The MGHPCC Data Center and Consortium

A partnership between 5 universities....

The Commonwealth, and industrial sponsors

Origins (circa 2008)

- Recognition that…
  - HPC is fundamental to the research mission
  - Incremental on-campus expansion will not end well

- Interest in working together
  - Financial pressure
  - Opportunities that single institutions cannot address
  - Meaningful impact on research competitiveness by state government
  - Getting out ahead of disruptive change in how computing gets done

Three Works in Progress

- Regional HPC Data Center

- University/Industry/Government Research Collaboration
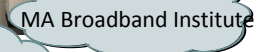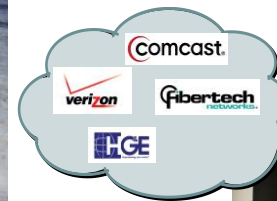
- Regional economic development

MGHPCC Data Center

10 MW for compute / 15MW total

8 Acres for expansion

Green, low cost power

Fiber Crossroads

Comcast

verizon

Fibertech networks

LGE

Dark Fiber

MA Broadband Institute

Northern Crossroads

GENI

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Governance

- Structure
    - Non-profit service corporation owned by five universities
    - Owns the facility and employs facility operations staff

- Oversight
    - Research mission and direction – Research Vice Presidents
    - Operational direction and goals – CIOs

- Day to day issues and opportunities
    - Research – Faculty working group
    - Operational – Business and IT working groups

Operational Collaboration
Operation and User Support

• Dedicated MGHPCC Staff focuses on facility operation

• User support comes from existing research computing groups

• Evolving Collaboration

   – Staying out of each others' way

   – Learning from each other

   – Unified networking plan

   – Coordinated vendor management

   – Acquisition and operation of jointly owned resources

   – Larger scale solutions to common problems

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Operational Collaboration
Business

• Five institutions with multiple cognizant agencies

• Each institution composed of many smaller institutions

• Different approaches to cost recovery and financial incentives

• Astute comparative shoppers

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Research Collaboration

• Seed Grant Program (promising cross-university projects)

• Jointly owned computing infrastructure

• Multi-university research initiatives

State Participation

- Massachusetts Life Sciences Council
  - First time investment in computing infrastructure

- Matching grant program

- Big Data Initiative

If we continue to earn it, they will continue to invest

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