Early UW Environment

- Distributed Expertise and Resources

- 20+ Departmental Clusters

- Outstanding International and Local Networking

- Institution wide support for advancement of Computational Science

  - 25 Accomplished Computational Scientists

  - 25 Potential Computational Scientists

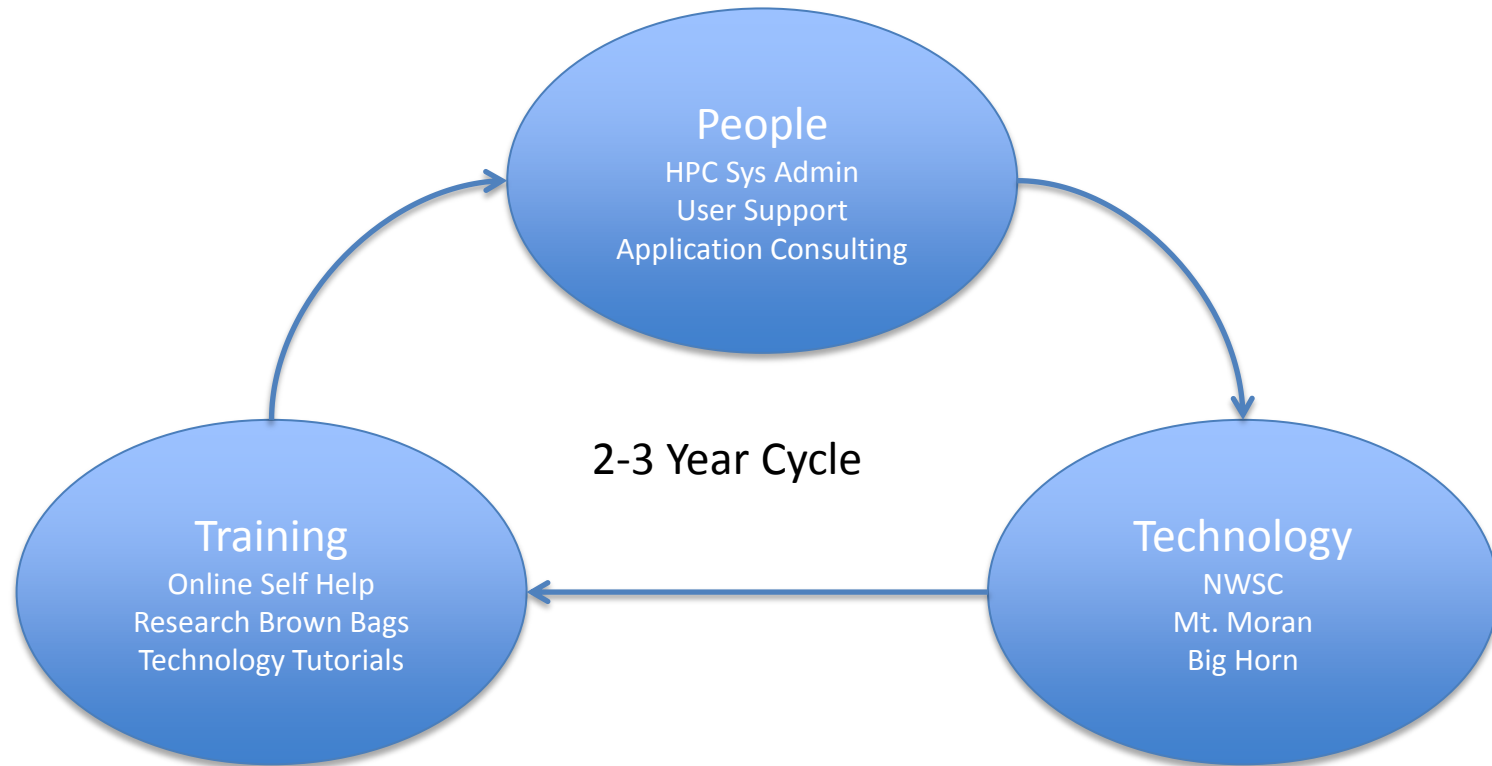
UNIVERSITY OF WYOMING

University of Wyoming Resources

- NCAR Wyoming Supercomputing Center (NWSC)

- Advanced Research Computing Center (ARCC)
  - Central Campus Cluster, Storage and Support
  - Mount Moran
    - IBM HPC Cluster
  - Big Horn
    - High Performance Storage Systems

UNIVERSITY OF WYOMING

Building the ARCC

People

- Critical Functions
  - High Performance Computing(HPC) Architect
  - Sys Admin (2)
  - User Support and Training
  - HPC Software Consulting (Scientific Programming and Visualization)
  - Networking

People

- Critical Functions
  - High Performance Computing(HPC) Architect
    - In House
  - Sys Admin (2)
    - Outsourced to IT
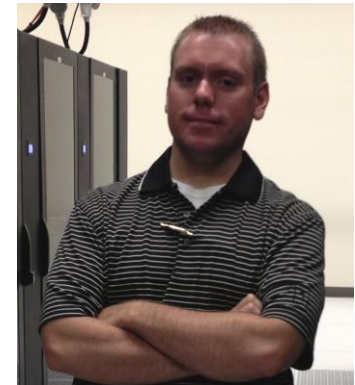 - User Support and Training
    - In House
  - Help Desk
    - Outsourced to IT
  - HPC Software Consulting (Scientific Programming and Visualization)
    - In House
  - Networking
    - Outsourced to IT

UNIVERSITY OF WYOMING

Technology

- NCAR Wyoming Supercomputing Center (NWSC)
  - Yellowstone Supercomputer (75,000 cores), DAV Cluster and Storage
  - UW has access to 20% of the NSF Funded Portion of resource
  - All applications are pier reviewed
- Mt. Moran
  - High Performance Computing Cluster
  - Condo Model
  - Over 3000 cores
  - Mix of CPU and GPU Nodes
  - Infiniband Interconnect
- Big Horn
  - High Performance Storage System
  - 425+ TB Usable Storage
  - GPFS File System

Training

- Online Documentation including Faculty blog is dominant training tool.

- Researchers present results during bi-weekly brown bag presentations

- ARCC staff presents short (90 minutes) technical tutorials. E.g.
  - Intro to Linux
  - Intro to HPC
  - Intro to NWSC and the ARCC
  - HPC with the Macintosh

Funding Model

- Initial
  - Wyoming State Start Up Funds ($2M)
  - Contributions from Researchers and Grants (NSF & DOE) ($2M)
- Recurring
  - Commitment of $1M/Year from University's President and Research Office
  - Commitment of $1M/Year from State to Fund Wyoming share of NWSC
- Current Discussions
  - Per Year Satellite Cluster Management
  - Rent a Consultant

UNIVERSITY OF WYOMING

Concerns

- Maintaining Support for Recurring Funding
- Leadership Changes
  - University
  - State
- Building a Free Good Culture
- We are in WYOMING!