CENTER 9500
INFORMATION SOLUTIONS

Exceptional service
in the national interest

Sandia National Laboratories

Center 9500
All-Hands Meeting

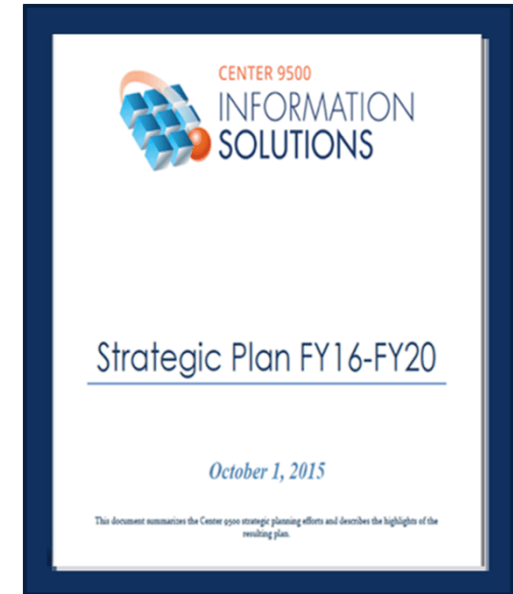+4.34%

August 3, 2016

9500 Executive Leadership Team

Agenda

▪**Setting the context for today's meeting - Joselyne**

▪**Updates and Expectations**
- ▪People & Culture of Innovation Activities – Jerriann Garcia
- ▪Solutions Delivery Lifecycle (SDL) – Ed Saucier
  - o SDL Overview & Release Management – Sandy Ryan
  - o User Experience Standards– Ann Lorenz
  - o Application Architecture – Jayson Lane

▪**What to Expect in FY17 - Joselyne**
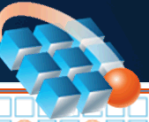
▪**Q&A – 9500 Executive Leadership**

Context for the All Hands Meeting

- Our strategic vision:

  - **We anticipate and deliver differentiating software solutions and information environments that transform the work experience providing Sandia a strategic advantage.**

- Our strategic plan manages Center activities that advance us toward our Vision.

- Today we will discuss a few of our strategic activities which we want you to be aware of and understand our expectations

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Strategic Plan FY16-FY20

October 1, 2015

This document summarizes the Center 9500 strategic planning efforts and describes the highlights of the resulting plan.

Elements of our Strategic Plan

- **People and Culture of Innovation – Jerriann Garcia**
  - o Create a culture of innovation
  - o Minimize barriers to innovation
  - o Establish Onboarding, Resource, and Talent Management

- **Enabling Software Architectures – Ed Saucier**
  - o Establish a future corporate application architecture with supporting governance and standards

- **Partnerships and Portfolio Management – Barry Hess**
  - o Enhance 9500's position as a leader in Solutions
  - o Identify and Evaluate Partnerships
  - o Establish a Portfolio Management System
  - o Integrate the ITSM structure within 9500

- **Transformative Solutions – In McCann**
  - o Create an integrated information and application experience through an exceptional UX, intelligent search, new interaction paradigms, and effective governance, resulting in workforce performance improvements and decreased risk.
  - o In this environment, deliver advanced solutions that give SNL a strategic advantage in Mission work.

Department visits to discuss the Strategic Plan

Updates and Expectations

- For each topic today, we will have a discussion of
  - What is it and why is it important?
  - Where we are now?
  - Where we are going?
  - What are the expectations of you today and in the future?
- Expectations presented are Center requirements for how we do our work.
  - Requests for exceptions must be approved by your Sr. Manager.

GOAL

People & Culture of Innovation Activities

Jerriann Garcia

People & Culture of Innovation - What is it and why is it important?

Industry practices to enable innovation:

- Allow opportunities for employees to make mistakes

   "I have not failed. I've just found 10,000 ways that won't work." ~Thomas Edison.

- Don't raise chickens

- The 70/20/10 Model (Google's)
  - 70% of projects are dedicated to core business
  - 20% of projects are related to core business
  - 10% of projects are unrelated to core business

- Make it fun and competitive

- Step away from the gavel - remove barriers

- Invest in the talent

People & Culture of Innovation – Where are we now?

INNOVATION PROGRAMS

Celebrate

Hawaiian Day Party

Bug Hunting Party

Ice Cream and Pi (π)

REMOVE BARRIERS

MARCH MADNESS

32 hours of technical fun in March!

inertia space fractured attention
funding culture cyber/security
admin/compliance/policy
time resource limitations
failure/risk management
skills/training# people

Bowling

People & Culture of Innovation - What's coming up next?

- Summertime Ice Cream Socials
- First Ever 9500 Hackathon – August 26th, 2016
- 9500 Hawaiian Day Celebration – September 2016
- Next Tech Talk – October 11th, 2016
- Bug Hunting Party – October 21st, 2016
- Fall Costume Festival - October 31st, 2016
- Attacking Innovation Barriers
- March Madness – All of March 2017
- RISE Student Intern Program - Summer 2017

People & Culture of Innovation - What's coming up next?

What: Two problem sets will be available, participants will have 8 hours to complete the challenge with team members.

Where: MO303

When: Friday, August 26th, 8:00am - 4:30pm

Who: Everyone in 9500 is welcome to participate!

Prize: Winning team will be able to attend an FY17 Hackathon or Conference

9500
HACKATHON
August 26th, 2016

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Solutions Delivery Lifecycle (SDL)

Ed Saucier and Sandy Ryan

Do 9500 Quality Processes Apply to Your Work?

Objective:

- Optimal customer & user experience
- Extensible, flexible, maintainable solutions
- Enable more time for differentiating innovation
- Meet expectations of stakeholders
- Meet SNL Policies & DOE orders

9500 Quality Processes

LDRD	Projects	Services
(Corporate LDRD Process)	**SDL** (Solutions Delivery Lifecycle)	**ITSM/ITIL** (IT Service Management)

Do these apply to you & your work?

YES

Solutions Delivery Lifecycle (SDL) Overview

Sandy Ryan

Solutions Delivery Lifecycle (SDL) 2.0

- **What is SDL and why is it important?**
  - A framework for you to develop all solutions
  - Ensures quality and consistency of our products while enabling innovation
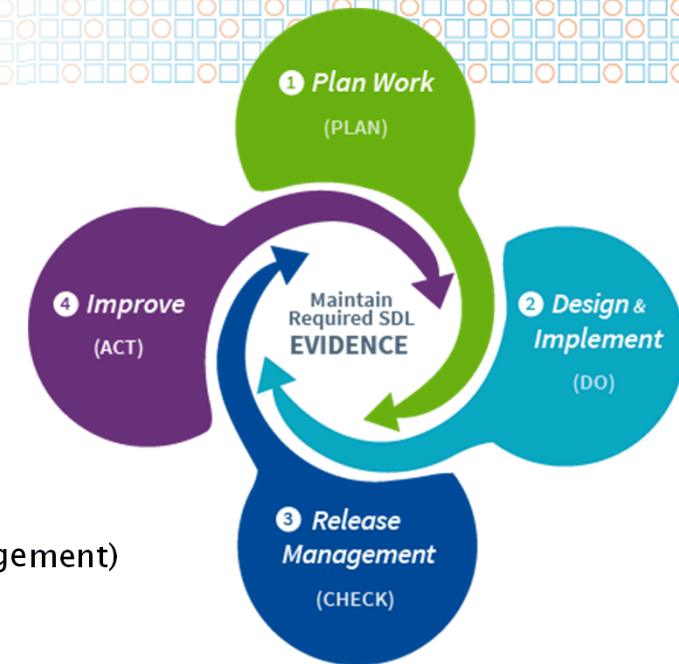- **Where are we now?**
  - SDL 2.0 released July 2016 -- http://sdl.sandia.gov
  - SDL is organized to reflect the Plan, Do, Check, Act quality framework.
    - o SDL incorporates corporate requirements
      - – (Project Rigor Evaluation (PRE), Project Framework, Architecture Decision Process (ADP)
    - o Incorporates 9500 standards and best practices
      - – (Project Work Authorizations, UX, Application Security, Application Architecture, and Release Management)
- **Where are we going?**
  - SDL 2.0 is another step in our quality journey – expect updates in the future.
  - SDL will always evolve, send questions/feedback to wg-sdl-team@sandia.gov!
- **What is Expected of You?**
  - **EVERY project in 9500 will use SDL.** Project proposals and cost/schedule estimates should include all SDL activities, this has been an expectation since the beginning of FY16
  - The concepts of SDL are required, but the details of how you accomplish them are not meant to be prescriptive, but *thought provoking* & inspire teams to build quality & security in each solution.

Center User Experience Standards

Ann Lorenz

User Experience Standards for Transformative Solutions

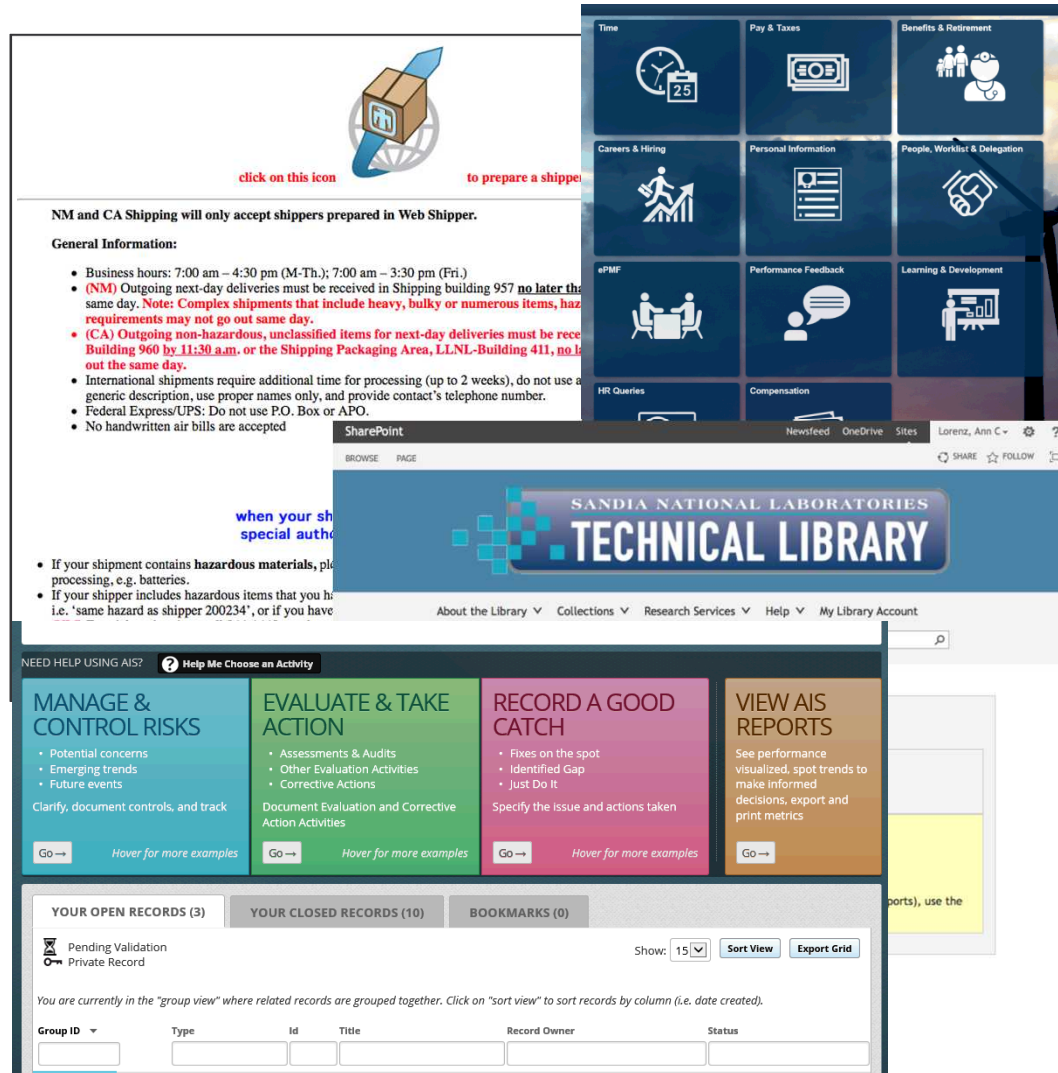**Why are UX Standards important?**

- Use of standards increases the visual and behavioral consistency of products, which leads to ease of use
- Executive Management mandate requires UX improvements for the Center

What are the UX Standards?

- Standards developed for Center 9500, which consist of UX behaviors, UX design patterns, and supporting code examples
- Developed through review of internal custom web applications, industry standards, guidelines and best practices in UX and design

User Experience Standards for Transformative Solutions

Where are we now?

- 9500 applications may each be valuable as a stand-alone asset, but UX inconsistencies across products create an environment with less ease of use as a whole
- Version 1.0 of the UX Standards approved and released
- Standards accessible through usability.sandia.gov and the SDL
- Standards will evolve as we receive feedback

User Experience Standards for Transformative Solutions

What's expected of staff going forward

- These standards are required for all information solution application interfaces, regardless of the number of users or funding sources
  - You are expected to use them when you are following the SDL for a project
  - Required for new projects or major upgrades
  - For projects already in the middle of development or an existing project, talk to your manager or senior manager about applicability

- Exceptions to the standards must be approved by your Senior Manager
- If you have any questions about how these standards apply to your work, please contact your manager or senior manager for guidance

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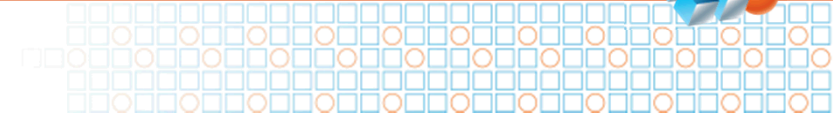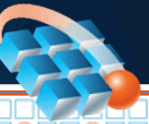INFORMATION SOLUTIONS

Stretch Break
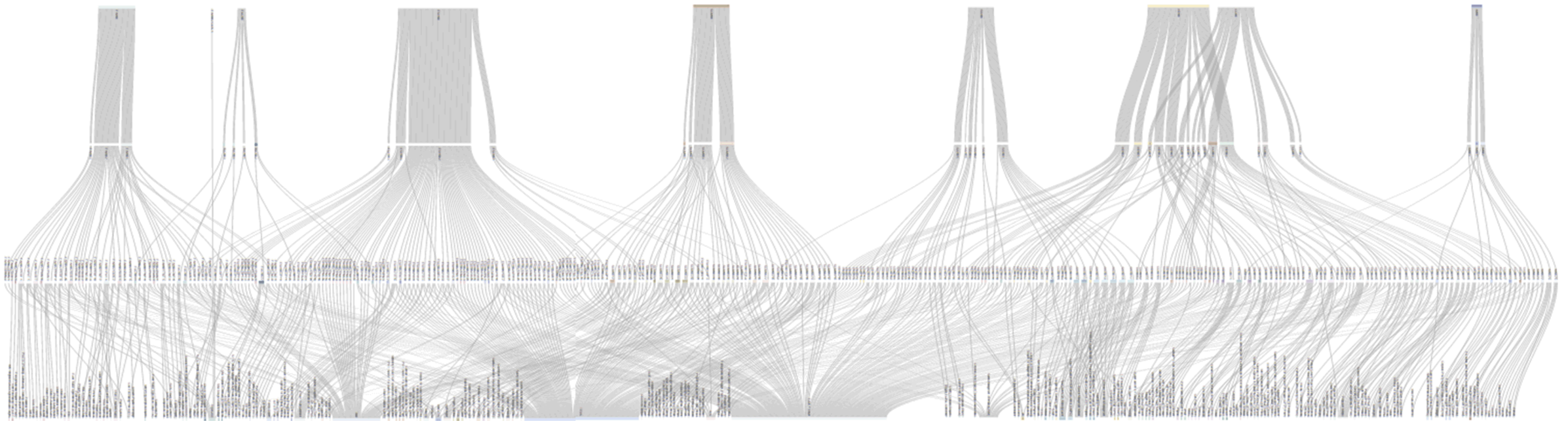
Application Architecture

Jayson Lane

Who believes our Architecture is Simple, Usable and Sustainable?

Policies

Applications

Major Architecture Challenges & Opportunities

"Architectures" serendipitously cobbled together over decades

Challenges

- **Unreliable** – Inconsistent "custom" environments & tech stacks, many single points of failure: fragile & loss of service
- **Duplicate Logic/Data** – Apps are not agile, inconsistent & costly due to hard linkages with duplicate logic & data
- **Unmanageable ADP** – Many tech stack architectures driven by various COTS vendors, projects and agendas over time
- **DOE/NNSA Cloud Barriers** – Cloud vs. COTS behind SRN firewall with >60M Oracle LOC from where? & by who?

Opportunities

- **Redundancy** – "Cloud" – Quickly provisioned commodity-based redundant environments for reliability, availability & recovery. Easily replicated via scripts for consistency, containerized for portability & agility
- **Secure & Reliable Cloud** – Secure Cloud with transparent logging and compartmentalization
- **Service-Oriented Architecture (SOA)** – High availability SOA to eliminate failure-prone duplicate logic & data
- **Reference Architectures** – A few managed reference architectures enabling a manageable ADP

Architecture

Where are we now?

- Application Architecture is a part of SDL
- Working Architecture Group (WAG) – Cross-Center Group
  - Help with Effective Application Architectures
- Reference Architectures - formally approved & preferred
  - Rostra – at WAG for approval as the first reference architecture
- Virtual Architecture Repository (VAR) – Auto compiled via Tags
  - Publically accessible SharePoint for artifacts & feedback

Where are we going?

- Additional Reference Architectures are coming
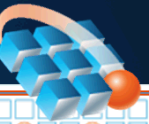- Automation and Integration with ADP

What is expected of you?

- Use Reference Architectures for new projects or major revisions
- Tag New Project Architectures - filename or properties with "ITArch"
- Request Architecture Reviews by the WAG - Email WAG@sandia.gov

ROSTRA - Web Application Platform as a Service

- **Where are we now?**
  - Why use Rostra? -- Imagine a working environment created within minutes, to show your great, proof of concept.
  - What ROSTRA (PaaS)
    - Self Service – infrastructure you need, when you need it, without waiting that provides authentication, backups, security, logging and frameworks, such as Java, PHP, Python.
    - It is a pre-approved and preferred reference architecture.
  - Who should use
    - Developers - Search for "Rostra" in WebCARS, SDL or contact -- rostra-help@sandia.gov
- **Where are we going?**
  - Added frameworks (i.e., WebLogic, .NET, Database Support, etc.)
  - Containers as a Service (Docker) and Cloud & capacity on demand
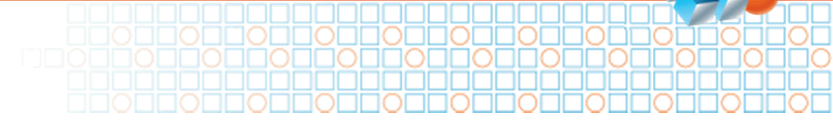- **What is expected of you?**
  - Use it Today - for these frameworks Java, PHP, python & others as they are added.
  - Later FY17 – Rostra as **THE** Platform for developers as capacity allows – Capacity being monitored

What to expect in FY17

Joselyne

What to Expect in FY17

FY17 hot topics:

- Increase rigor around project planning
  - Every project in Division 9000 will have a project plan and will be viewable through Portfolio Management Tool (PMT)
  - Every exempt P-level staff or above must be able to develop a project plan using a formal project management tool
- Develop meaningful metrics and measures
- Increase maturity of ITIL, Project Management, and Agile processes
- Communicate the capabilities we deliver and impacts to the stakeholders
  - How are we making their work lives easier?

Q&A with 9500 Leadership