



SPEChpc™ 2021 Small Result

Copyright 2021-2025 Standard Performance Evaluation Corporation

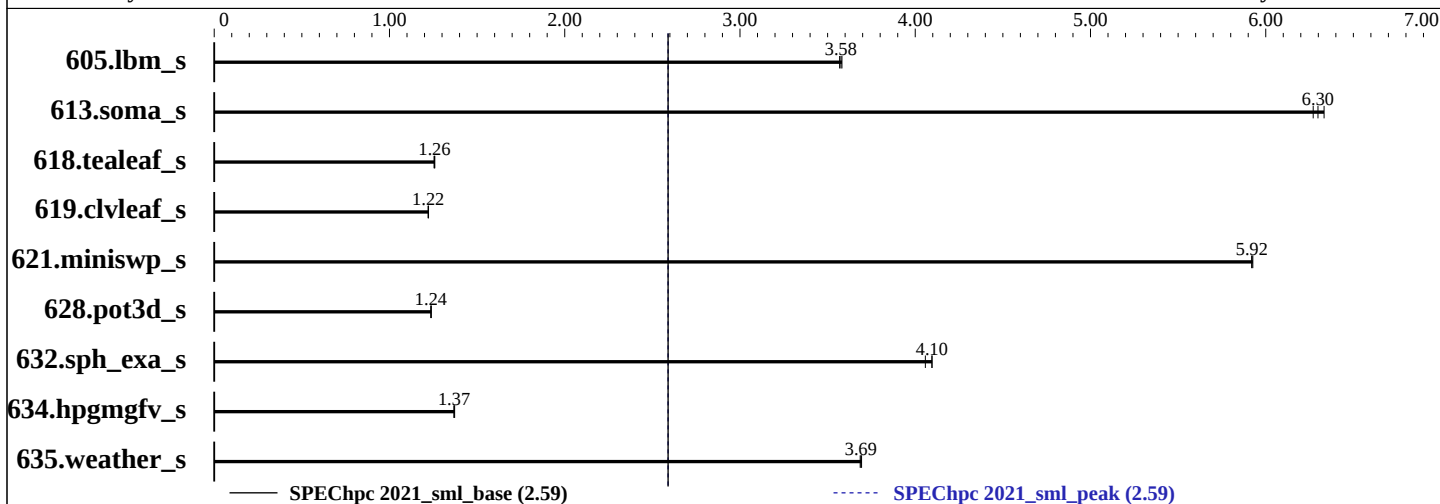
Lenovo
SR860 V4(Intel Xeon 6788P)

SPEChpc 2021_sml_base = 2.59

SPEChpc 2021_sml_peak = 2.59

hpc2021 License: 9017
Test Sponsor: Lenovo
Tested by: Lenovo

Test Date: Sep-2025
Hardware Availability: Sep-2025
Software Availability: Jun-2025



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	OMP	8	86	433	3.58	433	3.58	434	3.57	OMP	8	86	433	3.58	433	3.58	434	3.57
613.soma_s	OMP	8	86	255	6.27	253	6.33	254	6.30	OMP	8	86	255	6.27	253	6.33	254	6.30
618.tealeaf_s	OMP	8	86	1630	1.26	1629	1.26	1634	1.25	OMP	8	86	1630	1.26	1629	1.26	1634	1.25
619.clvleaf_s	OMP	8	86	1351	1.22	1352	1.22	1349	1.22	OMP	8	86	1351	1.22	1352	1.22	1349	1.22
621.miniswp_s	OMP	8	86	186	5.92	186	5.93	186	5.92	OMP	8	86	186	5.92	186	5.93	186	5.92
628.pot3d_s	OMP	8	86	1353	1.24	1354	1.24	1355	1.24	OMP	8	86	1353	1.24	1354	1.24	1355	1.24
632.sph_exa_s	OMP	8	86	562	4.10	562	4.10	567	4.06	OMP	8	86	562	4.10	562	4.10	567	4.06
634.hpgmgfv_s	OMP	8	86	712	1.37	711	1.37	713	1.37	OMP	8	86	712	1.37	711	1.37	713	1.37
635.weather_s	OMP	8	86	705	3.69	704	3.69	705	3.69	OMP	8	86	705	3.69	704	3.69	705	3.69

SPEChpc 2021_sml_base = 2.59

SPEChpc 2021_sml_peak = 2.59

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



SPEChpc™ 2021 Small Result

Copyright 2021-2025 Standard Performance Evaluation Corporation

Lenovo

SR860 V4(Intel Xeon 6788P)

SPEChpc 2021_sml_base = 2.59

SPEChpc 2021_sml_peak = 2.59

hpc2021 License: 9017
Test Sponsor: Lenovo
Tested by: Lenovo

Test Date: Sep-2025
Hardware Availability: Sep-2025
Software Availability: Jun-2025

Hardware Summary

Type of System: Homogenous Cluster
Compute Node: SR860 V4(Intel Xeon 6788P)
Interconnect: None
Compute Nodes Used: 1
Total Chips: 4
Total Cores: 344
Total Threads: 688
Total Memory: 1 TB
Total Accelerators: 0
Max. Peak Threads: 86

Software Summary

Compiler: Intel oneAPI Compiler 2025.2.1
MPI Library: Intel MPI Library 2021.16 for Linux OS
Other MPI Info: None
Other Software: None
Base Parallel Model: OMP
Base Ranks Run: 8
Base Threads Run: 86
Peak Parallel Models: OMP
Minimum Peak Ranks: 8
Maximum Peak Ranks: 8
Max. Peak Threads: 86
Min. Peak Threads: 86

Node Description: SR860 V4(Intel Xeon 6788P)

Hardware

Number of nodes: 1
Uses of the node: Compute
Vendor: Intel
Model: SR860 V4(Intel Xeon 6788P)
CPU Name: Intel Xeon 6788P
CPU(s) orderable: 4 chips
Chips enabled: 4
Cores enabled: 344
Cores per chip: 86
Threads per core: 2
CPU Characteristics: Turbo Boost Technology up to 3.8 GHz
CPU MHz: 2000
Primary Cache: 64 KB I + 48 KB D on chip per core
Secondary Cache: 2 MB I+D on chip per core
L3 Cache: 336 MB I+D on chip per chip
Other Cache: None
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-6400B-R)
Disk Subsystem: 1 x 1.92 TB NVMe SSD
Other Hardware: None
Accel Count: None
Accel Model: None
Accel Vendor: None
Accel Type: None
Accel Connection: None
Accel ECC enabled: None
Accel Description: None
Adapter: None
Number of Adapters: 0
Slot Type: None
Data Rate: None
Ports Used: 0
Interconnect Type: None

Software

Accelerator Driver: None
Adapter: None
Adapter Driver: None
Adapter Firmware: None
Operating System: Ubuntu 24.02.2 LTS
6.8.0-79-generic
Local File System: ext4
Shared File System: None
System State: Run level 5
Other Software: None



SPEChpc™ 2021 Small Result

Copyright 2021-2025 Standard Performance Evaluation Corporation

Lenovo

SR860 V4(Intel Xeon 6788P)

SPEChpc 2021_sml_base = 2.59

SPEChpc 2021_sml_peak = 2.59

hpc2021 License: 9017
Test Sponsor: Lenovo
Tested by: Lenovo

Test Date: Sep-2025
Hardware Availability: Sep-2025
Software Availability: Jun-2025

Interconnect Description: None

Hardware

Vendor: None
Model: None
Switch Model: None
Number of Switches: 0
Number of Ports: 0
Data Rate: None
Firmware: None
Topology: None
Primary Use: None

Software

: --

Submit Notes

The config file option 'submit' was used.

Compiler Version Notes

=====

CXXC 632.sph_exa_s(base)

Intel(R) oneAPI DPC++/C++ Compiler 2025.2.1 (2025.2.0.20250806)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/intel/oneapi/compiler/2025.2/bin/compiler
Configuration file: /opt/intel/oneapi/compiler/2025.2/bin/compiler/./icpx.cfg

=====

CC 605.lbm_s(base) 613.soma_s(base) 618.tealeaf_s(base) 621.miniswp_s(base)
634.hpgmgfv_s(base)

Intel(R) oneAPI DPC++/C++ Compiler 2025.2.1 (2025.2.0.20250806)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/intel/oneapi/compiler/2025.2/bin/compiler
Configuration file: /opt/intel/oneapi/compiler/2025.2/bin/compiler/./icx.cfg

=====

FC 619.clvleaf_s(base) 628.pot3d_s(base) 635.weather_s(base)

ifx (IFX) 2025.2.1 20250806
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.



SPEChpc™ 2021 Small Result

Copyright 2021-2025 Standard Performance Evaluation Corporation

Lenovo

SR860 V4(Intel Xeon 6788P)

SPEChpc 2021_sml_base = 2.59

SPEChpc 2021_sml_peak = 2.59

hpc2021 License: 9017
Test Sponsor: Lenovo
Tested by: Lenovo

Test Date: Sep-2025
Hardware Availability: Sep-2025
Software Availability: Jun-2025

Base Compiler Invocation

C benchmarks:

mpiicc -cc=icx

C++ benchmarks:

mpiicpc -cxx=icpx

Fortran benchmarks:

mpiifort -fc=ifx

Base Portability Flags

605.lbm_s: -lstdc++ -std=c++14
613.soma_s: -lstdc++ -std=c++14
618.tealeaf_s: -lstdc++ -std=c++14
621.miniswp_s: -lstdc++ -std=c++14
634.hpgmgfv_s: -lstdc++ -std=c++14

Base Optimization Flags

C benchmarks:

-O3 -Ofast -xCORE-AVX512 -mprefer-vector-width=512
-qopt-multiple-gather-scatter-by-shuffles -fiopenmp -ffast-math -flto
-funroll-loops

C++ benchmarks:

-O3 -Ofast -xCORE-AVX512 -mprefer-vector-width=512
-qopt-multiple-gather-scatter-by-shuffles -fiopenmp -ffast-math -flto
-funroll-loops

Fortran benchmarks:

-O3 -Ofast -xCORE-AVX512 -mprefer-vector-width=512
-qopt-multiple-gather-scatter-by-shuffles -fiopenmp -ffast-math -flto
-funroll-loops -nostandard-realloc-lhs -align array64byte

Base Other Flags

C benchmarks:

-Ispecmpitime -Wno-incompatible-function-pointer-types

(Continued on next page)



SPEChpc™ 2021 Small Result

Copyright 2021-2025 Standard Performance Evaluation Corporation

Lenovo
SR860 V4(Intel Xeon 6788P)

SPEChpc 2021_sml_base = 2.59

SPEChpc 2021_sml_peak = 2.59

hpc2021 License: 9017
Test Sponsor: Lenovo
Tested by: Lenovo

Test Date: Sep-2025
Hardware Availability: Sep-2025
Software Availability: Jun-2025

Base Other Flags (Continued)

C++ benchmarks:
-Ispecmpitime

Fortran benchmarks:

619.clvleaf_s: -Ispecmpitime

Peak Optimization Flags

C benchmarks:

605.lbm_s: basepeak = yes

613.soma_s: basepeak = yes

618.tealeaf_s: basepeak = yes

621.miniswp_s: basepeak = yes

634.hpgmgfv_s: basepeak = yes

C++ benchmarks:

632.sph_exa_s: basepeak = yes

Fortran benchmarks:

619.clvleaf_s: basepeak = yes

628.pot3d_s: basepeak = yes

635.weather_s: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/hpc2021/flags/Intel_compiler_flags.2024-12-11.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/hpc2021/flags/Intel_compiler_flags.2024-12-11.xml



SPEChpc™ 2021 Small Result

Copyright 2021-2025 Standard Performance Evaluation Corporation

Lenovo
SR860 V4(Intel Xeon 6788P)

SPEChpc 2021_sml_base = 2.59

SPEChpc 2021_sml_peak = 2.59

hpc2021 License: 9017
Test Sponsor: Lenovo
Tested by: Lenovo

Test Date: Sep-2025
Hardware Availability: Sep-2025
Software Availability: Jun-2025

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 v1.1.9 on 2025-09-13 23:44:27-0400.
Report generated on 2025-10-01 13:49:53 by hpc2021 PDF formatter v112.
Originally published on 2025-10-01.