



SPEChpc™ 2021 Small Result

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xFusion

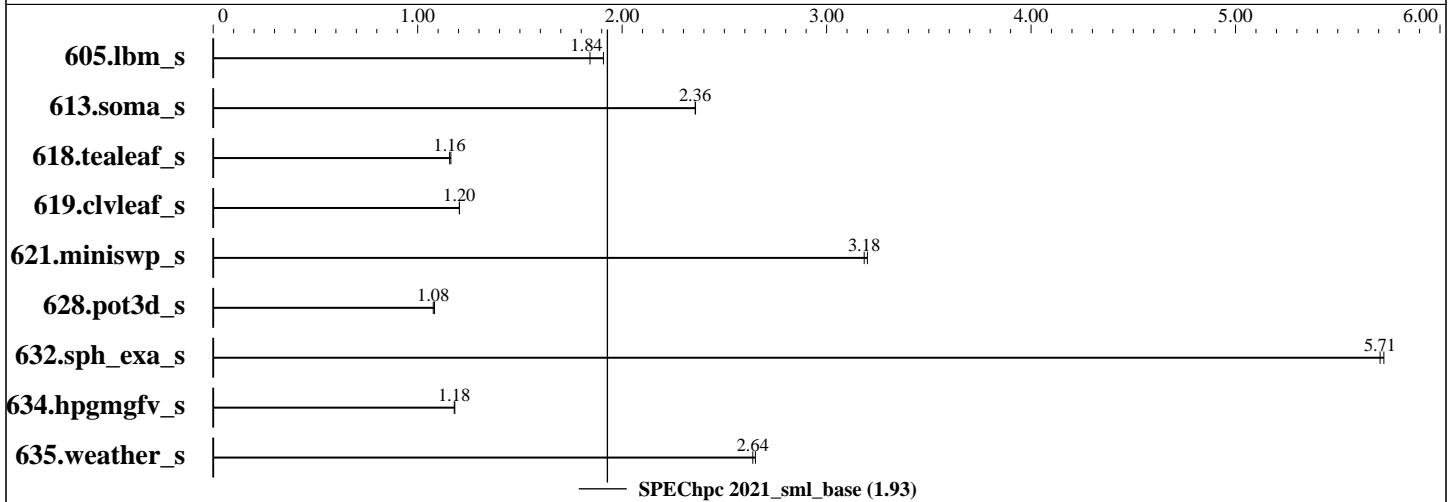
SPEChpc 2021_sml_base = 1.93

FusionServer 2288H V6 (Intel Xeon Platinum 8380)

SPEChpc 2021_sml_peak = Not Run

hpc2021 License: 6488
Test Sponsor: xFusion
Tested by: xFusion

Test Date: Jul-2022
Hardware Availability: Apr-2021
Software Availability: Oct-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
605.lbm_s	MPI	320	1	841	1.84	812	1.91											
613.soma_s	MPI	320	1	678	2.36	679	2.36											
618.tealeaf_s	MPI	320	1	1773	1.16	1764	1.16											
619.cvlleaf_s	MPI	320	1	1370	1.20	1370	1.20											
621.miniswp_s	MPI	320	1	344	3.20	345	3.18											
628.pot3d_s	MPI	320	1	1548	1.08	1556	1.08											
632.sph_exa_s	MPI	320	1	403	5.71	402	5.73											
634.hpgmgfv_s	MPI	320	1	825	1.18	827	1.18											
635.weather_s	MPI	320	1	985	2.64	980	2.65											

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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: Fusionserver 2288H V6
Interconnect: Mellanox HDR
Compute Nodes Used: 4
Total Chips: 8
Total Cores: 320
Total Threads: 320
Total Memory: 1 TB
Max. Peak Threads: --

Software Summary

Compiler: Intel oneAPI Compiler 2021.4.0
MPI Library: Intel MPI Library for Linux* OS, Version 2021.4.0 Build 20210831
Other MPI Info: --
Other Software: --
Base Parallel Model: MPI
Base Ranks Run: 320
Base Threads Run: 1
Peak Parallel Models: Not Run
Minimum Peak Ranks: --
Maximum Peak Ranks: --
Max. Peak Threads: --
Min. Peak Threads: --

Node Description: Fusionserver 2288H V6

Hardware

Number of nodes: 4
Uses of the node: Compute
Vendor: xFusion
Model: FusionServer 2288H V6
CPU Name: Intel Xeon Platinum 8380
CPU(s) orderable: 1, 2 chips
Chips enabled: 2
Cores enabled: 80
Cores per chip: 40
Threads per core: 1
CPU Characteristics: Turbo Boost Technology up to 3.4 GHz
CPU MHz: 2300
Primary Cache: 32 KB I + 48 KB D on chip per core
Secondary Cache: 1.25 MB I+D on chip per core
L3 Cache: 60 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx8 PC4-3200R)
Disk Subsystem: 2 x 480 GB SATA 2.5" SSD (RAID 1)
Other Hardware: None
Accel Count: None
Accel Model: --
Accel Vendor: None
Accel Type: None
Accel Connection: None
Accel ECC enabled: None
Accel Description: None
Adapter: MCX653105A-EFAT
Number of Adapters: 1
Slot Type: PCI-Express 4.0 x16
Data Rate: 100 Gb/s
Ports Used: 1

Software

Accelerator Driver: --
Adapter: MCX653105A-EFAT
Adapter Driver: 5.4-3.1.0
Adapter Firmware: 20.32.1010
Operating System: CentOS Linux release 8.2.2004
4.18.0-193.el8.x86_644
Local File System: xfs
Shared File System: NFS
System State: Multi-user, run level 3
Other Software: None

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Node Description: Fusionserver 2288H V6

Hardware (Continued)

Interconnect Type: Mellanox HDR

Interconnect Description: Mellanox HDR

Hardware

Vendor: Mellanox
Model: Mellanox HDR
Switch Model: Mellanox MQM8790-HS2F
InfiniBand Switch
Number of Switches: 1
Number of Ports: 40
Data Rate: 200 Gbit/s
Firmware: --
Topology: Mesh
Primary Use: MPI Traffic

Software

: --

Submit Notes

The config file option 'submit' was used.
export LD_PRELOAD="/usr/lib64/libhugetlbfs.so \$LD_PRELOAD"
MPI startup command:
mpiexec.hydra -bootstrap ssh -hostfile \$[top]/4node --bind-to core -np \$ranks -ppn \$ppn \$command

Compiler Version Notes

=====
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 2021.4.0 (2021.4.0.20210924)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /home/opt/compiler/oneapi/2021.4.0/compiler/2021.4.0/linux/bin

=====
CXXC 632.sph_exa_s(base)

Intel(R) oneAPI DPC++/C++ Compiler 2021.4.0 (2021.4.0.20210924)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /home/opt/compiler/oneapi/2021.4.0/compiler/2021.4.0/linux/bin

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Compiler Version Notes (Continued)

```

=====
FC 619.clvleaf_s(base) 628.pot3d_s(base) 635.weather_s(base)
=====
ifx (IFORT) 2021.4.0 Beta 20210924
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=====

```

Base Compiler Invocation

C benchmarks:
`mpiicc -cc=icx -lstdc++(*)`

C++ benchmarks:
`mpiicpc -cxx=icx -lstdc++(*)`

Fortran benchmarks:
`mpiifort -fc=ifx -lstdc++(*)`

(*) Indicates a compiler flag that was found in a non-compiler variable.

Base Portability Flags

613.soma_s: -DSPEC_NO_VAR_ARRAY_REDUCE

Base Optimization Flags

C benchmarks:
`-Ofast -ipo -xCORE-AVX512 -mprefer-vector-width=512 -fiopenmp -ansi-alias`

C++ benchmarks:
`-Ofast -ipo -xCORE-AVX512 -mprefer-vector-width=512 -fiopenmp -ansi-alias`

Fortran benchmarks:
`-Ofast -ipo -xCORE-AVX512 -mprefer-vector-width=512 -fiopenmp -nostandard-realloc-lhs -align array64byte`



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The flags file that was used to format this result can be browsed at
<http://www.spec.org/hpc2021/flags/Intel-oneAPI-icx2021-official-linux64.html>

You can also download the XML flags source by saving the following link:
<http://www.spec.org/hpc2021/flags/Intel-oneAPI-icx2021-official-linux64.xml>

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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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