**SPEC ACCEL™ OMP Result**

**Lenovo Global Technology**  
**EPYC 7H12 CPU**  
**ThinkSystem SR655**

**SPECaccel_omp_peak = Not Run**  
**SPECaccel_omp_base = 6.39**

**ACCEL license:** 16  
**Test date:** Jan-2020  
**Hardware Availability:** Jun-2020  
**Software Availability:** Aug-2019

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### Hardware

- **CPU Name:** AMD EPYC 7H12 CPU  
- **CPU Characteristics:** Turbo up to 3.3 GHz  
- **CPU MHz:** 2600  
- **CPU MHz Maximum:** 3300  
- **FPU:** Integrated  
- **CPU(s) enabled:** 64 cores, 1 chip, 64 cores/chip, 2 threads/core  
- **CPU(s) orderable:** 1 Chips  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 512 KB I+D on chip per core  
- **L3 Cache:** 256 MB I+D on chip per chip  
  16 MB shared / 4 cores

### Accelerator

- **Accel Model Name:** EPYC 7H12 CPU  
- **Accel Vendor:** AMD  
- **Accel Name:** EPYC 7H12 CPU  
- **Type of Accel:** CPU  
- **Accel Connection:** Not applicable  
- **Does Accel Use ECC:** yes  
- **Accel Description:** 1 x AMD EPYC 7H12 CPU  
- **Accel Driver:** Not applicable

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Hardware (Continued)
Other Cache: None
Memory: 256 GB (8 x 32 GB 2Rx4 PC4-3200AA-R)
Disk Subsystem: 1 x 480 GB SATA 2.5” SSD
Other Hardware: None

Software
Compiler: Intel C/C++/Fortran 19.0 Update 4 for Linux Version 19.0.4 Build 20190416
File System: btrfs
System State: Run-level 3
Other Software: None

Results Table

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

Submit Notes

The config file option 'submit' was used.
## Lenovo Global Technology

### EPYC 7H12 CPU

### ThinkSystem SR655

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**Test date:** Jan-2020  
**Hardware Availability:** Jun-2020  
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### Platform Notes

Sysinfo program /home/ACCEL1.3/Docs/sysinfo
$Rev: 6965 $ $Date:: 2020-01-20 #$ c05a7f14b1b1765e3fe1df68447e8a35 running on linux-x8nq Thu Jan 20 10:55:08 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

From /proc/cpuinfo

```
model name : AMD EPYC 7H12 64-Core Processor
1 "physical id"s (chips)
128 "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 : 64
siblings : 128
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
cache size : 512 KB
```

From /proc/meminfo

```
MemTotal: 263971608 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

From /etc/*release* /etc/*version*

```
os-release:
NAME="SLES"
VERSION="15-SP1"
VERSION_ID="15.1"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP1"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp1"
```

uname -a:
```
(8fba516) x86_64 x86_64 x86_64 GNU/Linux
run-level 3 Jan 20 10:55
```

**SPEC is set to:** /home/ACCEL1.3

```
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda4 btrfs 444G 144G 301G 33% /home
```

Additional information from dmidecode:

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Platform Notes (Continued)

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Lenovo CPE111A 12/31/2019
Memory:
8x Samsung M393A4K40DB2-CWE 32 kB 2 rank 3200 MT/s
8x Unknown Unknown

(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.

BIOS Setting notes:
Operating Mode set to Maximum Performance

Base Compiler Invocation

C benchmarks:
icc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

Base Portability Flags

503.postencil: -DSPEC_USE_INNER_SIMD
504.polbm: -DSPEC_USE_INNER_SIMD
514.pomriq: -DSPEC_USE_INNER_SIMD
550.pmd: -DSPEC_USE_INNER_SIMD -80
551.ppalm: -DSPEC_USE_INNER_SIMD
552.pep: -DSPEC_USE_INNER_SIMD
553.pclvrleaf: -DSPEC_USE_INNER_SIMD

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### Base Portability Flags (Continued)

- 554.pcg: `-DSPEC_USE_INNER_SIMD`
- 555.pseismic: `-DSPEC_USE_INNER_SIMD`
- 556.psp: `-DSPEC_USE_INNER_SIMD`
- 557.pcs: `-DSPEC_USE_INNER_SIMD`
- 559.pmniGhost: `-DSPEC_USE_INNER_SIMD` `-nofor-main`
- 560.pilbdc: `-DSPEC_USE_INNER_SIMD`
- 563.pswim: `-DSPEC_USE_INNER_SIMD`
- 570.pbt: `-DSPEC_USE_INNER_SIMD`

### Base Optimization Flags

**C benchmarks:**
- `-O3 -march=core-avx2 -qopenmp -qopenmp-offload=host -no-prec-div -no-prec-sqrt -ansi-alias -ipo -fp-model fast=2`

**Fortran benchmarks:**
- `-O3 -march=core-avx2 -qopenmp -qopenmp-offload=host -no-prec-div -no-prec-sqrt -ansi-alias -ipo -fp-model fast=2`

**Benchmarks using both Fortran and C:**
- `-O3 -march=core-avx2 -qopenmp -qopenmp-offload=host -no-prec-div -no-prec-sqrt -ansi-alias -ipo -fp-model fast=2`

The flags file that was used to format this result can be browsed at:
[https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20200316.html](https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20200316.html)

You can also download the XML flags source by saving the following link:
[https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20200316.xml](https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20200316.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.  