AOCC)
Version 4.0.0 Build 389 for Linux
MPI Library: OpenMPI Version 4.1.4
Other MPI Info: None
Other Software: None
Base Parallel Model: MPI
Base Ranks Run: 256
Base Threads Run: 1
Peak Parallel Models: Not Run
Minimum Peak Ranks: --
Maximum Peak Ranks: --
Max. Peak Threads: --
Min. Peak Threads: --

Node Description: A+ Server 1015CS-TNR

Hardware

Number of nodes: 1
Uses of the node: compute
Vendor: Supermicro
Model: A+ Server 1015CS-TNR
CPU Name: AMD EPYC 9754
CPU(s) orderable: 1 chip
Chips enabled: 1
Cores enabled: 128
Cores per chip: 128
Threads per core: 2
CPU Characteristics: Max. Boost Clock upto 3.1GHz
CPU MHz: 2250
Primary Cache: 32 KB I + 32 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
16 MB shared / 8 cores
Other Cache: None
Memory: 768 GB (12 x 64 GB 2Rx4 PC5-4800B-R)
Disk Subsystem: 1 x 480 GB Micron 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
Ports Used: 0

Software

Accelerator Driver: --
Adapter: None
Adapter Driver: None
Adapter Firmware: None
Operating System: Ubuntu 22.04.2 LTS
Kernel 5.15.0-71-generic
Local File System: ext4
Shared File System: None
System State: Multi-user, run level 5
Other Software: None

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Node Description: A+ Server 1015CS-TNR

Hardware (Continued)

Interconnect Type: None

Submit Notes

The config file option 'submit' was used.
mpirun --bind-to core:overload-allowed --oversubscribe --mca topo basic -np \$ranks \$command

General Notes

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

Compiler Version Notes

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

AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#434 2022_10_28) (based on
LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-4.0.0/bin

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

AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#434 2022_10_28) (based on
LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-4.0.0/bin

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

AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#434 2022_10_28) (based on
LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
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Compiler Version Notes (Continued)

Base Compiler Invocation

C benchmarks:
mpicc

C++ benchmarks:
mpicxx

Fortran benchmarks:
mpif90

Base Portability Flags

619.cvleaf_s: -DSPEC_USE_MPIFH
628.pot3d_s: -DSPEC_USE_MPIFH
635.weather_s: -DSPEC_USE_MPIFH

Base Optimization Flags

C benchmarks:
-O3 -ffast-math -flto -march=znver4

C++ benchmarks:
-O3 -ffast-math -flto -march=znver4

Fortran benchmarks:
-O3 -ffast-math -flto -march=znver4

Base Other Flags

C benchmarks:
-Ispecmpitime -I/include

C++ benchmarks:
-Ispecmpitime -I/include

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Base Other Flags (Continued)

Fortran benchmarks (except as noted below):

-I/include -I/include/

619.cvlleaf_s: -Ispecmpitime -I/include -I/include/

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

http://www.spec.org/hpc2021/flags/amd2021_flags.2022-11-10.html

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

http://www.spec.org/hpc2021/flags/amd2021_flags.2022-11-10.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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