## Lenovo Global Technology

**NVIDIA Tesla V100S-PCIE-16GB**

**ThinkSystem SR860 V2**

### SPECaccel_acc_peak = 14.4

### SPECaccel_acc_base = 14.4

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<table>
<thead>
<tr>
<th>Test Sponsor</th>
<th>Lenovo Global Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Availability</td>
<td>Oct-2020</td>
</tr>
<tr>
<td>Software Availability</td>
<td>Oct-2020</td>
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<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Score</th>
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<tbody>
<tr>
<td>303.ostencil</td>
<td>20.1</td>
</tr>
<tr>
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<td>14.8</td>
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<tr>
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<td>25.0</td>
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<td>354.cg</td>
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<td>4.78</td>
</tr>
<tr>
<td>370.bt</td>
<td>30.6</td>
</tr>
</tbody>
</table>

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### Hardware

- **CPU Name:** Intel Xeon Platinum 8380H
- **CPU Characteristics:** Intel Turbo Boost Technology up to 4.3 GHz
- **CPU MHz:** 2900
- **CPU MHz Maximum:** 4300
- **FPU:** Integrated
- **CPU(s) enabled:** 112 cores, 4 chips, 28 cores/chip
- **CPU(s) orderable:** 2,4 chips
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 1 MB I+D on chip per core
- **L3 Cache:** 39424 KB I+D on chip per chip
- **Other Cache:** None

### Accelerator

- **Accel Model Name:** NVIDIA Tesla V100S-PCIE-16GB
- **Accel Vendor:** NVIDIA Corporation
- **Accel Name:** NVIDIA Tesla V100S-PCIE-16GB
- **Type of Accel:** GPU
- **Accel Connection:** PCIe 3.0 16x
- **Does Accel Use ECC:** Yes
- **Accel Description:** NVIDIA UNIX x86_64 Kernel Module 450.51.06
- **Accel Driver:** NVIDIA Tesla V100S-PCIE-16GB

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*Continued on next page*
## Lenovo Global Technology
NVIDIA Tesla V100S-PCIE-16GB
ThinkSystem SR860 V2

**SPECaccel_acc_peak** = 14.4

**SPECaccel_acc_base** = 14.4

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### Hardware (Continued)

<table>
<thead>
<tr>
<th>Memory:</th>
<th>1536 GB (48 x 32 GB 2Rx8 PC4-3200AA-R)</th>
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<tbody>
<tr>
<td>Disk Subsystem:</td>
<td>1 x 1TB SATA 2.5&quot; SSD</td>
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<tr>
<td>Other Hardware:</td>
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### Software

- **Operating System:** SUSE Linux Enterprise Server 15 SP2 5.3.18-22-default
- **Compiler:** PGI Professional Edition, Release 19.5
- **File System:** xfs
- **System State:** Run level 3
- **Other Software:** None

### Results Table

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<thead>
<tr>
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</tbody>
</table>

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

### Platform Notes

Sysinfo program /home/ACCEL1.3_pgi19.1_sles151/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b76e3fe1df68447e8a35
running on Narvi152 Thu Aug 20 22:09:15 2020

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
http://www.spec.org/accel/Docs/config.html#sysinfo
Continued on next page
Lenovo Global Technology
NVIDIA Tesla V100S-PCIE-16GB
ThinkSystem SR860 V2

SPECaccel_acc_peak = 14.4
SPECaccel_acc_base = 14.4

ACCEL license: 28  Test date: Aug-2020
Test sponsor: Lenovo Global Technology  Hardware Availability: Oct-2020
Tested by: Lenovo Global Technology  Software Availability: Oct-2020

Platform Notes (Continued)

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Platinum 8380H CPU @ 2.90GHz
4 "physical id"s (chips)
112 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 28
siblings : 28
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
25 26 27 28 29 30
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
25 26 27 28 29 30
physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
25 26 27 28 29 30
physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
25 26 27 28 29 30
cache size : 39424 KB

From /proc/meminfo
MemTotal: 1584972524 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release*/etc/*version*
os-release:
NAME="SLES"
VERSION="15-SP2"
VERSION_ID="15.2"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP2"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp2"

uname -a:
Linux Narvi152 5.3.18-22-default #1 SMP Wed Jun 3 12:16:43 UTC 2020 (720aeba)
x86_64 x86_64 x86_64 GNU/Linux
run-level 3 Aug 20 21:20

SPEC is set to: /home/ACCEL1.3_pgi19.1_sles151
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda4 xfs 490G 66G 424G 14% /home
Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately
Continued on next page
### Lenovo Global Technology

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<tr>
<td>determined&quot;, but the intent may not be met, as there are frequent changes to hardware, firmware, and the &quot;DMTF SMBIOS&quot; standard.</td>
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</table>

**BIOS Lenovo M5E103N-1.00 08/07/2020**

**Memory:**

48x Samsung M393A4G43AB3-CWE 32 GB 2 rank 3200 MT/s

*(End of data from sysinfo program)*

### General Notes

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

### Base Compiler Invocation

**C benchmarks:**

(pgcc)

**Fortran benchmarks:**

(pgfortran)

**Benchmarks using both Fortran and C:**

(pgcc pgfortran)

### Base Optimization Flags

**C benchmarks:**

(-fast -Mfprelaxed -acc -ta=tesla:cc70 -ta=tesla:cuda10.1)

**Fortran benchmarks:**

(-fast -Mfprelaxed -acc -ta=tesla:cc70 -ta=tesla:cuda10.1)

**Benchmarks using both Fortran and C:**

353.clvrleaf: -fast -Mfprelaxed -acc -ta=tesla:cc70 -ta=tesla:cuda10.1

**Lenovo Global Technology**

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### Peak Optimization Flags

**C benchmarks:**

- 303.ostencil: basepeak = yes
- 304.olbm: basepeak = yes
- 314.omriq: basepeak = yes
- 352.ep: basepeak = yes
- 354.cg: basepeak = yes
- 357.csp: basepeak = yes
- 370.bt: basepeak = yes

**Fortran benchmarks:**

- 350.md: basepeak = yes
- 351.palm: basepeak = yes
- 355.seismic: basepeak = yes
- 356.sp: basepeak = yes
- 360.ilbdc: basepeak = yes
- 363.swim: basepeak = yes

**Benchmarks using both Fortran and C:**

- 353.clvleaf: basepeak = yes
- 359.miniGhost: basepeak = yes

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

https://www.spec.org/accel/flags/pgi_flags.20200506.html

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

https://www.spec.org/accel/flags/pgi_flags.20200506.xml
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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC ACCEL v1.3.
Report generated on Tue Oct 13 17:09:49 2020 by SPEC ACCEL PS/PDF formatter v1290.
Originally published on 13 October 2020.