IBM
(Test Sponsor: NVIDIA Corporation)

IBM POWER9 CPU
Power System AC922

SPECaccel_acc_peak = 3.03
SPECaccel_acc_base = 3.03

Hardware

CPU Name: POWER9 2.2 (pvr 004e 1202), altivec supported
CPU Characteristics:
CPU MHz: 2300
CPU MHz Maximum: 3800
FPU: Integrated
CPU(s) enabled: 20 cores, 2 chips, 20 cores/chip, 4 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: 120 MB I+D on chip per chip
Other Cache: None

Accelerator

Accel Model Name: POWER9 2.2 (pvr 004e 1202), altivec supported
Accel Vendor: IBM
Accel Name: IBM POWER9 CPU
Type of Accel: CPU
Accel Connection: Not Applicable
Does Accel Use ECC: Yes
Accel Description: --
Accel Driver: Not applicable
## SPEC ACCEL ACC Result

**IBM**  
(Phost Sponor: NVIDIA Corporation)  
**IBM POWER9 CPU**  
Power System AC922

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**SPECaccel_acc_peak = 3.03**  
**SPECaccel_acc_base = 3.03**

### Hardware (Continued)

<table>
<thead>
<tr>
<th>Memory:</th>
<th>128 GB (16 x 8 GB PC4-21300)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disk Subsystem:</td>
<td>1 TB Seagate SATA HDD</td>
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<tr>
<td>Other Hardware:</td>
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</table>

### Software

- **Operating System:** Red Hat Enterprise Linux Server release 7.5  
  Red Hat Enterprise Linux Server release 7.5 (Maipo)  
  4.14.0-49.8.1.el7a.ibm,nvidia.6.1.ppc64le
- **Compiler:** PGI Community Edition, Release 19.4
- **File System:** xfs
- **System State:** Run level 3 (add definition here)
- **Other Software:** None

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>116</td>
<td>1.92</td>
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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 /local/home/toepfer/SPECACCEL/Docs/sysinfo  
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1765e3fe1df68447e8a35  
running on perf-wsn1 Fri May 31 11:09:59 2019

This section contains SUT (System Under Test) info as seen by

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### SPEC ACCEL ACC Result

**IBM**  
(Test Sponsor: NVIDIA Corporation)  
**IBM POWER9 CPU**  
**Power System AC922**

<table>
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<th>ACCEL license:</th>
<th>019</th>
<th>Test date:</th>
<th>May-2019</th>
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<tr>
<td>Test sponsor:</td>
<td>NVIDIA Corporation</td>
<td>Hardware Availability:</td>
<td>Aug-2018</td>
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<tr>
<td>Tested by:</td>
<td>NVIDIA Corporation</td>
<td>Software Availability:</td>
<td>Apr-2018</td>
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</table>

**SPECaccel_acc_peak** = 3.03  
**SPECaccel_acc_base** = 3.03

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#### Platform Notes (Continued)

some common utilities. To remove or add to this section, see:  
http://www.spec.org/accel/Docs/config.html#sysinfo

From /proc/cpuinfo  
clock : 3616.000000MHz  
machine : PowerNV 8335-GTC........  
model : 8335-GTC........  
platform : PowerNV  
revision : 2.2 (pvr 004e 1202)  
cpu : POWER9, altivec supported  
* 0 "physical id" tags found. Perhaps this is an older system,  
* or a virtualized system. Not attempting to guess how to  
* count chips/cores for this system.  
* 160 "processors"  
cores, siblings (Caution: counting these is hw and system dependent. The  
following excerpts from /proc/cpuinfo might not be reliable. Use with  
caution.)

From /proc/meminfo  
MemTotal: 150251584 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)"

uname -a:  
Linux perf-wsn1 4.14.0-49.8.1.el7a.ibmnvidia.6.1.ppc64le #1 SMP Tue Jun 5 13:56:12 -03 2018 ppc64le ppc64le ppc64le GNU/Linux  
run-level 3 May 24 11:17

SPEC is set to: /local/home/toepfer/SPECACCEL

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Platform Notes (Continued)

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/mapper/rhel_wsn1-root</td>
<td>xfs</td>
<td>927G</td>
<td>116G</td>
<td>812G</td>
<td>13%</td>
<td>/</td>
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</tbody>
</table>

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
- ACC_NUM_CORES = "80"
- OMP_PROC_BIND = "true"

Base Compiler Invocation

C benchmarks:
- pgcc

Fortran benchmarks:
- pgfortran

Benchmarks using both Fortran and C:
- pgcc pgfortran

Base Optimization Flags

C benchmarks:
- -fast -Mnouniform -Mfprelaxed -acc -ta=multicore

Fortran benchmarks:
- -fast -Mnouniform -Mfprelaxed -acc -ta=multicore

Benchmarks using both Fortran and C:
- 353.clvrleaf: -fast -Mnouniform -Mfprelaxed -acc -ta=multicore
- 359.miniGhost: -fast -Mnouniform -Mfprelaxed -acc -ta=multicore -Mnomain

Peak Optimization Flags

C benchmarks:

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ACCEL license: 019  
Test sponsor: NVIDIA Corporation  
Tested by: NVIDIA Corporation

Test date: May-2019  
Hardware Availability: Aug-2018  
Software Availability: Apr-2018

Peak Optimization Flags (Continued)

303.ostencil: basepeak = yes
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
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356.sp: basepeak = yes
360.ilbdc: basepeak = yes
363.swim: basepeak = yes

Benchmarks using both Fortran and C:
353.clvleaf: basepeak = yes
359.miniGhost: basepeak = yes

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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.  