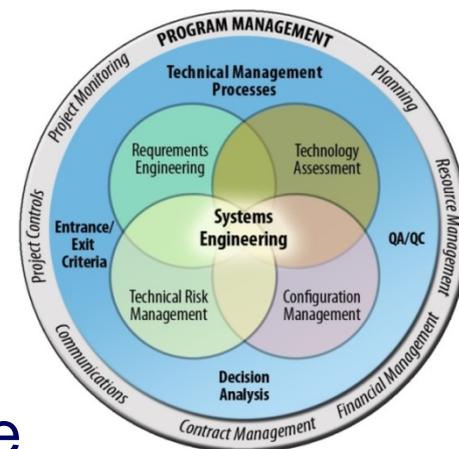


DHS Systems Engineering Acquisition Challenges, Issues, and Improvements



17th Annual Systems Engineering Conference

28 October 2014



**Homeland
Security**

Science and Technology

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DHS Challenges

GAO and DHS Inspector General identified the following issues:

- Gaps in developing capability and acquisition program requirements
- Initiating acquisition activities without component or department approval of documents essential to planning acquisitions
- Not incorporating information on costs and benefits in making technology acquisition decisions or establishing acquisition program baselines
- Projects allowed to progress without proper acquisition review or without adequate front-end analysis
- No policy for coordinating SE processes nor established mechanisms for sharing lessons learned across components.

Improving DHS Acquisition Program Performance

New Systems Engineering Lifecycle (SELC) Guidebook
Address the following:

- Increased emphasis on up-front planning
- Encouraged the use of tailoring
- Increased emphasis on “activities” vice artifacts and policy
 - Focuses on executing the activities that will ultimately lead to solutions vice focusing on development of documents
- Provided detailed supplemental guidance
- Added Technology Development to Systems planning

Renewed Focus on Upfront Planning/Critical Thinking

- *Planning* includes:
 - Understanding of the needed capability early
 - Identifying the specific activities, approach, applicable artifacts, and reviews to be employed to support program execution to deliver the defined capability
 - Tailoring the DHS Systems Engineering Life Cycle (SELC) to support compliant yet efficient program execution
- *Planning* activities are documented in four artifacts each with a different focus to minimize their size and duplication between them:

Project Management Plan (PMP)

Test & Evaluation Master Plan (TEMP)

Systems Engineering Plan (SEP)*

SELC Tailoring Plan

* A new artifact in DHS

New DHS SELC Guidance

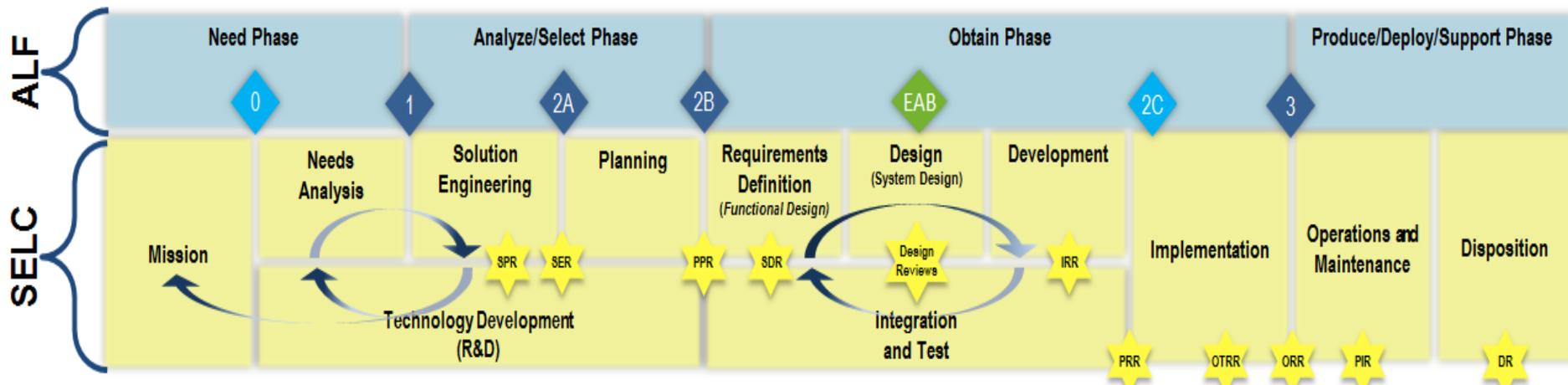
Pre-Defined Tailoring Examples

- Emphasizes tailoring activities, artifacts and reviews based on the specific characteristics of the program/project
 - Recognizes that no single approach works for all acquisitions
 - Applied in a manner appropriate to project size, scope, complexity, risk, development methodology, and the experience/expertise of the team
- Seven acquisition program models (or SELC Tailored Paths) are used as planning/tailoring examples:
 - System or Product Development
 - IT Infrastructure
 - Stand Alone Services
 - Agile Software Development
 - COTS or NDI Programs
 - IT Services
 - Facilities/ Construction

New DHS SELC Guidance

- Technology Development
 - Insert technology development into the acquisition discussion

- Integration and Test
 - Reflects the fact that SELC activities are often iterative or concurrent in nature and not strictly performed in a stepwise or sequential manor





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