**IBM**
*(Test Sponsor: NVIDIA Corporation)*

**IBM POWER 9**

Power Server AC922 (8335-GTC)

---

**SPECaccel_acc_base** = 3.05

---

<table>
<thead>
<tr>
<th>Test Sponsor: NVIDIA Corporation</th>
<th>Test date: Nov-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by: NVIDIA Corporation</td>
<td>Hardware Availability: Dec-2017</td>
</tr>
<tr>
<td>ACCEL license: 019</td>
<td>Software Availability: Nov-2019</td>
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</tbody>
</table>

---

### Hardware

- **CPU Name:** POWER9, altivec supported
- **CPU Characteristics:**
  - CPU MHz: 2300
  - CPU MHz Maximum: 3800
  - FPU:
  - CPU(s) enabled: --
  - 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:** 10 MB I+D on chip per core
- **Other Cache:** None

---

### Accelerator

- **Accel Model Name:** POWER 9
- **Accel Vendor:** IBM
- **Accel Name:** IBM POWER 9
- **Type of Accel:** CPU
- **Accel Connection:** Not applicable
- **Does Accel Use ECC:** Yes
- **Accel Description:** --
- **Accel Driver:** --

---

**SPECaccel_acc_base** = 3.05

---

### SPECaccel_acc_base

| 303.ostencil | 1.35 |
| 304.olbm | |
| 314.omriq | 0.465 |
| 350.md | 0.414 |
| 351.palm | 2.34 |
| 352.ep | |
| 353.clvrleaf | 3.40 |
| 354.cg | |
| 355.seismic | 3.71 |
| 356.sp | |
| 357.csp | |
| 359.miniGhost | 2.89 |
| 360.ilbdc | |
| 363.swim | |
| 370.bt | |

---

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**Accelerator**

- **Accel Model Name:** POWER 9
- **Accel Vendor:** IBM
- **Accel Name:** IBM POWER 9
- **Type of Accel:** CPU
- **Accel Connection:** Not applicable
- **Does Accel Use ECC:** Yes
- **Accel Description:** --
- **Accel Driver:** --
IBM
(Test Sponsor: NVIDIA Corporation)
IBM POWER 9
Power Server AC922 (8335-GTC)

SPEC accel acc result

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SPECaccel acc_peak = Not Run

SPECaccel acc_base = 3.05

Hardware (Continued)

Memory: 144 GB
143.291 GB
fixme: If using DDR3, format is:
'N GB (M x N GB nRxn PCn-mmmnR-n, ECC)'
Disk Subsystem: 927 GB
add more disk info here
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.5
(Maipo)
Red Hat Enterprise Linux Server release 7.5
(Maipo)
4.14.0-49.8.1.el7a.ibmnvidia.6.1.ppc64le
Compiler: C/C++/Fortran : Version 19.10 of PGI Professional
Edition
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>
<th>Seconds</th>
<th>Ratio</th>
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<th>Ratio</th>
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<td>370.bt</td>
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<td>2.07</td>
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<td>108</td>
<td>2.06</td>
</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.
IBM
(Test Sponsor: NVIDIA Corporation)
IBM POWER 9
Power Server AC922 (8335-GTC)

SPECaccel_acc_peak = Not Run
SPECaccel_acc_base = 3.05

Submit Notes
The config file option 'submit' was used.

Platform Notes
Sysinfo program /local/home/cparrott/SPEC/ACCEL-1.3/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on perf-wsn1 Thu Nov 14 13:25:29 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
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
cautions.)

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*
redhat-release: Red Hat Enterprise Linux Server 7.5 (Maipo)
redhat-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)

Continued on next page
IBM
(Test Sponsor: NVIDIA Corporation)
IBM POWER 9
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SPECaccel_acc_peak = Not Run
SPECaccel_acc_base = 3.05

Platform Notes (Continued)

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 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 Oct 6 15:08

SPEC is set to: /local/home/cparrott/SPEC/ACCEL-1.3
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel_wsn1-root xfs 927G 186G 742G 20% /

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
ACC_NUM_CORES = "80"
HUGETLB_PATH = "/mnt/hugetlb"
KMP_THREAD_LIMIT = "80"
OMP_PROC_BIND = "true"
OMP_THREAD_LIMIT = "80"

Base Compiler Invocation

C benchmarks:
  pgcc

Fortran benchmarks:
  pgfortran

Benchmarks using both Fortran and C:
  pgcc pgfortran

Base Optimization Flags

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

Fortran benchmarks:
  -fast -Mfprelaxed=intrinsic -Mnouniform -acc -ta=multicore:nvomp
### SPEC ACCEL ACC Result

**IBM**  
(Test Sponsor: NVIDIA Corporation)

**IBM POWER 9**  
Power Server AC922 (8335-GTC)

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### Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

- 353.clvrleaf: `-fast -Mfprelaxed=intrinsic -Mnouniform -acc -ta=multicore:nvomp`

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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.  