



Replacing NMC&A Accounting Systems

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- **What**

- NMC&A Accounting system replacement

- **Why** (not intended to be an all inclusive list, but a few common reasons)

- Unsupported software
- Hardware compatibility Issue
- Developed by an IT Resource that is no longer available
- Constraints or Limitations of the “Legacy” system are Dictating Business Decisions
- Changing Reporting Requirements – “Legacy” system may or may not be able to meet new requirements

- **How – Options**

- Use LANMAS as is “out of the box”
- Build a custom accounting system from the ground up
- Deploy a LANMAS Hybrid (LANMAS plus Site Specific plug-ins)



Typical Expertise Required for Replacement Projects

- Project Manager
- NMC&A SME(s)
- Software Quality Assurance SME(s)
- Cyber Security
- IT Software Developer(s)
- IT DBA(s)
- IT System Administrator(s)
- Software Trainer(s)
- Software Test Team



Where To Begin

- What is the condition of the existing “legacy” accounting system ?
 - Document functional requirements of the “legacy” system, need, and functional requirements of replacement option(s) ?
 - What are the hardware architecture requirements ?
 - What are the software architecture requirements ?
- **Is there something driving a sense of urgency, or do we have some time flexibility ?**
 - **GAP analysis**
 - **Dedicated or Virtual Server or Standalone system**
 - **Licenses / Database requirements**



Where To Begin, cont'd

- What is the ROM (rough order of magnitude) cost estimate for the option(s) ?
➤ **Funding**
- What is the estimated team size and expertise requirements ?
➤ **Personnel Availability**
- What is the timeline estimate for deployment ?
➤ **Time**



- **Who Should Lead the Project?**

- NMC&A staff member acting as Project Manager ?
- IT Project Manager ?
- Outsourced ?

- **IT Staff Options**

- Internal IT staff ?
- External IT staff / software integrator ?
- Combination (Internal / External) ?

- **Common Issues**

- NMC&A Staff members typically have a “day job” and often are required to work replacement projects as an secondary or tertiary function – **may not be able to perform both jobs and could become overwhelmed**
- IT Project Manager may give more emphasis to the software / hardware architecture than NMC&A requirements and needs – **may provide a good product from an IT standpoint, but miss the mark from an MC&A business aspect**



- **First Things First**

- Functional Requirements
 - What are you trying to build ?
 - What does it need to do ?
- What option will you use ?
 - LANMAS / Build from ground up / LANMAS Hybrid
 - The GAP Analysis is a key element of the decision process
- Data Migration
- Security Plan
- Software Quality Assurance Documentation
 - SQA Plan
 - Requirements
 - Detailed Design
 - Test Plan
 - Training Plan
 - Maintenance Plan



- **Typical Project Obstacles**

- Scope Creep
- Project Timeline Slipping
- Project Budget Overruns
- Project Manager does not keep the Management Team Informed Through Routine Status Reports – **Stoplight charts (green/yellow/red) are a very effective means to communicate emerging issues and current status**

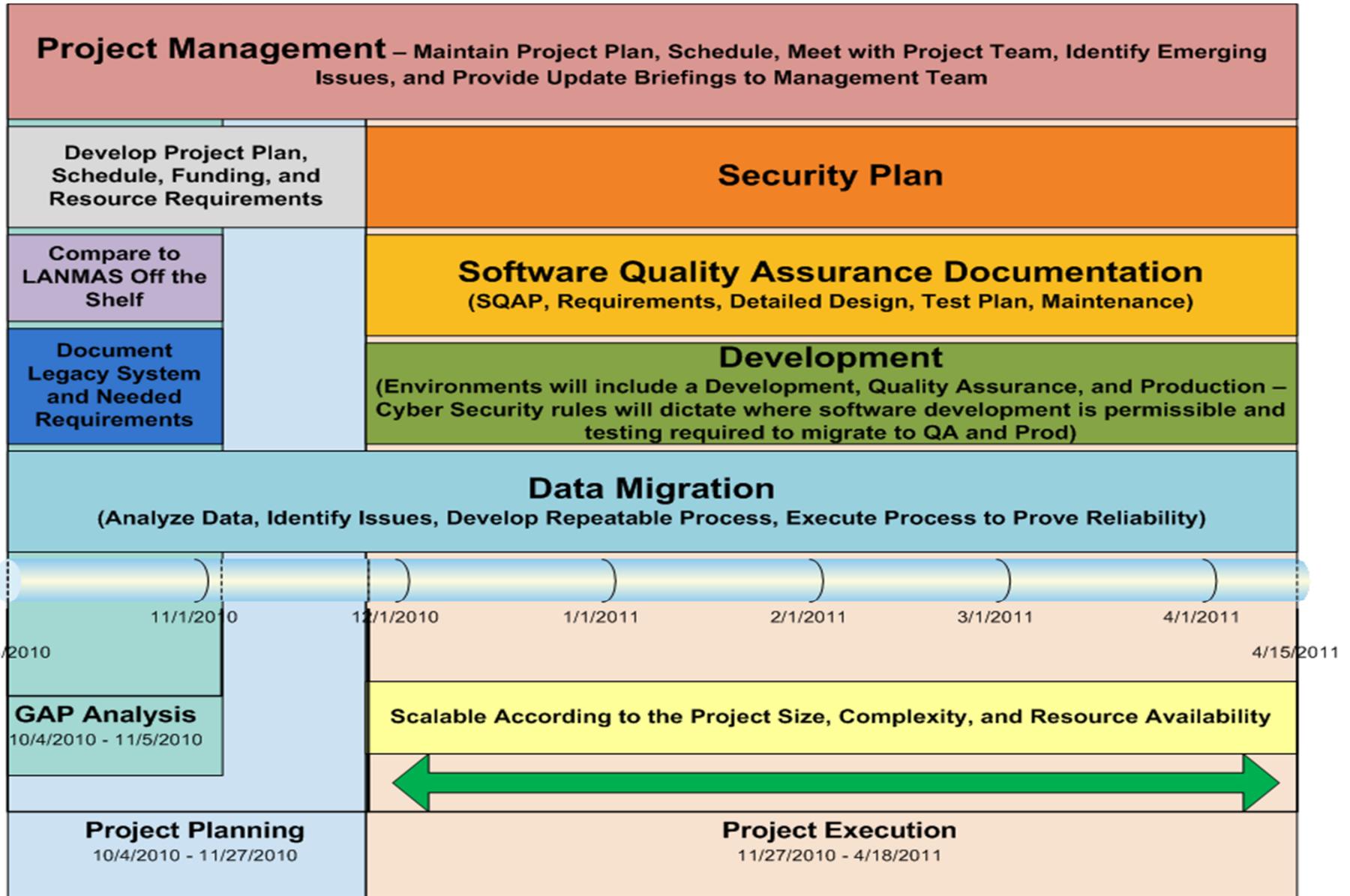
- **There is no single “Right” Solution**

- **Following Slides Contain**

- Templates for developing Project Timelines
- Sample Project Management Tools (Schedule, Schedule Impact Assessment, and Stop Light Chart)

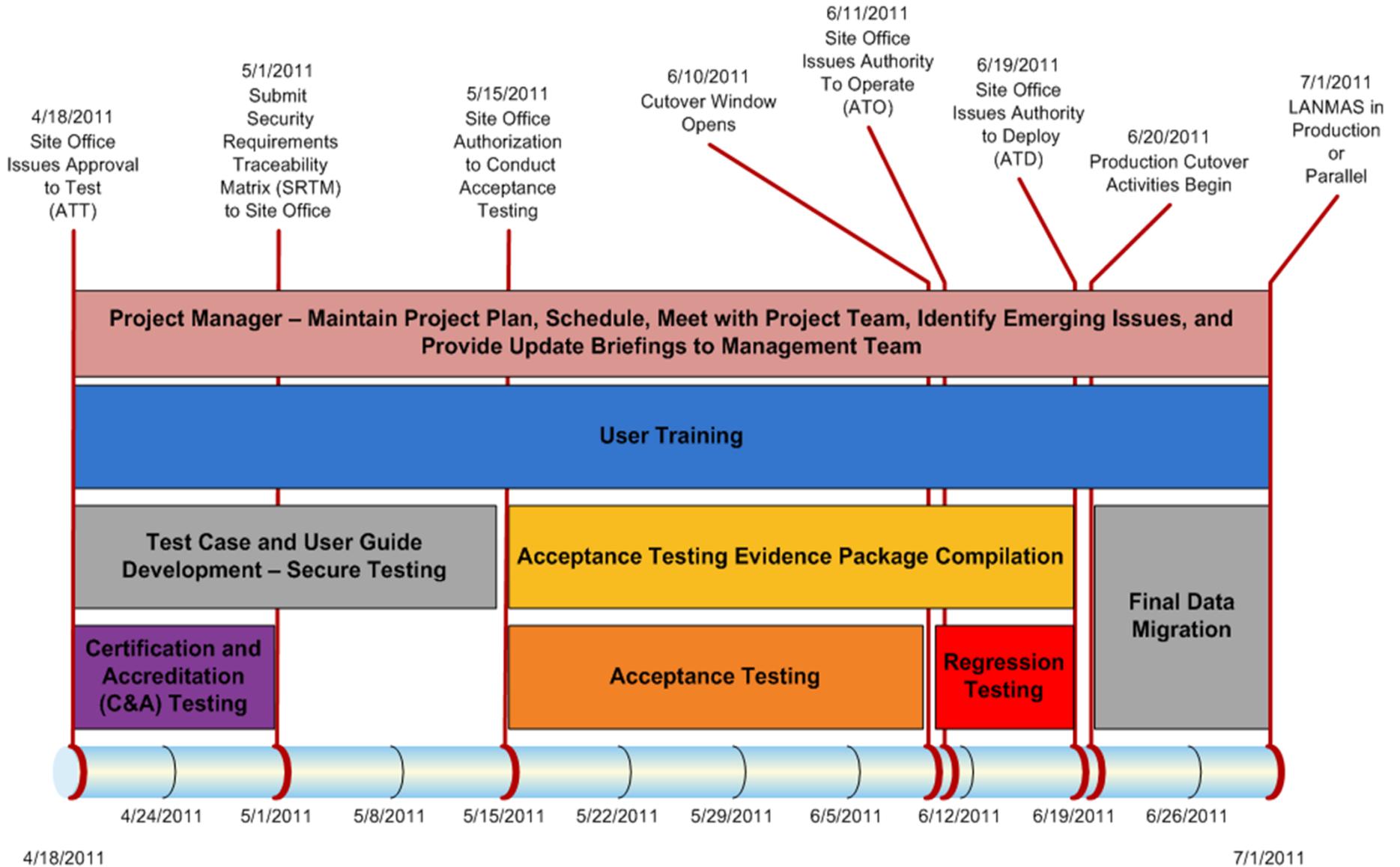


Project Planning through Development





C&A Testing through Deployment





Project Management Tools Schedule Impact Assessment



LAMCAS Project - Schedule Impact Assessment

Submitted to ADSS: July 24, 2009

Impact Statement	There are significant software functions that failed acceptance testing, and the required corrections and re-testing/training cycles cannot be completed prior to 7/30/09 (planned final customer acceptance and cut-over execution period).*
Primary Schedule Impact	<ul style="list-style-type: none"> Section 11 – LAMCAS Testing – Red Net Section 13 – Customer Acceptance and Cut Over for 8/3/09 Production Section 14 – Project Close Out
Submitted Schedule Change	<ul style="list-style-type: none"> Extend Section 11 of project schedule from 7/22/09 to 8/17/09 Extend Section 13 of project schedule from 7/31/09 to 8/27/09** Extend Section 14 of project schedule from 8/4/09 to 9/4/09
Risk Statement	Recommended schedule changes provide <u>Risk Avoidance</u> by allowing adequate time to thoroughly re-test software corrections based on errors discovered during initial acceptance testing using credible data prior to moving LAMCAS into a production environment.
Budget Impact	Recommended schedule change will require \$302K additional funding for specific resources (labor).***
Scope Impact	No significant scope change – software plug-in corrections will require re-training and revisions to design and configuration artifacts.

*Specific items listed in Issue Details section below

**One month is the minimum extension due to MC&A accounting requirements

***This forecast assumes key resources throughout duration of schedule change period. Resources will be rolled-off the project when not absolutely required during ~~extension~~.

Issue Details

No.	Issue	Schedule Ref.	Root Problem	Resolution	Status
1	SPLIT	11.4.1.3	SRS LANMAS Software	SRS Develop Plug-In Correction	Delivered – Testing and Training Required
2	MIX	11.4.1.3	SRS LANMAS Software	SRS Develop Plug-In Correction	Delivered – Testing and Training Required
3	Inventory Adjustment	11.4.1.3	SRS LANMAS Software	SRS Develop Plug-In Correction	Delivered – Testing and Training Required
4	MBR/Data Migration	11.4.5.2	LAMCAS Measurement Units Different than MASS	Correct LAMCAS software and re-test	Requires Software Modification and Testing
5	Measurement and Control Module	11.4.5.1	Not Completely Tested	Execute more detailed testing	Requires Software Modification and Testing



Project Management Tools Stop Light Chart



Project: LAMCAS		Review Date: 08/06/09
Customer: ADSS	Started: 1/2/08	Projected Completion: 9/1/09
		Time Remaining: 3 Weeks
Description		
<p>A project to replace the Los Alamos National Laboratory (LANL) Materials Accountability Safeguards System (MASS). The current MASS will be retired and will be replaced by an enterprise-level software database platform that meets software quality assurance (SQA) requirements. The replacement system consists at its core of the Department of Energy (DOE)-owned Local Area Nuclear Materials Accountability Software (LANMAS). LANMAS will be supplemented with Los Alamos site-specific modules for functionality not provided by LANMAS. The total system will be named the Los Alamos Materials Control and Accountability System (LAMCAS). LANMAS is the DOE standard nuclear materials accounting system and is maintained by Washington Savannah River Company (WSRC). LANMAS provides the collection, storage, retrieval, and reporting of the basic or core information required for all nuclear material accounting and material control program elements as specified by DOE orders and manuals. LANMAS provides the capability for local sites to "plug-in" software modules to address site-specific needs. The "plug-in" model allows for additional functionality to be interfaced into LANMAS but specifically prohibits modifications to the "core" LANMAS program and database.</p>		
Project Team		
Sponsor: ADSS Program Manager: Mike Lansing, ADSS Project Manager: Gerald Reisz, HPC-1 Deputy Project Manager: Christopher A. Smith, SAE-4		Functional Team Leads: Scott Matthews – SQA & Testing Teri Watson - Training Benny Martinez – Software Development David Stuedell – Infrastructure Randy Fraser – Requirements, and Operations
Project Status Overview		
Cost:	Y	• Budget increased from \$2.48M to \$2.782M with additional \$302K from CIO
Schedule:	Y	• Approval to Operate (ATO) received July 29, 2009 • Fix identified and tested for Mixes/Splits on 8/5/2009, no requirement for plug-in
Technical & Scope:	Y	• No Scope Changes • Acceptance Testing continuing
Customer Relations:	Y	• Briefing to LASO DAA on 7/30/09, PBI materials being collected