

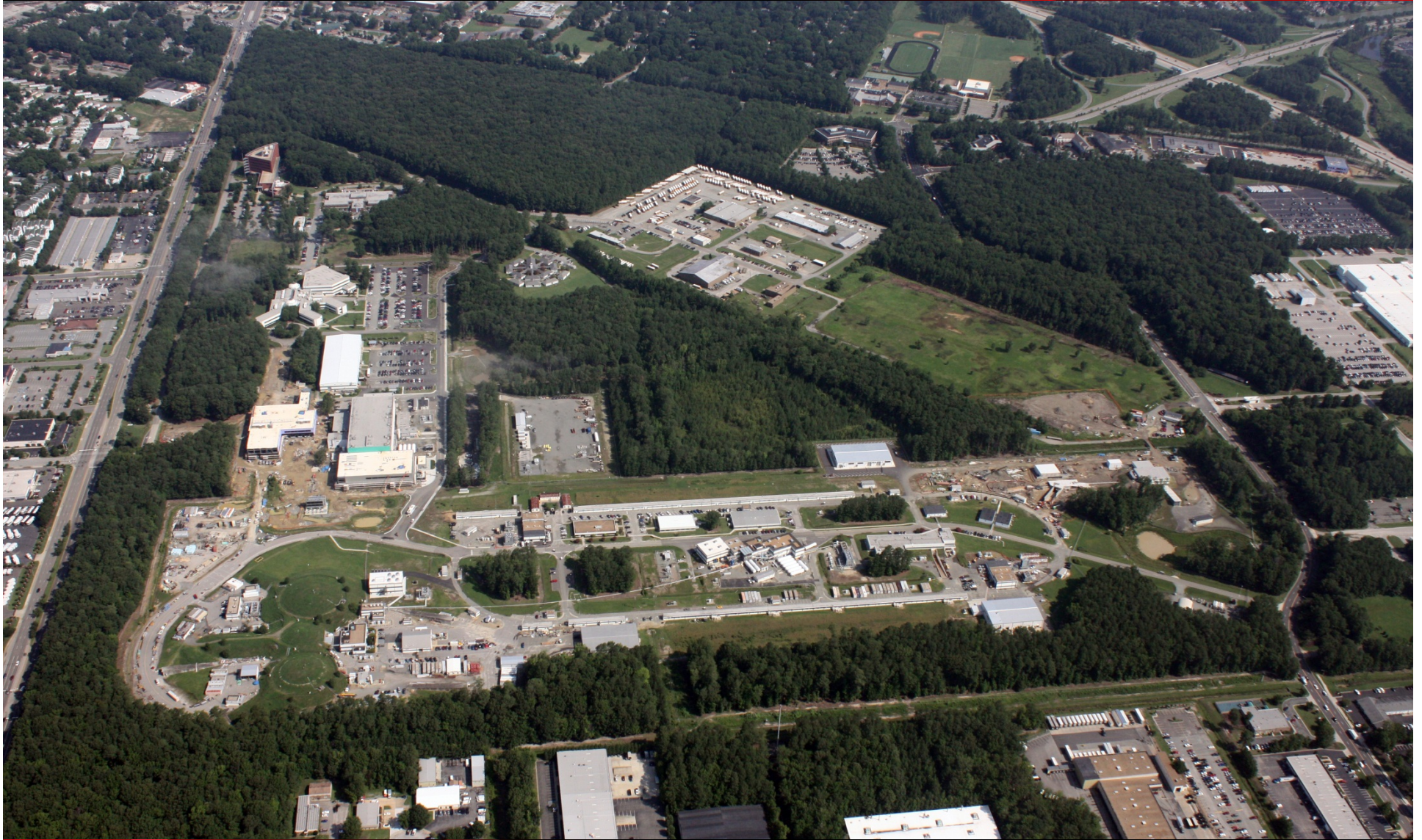


U.S. DEPARTMENT OF
ENERGY

Office of
Science



Jefferson Lab IT Overview




Amber Boehnlein

GlueX

July 20-23, 2015

Jefferson Lab
Thomas Jefferson National Accelerator Facility



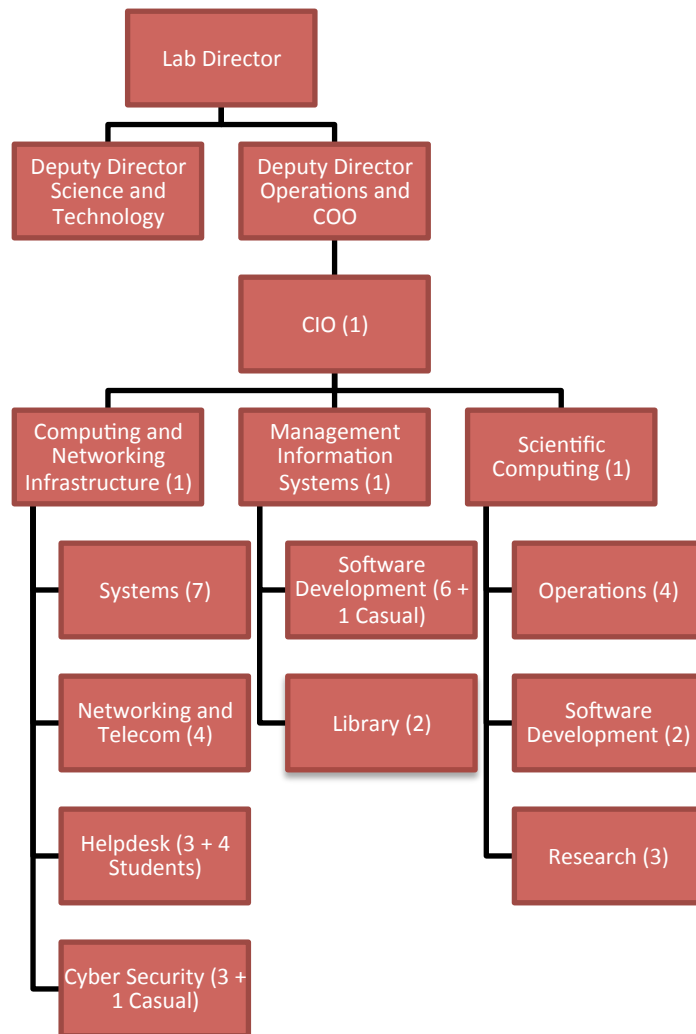
Amber Boehnlein
CIO
Jefferson Lab

History:
SLAC
Scientific Computing Applications

DOE
LHC Operations
SciDAC

FNAL
DO collaboration

IT Organization



- Overall IT Staff
 - 38 Full Time Staff
 - 2 Casuals
 - 4 Students

FY15 Highlights:

- Utilities Infrastructure Modernization (UIM)
 - Designed a 10-year data center plan.
 - Phase 1 data center work is complete
 - added resiliency to the core network
- Implemented reports, tracking functionality for REAL ID Act compliance
- Deployed enhanced online registration database
- Added a second 10Gbps network path to ESNet in Atlanta
- Deployed new and modern storage solution for the Virtual Machine Cluster
- Swif workflow tool in production

Cyber Security at JLAB

- JLAB has a *proactive* approach to improve cyber security
 - multi-layer, cost-effective risk based strategy that is appropriately scaled for the JLAB environment
- JLAB uses Multi Factor Authentication (MFA) for the business sensitive systems, sensitive S&T and for privileged administrators
 - May be mandated by DOE to change to a different technology....
- Network segmentation used to isolate functions
 - widely praised by external assessments
- Follows industry standards for
 - Anti-virus and malware detection
 - Vulnerability scanning
 - Operating system management and patching
- Phishing exercises to train staff
- Enterprise Assessment: Bi-Yearly Penetration Testing and Vulnerability Scanning
 - Using publically available information as a spring board, they were able to get and crack 15 passwords
 - Not able to exploit due to network segmentation
 - Working with Hall Leaders to scrub content and secure passwords

Cyber Security: What we can do

- Data breaches have been reported from Federal systems to Retailers!
 - Familiarize yourself with signs of identity theft and what you should do <https://www.identitytheft.gov>
 - Beware phishing attacks that become more sophisticated all the time
 - Do hover over the links before you click on them
 - *DO NOT* reuse passwords for multiple sites!!!
 - Password management MUSTS
 - *DO NOT* reuse passwords for multiple sites!!! (worth saying twice!)
 - Do Not have crackable passwords eg: 5678aB%^&*
 - Group Account passwords must be secured
 - Password management options to consider
 - 2 step authentication to Google
 - Password vault that will generate unique passwords
 - Patch machines and applications on your home systems
 - Lock your screens

IT Division Initiatives for FY16

- Report card items
 - Planned assessment of JLAB IT Governance
 - Cyber Security initiatives
 - Assess Use of the DOE Office of Science and Technology Information (OSTI) E-Link system for submitted manuscripts.
 - Consider getting an ORCID (<http://orcid.org/content/about-orcid>)
- Increase the engagement and dialog of IT Division with the experimental collaborations
 - Distributed Computing
 - Resource planning
 - Data Management/Data preservation
 - Software design
 - Tools and infrastructure
- Understanding the DOE Office of Advanced Scientific Computing Research (ASCR) Exascale research agenda to build the next generation of large scale computers.