**SPEC® ACCEL_ACC Result**

Cray
(Test Sponsor: Indiana University)

**NVIDIA Tesla K20**

**Cray XK7**

**SPECaccel_acc_peak = Not Run**

**SPECaccel_acc_base = 1.31**

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<td>370.bt</td>
<td>0.215</td>
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</table>

**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 core, 2 MB shared / 2 cores
- **L3 Cache:** 16 MB I+D on chip per core, 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

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
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<tbody>
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<td>Test date: Aug-2014</td>
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<tr>
<td>Test sponsor: Indiana University</td>
<td>Hardware Availability: Apr-2013</td>
</tr>
<tr>
<td>Tested by: Indiana University</td>
<td>Software Availability: Jul-2014</td>
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</table>

| Other Cache: None | |
| Memory: 32 GB (4 x 8 GB 2Rx4 PC3L-12800R-11, ECC) | |
| Disk Subsystem: None | |
| Other Hardware: None | |

| Software |
|-----------------------------|---------------------------|
| Operating System: SUSE Linux Enterprise Server 11 (x86_64), Cray Linux Environment 4.2 SUSE Linux Enterprise Server 11 (x86_64) 2.6.32.59-0.7.1_1.0402.7496-cr | |
| Compiler: Cray Compiling Environment 8.3.1 | |
| File System: NFSv3 (IBM N5500 NAS) over Gb ethernet | |
| System State: Multi-user, run level 3 | |
| Other Software: NVIDIA CUDA 5.5.20 | |
SPEC ACCEL_ACC Result

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(Copy Test Sponsor: Indiana University)

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Cray

NVIDIA Tesla K20

Cray XK7

Results Table

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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 $ $Date:: 2013-11-20 #$ 0953404ef7e75a5f9bb534c6de3f831
running on nid00456 Tue Aug 12 17:37:45 2014

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
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
Continued on next page
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Platform Notes (Continued)

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 nid00456 2.6.32.59-0.7.1_1.0402.7496-cray_gem_c #1 SMP Wed Feb 26
  05:58:57 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 1.9T 1.6T 258G 87% /N/soft

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

(End of data from sysinfo program)

General Notes

Baseline C: gcc
  Fortran: f90 -64 -mp -O2

Base Compiler Invocation

C benchmarks:
  cc

Fortran benchmarks:
  ftn

Benchmarks using both Fortran and C:
  cc ftn
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Base Portability Flags

314.omriq: -DSPEC_NO_INLINE
352.ep: -DSPEC_NO_INLINE

Base Optimization Flags

C benchmarks:
-02 -h pragma=acc -h nopragma=omp -fpic -dynamic

Fortran benchmarks:
-02 -h acc,noomp -em -fpic -dynamic

Benchmarks using both Fortran and C:
-02 -h pragma=acc -h nopragma=omp -fpic -dynamic -h acc,noomp -em

The flags file that was used to format this result can be browsed at
http://www.spec.org/accel/flags/flags-advanced.20150303.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/accel/flags/flags-advanced.20150303.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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