Cray
(Test Sponsor: Indiana University)

NVIDIA Tesla K20
Cray XK7

SPECaccel_acc_peak = Not Run
SPECaccel_acc_base = 1.84

ACCEL license: 3440A
Test sponsor: Indiana University
Tested by: Indiana University
Test date: Mar-2015
Hardware Availability: Apr-2013
Software Availability: Feb-2015

Hardware
CPU Name: AMD Opteron 6276
CPU Characteristics: AMD Turbo CORE Technology up to 3.2GHz, Turbo CORE off
CPU MHz: 2300
CPU MHz Maximum: 3200
FPU: Integrated
CPU(s) enabled: 16 cores, 1 chip, 16 cores/chip
CPU(s) orderable: 1 chip
Primary Cache: 32 KB I + 16 KB D on chip per core
Secondary Cache: 16 MB I+D on chip per chip, 2 MB shared / 2 cores
L3 Cache: 16 MB I+D on chip per chip, 8 MB shared / 8 cores

Accelerator
Accel Model Name: Tesla K20
Accel Vendor: NVIDIA
Accel Name: NVIDIA Tesla K20
Type of Accel: GPU
Accel Connection: PCIe 2.0 16x
Does Accel Use ECC: yes
Accel Description: NVIDIA Tesla K20m GPU, 2496 CUDA cores, 706MHz, 5 GB GDDR5 RAM
Accel Driver: NVIDIA UNIX x86_64 Kernel Module 319.82

<table>
<thead>
<tr>
<th>Module</th>
<th>Result</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>304.olbm</td>
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<tr>
<td>314.omriq</td>
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<td>356.sp</td>
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<tr>
<td>357.csp</td>
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<td>359.miniGhost</td>
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<tr>
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<td>363.swim</td>
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**SPEC ACCEL ACC Result**

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

**Platform Notes**

Sysinfo program /N/soft/mason/specaccel-1.0/Docs/sysinfo
$Rev: 6874 $ $Date:: 2013-11-20 $$ 0953404ef7e75a5f9bfb534c6de3f831
running on nid00352 Fri Mar 27 18:02:53 2015

This section contains SUT (System Under Test) info as seen by
Continued on next page
**SPEC ACCEL ACC Result**

(Cray) **(Test Sponsor: Indiana University)**

**NVIDIA Tesla K20**

**Cray XK7**

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**Platform Notes (Continued)**

```plaintext
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 : AMD Opteron(TM) Processor 6276
                  1 "physical id"s (chips)
                  16 "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
                  cache size : 2048 KB

From /proc/meminfo
    MemTotal:       33084584 kB
    HugePages_Total:       0
    Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
    SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*
    SuSE-release:
        SUSE Linux Enterprise Server 11 (x86_64)
        VERSION = 11
        PATCHLEVEL = 1
    mazama-release:
        Mazama Wed Aug 28 02:06:30 CDT 2013 on hssbld0 by bwdev
        lsb-cray-mazama-7.1.0

uname -a:
    Linux nid00352 2.6.32.59-0.7.1_1.0402.7496-cray_gem_c #1 SMP Thu Jul 10
                  19:17:02 UTC 2014 x86_64 x86_64 x86_64 GNU/Linux

    SPEC is set to: /N/soft/mason/specaccel-1.0
    Filesystem     Type  Size  Used Avail Use% Mounted on
    /N/soft        dvs   599T  104T  495T  18% /N/soft

    Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

(End of data from sysinfo program)
```
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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:cc35 -ta=tesla:cuda5.5

Fortran benchmarks:
  -fast -Mfprelaxed -acc -ta=tesla:cc35 -ta=tesla:cuda5.5

Benchmarks using both Fortran and C:
  353.clvrleaf: -fast -Mfprelaxed -acc -ta=tesla:cc35 -ta=tesla:cuda5.5
  359.miniGhost: -fast -Mfprelaxed -acc -ta=tesla:cc35 -ta=tesla:cuda5.5
    -Mnomain

The flags file that was used to format this result can be browsed at
http://www.spec.org/accel/flags/pgi2014_flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/accel/flags/pgi2014_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 v1.0.
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