POWER8 Tests @ ALICE

Lionel Clavien / 2016-02-12

Un trait d'union pour être chaque jour plus efficace

Agenda

- Introduction
- Tests…
- Conclusion

Introduction

ITS (Sylvain Chapeland)

- Goal:
  - Simple code porting and benchmarking using GCC and XLC
- Code: ?
- Results:
  - No issue with GCC (system and AT8.0)
  - Solved issues with XLC
  - Performance better with system GCC than AT8.0's
  - Very good performance with XLC and right compiler options
- Next steps:
  - Investigate performance difference between GCCs

Benchkit (Pascal Boeschoten)

- Goal:
  - Code porting and benchmarking using GCC and XLC
- Results:
  - No issues with GCC (system and AT8.0)
  - XLC ?
  - Strong system performance on all tests, lower per core performance vs reference
  - Important difference with some (memory bound) tests between S822LC and S824L
- Next steps:
  - Optimize command-line options and use optimized libraries (Eigen3, OpenCV, TBB, etc.)

Data Motion (Adam Wegrzynek)

- Goal:
  - Test communication bandwidth using IPoIB between two S822LCs with FDR/EDR adapters connected to FDR switch
- Code: ?
- Results:
  - Good performance with FDR and EDR using all cores
  - Bad performance with EDR using a single core
  - Good performance with FDR using a single core, but still below reference
- Next steps:
  - EDR single core performance issue recognized as bug within Mellanox driver. New tests to be scheduled once bug corrected (~April)

ROOT (Peter Hristov)

- Goal:
  - Compile the needed parts from ROOT using GCC and XLC to compare performance between compilers and with reference.
- Code: (Mohammad's git ?)
- Results:
  - No issues with GCC (system and AT8.0)
  - Unresolved issue with XLC
  - Suspect performance with GCC (ROOTmarks)
- Next steps:
  - ?

FairRoot/FairSoft (Giulio Eulisse & Mohammad Al-Turany)

- Goal:
  - Code porting and benchmarking using GCC and XLC?
- Results:
  - No issues with GCC (system and AT8.0)?
  - XLC ?
  - Performance?
- Next steps:
  - ?

GPU (Matthias ?)

- Goal:
  - Code porting and benchmarking?
- Results:
  - No tests done
- Next steps:
  - ?

Conclusion