



SPEC ACCEL™ ACC Result

Copyright 2015-2021 Standard Performance Evaluation Corporation

Lenovo Global Technology
NVIDIA Tesla A100-PCIE-40GB
ThinkSystem SR665

SPECaccel_acc_peak = 23.0

SPECaccel_acc_base = 23.0

ACCEL license: 28

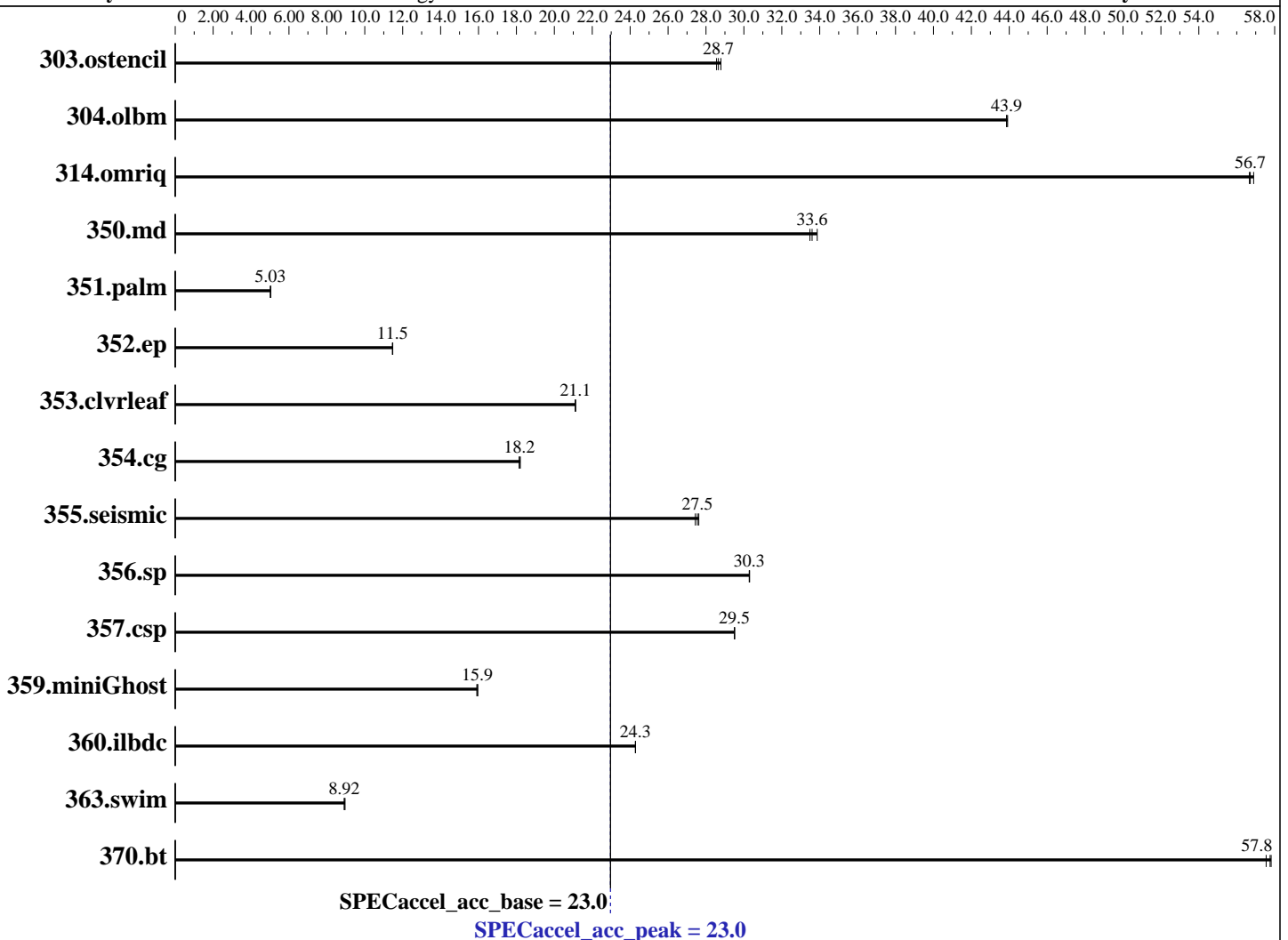
Test sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test date: Jan-2021

Hardware Availability: Mar-2021

Software Availability: Mar-2021



Hardware

CPU Name: AMD EPYC 7763
 CPU Characteristics: Turbo up to 3.5 GHz
 CPU MHz: 2450
 CPU MHz Maximum: 3500
 FPU: Integrated
 CPU(s) enabled: 64 cores, 2 chips, 64 cores/chip, 2 threads/core
 CPU(s) orderable: 1, 2 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
 32 MB shared / 8 cores

Continued on next page

Accelerator

Accel Model Name: NVIDIA Tesla A100-PCIE-40GB
 Accel Vendor: NVIDIA Corporation
 Accel Name: NVIDIA Tesla A100-PCIE-40GB
 Type of Accel: GPU
 Accel Connection: PCIe 4.0 16x
 Does Accel Use ECC: Yes
 Accel Description: NVIDIA Tesla A100-PCIE-40GB
 Accel Driver: NVIDIA UNIX x86_64 Kernel Module 450.51.05



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Hardware (Continued)

Other Cache: None
Memory: 1 TB (32 x 32 GB 2Rx4 PC4-3200AA-R)
Disk Subsystem: 1 x 480 GB 2.5" SSD
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux release 8.3 (Ootpa)
4.18.0-240.el8.x86_64
Compiler: Nvidia HPC SDK Release 20.11
File System: xfs
System State: Run level 3
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
303.ostencil	5.04	28.8	5.08	28.6	5.06	28.7	5.04	28.8	5.08	28.6	5.06	28.7
304.olbm	10.4	43.9	10.4	43.9	10.4	43.9	10.4	43.9	10.4	43.9	10.4	43.9
314.omriq	16.8	56.9	16.9	56.7	16.9	56.7	16.8	56.9	16.9	56.7	16.9	56.7
350.md	7.44	33.9	7.50	33.6	7.53	33.5	7.44	33.9	7.50	33.6	7.53	33.5
351.palm	73.5	5.04	73.7	5.02	73.6	5.03	73.5	5.04	73.7	5.02	73.6	5.03
352.ep	46.2	11.5	46.2	11.5	46.3	11.5	46.2	11.5	46.2	11.5	46.3	11.5
353.clvrleaf	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1
354.cg	22.4	18.2	22.5	18.2	22.5	18.1	22.4	18.2	22.5	18.2	22.5	18.1
355.seismic	13.4	27.6	13.4	27.5	13.5	27.4	13.4	27.6	13.4	27.5	13.5	27.4
356.sp	9.11	30.3	9.11	30.3	9.11	30.3	9.11	30.3	9.11	30.3	9.11	30.3
357.csp	9.15	29.5	9.15	29.5	9.15	29.5	9.15	29.5	9.15	29.5	9.15	29.5
359.miniGhost	23.1	16.0	23.1	15.9	23.2	15.9	23.1	16.0	23.1	15.9	23.2	15.9
360.ilbdc	15.1	24.3	15.1	24.3	15.1	24.3	15.1	24.3	15.1	24.3	15.1	24.3
363.swim	25.8	8.92	25.8	8.92	25.7	8.96	25.8	8.92	25.8	8.92	25.7	8.96
370.bt	3.86	57.8	3.86	57.8	3.87	57.6	3.86	57.8	3.86	57.8	3.87	57.6

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

Platform Notes

```
Sysinfo program /home/ACCEL1.3/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on amd2srh836 Tue Jan 19 14:33:31 2021
```

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 7763 64-Core Processor
 2 "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  : 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
  physical 1: 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:      1056412560 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux"
VERSION="8.3 (Ootpa)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="8.3"
PLATFORM_ID="platform:el8"
PRETTY_NAME="Red Hat Enterprise Linux 8.3 (Ootpa)"
ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.3:ga

```

```

uname -a:
Linux amd2srh836 4.18.0-240.el8.x86_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Jun 22 19:12

```

SPEC is set to: /home/ACCEL1.3
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3       xfs   419G 136G 284G  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 D8E113S-2.00 12/18/2020

Memory:

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

(End of data from sysinfo program)

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:cc80 -ta=tesla:cuda11.0

Fortran benchmarks:

-fast -Mfprelaxed -acc -ta=tesla:cc80 -ta=tesla:cuda11.0

Benchmarks using both Fortran and C:

353.clvleaf: -fast -Mfprelaxed -acc -ta=tesla:cc80 -ta=tesla:cuda11.0

359.miniGhost: -fast -Mfprelaxed -acc -ta=tesla:cc80 -ta=tesla:cuda11.0
-Mnomain

Peak Optimization Flags

C benchmarks:

303.ostencil: basepeak = yes

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Peak Optimization Flags (Continued)

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.clvrleaf: 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/nvidia_flags.html

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

https://www.spec.org/accel/flags/nvidia_flags.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 Mon Mar 15 12:04:53 2021 by SPEC ACCEL PS/PDF formatter v1290.
Originally published on 15 March 2021.