

# MASS Replacement Project

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**LANMAS Users Group Annual Meeting**

**May 19, 2008**

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**LA-UR-083022**

# Outline

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- **Technical Drivers for Replacement**
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# Outline Continued

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- **Scope and Definitions**
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- **Project Schedule**
- **Early Issues**
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- **Next Steps**

# Outline Continued

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- **Draft – High-Level Gaps**
- **Project Risks**
- **Operations Plan/Governance**
- **Design Decisions**
  - Notes: plug-ins, web client, what goes in BLT
- **Contact Information**

# Project Impetus

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- **LANS LLC Board of Governors**
- **Review by Pantex Sep-Oct 2007**
  - Review headed by Randy Fraser
- **Report and Recommendation Nov 2007**
- **Decision made to replace Materials Accountability and Safeguard System (MASS)**
- **CIO tasked to find Project Manager**

# MASS History

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- **MASS started early 80s**
- **It became the Laboratory System of Record for nuclear materials**
- **Strict rules for quick entry of transactions into MASS (LANL MC&A Plan)**
  - Two hours for Category 1 and 2
  - Usually no paper system for later entry by data entry personnel
- **Successful and very dependable system**

# Operational Drivers for Replacement

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- **MASS Lacking in SQA pedigree**
- **Written in Fortran 77**
- **Only one person (retired) really knows the system**
- **Hardware and OS is unique at LANL**
- **System changes are difficult**
- **Falling behind DOE/NNSA MC&A requirements**

# Management Drivers

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- **Performance-Based Contract**
- **Management fee is performance based**
- **Performance-Based Incentive 17.4 is to replace MASS**
- **PBI 17.4 is an “award term” item**
  - Two years duration from start of project
  - Project started January 2008
- **Security and operational concerns**

# MASS Replacement Projects

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- **1<sup>st</sup> was LANMAS**
  - Code turned over to SRS
- **Next came INMIS**
- **Next came “Son of INMIS”**
- **Next came “rewrite MASS in Java”**
  - Part of plan to bring in SRS LANMAS
- **Plan to code in Oracle MRP System**
- **Others?**

# Lessons Learned

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- **Think of the Real Estate Mantra**
  - Scope
  - Scope
  - Scope
- **Lack of clear management commitment**
- **Lack of dedicated funding line**

# Project Startup

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- **Project Manager designated January 2008**
- **Funding Obtained January-February 2008**
- **“Customer” defined**
- **DOE and SRS Interactions**
- **Developed Project Change Control Board**
- **System Name: Los Alamos Materials Control and Accountability System (LAMCAS)**
- **Developed Scope and Definitions**

# Project Scope

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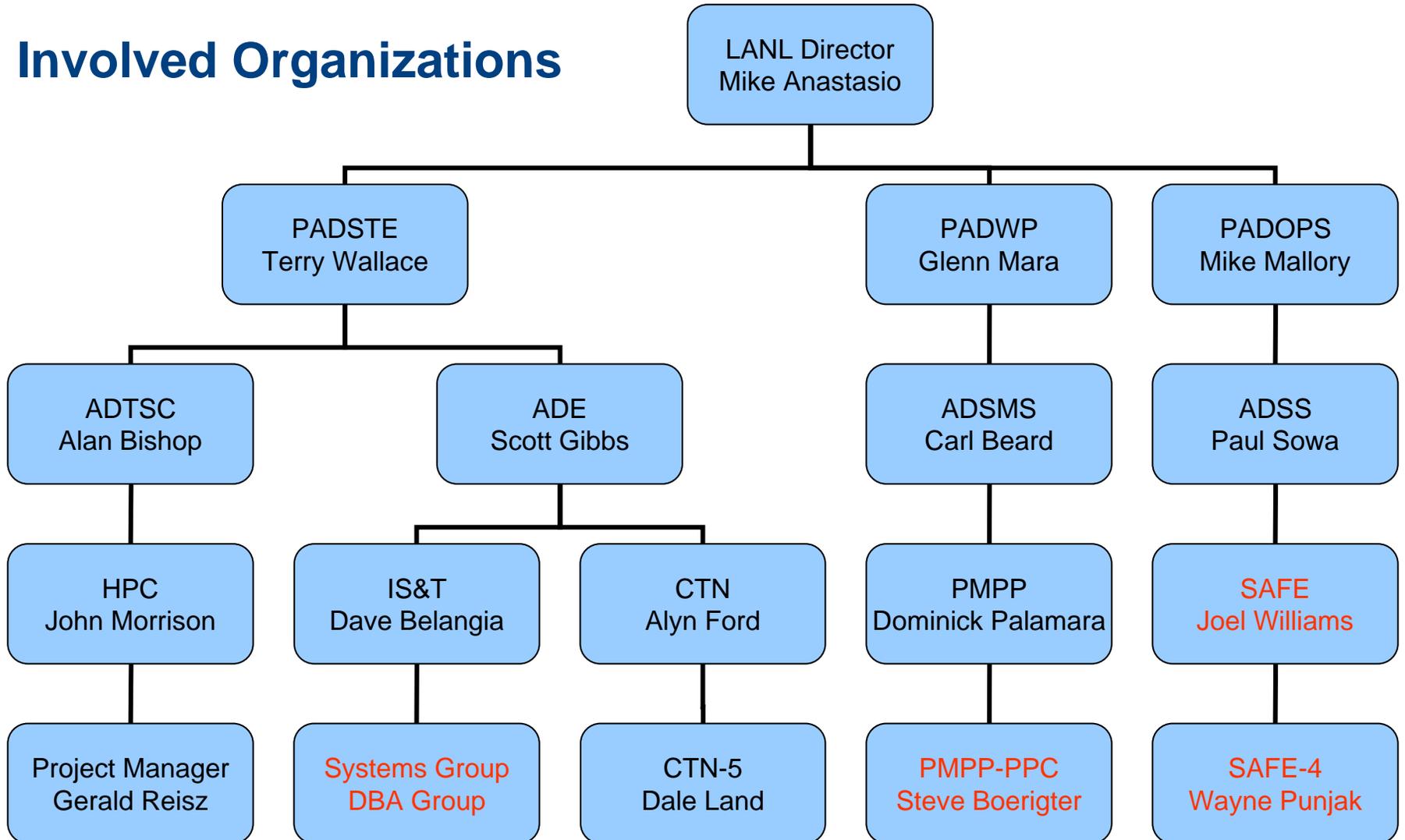
- **Replace MASS**
- **No “fix the list”**
- **Scope limited to safeguards**
- **Safety applications are out of scope**
- **Do not break systems that use data**
- **However, new data feeds do not have to be identical to current feeds**
  - **Functionally equivalent**

# Other Scope Definitions

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- **SQA Risk Level 1**
  - Nine process areas must be done
- **Mission-Essential classified asset**
- **LAMCAS is not safety software**
- **Institutional or enterprise application**
  - Waiver from CIO needed because of SQL Server and Visual Basic
- **Work Products List**
  - Twelve items in list

# Involved Organizations



# Project Team

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- **Project Manager: Gerald Reisz**
- **Focus Area Leads**
  - Functional MC&A: Ben Romero (SAFE-4)
  - Technical: Benny Martinez (N-4)
  - Software Quality Engineering: Scott Matthews (HPC-1)
  - Infrastructure: Dave Stuedell (IST-IS13)
- **Scheduling: Eileen Garcia (HPC-1)**

# Schedule

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- **Project Start: January 2008**
- **PBI Completion Date: December 2009**
- **Scheduled Implementation Date: May 2009**
- **Contingency Time: June 2009 to December 2009**

# Early Issues

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- Partitioning of tasks between organizations
- Determine orders and policies for compliance
- Defining work products, formats, and approvals required
- Defining user community and “data feeds”
- Migration strategy for data
- Security Plan, changing to NAP rules
- Disaster Recovery Contingency Plan, NAP rules
- Defining infrastructure

# Initial Work Products

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- **Scope and Definitions document**
- **Software Project Management Plan**
- **Project Schedule**
- **System Requirements Specification**
- **Business Impact Analysis and Technical Requirements Document**
- **Crosswalk of MASS to LANMAS**
- **High level system model**
- **Start of Gap Analysis**
- **Draft of Migration Strategy**

# Next Steps

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- **Develop Security Plan and DRCP**
- **Rigorously define gaps between MASS and LANMAS**
- **Define how those gaps will be filled**
- **Implement contracts etc for gaps**
- **Finalize hardware and networking design**
- **Start communications plan execution**

# Draft High-Level Gaps

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- **Measurement Control**
- **Cost Accounting**
- **Simple interface for production work**
  - Basic LANMAS Transactions Module
- **Rollup**
- **Statistical/Physical Inventory**

# Project Risks

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- **Scope creep**
- **Security plan generation and approval**
- **Users ability to access**
  - Classified network access, training, etc.
  - Fundamental change from MASS operations
- **Q-cleared SQL Server DBAs in Human Reliability Program (HRP)**
- **Thin-client interface**

# Operations Plan

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- **Safeguards Division: Data owner, responsible for DOE reporting, controls LAMCAS configuration**
- **Production Planning and Control: Day-to-day operation of LAMCAS, uptime and user support issues, production funding for LAMCAS**
- **Information Systems and Technology: Operation of LAMCAS infrastructure (hardware and software), System Administration, Data Base Administration, Backups, System Recovery**

# Design Decisions

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- **Plug-ins and/or separate applications**
- **Web interface**
- **Scope of the Basic LANMAS Transactions module**
- **Database design questions (work with SRS)**
- **Cost Accounting, part of LANMAS?**
  - MC&A function or Financial function

# Contact Information

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# Questions?