



SPEC ACCEL™ ACC Result

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Lenovo Global Technology
Tesla V100-PCIE-16GB
ThinkSystem SR670

SPECaccel_acc_peak = Not Run

SPECaccel_acc_base = 12.0

ACCEL license: 28

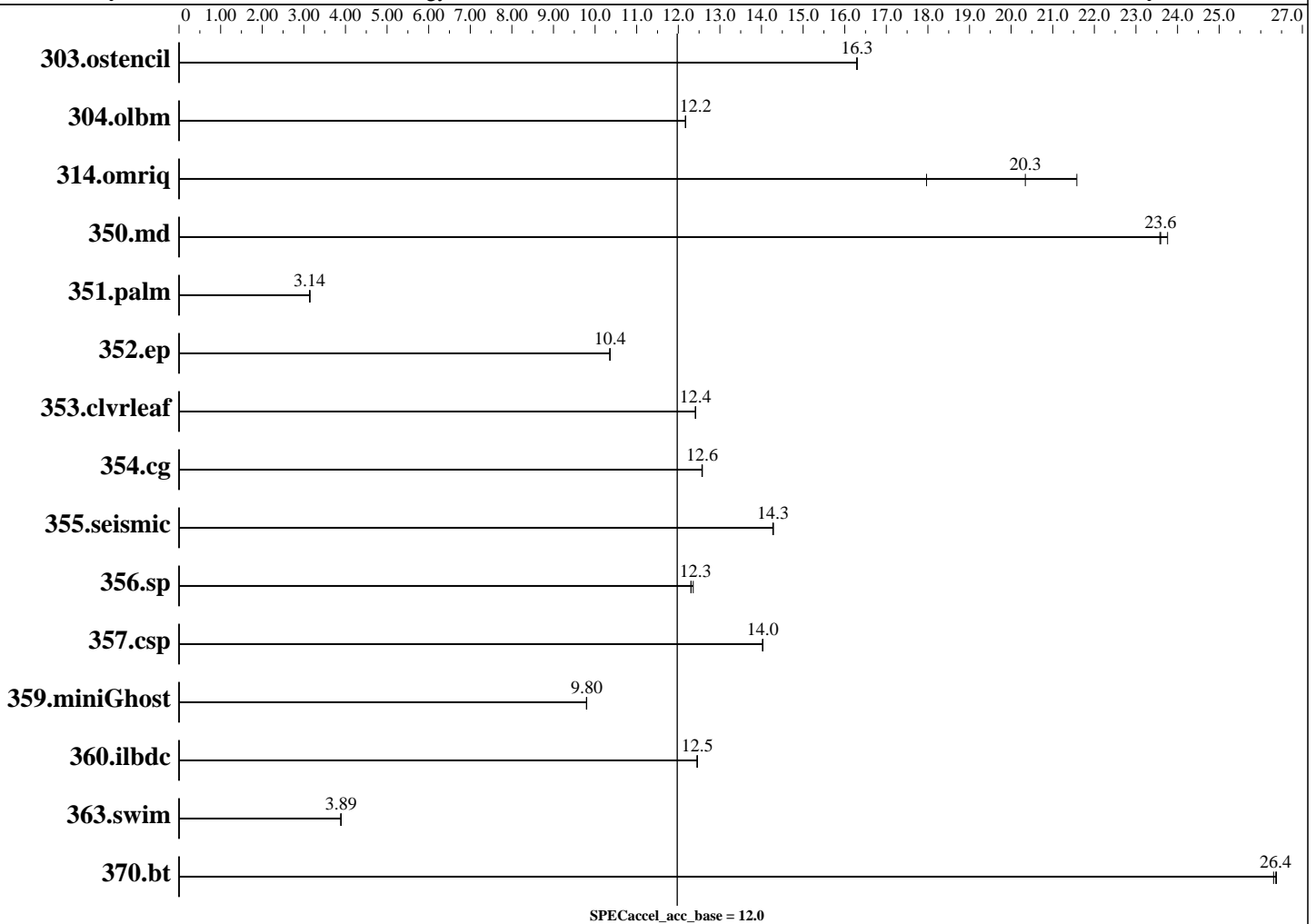
Test sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test date: Feb-2019

Hardware Availability: Feb-2019

Software Availability: Feb-2019



Hardware

CPU Name: Intel Xeon Gold 6142
 CPU Characteristics:
 CPU MHz: 2600
 CPU MHz Maximum: 3700
 FPU: Integrated
 CPU(s) enabled: 32 cores, 2 chips, 16 cores/chip
 CPU(s) orderable: 2 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: 22 MB I+D on chip per chip
 Other Cache: None

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Accelerator

Accel Model Name: Tesla V100
 Accel Vendor: NVIDIA Corporation
 Accel Name: Tesla V100-PCIE-16GB
 Type of Accel: GPU
 Accel Connection: PCIe
 Does Accel Use ECC: Yes
 Accel Description: Tesla V100-PCIE-16GB
 Accel Driver: NVIDIA UNIX x86_64 Kernel Module 396.26



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Hardware (Continued)

Memory: 768 GB (24 x 32 GB 2Rx4 PC4-2666)
Disk Subsystem: Micron 480 GB 6 Gbps SATA 2.5" SSD (4XB7A10153)
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.5 (Maipo)
3.10.0-862.el7.x86_64
Compiler: PGI Professional Edition, Release 18.7 LLVM
File System: xfs
System State: Run level 3 (Multi-User)
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
303.ostencil	8.90	16.3	8.89	16.3	8.90	16.3						
304.olbm	37.4	12.2	37.4	12.2	37.4	12.2						
314.omriq	47.0	20.3	53.2	18.0	44.3	21.6						
350.md	10.7	23.6	10.7	23.6	10.6	23.8						
351.palm	117	3.15	118	3.14	118	3.14						
352.ep	51.2	10.4	51.1	10.4	51.2	10.4						
353.clvrlf	35.8	12.4	35.9	12.4	35.8	12.4						
354.cg	32.5	12.6	32.4	12.6	32.4	12.6						
355.seismic	25.9	14.3	25.9	14.3	25.9	14.3						
356.sp	22.3	12.4	22.4	12.3	22.4	12.3						
357.csp	19.2	14.0	19.3	14.0	19.2	14.0						
359.miniGhost	37.7	9.80	37.7	9.80	37.7	9.79						
360.ilbdc	29.5	12.5	29.5	12.5	29.5	12.4						
363.swim	59.0	3.90	59.1	3.89	59.2	3.89						
370.bt	8.48	26.3	8.45	26.4	8.46	26.4						

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.



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Platform Notes

```
Sysinfo program /home/ACCEL1.2/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3feldf68447e8a35
running on bannerrh75 Fri Feb 22 14:01:56 2019
```

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 : Intel(R) Xeon(R) Gold 6142 CPU @ 2.60GHz
 2 "physical id"s (chips)
32 "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 : 16
  siblings  : 16
  physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size : 22528 KB
```

```
From /proc/meminfo
MemTotal:      792040060 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 7.5 (Maipo)
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.5 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VARIANT="Server"
VARIANT_ID="server"
VERSION_ID="7.5"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.5 (Maipo)"
redhat-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.5:ga:server
```

```
uname -a:
Linux bannerrh75 3.10.0-862.el7.x86_64 #1 SMP Wed Mar 21 18:14:51 EDT 2018
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Feb 22 05:06
```

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Platform Notes (Continued)

SPEC is set to: /home/ACCEL1.2

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-home	xfs	192G	71G	121G	37%	/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 -[G1E105G-1.10]- 12/07/2018

Memory:

24x Micron 36ASF4G72PZ-2G6D1 32 GB 2 rank 2666 MHz

(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. Run `nvidia-smi -pm 1` to enable persistence mode.

Base Compiler Invocation

C benchmarks:
pgcc-llvm

Fortran benchmarks:
pgfortran-llvm

Benchmarks using both Fortran and C:
pgcc-llvm pgfortran-llvm

Base Optimization Flags

C benchmarks:
`-fast -Mfprelaxed -acc -ta=tesla:cc70`

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Base Optimization Flags (Continued)

Fortran benchmarks:

-fast -Mfprelaxed -acc -ta=tesla:cc70

Benchmarks using both Fortran and C:

353.civrleaf: -fast -Mfprelaxed -acc -ta=tesla:cc70

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

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

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

https://www.spec.org/accel/flags/pgi2017_flags.20190321.html

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

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

https://www.spec.org/accel/flags/pgi2017_flags.20190321.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 v1.2.

Report generated on Thu Mar 21 11:47:50 2019 by SPEC ACCEL PS/PDF formatter v1290.

Originally published on 21 March 2019.