SPEChpc™ 2021 Tiny Result

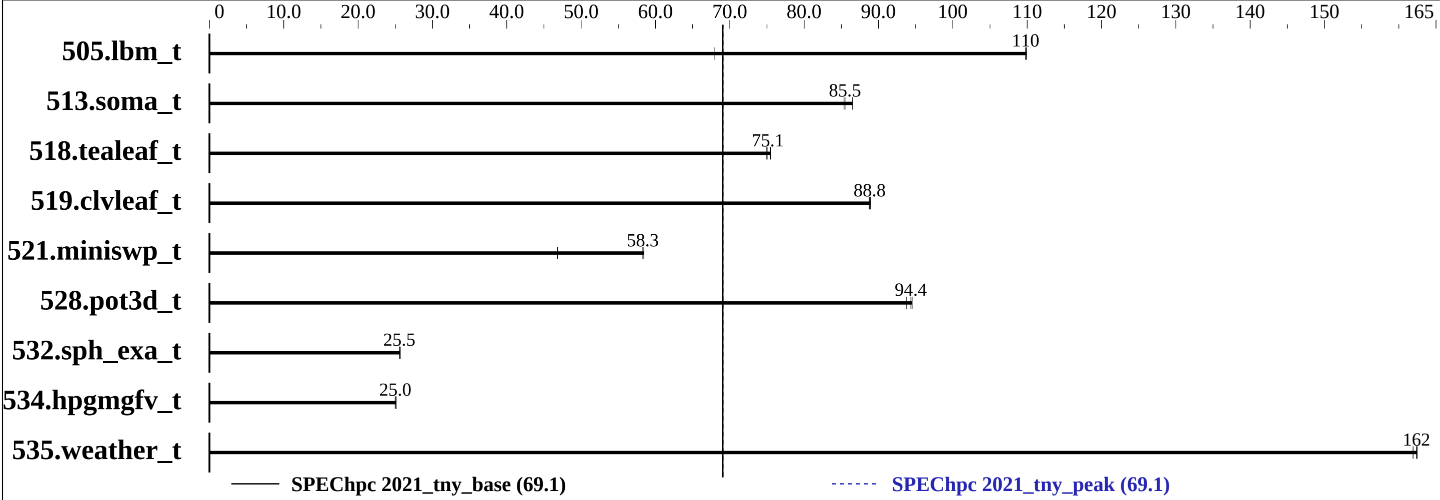
Lenovo Global Technology

ThinkSystem SC777 V4(Arm Neoverse V2, Nvidia GB200)

SPEChpc 2021_tny_base = 69.1

SPEChpc 2021_tny_peak = 69.1

hpc2021 License:	28	**Test Date:**	May-2026
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	Oct-2026
Tested by:	Lenovo Global Technology	**Software Availability:**	Oct-2026



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	2	33.1	68.0	**20.5**	**110**	20.5	110	ACC	4	2	33.1	68.0	**20.5**	**110**	20.5	110
513.soma_t	ACC	4	2	43.3	85.4	**43.3**	**85.5**	42.8	86.5	ACC	4	2	43.3	85.4	**43.3**	**85.5**	42.8	86.5
518.tealeaf_t	ACC	4	2	21.9	75.5	22.0	75.0	**22.0**	**75.1**	ACC	4	2	21.9	75.5	22.0	75.0	**22.0**	**75.1**
519.clvleaf_t	ACC	4	2	18.6	88.8	18.6	88.9	**18.6**	**88.8**	ACC	4	2	18.6	88.8	18.6	88.9	**18.6**	**88.8**
521.miniswp_t	ACC	4	2	34.2	46.8	**27.4**	**58.3**	27.4	58.4	ACC	4	2	34.2	46.8	**27.4**	**58.3**	27.4	58.4
528.pot3d_t	ACC	4	2	22.7	93.8	**22.5**	**94.4**	22.5	94.5	ACC	4	2	22.7	93.8	**22.5**	**94.4**	22.5	94.5
532.sph_exa_t	ACC	4	2	**76.4**	**25.5**	76.4	25.5	76.0	25.7	ACC	4	2	**76.4**	**25.5**	76.4	25.5	76.0	25.7
534.hpgmgfv_t	ACC	4	2	**47.0**	**25.0**	46.8	25.1	47.0	25.0	ACC	4	2	**47.0**	**25.0**	46.8	25.1	47.0	25.0
535.weather_t	ACC	4	2	19.9	162	**19.9**	**162**	19.9	162	ACC	4	2	19.9	162	**19.9**	**162**	19.9	162

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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:	Homogeneous Cluster
Compute Node:	ThinkSystem SC777 V4
Compute Nodes Used:	1
Total Chips:	2
Total Cores:	144
Total Threads:	144
Total Memory:	960 GB
Total Accelerators:	4
Max. Peak Threads:	2

Software Summary

Compiler:	NVIDIA HPC SDK 25.11
MPI Library:	Open MPI 4.1.9a1
Other MPI Info:	None
Other Software:	--
Base Parallel Model:	ACC
Base Ranks Run:	4
Base Threads Run:	2
Peak Parallel Models:	ACC
Minimum Peak Ranks:	4
Maximum Peak Ranks:	4
Max. Peak Threads:	2
Min. Peak Threads:	2

Node Description: ThinkSystem SC777 V4

Hardware

Number of nodes:	1
Uses of the node:	compute
Vendor:	Lenovo Global Technology
Model:	ThinkSystem SC777 V4
CPU Name:	NVIDIA Grace Neoverse V2 CPU
CPU(s) orderable:	2 chips
Chips enabled:	2
Cores enabled:	144
Cores per chip:	72
Threads per core:	1
CPU Characteristics:	Grace CPU @3.3GHz
CPU MHz:	3300
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	117 MB I+D on chip per chip
Other Cache:	None
Memory:	960 GB (2x 480 GB LPDDR5X)
Disk Subsystem:	1x ThinkSystem 2.5" 5300 480GB SSD
Other Hardware:	None
Accel Count:	4
Accel Model:	NVIDIA GB200
Accel Vendor:	NVIDIA Corporation
Accel Type:	GPU
Accel Connection:	NVLink-C2C
Accel ECC enabled:	Yes
Accel Description:	NVIDIA Grace Blackwell GB200
Adapter:	N/A
Number of Adapters:	1
Slot Type:	N/A
Data Rate:	N/A
Ports Used:	0
Interconnect Type:	N/A

Software

Accelerator Driver:	610.43.02
Adapter:	N/A
Adapter Driver:	N/A
Adapter Firmware:	N/A
Operating System:	Ubuntu 24.04.4 LTS, Kernel 6.17.0-1018-nvidia-64k
Local File System:	xfs
Shared File System:	XFS
System State:	Multi-user, run level 3
Other Software:	None

Submit Notes

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

General Notes

```
Environment variables set by runhpc before the start of the run:
UCX_MEMTYPE_CACHE = "n"
UCX_NET_DEVICES = "all"
UCX_TLS = "self,sm,cuda_copy,tcp"
```

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 25.11-0 linuxarm64 target on aarch64 Linux -tp neoverse-v2
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------------------------------------------------------------------------------

==============================================================================
 CXXC 532.sph_exa_t(base)
------------------------------------------------------------------------------
nvc++ 25.11-0 linuxarm64 target on aarch64 Linux -tp neoverse-v2
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------------------------------------------------------------------------------

==============================================================================
 FC  519.clvleaf_t(base) 528.pot3d_t(base) 535.weather_t(base)
------------------------------------------------------------------------------
nvfortran 25.11-0 linuxarm64 target on aarch64 Linux -tp neoverse-v2
NVIDIA Compilers and Tools
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------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`mpicc`

C++ benchmarks:
`mpicxx`

(Continued on next page)

Base Compiler Invocation (Continued)

Fortran benchmarks:
`mpif90`

Base Portability Flags

505.lbm_t: `-DSPEC_OPENACC_NO_SELF`
532.sph_exa_t: `--c++17`

Base Optimization Flags

C benchmarks:
`-O4 -DSPEC_ACCEL_AWARE_MPI -acc=gpu -gpu=ccnative -Mfprelaxed -Mnouniform -tp=host`

C++ benchmarks:
`-O4 -DSPEC_ACCEL_AWARE_MPI -acc=gpu -gpu=ccnative -Mfprelaxed -Mnouniform -tp=host`

Fortran benchmarks:
`-DSPEC_ACCEL_AWARE_MPI -O4 -acc=gpu -gpu=ccnative -Mfprelaxed -Mnouniform -tp=host`

Base Other Flags

C benchmarks (except as noted below):
`-Ispecmpitime -w`

521.miniswp_t: `-Ispecmpitime/ -w`

534.hpgmgfv_t: `-Ispecmpitime  -w`

C++ benchmarks:
`-Ispecmpitime  -w`

Fortran benchmarks (except as noted below):
`-w`

519.clvleaf_t: `-Ispecmpitime -w`

Peak Optimization Flags

C benchmarks:

505.lbm_t: `basepeak = yes`

513.soma_t: `basepeak = yes`

518.tealeaf_t: `basepeak = yes`

521.miniswp_t: `basepeak = yes`

534.hpgmgfv_t: `basepeak = yes`

C++ benchmarks:

532.sph_exa_t: `basepeak = yes`

Fortran benchmarks:

519.clvleaf_t: `basepeak = yes`

528.pot3d_t: `basepeak = yes`

535.weather_t: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/hpc2021/flags/nv2021_flags_v1.0.3.2026-09-16.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/hpc2021/flags/nv2021_flags_v1.0.3.2026-09-16.xml`

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

Tested with SPEChpc2021 v1.1.10 on 2026-05-12 04:03:56-0400.
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