SPEChpc™ 2021 Tiny Result

Cray
(Test Sponsor: University of Bristol)

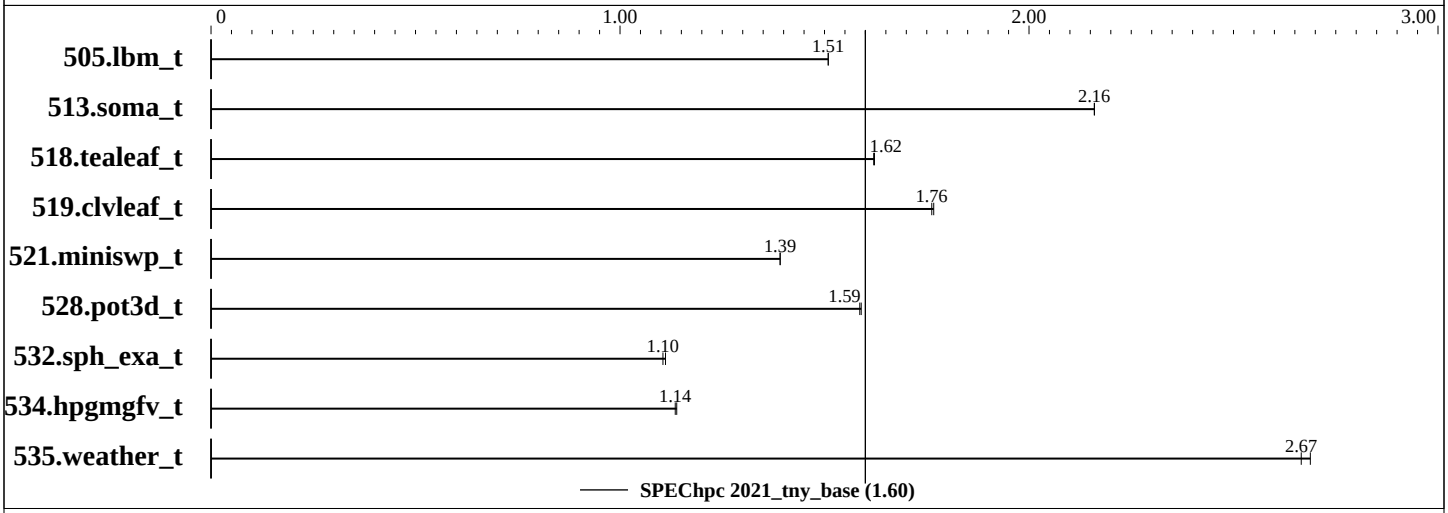
Isambard 2: XC50 (ThunderX2)

SPEChpc 2021_tny_base = 1.60

SPEChpc 2021_tny_peak = Not Run

hpc2021 License: ?
Test Sponsor: University of Bristol
Tested by: University of Bristol

Test Date: Jul-2022
Hardware Availability: May-2018
Software Availability: Mar-2020



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
505.lbm_t	MPI	64	1	1491	1.51	**1491**	**1.51**											
513.soma_t	MPI	64	1	**1713**	**2.16**	1713	2.16											
518.tealeaf_t	MPI	64	1	1017	1.62	**1018**	**1.62**											
519.clvleaf_t	MPI	64	1	934	1.77	**936**	**1.76**											
521.miniswp_t	MPI	64	1	**1150**	**1.39**	1150	1.39											
528.pot3d_t	MPI	64	1	1337	1.59	**1340**	**1.59**											
532.sph_exa_t	MPI	64	1	**1765**	**1.10**	1755	1.11											
534.hpgmgfv_t	MPI	64	1	**1035**	**1.14**	1032	1.14											
535.weather_t	MPI	64	1	1200	2.69	**1210**	**2.67**											

SPEChpc 2021_tny_base = 1.60
SPEChpc 2021_tny_peak = Not Run

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

SPEChpc™ 2021 Tiny Result

Cray
(Test Sponsor: University of Bristol)

Isambard 2: XC50 (ThunderX2)

SPEChpc 2021_tny_base = 1.60

SPEChpc 2021_tny_peak = Not Run

hpc2021 License: ?
Test Sponsor: University of Bristol
Tested by: University of Bristol

Test Date: Jul-2022
Hardware Availability: May-2018
Software Availability: Mar-2020

Hardware Summary

Type of System:	SMP
Compute Node:	ThunderX2
Interconnect:	Cray Aries
Compute Nodes Used:	1
Total Chips:	2
Total Cores:	64
Total Threads:	256
Total Memory:	256 GB
Max. Peak Threads:	--

Software Summary

Compiler:	HPE Cray Programming Environment (CPE), C/C++/Fortran: Arm version 20.0 (based on LLVM 9.0.1)
MPI Library:	HPE Cray Programming Environment (CPE), Cray-mvapich2 Version 2.3.6
Other MPI Info:	--
Other Software:	--
Base Parallel Model:	MPI
Base Ranks Run:	64
Base Threads Run:	1
Peak Parallel Models:	Not Run
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--
Max. Peak Threads:	--
Min. Peak Threads:	--

Node Description: ThunderX2

Hardware

Number of nodes:	1
Uses of the node:	Compute
Vendor:	N/A
Model:	N/A
CPU Name:	Marvell ThunderX2 CN9980
CPU(s) orderable:	N/A
Chips enabled:	2
Cores enabled:	64
Cores per chip:	32
Threads per core:	4
CPU Characteristics:	Permanent turbo to 2.5 GHz
CPU MHz:	2100
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	32 MB I+D on chip per chip 0.5 MB shared / 64 cores
Other Cache:	None
Memory:	256 GB (8 x 32 GB)
Disk Subsystem:	--
Other Hardware:	None
Accel Count:	N/A
Accel Model:	N/A
Accel Vendor:	N/A
Accel Type:	N/A
Accel Connection:	N/A
Accel ECC enabled:	N/A
Accel Description:	N/A
Adapter:	None
Number of Adapters:	0
Slot Type:	None

(Continued on next page)

Software

Accelerator Driver:	--
Adapter:	None
Adapter Driver:	None
Adapter Firmware:	None
Operating System:	SUSE Linux Enterprise Server 15 SP1 Linux 4.12.14-197.7_5.0.99-cray_ari_s
Local File System:	xfs
Shared File System:	None
System State:	Multi-user, run level 3
Other Software:	None

Node Description: ThunderX2

Hardware (Continued)

Data Rate:	None
Ports Used:	0
Interconnect Type:	None

Interconnect Description: Cray Aries

Hardware

Vendor:	Cray
Model:	N/A
Switch Model:	N/A
	N/A
Number of Switches:	N/A
Number of Ports:	N/A
Data Rate:	14 Gb/s
Firmware:	N/A
Topology:	Dragonfly
Primary Use:	MPI Traffic

Software

: --

Submit Notes

```
The config file option 'submit' was used.
```

Compiler Version Notes

```
==============================================================================
 CC  505.lbm_t(base) 513.soma_t(base) 518.tealeaf_t(base) 521.miniswp_t(base)
     534.hpgmgfv_t(base)
------------------------------------------------------------------------------
Arm C/C++/Fortran Compiler version 20.0 (build number 51) (based on LLVM
  9.0.1)
Target: aarch64-unknown-linux-gnu
Thread model: posix
InstalledDir:
  /opt/allinea/20.0.0.0/arm-linux-compiler-20.0_Generic-AArch64_SUSE-12_aarch64-linux/bin
------------------------------------------------------------------------------

==============================================================================
 CXXC 532.sph_exa_t(base)
------------------------------------------------------------------------------
Arm C/C++/Fortran Compiler version 20.0 (build number 51) (based on LLVM
  9.0.1)
Target: aarch64-unknown-linux-gnu
```

(Continued on next page)

Compiler Version Notes (Continued)

```
Thread model: posix
InstalledDir:
  /opt/allinea/20.0.0.0/arm-linux-compiler-20.0_Generic-AArch64_SUSE-12_aarch64-linux/bin
------------------------------------------------------------------------------

==============================================================================
 FC  519.clvleaf_t(base) 528.pot3d_t(base) 535.weather_t(base)
------------------------------------------------------------------------------
Arm C/C++/Fortran Compiler version 20.0 (build number 51) (based on LLVM
  9.0.1)
Target: aarch64-unknown-linux-gnu
Thread model: posix
InstalledDir:
  /opt/allinea/20.0.0.0/arm-linux-compiler-20.0_Generic-AArch64_SUSE-12_aarch64-linux/bin
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Fortran benchmarks:
ftn

Base Optimization Flags

C benchmarks:
-Ofast

C++ benchmarks:
-Ofast

Fortran benchmarks:
-Ofast

SPEChpc™ 2021 Tiny Result

Cray
(Test Sponsor: University of Bristol)

Isambard 2: XC50 (ThunderX2)

SPEChpc 2021_tny_base = 1.60

SPEChpc 2021_tny_peak = Not Run

hpc2021 License: ?
Test Sponsor: University of Bristol
Tested by: University of Bristol

Test Date: Jul-2022
Hardware Availability: May-2018
Software Availability: Mar-2020

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

Tested with SPEChpc2021 v1.0.3 on 2022-07-03 14:24:01+0000.
Report generated on 2022-07-03 20:55:38 by hpc2021 PDF formatter v1.0.3.