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The Solution Life Cycle

FSA Solution Life Cycle (SLC) Process Guide

Version 2.0

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DOCUMENT CONTROL INFORMATION

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Document Control Information

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Draft 2.7	12/10/02	FSA Modernization Partner	Change Support Phase to Support & Retirement Phase in diagrams
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Release Schedule

There will be an annual release schedule with periodic updates based on changes accepted by the Change Control Process Group (CCPG).



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1. Introduction

This Guide documents the Department of Education’s Federal Student Aid (FSA) Solution Life Cycle (SLC). Formerly known as the SDLC (System Development Life Cycle), the framework has been updated, modified, and is now known as the SLC (Solution Life Cycle). It provides a baseline approach for solution acquisitions across FSA. FSA acquires IT solutions in order to meet business needs. Once a solution has been identified, FSA acquires the solution, which could consist of a system, software, hardware, etc. The SLC is designed to be the process framework used by FSA to acquire the solution from planning to deployment and support & retirement.

This document and the overall process will continue to evolve through an “evergreening” process in order to remain as current and relevant as possible. It is FSA’s intent to further develop the processes identified within this Guide as part of a continuous FSA process improvement program.

The SLC Process Guide brings together a variety of standard procedures, best practices, tools and reusable components to enable FSA personnel and contractors to better achieve successful solutions that are on time and on budget. These standard procedures may be modified as required to meet objectives specific to the most effective type of acquisition. Through the use of a standardized process, Project Managers will know what is expected of them and others. This will facilitate communication across the organization and will result in a more efficient and cost effective solution.

The SLC Process Guide is composed of five phases: Vision, Definition, Construction, Deployment and Support & Retirement, as depicted in Figure 1. The phases are tailorable so that some elements described within each phase may be skipped or abbreviated, should the solution require it. Regardless of what stage of development a project is in, the SLC can be utilized immediately. Life cycle process steps have been combined together into standard phases and these phases have been defined to help manage the risk inherent in any acquisition project, system development or enhancement project. The phases include commit points for decision-making as well as other forms of review. It is recognized that no project can accommodate all of the practices and processes described within this Guide due to various types of implementation such as Application Service Providers (ASP’s), Commercial off the Shelf (COTS), or Rapid Application Development (RAD), elements of risk and other factors. Therefore, this Guide and its key processes should be used as a tool to add discipline to the acquisition and maintenance of FSA solutions.



Solution Life Cycle

Phases	Vision	Definition	Construction	Deployment	Support & Retirement
Results	Problem Assessment	System Requirements	Detailed Design	Deployed Solution	Production Services
	Solution Recommendation	Preliminary Design	Accepted Solution		

Figure 1

The FSA has taken Key Process Areas (KPA) from the Software Acquisition Capability Maturity Model (SA-CMM) and the Software Capability Maturity Model (SW-CMM) and merged the most applicable practices from each, to form the FSA SLC. This tailored framework is expected to provide maximum benefit to FSA and address specific business needs.

The six chosen KPAs align with different phases of the SLC. The six KPAs are:

Software Acquisition CMM

- Solution Acquisition Planning (SAP)
- Solution Acquisition Project Management (SAPM)
- Requirements Development and Management (RDM)
- Transition to Support (TTS)

Software CMM

- Quality Assurance (QA)
- Configuration Management (CM)

Each KPA has been converted into a process guide, which further defines and develops repeatable processes and procedures to be followed. Additionally, a Security Process Guide has been developed to identify specific security requirements and activities conducted throughout the Solution Life Cycle. The following Figure 2 depicts where each KPA and System Security support the Solution Life Cycle.



Solution Life Cycle

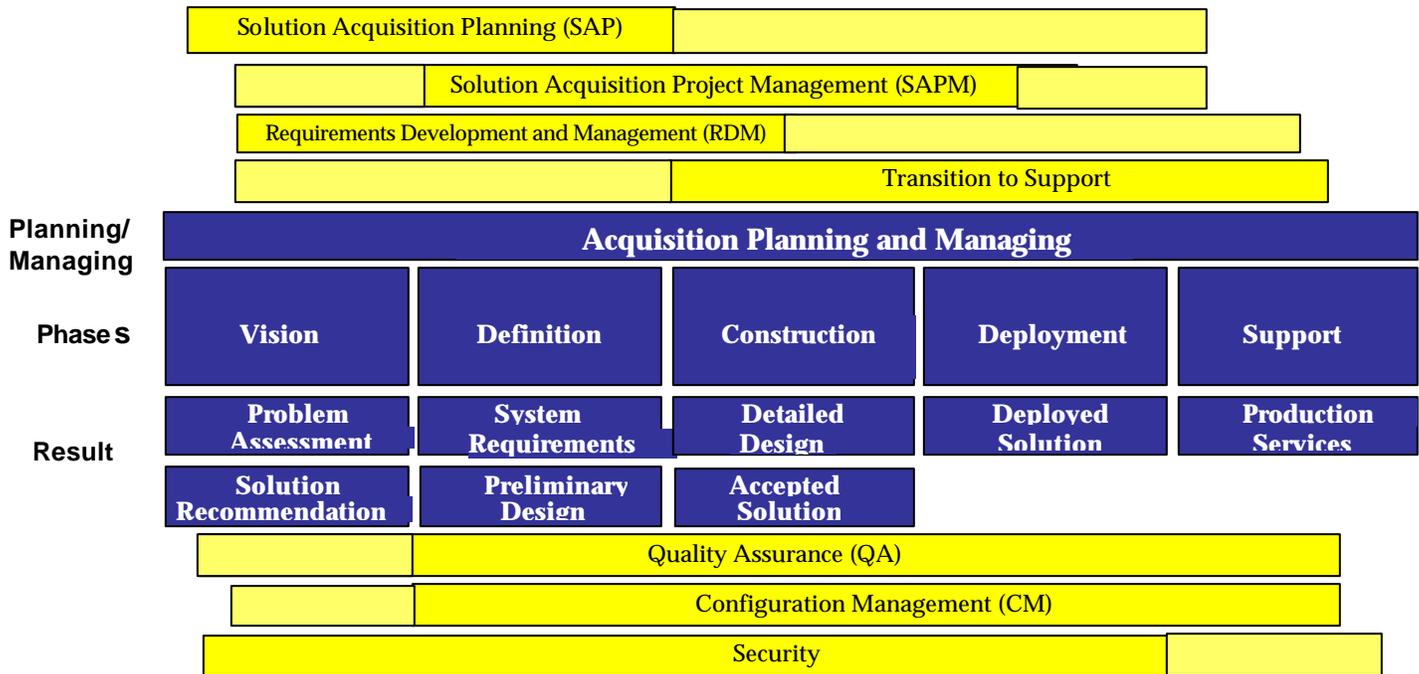


Figure 2

(Notes on Figure 2 – The solid portion of the long horizontal bars represents the duration of the major activities for that Key Process Area. The shaded portion at the beginning of the bar represents planning activities; the shaded portion at the end of the bar represents updating of the KPA activities. For example, SAPM has both planning activities - shaded portion at beginning of bar - and updating activities - shaded portion at end of bar.)

Each phase is guided by user and stakeholder input, and builds upon the outputs and products of the previous phase, with continual consideration of the objectives stated in the Business Case and activities documented in the Solution Acquisition Plan. This Guide is organized by the following topics in distinct sections for each of the five phases:

- Objective;
- Entry Criteria;
- Process and Outputs;
- Roles and Responsibilities;
- Exit Criteria; and
- Job Aids.



These topic areas will enable a project team to quickly look at the five phases within the Process Guide to assess what they need to accomplish. Some projects may develop a solution in several iterations of Vision, Definition, and Construction, and then integrate the iterations together. Other projects may develop and deploy separate iterations, gradually building functionality in use. In all cases, the deliverables of each phase should support the needs of the FSA Business Case for that initiative or project.

Several principles that have guided the development of the SLC are:

- Interaction with the end users and stakeholders is vital to the development of a successful solution;
- There is an inherent need for “standardized” or “core” project deliverables and formats within the FSA organization;
- The process described should be easy to understand and follow, but be flexible enough to allow for growth and change within the organization and its initiatives;
- The SLC should “evergreen”, and be continually maintained and kept current; and
- The end goal is meeting the business need, and keeping the documentation to an essential set.

This Guide is organized so that the necessary steps and activities associated with each phase of the life cycle can be easily identified. It is also designed so Project Managers and team members alike can understand the context of each activity within the entire SLC.