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

**SPECaccel_acc_peak = 23.0**

**SPECaccel_acc_base = 23.0**

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**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**

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**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
## 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

<table>
<thead>
<tr>
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<th>Ratio</th>
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</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/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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SPECaccel_acc_peak = 23.0
SPECaccel_acc_base = 23.0

ACCEL license:  28
Test sponsor: Lenovo Global Technology
Test date:  Jan-2021
Tested by: Lenovo Global Technology
Hardware Availability: Mar-2021
Software Availability: Mar-2021

Platform Notes (Continued)

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:
Lenovo Global Technology
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Tested by: Lenovo Global Technology
Test date: Jan-2021
Hardware Availability: Mar-2021
Software Availability: Mar-2021

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:
-\texttt{fast} -\texttt{Mfprelaxed} -\texttt{acc} -\texttt{ta=tesla:cc80} -\texttt{ta=tesla:cudal1.0}

Fortran benchmarks:
-\texttt{fast} -\texttt{Mfprelaxed} -\texttt{acc} -\texttt{ta=tesla:cc80} -\texttt{ta=tesla:cudal1.0}

Benchmarks using both Fortran and C:
353.clvrleaf: -\texttt{fast} -\texttt{Mfprelaxed} -\texttt{acc} -\texttt{ta=tesla:cc80} -\texttt{ta=tesla:cudal1.0}
359.miniGhost: -\texttt{fast} -\texttt{Mfprelaxed} -\texttt{acc} -\texttt{ta=tesla:cc80} -\texttt{ta=tesla:cudal1.0}
-\texttt{Mnomain}

Peak Optimization Flags

C benchmarks:
303.ostencil: basepeak = yes

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**SPECaccel_acc_peak = 23.0**

**SPECaccel_acc_base = 23.0**

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<td>Lenovo Global Technology</td>
<td>Software Availability:</td>
<td>Mar-2021</td>
</tr>
</tbody>
</table>

**Peak Optimization Flags (Continued)**

304.olbm: basepeak = yes
314.omriq: basepeak = yes
352.cp: 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.
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