



SPEChpc™ 2021 Tiny Result

Copyright 2021-2023 Standard Performance Evaluation Corporation

Transtec

(Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf)

SPEChpc 2021_tny_base = 13.7

SPEChpc 2021_tny_peak = Not Run

Hemera: Supermicro SuperServer 1029GQ-TXRT (Intel Xeon Gold 6136, Tesla P100-SXM2-16GB)

hpc2021 License: 065A

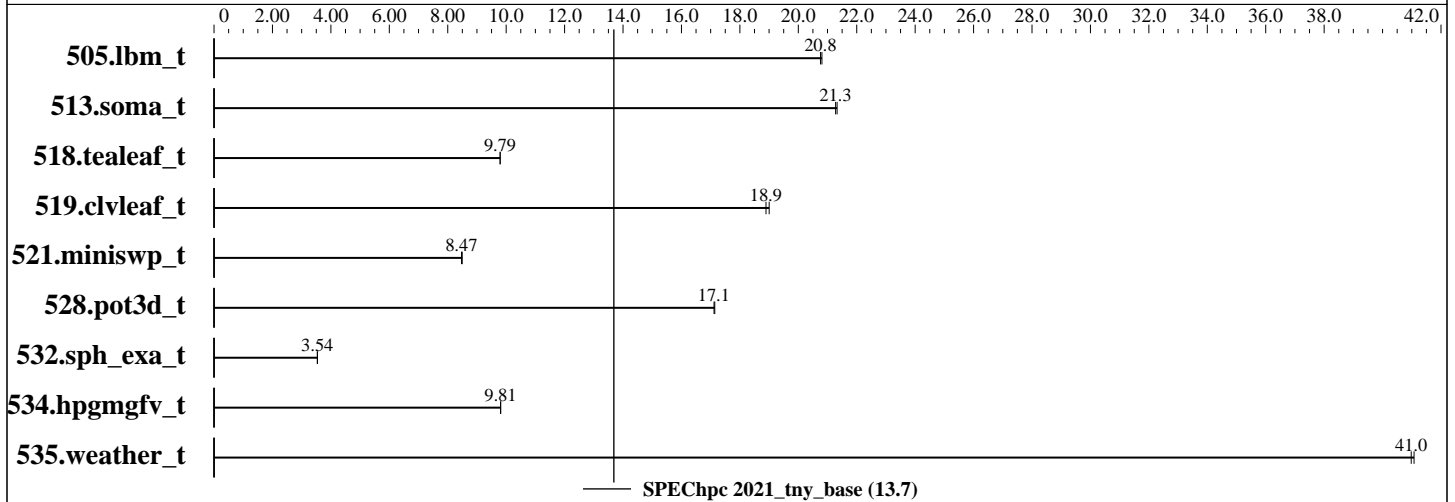
Test Date: Sep-2021

Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf

Hardware Availability: Jul-2017

Tested by: Helmholtz-Zentrum Dresden - Rossendorf

Software Availability: Jul-2021



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	ACC	4	1	108	20.8	108	20.8											
513.soma_t	ACC	4	1	173	21.3	174	21.3											
518.tealeaf_t	ACC	4	1	168	9.80	168	9.79											
519.cvlleaf_t	ACC	4	1	87.3	18.9	86.8	19.0											
521.miniswp_t	ACC	4	1	188	8.50	189	8.47											
528.pot3d_t	ACC	4	1	124	17.1	124	17.1											
532.sph_exa_t	ACC	4	1	551	3.54	551	3.54											
534.hpgmgfv_t	ACC	4	1	120	9.81	120	9.81											
535.weather_t	ACC	4	1	78.5	41.1	78.7	41.0											

SPEChpc 2021_tny_base = 13.7

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

Copyright 2021-2023 Standard Performance Evaluation Corporation

Transtec

(Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf)

SPEChpc 2021_tny_base = 13.7

SPEChpc 2021_tny_peak = Not Run

Hemera: Supermicro SuperServer 1029GQ-TXRT (Intel Xeon Gold 6136, Tesla P100-SXM2-16GB)

hpc2021 License: 065A

Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf

Tested by: Helmholtz-Zentrum Dresden - Rossendorf

Test Date: Sep-2021

Hardware Availability: Jul-2017

Software Availability: Jul-2021

Hardware Summary

Type of System: Homogenous Cluster
 Compute Node: Compute Node
 Interconnect: Infiniband (EDR)
 Compute Nodes Used: 1
 Total Chips: 1
 Total Cores: 12
 Total Threads: 12
 Total Memory: 384 GB
 Max. Peak Threads: --

Software Summary

Compiler: C/C++/Fortran: Version 21.7 of
 NVIDIA HPC SDK for Linux
 MPI Library: OpenMPI Version 4.0.5
 Other MPI Info: None
 Other Software: None
 Base Parallel Model: ACC
 Base Ranks Run: 4
 Base Threads Run: 1
 Peak Parallel Models: Not Run
 Minimum Peak Ranks: --
 Maximum Peak Ranks: --
 Max. Peak Threads: --
 Min. Peak Threads: --

Node Description: Compute Node

Hardware

Number of nodes: 1
 Uses of the node: compute
 Vendor: Intel
 Model: SuperServer 1029GQ-TXRT
 CPU Name: Intel Xeon Gold 6136
 CPU(s) orderable: 1 chips
 Chips enabled: 1
 Cores enabled: 12
 Cores per chip: 12
 Threads per core: 1
 CPU Characteristics: Intel Turbo Boost Technology up to 3.7 GHz
 CPU MHz: 3000
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core
 L3 Cache: 25344 KB I+D on chip per chip
 Other Cache: None
 Memory: 384 GB (12 x 32GB 2Rx4 PC4-2666V-RB2-12)
 Disk Subsystem: 1 x 500 GB
 Other Hardware: None
 Accel Count: 4
 Accel Model: Tesla P100-SXM2-16GB
 Accel Vendor: NVIDIA Corporation
 Accel Type: GPU
 Accel Connection: PCIe 3.0 16x
 Accel ECC enabled: Yes
 Accel Description: --
 Adapter: Mellanox MT4115
 Number of Adapters: 2
 Slot Type: PCI-Express 3.0 x16
 Data Rate: 100 Gb/s
 Ports Used: 2

Software

Accelerator Driver: --
 Adapter: Mellanox MT4115
 Adapter Driver: --
 Adapter Firmware: 12.28.2006
 Operating System: CentOS Linux release 7.9.2009 (Core)
 3.10.0-1160.6.1.el7.x86_64
 Local File System: xfs
 Shared File System: GPFS Version 5.0.5.0
 6 NSD (vendor: NEC)
 5 building blocks (vendor: NetApp):
 2x (240 x 8 TB HDD)
 1x (180 x 12 TB HDD)
 1x (240 x 16 TB HDD)
 1x (120 x 16 TB HDD)
 System State: Multi-user, run level 3
 Other Software: None

(Continued on next page)



SPEChpc™ 2021 Tiny Result

Copyright 2021-2023 Standard Performance Evaluation Corporation

Transtec

(Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf)

SPEChpc 2021_tny_base = 13.7

SPEChpc 2021_tny_peak = Not Run

Hemera: Supermicro SuperServer 1029GQ-TXRT (Intel Xeon Gold 6136, Tesla P100-SXM2-16GB)

hpc2021 License: 065A

Test Date: Sep-2021

Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf

Hardware Availability: Jul-2017

Tested by: Helmholtz-Zentrum Dresden - Rossendorf

Software Availability: Jul-2021

Node Description: Compute Node

Hardware (Continued)

Interconnect Type: EDR Infiniband

Interconnect Description: Infiniband (EDR)

Hardware

Vendor: Mellanox Technologies
Model: Mellanox SB7790
Switch Model: 36 x EDR 100 Gb/s
Number of Switches: 2
Number of Ports: 36
Data Rate: 100 Gb/s
Firmware: --
Topology: Mesh (blocking factor: 8:1)
Primary Use: MPI Traffic, GPFS

Software

: --

Submit Notes

The config file option 'submit' was used.

MPI startup command:

```
mpirun --bind-to socket -np $ranks $[top]/mpirunCUDA.sh $command
contents of $[top]/mpirunCUDA.sh
#!/bin/bash
export CUDA_VISIBLE_DEVICES=$OMPI_COMM_WORLD_LOCAL_RANK
$@
```

Compiler Version Notes

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

```
nvc 21.7-0 64-bit target on x86-64 Linux -tp skylake  
NVIDIA Compilers and Tools  
Copyright (c) 2021, NVIDIA CORPORATION & AFFILIATES. All rights reserved.  
=====
```

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

```
nvc++ 21.7-0 64-bit target on x86-64 Linux -tp skylake  
NVIDIA Compilers and Tools  
Copyright (c) 2021, NVIDIA CORPORATION & AFFILIATES. All rights reserved.
```

(Continued on next page)



SPEChpc™ 2021 Tiny Result

Copyright 2021-2023 Standard Performance Evaluation Corporation

Transtec

(Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf)

SPEChpc 2021_tny_base = 13.7

SPEChpc 2021_tny_peak = Not Run

Hemera: Supermicro SuperServer 1029GQ-TXRT (Intel Xeon Gold 6136, Tesla P100-SXM2-16GB)

hpc2021 License: 065A

Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf

Tested by: Helmholtz-Zentrum Dresden - Rossendorf

Test Date: Sep-2021

Hardware Availability: Jul-2017

Software Availability: Jul-2021

Compiler Version Notes (Continued)

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

```
nvfortran 21.7-0 64-bit target on x86-64 Linux -tp skylake
```

```
NVIDIA Compilers and Tools
```

```
Copyright (c) 2021, NVIDIA CORPORATION & AFFILIATES. All rights reserved.
```

Base Compiler Invocation

C benchmarks:

```
mpicc
```

C++ benchmarks:

```
mpicxx
```

Fortran benchmarks:

```
mpif90
```

Base Portability Flags

```
521.miniswp_t: -DUSE_KBA -DUSE_ACCELDIR
```

```
532.sph_exa_t: -DSPEC_USE_LT_IN_KERNELS --c++17
```

Base Optimization Flags

C benchmarks:

```
-Mfprelaxed -Mnouniform -Mstack_arrays -fast -acc=gpu -Minfo=accel
```

```
-DSPEC_ACCEL_AWARE_MPI
```

C++ benchmarks:

```
-Mfprelaxed -Mnouniform -Mstack_arrays -fast -acc=gpu -Minfo=accel
```

```
-DSPEC_ACCEL_AWARE_MPI
```

Fortran benchmarks:

```
-DSPEC_ACCEL_AWARE_MPI -Mfprelaxed -Mnouniform -Mstack_arrays -fast
```

```
-acc=gpu -Minfo=accel
```



SPEChpc™ 2021 Tiny Result

Copyright 2021-2023 Standard Performance Evaluation Corporation

Transtec

(Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf)

SPEChpc 2021_tny_base = 13.7

SPEChpc 2021_tny_peak = Not Run

Hemera: Supermicro SuperServer 1029GQ-TXRT (Intel Xeon Gold 6136, Tesla P100-SXM2-16GB)

hpc2021 License: 065A

Test Sponsor: Helmholtz-Zentrum Dresden - Rossendorf

Tested by: Helmholtz-Zentrum Dresden - Rossendorf

Test Date: Sep-2021

Hardware Availability: Jul-2017

Software Availability: Jul-2021

Base Other Flags

C benchmarks:

-w

C++ benchmarks:

-w

Fortran benchmarks:

-w

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

http://www.spec.org/hpc2021/flags/nv2021_flags.html

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

http://www.spec.org/hpc2021/flags/nv2021_flags.xml

SPEChpc is a trademark of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEChpc2021 v1.0.2 on 2021-09-09 06:01:30-0400.

Report generated on 2023-08-25 19:03:12 by hpc2021 PDF formatter v1.0.3.

Originally published on 2021-10-27.