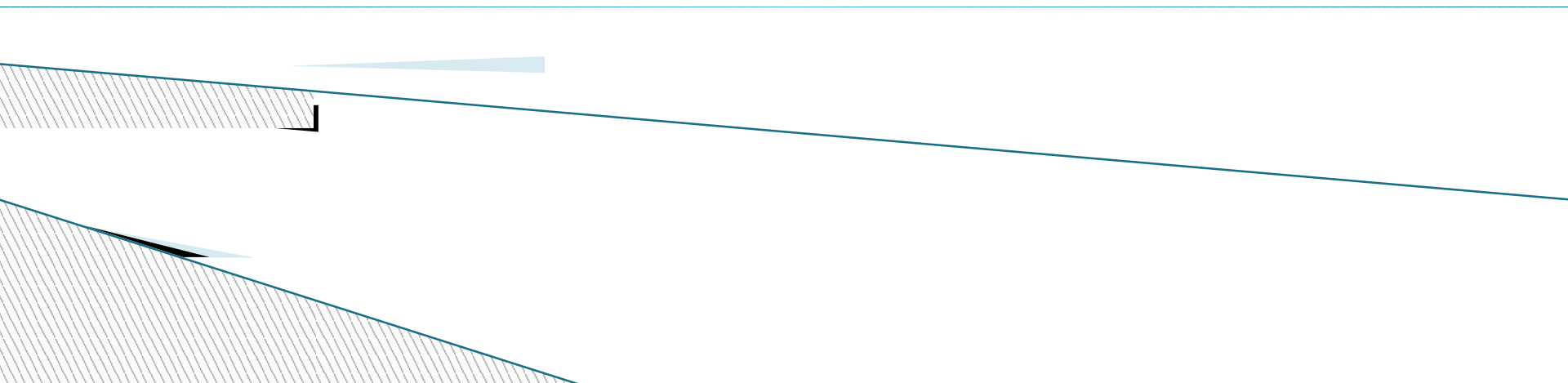


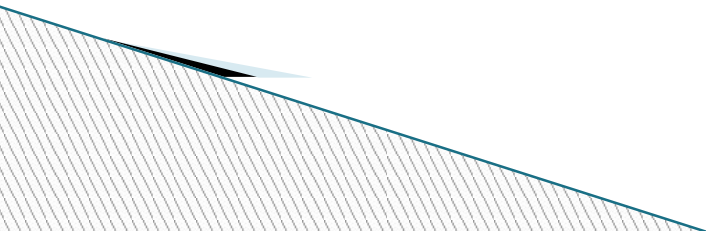
# Scientific Computing Systems

April 20, 2012

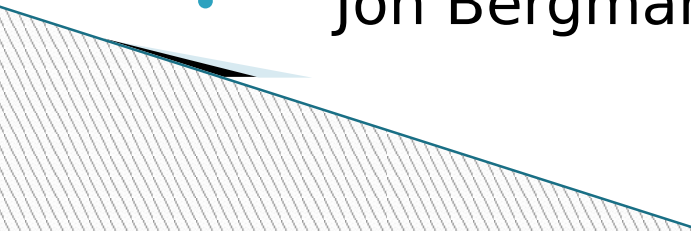


# Mission Statement

The Scientific Computing department provides storage and computational services that: fulfill current requirements and anticipate future needs of its scientific stakeholders; are sought after and valued; and achieve recognizable efficiencies through shared, common solutions.



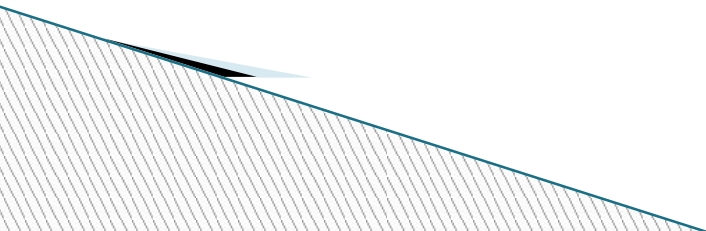
# Scientific Computing Systems

- ▶ Head of Scientific Computing
    - Amber Boehnlein
    - Len Moss (Deputy)
  - ▶ UNIX Systems Team (Shirley Gruber)
    - Neal Adams, Yemi Adesanya, Karl Amrhein, John Bartelt, Booker Bense, Renata Dart, Randy Radmer, Wei Yang
  - ▶ Storage Team (Lance Nakata)
    - Jon Bergman, Andrew May, Grace Tsai
- 

# Responsibilities

Manage systems, provide services for the Linux & Solaris computing systems at SLAC.

- ▶ Together, the UNIX and Storage teams manage
  - Approximately 2400 systems (servers, clusters, batch)
  - More than 10 PB of disk and tape storage
- ▶ These services are in multiple locations and they are heterogeneous.

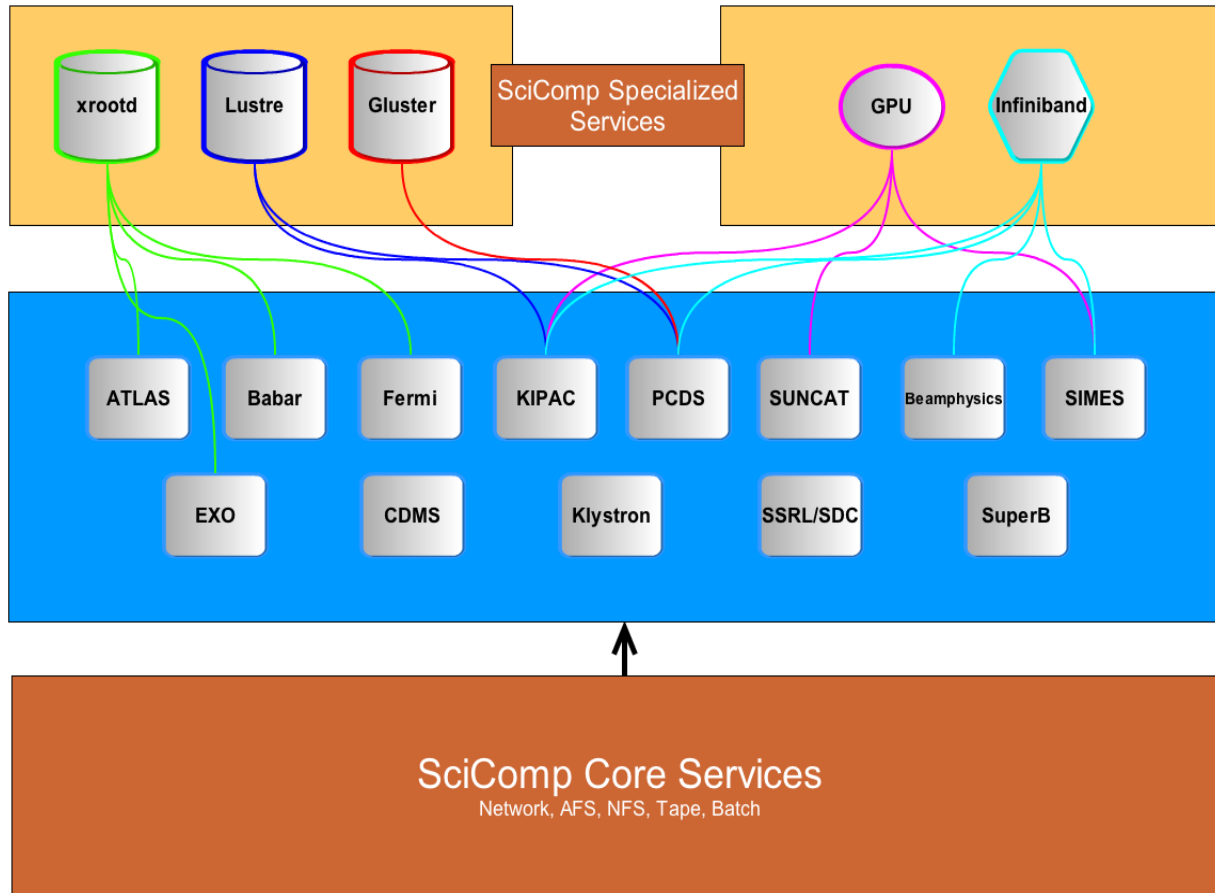


# Services

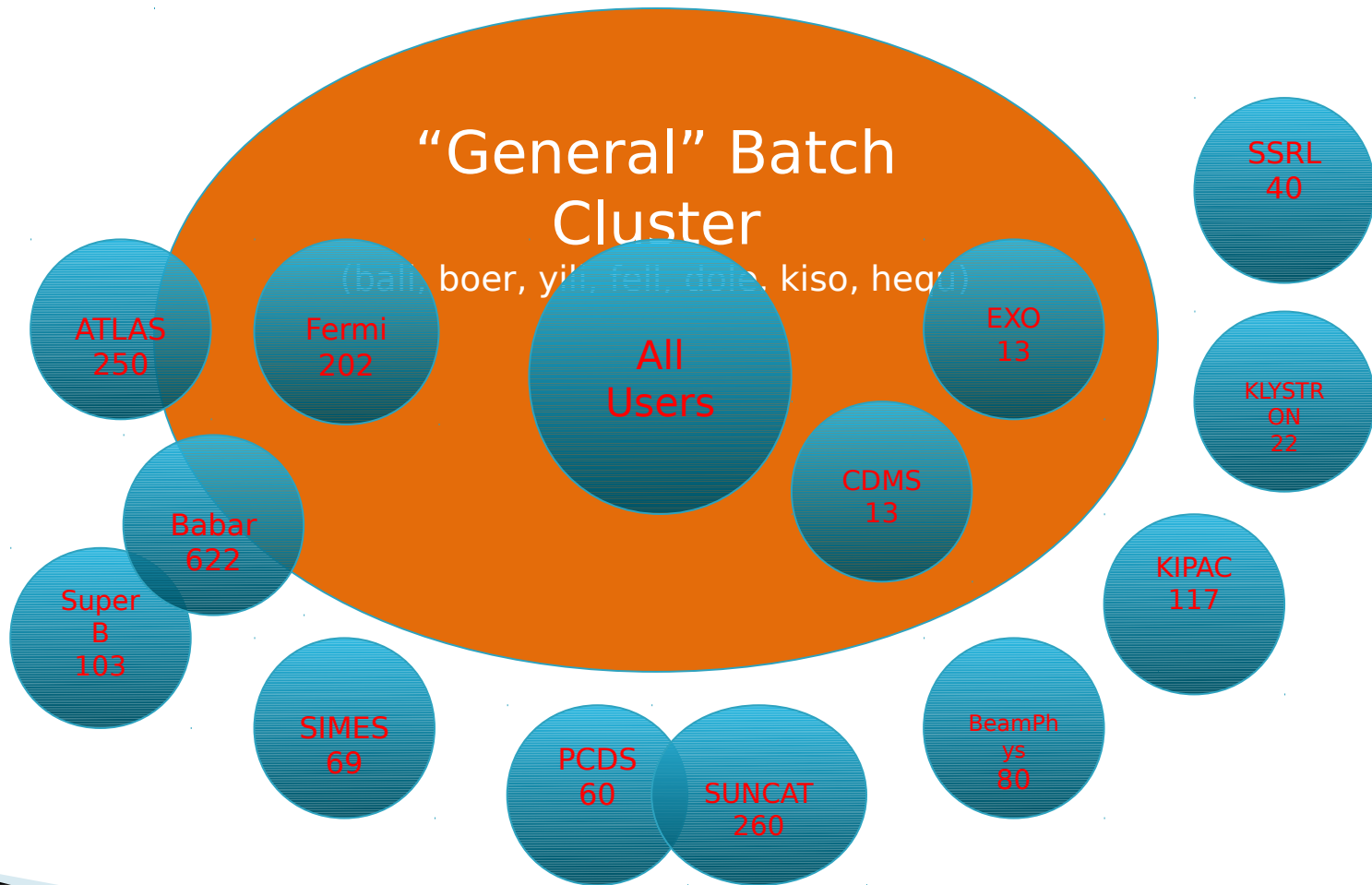
## Subject Matter Experts (SMEs)

- ▶ Backup (AFS,TSM) Nakata, Amay, Adams
- ▶ Compilers Bartelt, Yang, Moss
- ▶ Compute farm, LSF Adams, Yang, Bartelt, Dart, Bergman
- ▶ DNS admin Bense, Skirvin
- ▶ File Systems (AFS, Lustre, NetApp, XFS, ZFS)  
▶ Adesanya, Bense, Bergman, Dart, May, Nakata, Radmer, Skirvin
- ▶ Grid computing Yang, Bense
- ▶ HPSS, STK, astore/mstore May, Nakata, Tsai
- ▶ Kerberos Bense, Skirvin
- ▶ LDAP Bense, Skirvin
- ▶ License servers Bartelt, Yang
- ▶ Linux/RHEL Amrhein, Bergman, Dart, Nakata, Moss, Adams
- ▶ Monitoring (Ganglia, Nagios, Groundwork) Adesanya, Skirvin
- ▶ NIS Dart, Bense
- ▶ Performance Amrhein, Nakata, Bergman
- ▶ Samba Amrhein, Skirvin
- ▶ Security Amrhein, Bense
- ▶ SSHBense, Amrhein
- ▶ Solaris Dart, Bergman, Nakata, Amrhein, May

# SciComp Specialized Services

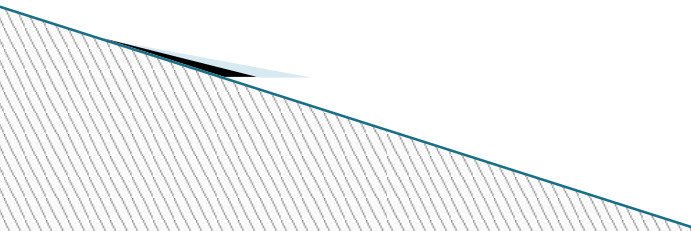


# SLAC/SCS Batch Farm



Numbers as of July 2011

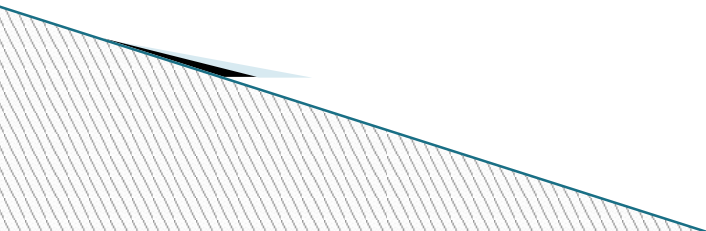
# Points of Contact (POC)

- ▶ Liaison to partners/stakeholders
  - ▶ BaBar, Fermi, KIPAC, MCC, PCDS, SIMES, SSRL, SUNCAT ...
  - ▶ Meetings
  - ▶ Coordination (acquisitions, outages)
  - ▶ Ombudsperson
- 

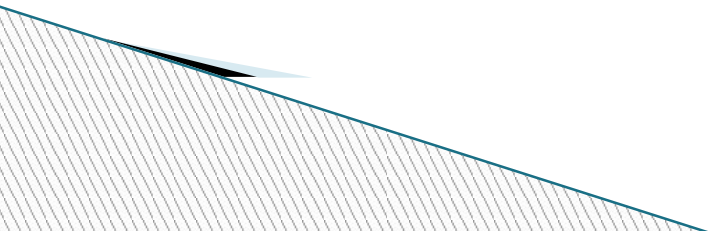


# Completed Projects/Tasks

- ▶ Solaris 9 phase out
- ▶ Globus Online evaluation
- ▶ Nagios (Fermi migration to central service)
- ▶ Nagios configuration refactoring (phase I)



# Ongoing Projects/Tasks

- ▶ Shared Storage (Lance Nakata)
  - ▶ UNIX System Management (Booker Bense)
  - ▶ Nagios for service recovery (Tim Skirvin)
  - ▶ Groundwork (Yemi Adesanya)
  - ▶ Version control (Booker Bense, Tim Skirvin)
  - ▶ LSF 8.1 Upgrade (Neal Adams)
  - ▶ Batch Accounting (Neal Adams, Steffen Luitz)
- 

# Initiatives

- ▶ Automation
- ▶ Monitoring
- ▶ Help Desk preparation
- ▶ Groundwork
- ▶ Version control
- ▶ Scientific Computing portfolio vis-à-vis IT portfolio

