Building a Federated Cloud Model
Aristotle Overview & Goals

• Deploy a federated DIBBs cloud at Cornell, U. Buffalo, UC Santa Barbara
  – Award made October 2015
  – 7 science teams, over 40 global collaborators
    – Earth and atmospheric sciences, finance, chemistry, astronomy, civil engineering, genomics, food science

• Project goals
  – Optimize “time to science”
  – Demonstrate the value of sharing resources and data across institutional boundaries
Aristotle “Components”

• Federated cloud
• Ability to burst to public clouds
  – Determine optimal spot pricing with high guarantee of service (QBETS)
• Aristotle Portal
• XDMoD integration
• QBETS integration for optimizing ”Time to Science”
Global Picture of Aristotle Usage & Performance

- Federating XDMoD to collect usage and performance data for each cloud instance
  - Interface for scientist to use for global view of resources (not just his institution)
- Integrate with QBETS to allow scientists to determine optimal resource for conducting science
  - Price vs wait time
- Application beyond Aristotle