SPEChpc™ 2021 Small Result

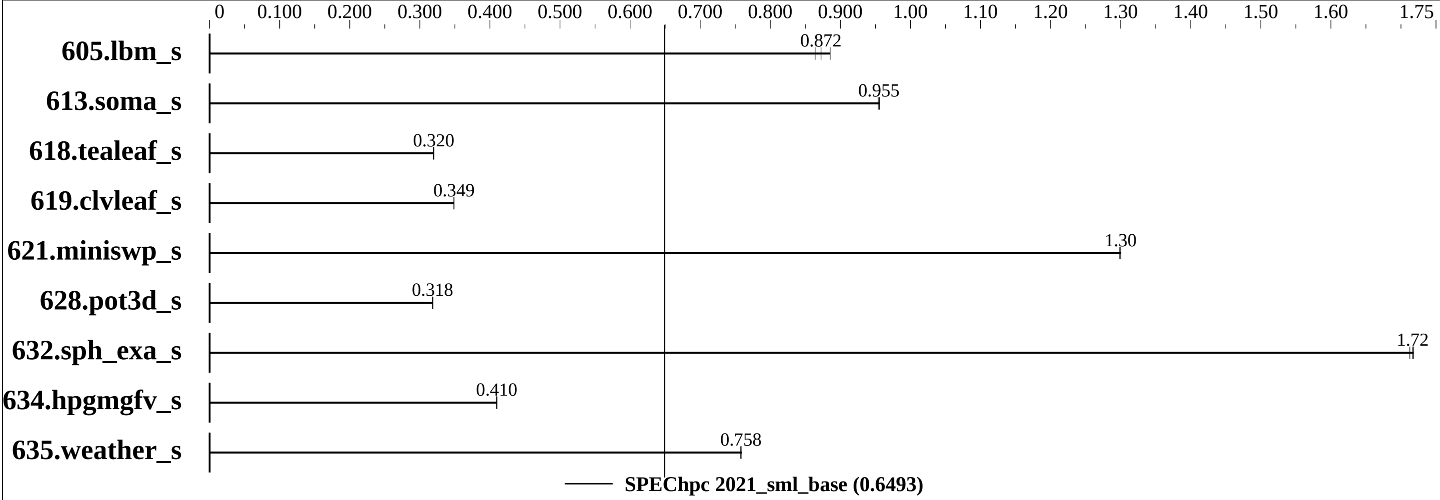
Supermicro

A+ Server 2115GT-HNTF (AMD EPYC 9654)

SPEChpc 2021_sml_base = 0.6493

SPEChpc 2021_sml_peak = Not Run

hpc2021 License:	6569	**Test Date:**	Jan-2023
Test Sponsor:	Supermicro	**Hardware Availability:**	Nov-2022
Tested by:	Supermicro	**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	MPI	192	1	**1777**	**0.872**	1794	0.864	1751	0.885									
613.soma_s	MPI	192	1	1674	0.956	**1675**	**0.955**	1677	0.954									
618.tealeaf_s	MPI	192	1	6405	0.320	**6411**	**0.320**	6424	0.319									
619.clvleaf_s	MPI	192	1	4731	0.349	4732	0.349	**4731**	**0.349**									
621.miniswp_s	MPI	192	1	**846**	**1.30**	846	1.30	847	1.30									
628.pot3d_s	MPI	192	1	**5265**	**0.318**	5254	0.319	5266	0.318									
632.sph_exa_s	MPI	192	1	1339	1.72	1343	1.71	**1340**	**1.72**									
634.hpgmgfv_s	MPI	192	1	2377	0.410	2381	0.409	**2379**	**0.410**									
635.weather_s	MPI	192	1	3434	0.757	**3429**	**0.758**	3424	0.759									

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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 2115GT-HNTF
Compute Nodes Used:	1
Total Chips:	1
Total Cores:	96
Total Threads:	192
Total Memory:	1152 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:	MPI
Base Ranks Run:	192
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 2115GT-HNTF

Hardware

Number of nodes:	1
Uses of the node:	compute
Vendor:	Supermicro
Model:	A+ Server 2115GT-HNTF
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 32 MB shared / 8 cores
Other Cache:	None
Memory:	1152 GB (12 x 96 GB 2Rx4 PC5-4800B-R)
Disk Subsystem:	1 x 960 GB SATA SSD
Other Hardware:	None
Accel Count:	--
Accel Model:	--
Accel Vendor:	--
Accel Type:	--
Accel Connection:	--
Accel ECC enabled:	--
Accel Description:	--
Adapter:	None
Number of Adapters:	0
Slot Type:	None
Data Rate:	None
Ports Used:	0

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Software

Accelerator Driver:	--
Adapter:	None
Adapter Driver:	None
Adapter Firmware:	None
Operating System:	Ubuntu 22.04.1 LTS Kernel 5.15.0-56-generic
Local File System:	ext4
Shared File System:	None
System State:	Multi-user, run level 3
Other Software:	None

Node Description: A+ Server 2115GT-HNTF

Hardware (Continued)

Interconnect Type: None

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#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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Base Compiler Invocation

C benchmarks:
`mpicc`

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`

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`

Fortran benchmarks (except as noted below):
`-I/include -I/include/`

619.clvleaf_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

Tested with SPEChpc2021 v1.1.7 on 2023-01-07 04:52:02-0500.
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