Arches MetaCluster

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www.chpc.utah.edu/general/presentations/MetaCluster
Overview

From Beowulf to MetaCluster:
- Where did we come from?
- Where are we at?
- Where do we hope to go?
Where did we come from?

- Hardware Drift: mixing to many disparate resources over time (memory, CPU speed, architecture, interconnect)
- Resources were configured to meet all needs of all applications. Thus resulting in fewer more expensive resources that were not efficiently used by any individual application
Where did we come from? (cont)

Vision Inspired From Past Experiences:

- No more putting m&ms and skittles in one bucket, it doesn’t make it easier to get what you want.
- If we Minimize hardware drift we can still allow for additional sub-clusters to meet special needs.
- If we combine each sub-cluster into a MetaCluster we still present a unified pool of resources.
Where are we at?

The Arches MetaCluster:
Where are we at? (cont)
Were are we at?

The MetaCluster design allows for the growth or addition of sub-clusters easily.

The design accommodates for Grid.

Watching similar efforts in the Grid Community (collaborating)
Were Do We Hope to Go?

Grid and how we might get there:

- Give to and be part of the Grid community
- Single sign on, mostly or completely through the grid portal
- Allows users to span political entities via Globus
- Possibly Minimize the different syntax and policies of various PBS installations/configuration via Condor_G
Were Do We Hope to Go?

Grid and how we might get there. Projects to integrate:

- Leverage Open Source Projects:
  - Open Grid Computing Environments (OGCE): Portal
  - MyProxy: manage the user certificates
  - Portal Based User Registration Service (PURSE)
Were Do We Hope to Go?
End of Presentation

- Feel free to email us a question rprice@chpc.utah.edu
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- Slides on the web at:
  www.chpc.utah.edu/general/presentations/MetaCluster

- On to the Demo