

SPEChpc™ 2021 Tiny Result

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Cray

(Test Sponsor: University of Bristol)

SPEChpc 2021_tiny_base = 0.00

Isambard 2: XC50 (ThunderX2)

SPEChpc 2021_tiny_peak = Not Run

hpc2021 License: ?

Test Sponsor: University of Bristol

Tested by: University of Bristol

Test Date: Jun-2022

Hardware Availability: May-2018

Software Availability: Mar-2020

505.lbm_t
513.soma_t
518.tealeaf_t
519.clvleaf_t
521.miniswp_t
528.pot3d_t
532.sph_exa_t
534.hpgmgfv_t
535.weather_t

Errors

'reportable' flag not set during run
Input set must be 'ref' for a valid run (set to 'test' for this run)

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 | 512 | 1 | 6.20 | 0.00 | 8.12 | 0.00 | | | | | | | | | | | |
| 513.soma_t | MPI | 512 | 1 | 7.19 | 0.00 | 7.26 | 0.00 | | | | | | | | | | | |
| 518.tealeaf_t | MPI | 512 | 1 | 8.06 | 0.00 | 8.14 | 0.00 | | | | | | | | | | | |
| 519.clvleaf_t | MPI | 512 | 1 | 8.57 | 0.00 | 8.53 | 0.00 | | | | | | | | | | | |
| 521.miniswp_t | MPI | 512 | 1 | 7.55 | 0.00 | 7.49 | 0.00 | | | | | | | | | | | |
| 528.pot3d_t | MPI | 512 | 1 | 7.86 | 0.00 | 7.85 | 0.00 | | | | | | | | | | | |
| 532.sph_exa_t | MPI | 512 | 1 | 8.07 | 0.00 | 8.22 | 0.00 | | | | | | | | | | | |
| 534.hpgmgfv_t | MPI | 512 | 1 | 8.58 | 0.00 | 8.49 | 0.00 | | | | | | | | | | | |
| 535.weather_t | MPI | 512 | 1 | 10.5 | 0.00 | 10.6 | 0.00 | | | | | | | | | | | |

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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 Cluster
Compute Node: ThunderX2
Interconnect: Cray Aries
Compute Nodes Used: 8
Total Chips: 16
Total Cores: 512
Total Threads: 2048
Total Memory: 2 TB
Max. Peak Threads: --

Software Summary

Compiler: HPE Cray Programming Environment (CPE),
C/C++/Fortran: GCC Version 9.3.0
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: 512
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: 8
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

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Hardware Availability: May-2018

Software Availability: Mar-2020

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
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

```
=====
FC 519.clvleaf_t(base) 528.pot3d_t(base) 535.weather_t(base)
=====
```

```
GNU Fortran (GCC) 9.3.0 20200312 (Cray Inc.)
```

```
Copyright (C) 2019 Free Software Foundation, Inc.
```

```
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
=====
```

```
=====
CXXC 532.sph_exa_t(base)
=====
```

```
g++ (GCC) 9.3.0 20200312 (Cray Inc.)
```

```
Copyright (C) 2019 Free Software Foundation, Inc.
```

```
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=====
```

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Compiler Version Notes (Continued)

```
=====
CC 505.lbm_t(base) 513.soma_t(base) 518.tealeaf_t(base) 521.miniswp_t(base)
   534.hpgmgfv_t(base)
=====
```

```
gcc (GCC) 9.3.0 20200312 (Cray Inc.)
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
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=====
```

Base Compiler Invocation

C benchmarks:

cc

C++ benchmarks:

CC

Fortran benchmarks:

ftn

Base Optimization Flags

C benchmarks:

-Ofast

C++ benchmarks:

-Ofast

Fortran benchmarks:

-Ofast

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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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