Lecture 10 Doing some work

• Two assessments
  – First a comparison of different features
  – Second a programming exercise

First

• Compare Globus, Legion and HARNESS with regard to services offered, naming, communication types and support as well as how users write/develop applications for each (legacy, parallel languages, MPI, HPF, RPC etc).
  – Write 1/2 page on each as a summary
  – 1 page as a comparison of features
• Comment on the future of using Java as a front end to high performance computing and give an example application (i.e. look it up on the web)
  – ½ page that names a couple of systems and if it is the way to go or not

Second

• Run MPI Applications across multiple systems using grid based methods to inter-operate
  – This is almost the same as the previous homework
    • So very little extra coding needed
    • Just some practice at using globus tools and mpich-g

Inter-operating two halves

• Run two MPI applications
• They then find each other, exchange contact data.
• They then pass data from one application to the other using either gridftp or the GASS API.

Application Examples

Bonus points

• Bonus points:
  – Can you make it automatic?
    • Use the GASS library and a TCP library?
    • Contact info stored in GRIS? LDAP? A webserver or name server, using XML or ASCII or binary?
  – Does GASS handle heterogeneous systems and data correctly?
    • Can you translate data faster?
Write up

• Write a side on any design issues you had and mention any problems encountered.