



SPEC ACCEL™ ACC Result

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Lenovo Global Technology
NVIDIA Tesla V100-PCIE-16GB
ThinkSystem SR655

SPECaccel_acc_peak = Not Run

SPECaccel_acc_base = 13.2

ACCEL license: 28

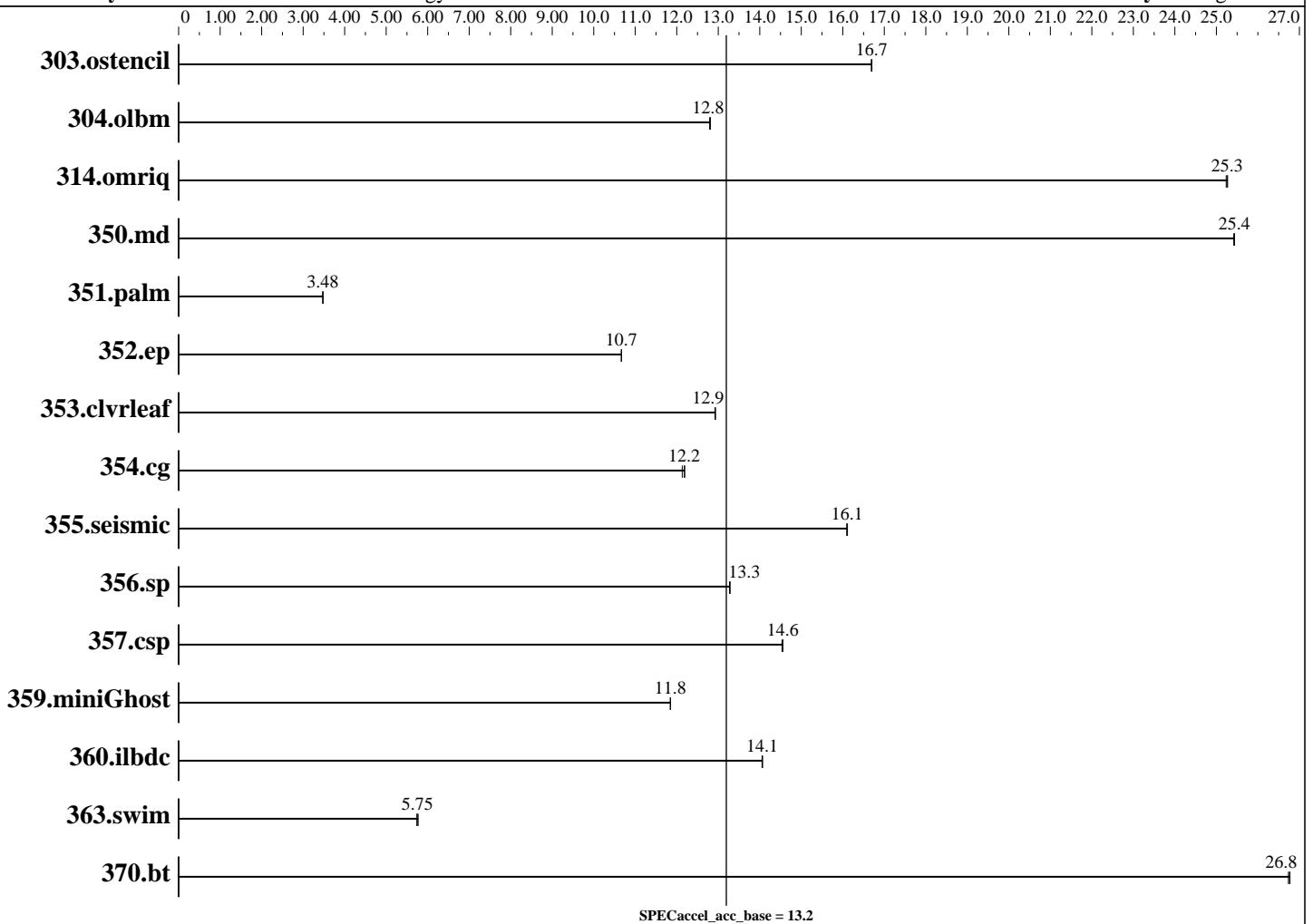
Test sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test date: Jul-2019

Hardware Availability: Aug-2019

Software Availability: Aug-2019



Hardware

CPU Name: AMD EPYC 7742 64-Core
 CPU Characteristics: Turbo up to 3.4 GHz
 CPU MHz: 2250
 CPU MHz Maximum: 3400
 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

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Accelerator

Accel Model Name: Tesla V100
 Accel Vendor: NVIDIA Corporation
 Accel Name: NVIDIA Tesla V100-PCIE-16GB
 Type of Accel: GPU
 Accel Connection: PCIe 3.0 16x
 Does Accel Use ECC: Yes
 Accel Description: NVIDIA Tesla V100-PCIE-16GB
 Accel Driver: NVIDIA UNIX x86_64 Kernel Module 418.39



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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

Operating System: SUSE Linux Enterprise Server 12 SP4
4.12.14-94.41-default
Compiler: PGI Professional Edition, Release 19.5
File System: xfs
System State: Multi-user, run level 3
Other Software: CUDA 10.1 SDK

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
303.ostencil	8.69	16.7	8.68	16.7	8.69	16.7						
304.olbm	35.6	12.8	35.5	12.8	35.5	12.8						
314.omriq	37.8	25.3	37.9	25.2	37.8	25.3						
350.md	9.91	25.4	9.91	25.4	9.91	25.4						
351.palm	106	3.48	107	3.47	106	3.48						
352.ep	49.7	10.7	49.7	10.7	49.7	10.7						
353.clvleaf	34.4	12.9	34.4	12.9	34.4	12.9						
354.cg	33.5	12.2	33.6	12.1	33.5	12.2						
355.seismic	23.0	16.1	23.0	16.1	23.0	16.1						
356.sp	20.8	13.3	20.8	13.3	20.8	13.3						
357.csp	18.6	14.6	18.6	14.5	18.6	14.6						
359.miniGhost	31.1	11.8	31.1	11.8	31.1	11.8						
360.ilbdc	26.1	14.1	26.1	14.1	26.1	14.1						
363.swim	39.9	5.77	40.1	5.74	40.0	5.75						
370.bt	8.33	26.8	8.33	26.8	8.34	26.7						

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

Platform Notes

Sysinfo program /home/ACCEL1.2/Docs/sysinfo
\$Rev: 6965 \$ \$Date:: 2015-04-21 #\$ c05a7f14b1b1765e3fe1df68447e8a35
running on bannerrh75 Tue Mar 26 23:45:45 2019

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

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Platform Notes (Continued)

<http://www.spec.org/accel/Docs/config.html#sysinfo>

```
From /proc/cpuinfo
model name : AMD EPYC 7742 64-Core Processor
 1 "physical id"s (chips)
 64 "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  : 64
  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:      264016424 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

```
/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP4
```

```
From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 4
# This file is deprecated and will be removed in a future service pack or
release.
# Please check /etc/os-release for details about this release.
os-release:
NAME="SLES"
VERSION="12-SP4"
VERSION_ID="12.4"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP4"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp4"
```

```
uname -a:
Linux bannerrh75 4.12.14-94.41-default #1 SMP Wed Oct 31 12:25:04 UTC 2018
(3090901) x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Jul 3 10:26
```

```
SPEC is set to: /home/ACCEL1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
```

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Platform Notes (Continued)

/dev/sda4 xfs 245G 72G 174G 30% /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 determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Lenovo CFE101Y 06/22/2019

Memory:

8x Samsung M393A4K40DB2-CWE 32 GB 2 rank 3200 MHz
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.

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

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

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

359.miniGhost: -fast -Mfprelaxed -acc -ta=tesla:cc70 -ta=tesla:cuda10.1
-Mnomain

The flags files that were used to format this result can be browsed at

https://www.spec.org/accel/flags/pgi2017_flags.20190807.html

https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.20190807.html

You can also download the XML flags sources by saving the following links:

https://www.spec.org/accel/flags/pgi2017_flags.20190807.xml

https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.20190807.xml

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

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