Intel
(Test Sponsor: Intel Corporation)
Intel Xeon E5-2697 v3
R2208WTTYC1

SPECaccel_ocl_peak = 2.26
SPECaccel_ocl_base = 2.09

ACCEL license:  13
Test sponsor:  Intel Corporation
Tested by:  Pavel Shelepugin, Alexander Bobyr

Test date:  Feb-2015
Hardware Availability:  Sep-2014
Software Availability:  Feb-2015

101.tpacf  1.02
103.stencil  1.63
104.lbm  4.48
110.fft  1.23
112.spmv  1.11
114.mriq  3.83
116.histo  2.11
117.bfs  4.29
118.cutcp  4.05
120.kmeans  2.18
121.lavamd  6.09
122.cfd  5.56
123.nw  3.56
124.hotspot  2.14
125.lud  2.14
126.ge  1.17
127.srad  0.956
128.heartwall  0.718
140.bplustree  3.67

SPECaccel_ocl_base = 2.09
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## SPEC ACCEL OCL Result

### Intel Xeon E5-2697 v3 R2208WTTYC1

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| ACCEL license: | 13 |
| Test sponsor: | Intel Corporation |
| Tested by: | Pavel Shelepugin, Alexander Bobyr |
| Hardware | Accelerator |
| CPU Name: | Intel Xeon E5-2697 v3 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.6 GHz, 9.6 GT/s QPI, Hyper-Threading enabled |
| CPU MHz: | 2600 |
| CPU MHz Maximum: | 3600 |
| FPU: | Integrated |
| CPU(s) enabled: | 28 cores, 2 chips, 14 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: | 256 KB I+D on chip per core |
| L3 Cache: | 35 MB I+D on chip per chip, 35 MB shared / 14 cores |
| Other Cache: | None |
| Memory: | 64 GB (8 x 8 GB 2Rx4 PC4-17000R-15, ECC) |
| Disk Subsystem: | Panasas ActiveStor 12, PanFS 6.0 |
| Other Hardware: | None |

| Hardware | Accelerator |
| Accel Model Name: | Intel Xeon E5-2697 v3 |
| Accel Vendor: | Intel |
| Accel Name: | Intel Xeon E5-2697 v3 |
| Type of Accel: | CPU |
| Accel Connection: | 9.6 GT/s QPI |
| Does Accel Use ECC: | yes |
| Accel Description: | 2x Intel Xeon E5-2697 v3 CPUs with Hyper-Threading |
| Accel Driver: | None |

| Software | Operating System: | Red Hat Enterprise Linux Server release 6.5 (Santiago) 2.6.32-358.6.2.el6.x86_64.crt1 |
| Compiler: | Intel C++ Composer XE 2015 for Linux, Version 15.0.1.133 Build 20141023 |
| File System: | panfs |
| System State: | Run level 3 (multi-user) |
| Other Software: | Intel OpenCL SDK 2015 Version 15.1 Build 5.0.0.57 |
**SPEC ACCEL OCL Result**

- **Intel** (Test Sponsor: Intel Corporation)
- **Intel Xeon E5-2697 v3 R2208WTTYC1**
- **SPECaccel_ocl_peak = 2.26**
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**Test sponsor:** Intel Corporation  
**Test date:** Feb-2015  
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**Hardware Availability:** Sep-2014  
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### Results Table

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<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>140.bplustree</td>
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<td>3.67</td>
</tr>
</tbody>
</table>

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

### Peak Tuning Notes

The following compiler environment variables were used for the Peak run:

- `CL_CONFIG_CPU_VECTORIZER_MODE=8` for 116.histo
- `CL_CONFIG_CPU_VECTORIZER_MODE=4` for 117.bfs
- `CL_CONFIG_CPU_RT_LOOP_UNROLL=16` for 118.cutcp
- `CL_CONFIG_USE_FAST_RELAXED_MATH=1` for 121.lavamd

### Submit Notes

The config file option 'submit' was used.  
'numactl' utility was used for 'submit' option.
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Platform Notes

Sysinfo program /panfs/panfs3/users2/pshelepu/kit47/Docs/sysinfo
$Rev: 6874 $ $Date:: 2013-11-20 #$ 0953404ef7e75a5f9bbb534c6de3f831
running on ehk288 Tue Feb 24 02:18:44 2015

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: Intel(R) Xeon(R) CPU E5-2697 v3 @ 2.60GHz
- 2 "physical id"s (chips)
- 56 "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: 14
  - siblings: 28
  - physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
  - physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
- cache size: 35840 KB

From /proc/meminfo

- MemTotal: 65860360 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
- Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*

- redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
- system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

uname -a:
- Linux ehk288 2.6.32-358.6.2.el6.x86_64.crt1 #4 SMP Fri May 17 15:33:33 MDT
  2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 19 10:17

SPEC is set to: /panfs/panfs3/users2/pshelepu/kit47
Filesystem Type Size Used Avail Use% Mounted on
panfs://36.101.211.31/users2
- panfs 76T 49T 28T 65% /panfs/panfs3/users2

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

(End of data from sysinfo program)
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Base Runtime Environment

C benchmarks:
OpenCL Platform: Intel(R) OpenCL, OpenCL 1.2 LINUX
OpenCL Device #0: Intel(R) Xeon(R) CPU E5-2697 v3 @ 2.60GHz, v 1.2.0.57

C++ benchmarks:
OpenCL Platform: Intel(R) OpenCL, OpenCL 1.2 LINUX
OpenCL Device #0: Intel(R) Xeon(R) CPU E5-2697 v3 @ 2.60GHz, v 1.2.0.57

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Optimization Flags

C benchmarks:
-O3 -xCORE-AVX2 -lintelocl

C++ benchmarks:
-O3 -xCORE-AVX2 -lintelocl

Peak Runtime Environment

C benchmarks:
OpenCL Platform: Intel(R) OpenCL, OpenCL 1.2 LINUX
OpenCL Device #0: Intel(R) Xeon(R) CPU E5-2697 v3 @ 2.60GHz, v 1.2.0.57

C++ benchmarks:
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Peak Compiler Invocation

C benchmarks:
icc

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Tested by: Pavel Shelepugin, Alexander Bobyr

Software Availability: Feb-2015

Peak Compiler Invocation (Continued)

C++ benchmarks:
icpc

Peak Optimization Flags

C benchmarks:

110.fft: basepeak = yes
114.mriq: basepeak = yes
116.histo: -O3 -xCORE-AVX2 -lintelocl
117.bfs: Same as 116.histo
118.cutcp: Same as 116.histo
121.lavamd: Same as 116.histo
124.hotspot: -O3 -xCORE-AVX2 -DSPEC_ACCEL_WG_SIZE_0_0=40 -lintelocl
127.srad: basepeak = yes
128.heartwall: basepeak = yes
140.bplustree: basepeak = yes

C++ benchmarks:

101.tpacf: basepeak = yes
103.stencil: basepeak = yes
104.lbm: basepeak = yes
112.spmv: basepeak = yes
120.kmeans: basepeak = yes
122.cfd: basepeak = yes
123.nw: -O3 -xCORE-AVX2 -DSPEC_ACCEL_WG_SIZE_0_0=32 -lintelocl
125.lud: Same as 123.nw

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Peak Optimization Flags (Continued)

126.ge: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/accel/flags/EM64T_Intel150_flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/accel/flags/EM64T_Intel150_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 v47.
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