Symmetric Computing Lab

John Cazes

Texas Advanced Computing Center
Exercises

• Exercise 1
  – Run natively on the MIC using mpiexec.hydra

• Exercise 2
  – Run in a symmetric mode using ibrun.symm

• Exercise 3
  – Run an MPI code with offload
Exercises

• Login to Stampede
  ssh <user_id>@stampede.tacc.utexas.edu

• Set up lab in your directory
  tar zxvf ~train00/symmetric_lab.tar.gz

• Begin interactive session on one node
  srun -A 20130405MIC -n 16 -t 1:00:00 \ 
  -p development -pty /bin/bash -l
  or for tcsh
  srun -A 20130405MIC -n 16 -t 1:00:00 \ 
  -p development -pty /bin/tcsh -l
Exercise 1

Run natively on the MIC using mpiexec.hydra

1. cd into symmetric_lab/symmetric

2. Compile a MIC and host version of pi_hybrid (Use either the Fortran or C code – slide #6)

3. Run on MIC and host using mpiexec.hydra (See slide #5)
Exercise 2

Run in a symmetric mode using ibrun.symm

1. Set the MIC_OMP_NUM_THREADS and MIC_PPN environment variables

2. Run on MIC and host using ibrun.symm and the executables from Exercise 1 (See slide #9)

3. Run using only the MIC

4. Examine config_files created by ibrun.symm
Exercise 3

Run an MPI code with offload

1. cd into symmetric_lab/offload

2. Compile the offload version of pi_hybrid (Use either the Fortran or C code)

3. Set OFFLOAD_REPORT env variable to 2

4. Run using ibrun

5. Diff pi_hybrid source code in offload with pi_hybrid source code in symmetric