MANAGING INFORMATION TECHNOLOGY IN A HIGH-TECH, HIGH-SECURITY LAB

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Society for Information Management's IT Procurement Working Group

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Sandia National Laboratories at a glance
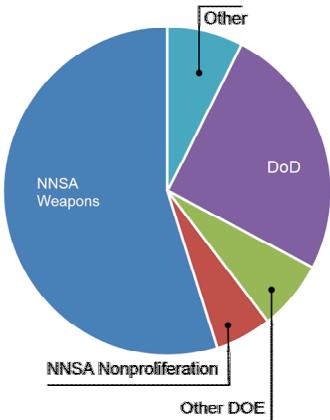
$3B
total FY16 budget

12,000 employees
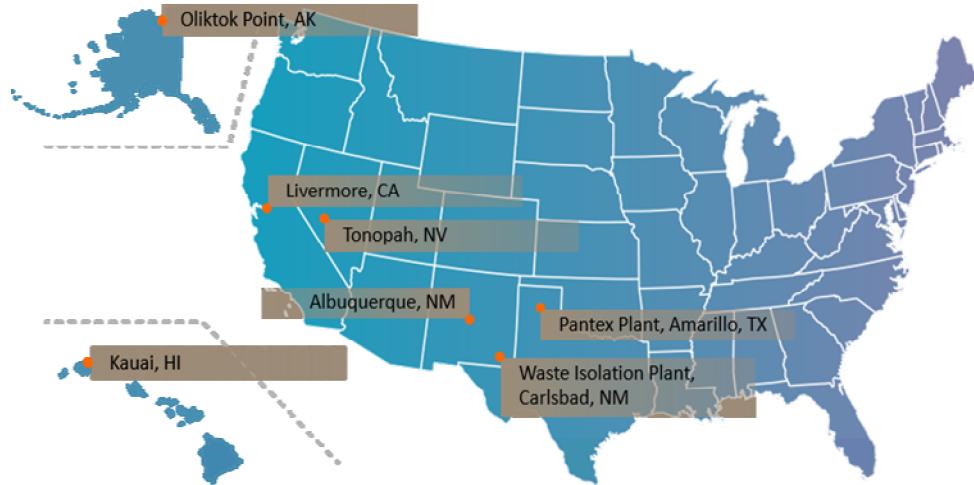
- Sandia is one of three DOE National Nuclear Security Administration laboratories entrusted with responsibility for stockpile stewardship and annual assessment of the nation's nuclear deterrent
- We use the deep scientific and engineering knowledge gained through our nuclear deterrence mission to anticipate and solve the most challenging problems that threaten security in the 21st century

Our purpose

Sandia develops advanced technologies to ensure global peace

CYBERSECURITY

NUCLEAR WEAPONS

ENERGY

NONPROLIFERATION

INFRASTRUCTURE

HOMELAND SECURITY

COUNTERTERRORISM


DEFENSE

How does IT fit in?

IT Services facilitate the secure flow of information that drives Sandia's mission. We support IT infrastructure, enterprise applications, mission-enabling services, information management, and enterprise-level IT policy.
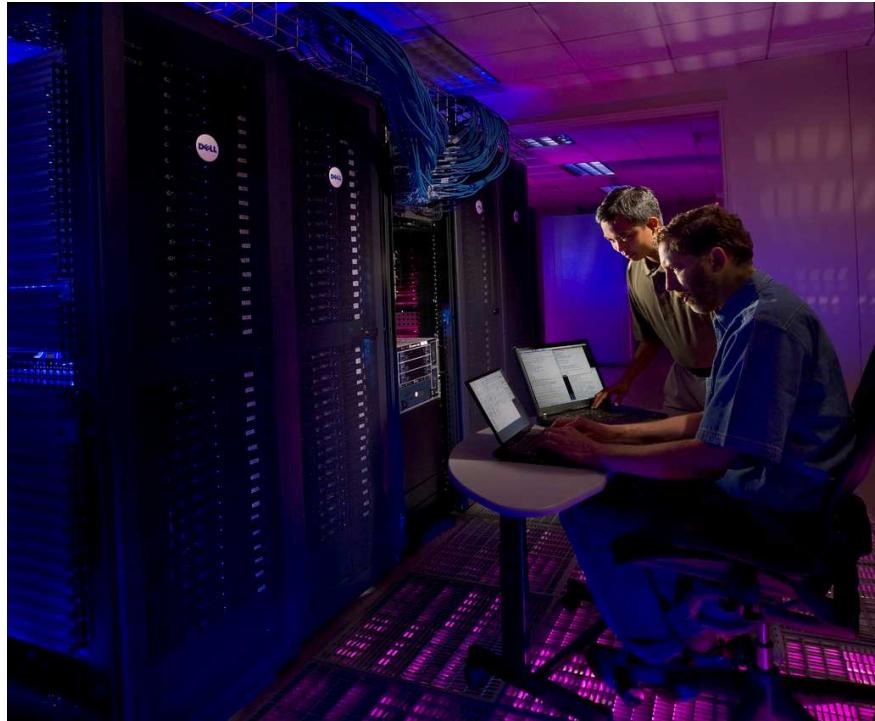
How does IT fit in?

- Embedded video

Sandia's IT footprint

70,000 devices
152,000 cyber accounts

250,000
emails received by Sandians per day

150,0__
tickets pe__
130,0__
calls pe__

HELP DESK
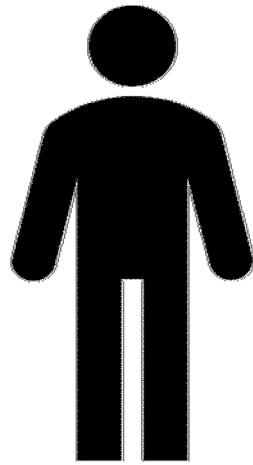
>12,000
customers located in cities across the U.S.

Albuquerque, Carlsbad, Livermore, Tonopah, Las Vegas, Washington D.C., St. Paul, Amarillo, Waimea

315
buildings in NM and CA

**50,000**
telecommunication drop boxes
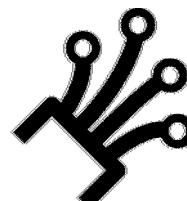
6,000
miles of fiber optic and copper cable

33,000
software licenses managed

Our diverse and complex computing infrastructure

Sandia Partner Network
- 65 servers
- 230 workstations
- 582 thin clients
- 1,296 users
- Broader classified connectivity

Classified
- 113,216 cores
- 2.8 PetaFLOPS
- 7 PetaBytes

Sandia Classified Network
- 661 servers
- 2,146 workstations
- 2,105 thin clients
- 4,596 users
- High value national security information

Unclassified
- 137,692 cores
- 3.2 PetaFLOPS
- 10 PetaBytes

Sandia Restricted Network
- 2,695 servers
- 19,855 workstations
- 14,620 users
- Internet accessible

Sandia Open Network
- Remote access
- External collaboration

Encryption

Demilitarized zone

Internet

DOE Energy Sciences Network

TS/RD

SFRD

S/UCI

OUO

UUR

Information sensitivity

IT and Cyber go hand-in-hand

The close, trusted partnership between the two organizations **creates a stronger infrastructure and defense** for Sandia

- Embeds cyber defense technologies in IT infrastructure from inception

- Instills deeper cross-functional understanding and expertise

- Allows faster incident response and real-time aggregation of information

- Creates mutual benefit from shared diagnostic information and log aggregation
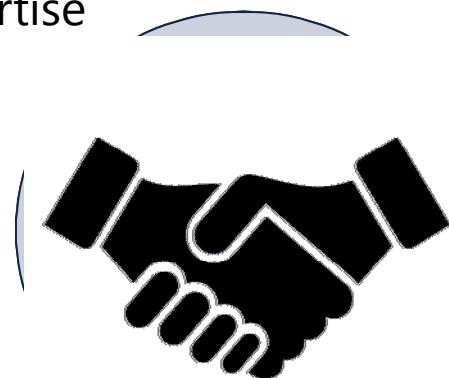
Our IT challenges

- Understanding the total cost of IT

- Strategically licensing and purchasing software and hardware

- Leveraging cloud technologies in a secure environment

Sandia cloud strategy

Enables Sandia to securely leverage the innovative capability of cloud computing for mission and enterprise use.

FOCUS AREAS
- Managing vendor contracts
- Demonstrating managed use of Commercial Cloud which includes logging, monitoring, integrated billing, and proper reviewable authorization
- Incorporating contract clauses
- Verifying and validating cloud environments
- Delivering self-service use of common IT services on shareable infrastructure internal to Sandia
- Releasing Cloud Computing Use Policies to understand when and how to use Internal and external cloud capabilities
- Communicating return on investment and multiyear cloud strategy

Managing CIO risks

Cyber
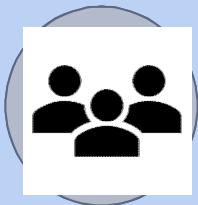
Talent
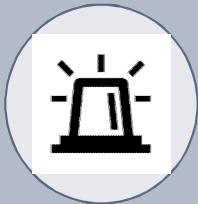
Obsolete Software

What tomorrow holds
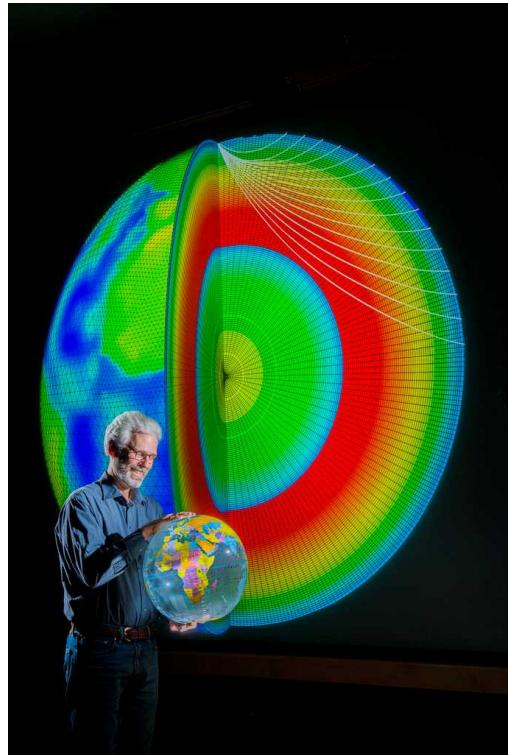
- Surveying the industry landscape

- Benchmarking

- Engaging in continuous learning

- Investing in transformative technology

THANK YOU