



SPEChpc™ 2021 Small Result

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Supermicro

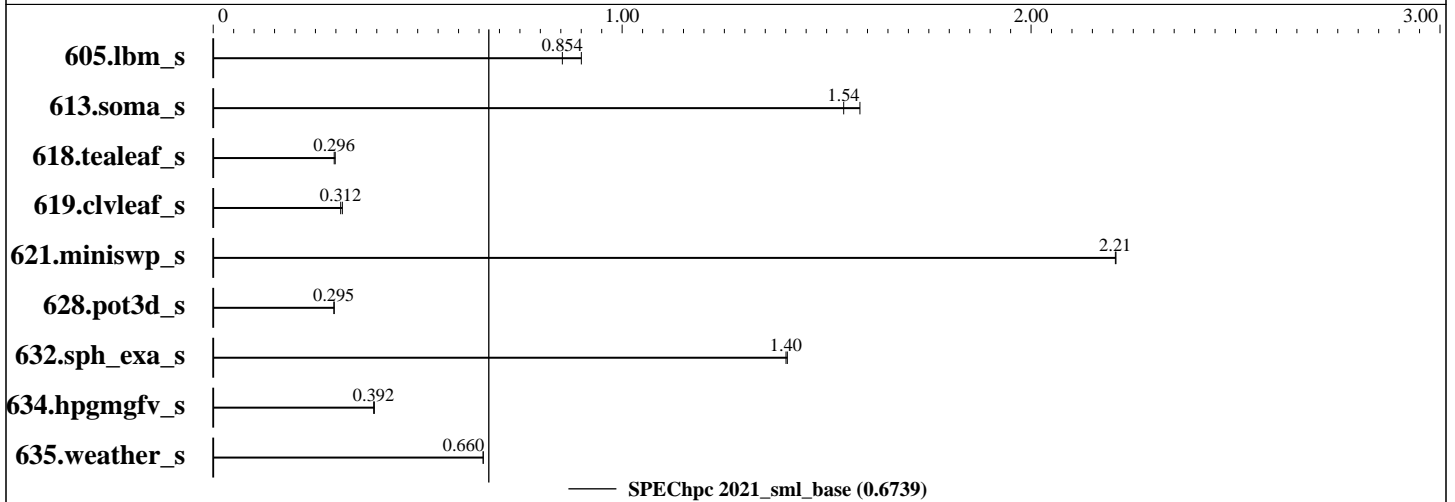
SPEChpc 2021_sml_base = 0.6739

A+ Server 1115CS-TNR (AMD EPYC 9654)

SPEChpc 2021_sml_peak = Not Run

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

Test Date: Oct-2022
Hardware Availability: Nov-2022
Software Availability: Nov-2022



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	OMP	12	16	1722	0.900	1815	0.854												
613.soma_s	OMP	12	16	1012	1.58	1038	1.54												
618.tealeaf_s	OMP	12	16	6929	0.296	6871	0.298												
619.clvleaf_s	OMP	12	16	5294	0.312	5224	0.316												
621.miniswp_s	OMP	12	16	499	2.21	498	2.21												
628.pot3d_s	OMP	12	16	5678	0.295	5658	0.296												
632.sph_exa_s	OMP	12	16	1642	1.40	1638	1.40												
634.hpgmgfv_s	OMP	12	16	2474	0.394	2485	0.392												
635.weather_s	OMP	12	16	3938	0.660	3938	0.660												

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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 1115CS-TNR
Compute Nodes Used: 1
Total Chips: 1
Total Cores: 96
Total Threads: 192
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 4.1.1
Other MPI Info: None
Other Software: None
Base Parallel Model: OMP
Base Ranks Run: 12
Base Threads Run: 16
Peak Parallel Models: Not Run
Minimum Peak Ranks: --
Maximum Peak Ranks: --
Max. Peak Threads: --
Min. Peak Threads: --

Node Description: A+ Server 1115CS-TNR

Hardware

Number of nodes: 1
Uses of the node: compute
Vendor: Supermicro
Model: A+ Server 1115CS-TNR
CPU Name: AMD EPYC 9654
CPU(s) orderable: 1 chip
Chips enabled: 1
Cores enabled: 96
Cores per chip: 96
Threads per core: 2
CPU Characteristics: Max. Boost Clock upto 3.7GHz
CPU MHz: 2400
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core
L3 Cache: 384 MB I+D on chip per chip
Other Cache: None
Memory: 768 GB (12 x 64 GB 2Rx4 PC5-4800B-R)
Disk Subsystem: 10 x 1.92 TB NVMe PCIe Gen4.0
Other Hardware: None
Accel Count: --
Accel Model: --
Accel Vendor: --
Accel Type: --
Accel Connection: --
Accel ECC enabled: --
Accel Description: --
Adapter: Mellanox ConnectX-5 Ex
Number of Adapters: 1
Slot Type: PCI-Express 4.0 x16
Data Rate: 100 Gbits/s
Ports Used: 1
Interconnect Type: Nvidia Mellanox ConnectX-5 Ex

Software

Accelerator Driver: --
Adapter: Mellanox ConnectX-5 Ex
Adapter Driver: None
Adapter Firmware: None
Operating System: SUSE Linux Enterprise Server 15 SP4 Kernel 5.14.21-150400.24.21-default
Local File System: ext4
Shared File System: NFS share
System State: Multi-user, run level 3
Other Software: None



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Submit Notes

The config file option 'submit' was used.

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#389 2022_10_07) (based on
LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /root/aocc/aocc-compiler-rel-4.0-3206-389/bin

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

AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#389 2022_10_07) (based on
LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /root/aocc/aocc-compiler-rel-4.0-3206-389/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#389 2022_10_07) (based on
LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /root/aocc/aocc-compiler-rel-4.0-3206-389/bin

Base Compiler Invocation

C benchmarks:
mpicc

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Base Compiler Invocation (Continued)

C++ benchmarks:
mpicxx

Fortran benchmarks:
mpif90

Base Portability Flags

619.clvleaf_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 -fopenmp

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

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

Base Other Flags

C benchmarks:
-Ispecmpitime -I/root/aocc/aocc-compiler-rel-4.0-3206-389/include

C++ benchmarks:
-Ispecmpitime -I/root/aocc/aocc-compiler-rel-4.0-3206-389/include

Fortran benchmarks (except as noted below):
-I/root/aocc/aocc-compiler-rel-4.0-3206-389/include
-I/root/aocc/compilers/openmpi-4.1.1/include/

619.clvleaf_s: -Ispecmpitime
-I/root/aocc/aocc-compiler-rel-4.0-3206-389/include
-I/root/aocc/compilers/openmpi-4.1.1/include/



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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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