



The Solution Life Cycle

It's like building your dream house...



Plan It!
Vision



Design It!
Definition



Build It!
Construction

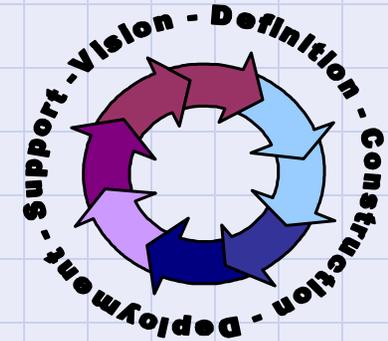


Move In!
Deployment



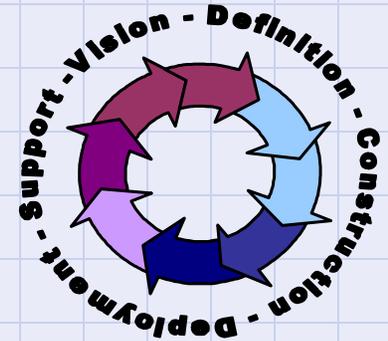
Maintain It!
Support

Learning Objectives



- ◆ Understand the SLC's Purpose
- ◆ Understand the Roles identified in the SLC
- ◆ Identify and Define the SLC's Five Phases
- ◆ Identify the Workproducts Recommended by the SLC

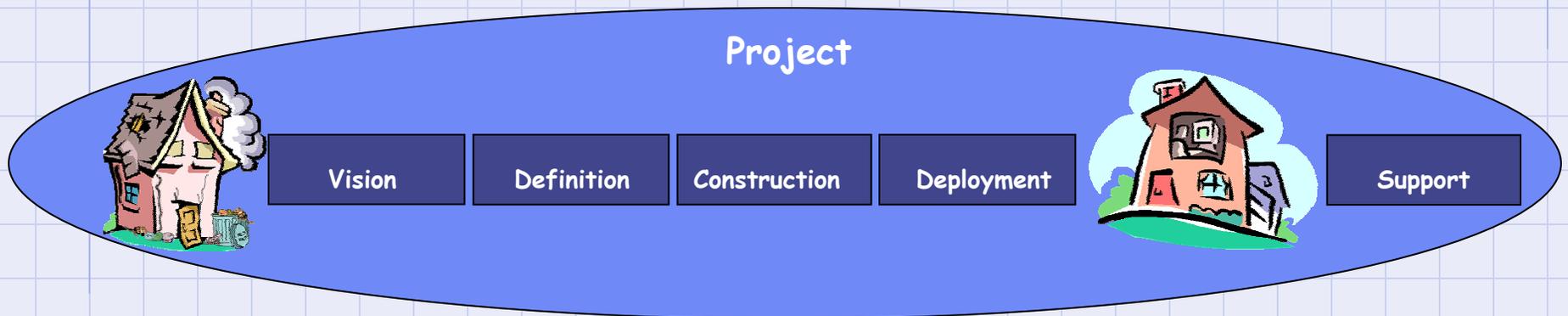
What is a Solution Life Cycle?



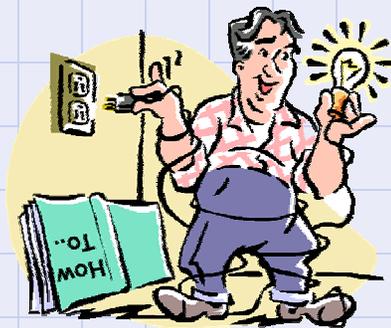
- ◆ A solution is an answer to a business need.
- ◆ A life cycle guides a solution from beginning to end.
- ◆ FSA's Solution Life Cycle (SLC) is a framework containing a set of defined, documented and practiced processes that guide a solution from beginning to end.

What is the FSA SLC?

The SLC is a framework for completing a solution.



This framework is supported by additional information.



Process Guides



Job Aids/Samples



Roles

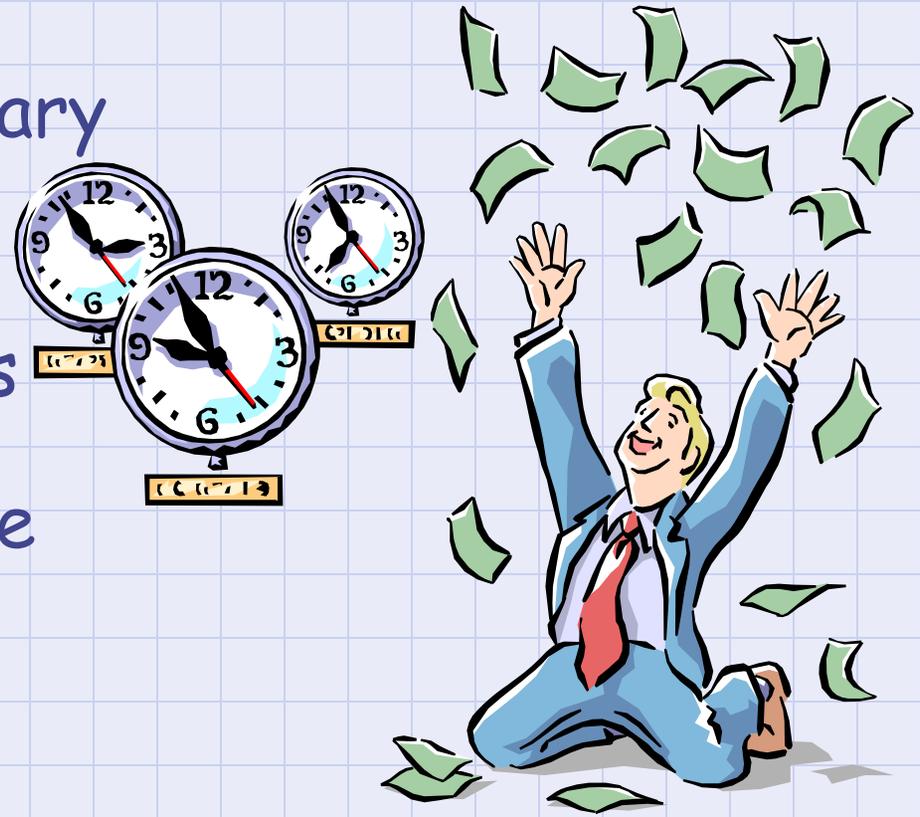
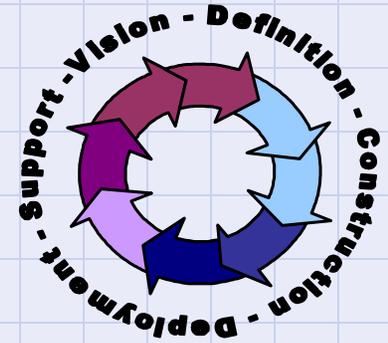
Who needs the SLC?



- ◆ Anyone who participates in or manages the acquisition of a solution for FSA
 - These Roles include:
 - ◆ FSA Project Managers
 - ◆ Subject Matter Experts (SMEs) who help develop requirements
 - ◆ SMEs who help manage security of the solution
 - ◆ SMEs who provide projects with information
 - ◆ Members of an Integrated Product Team (IPT)
 - ◆ CIO Participants
 - ◆ Operating Partners
 - ◆ Subject Matter Experts
 - ◆ Executive Sponsor

How do you benefit?

- ◆ Reduces Time and Effort
- ◆ Eliminates Unnecessary Rework
- ◆ Enables Cost Savings
- ◆ Gets Everyone on the Same Page



How does the SLC work?

Phase 1: Vision



Plan It!

Phase 2: Definition

Design It!



Phase 3: Construction



Build It!

Phase 4: Deployment

Move In!

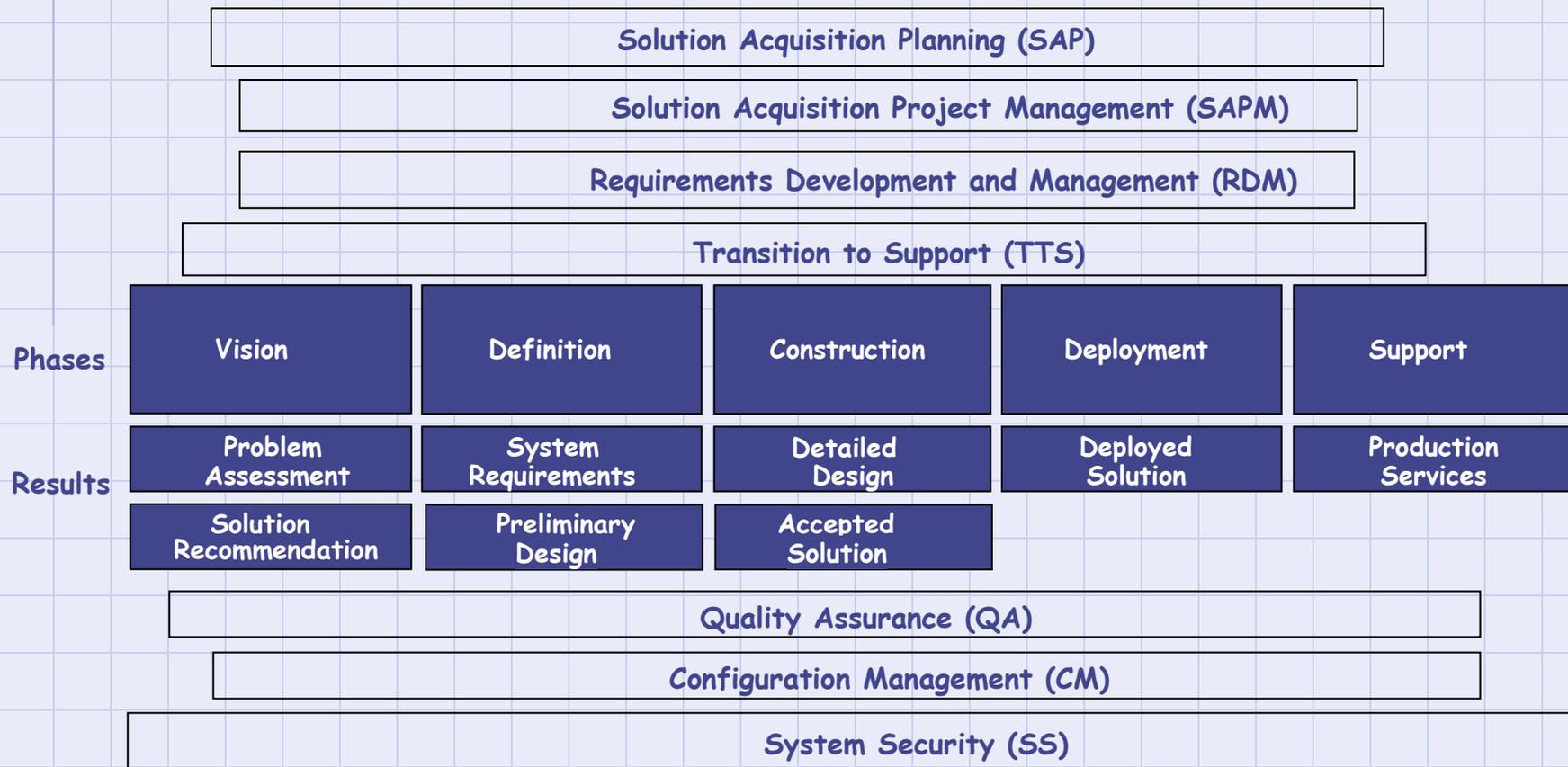


Phase 5: Support

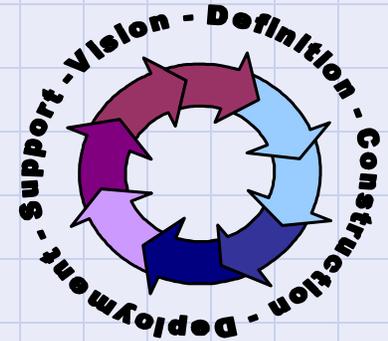


Maintain It!

The Solution Life Cycle



The SLC is ...



- ◆ FSA's guide to acquiring a solution
- ◆ A framework that provides
 - A Repeatable Process
 - A Common Language
 - An Efficient Solution

The Vision Phase



Plan It!

Plan It!



Phase 1: Vision

- ◆ The Purpose of the Vision Phase is to:
 - Conduct an assessment of the business problem
 - Provide a Solution Recommendation



Plan It!



Phase 1: Vision

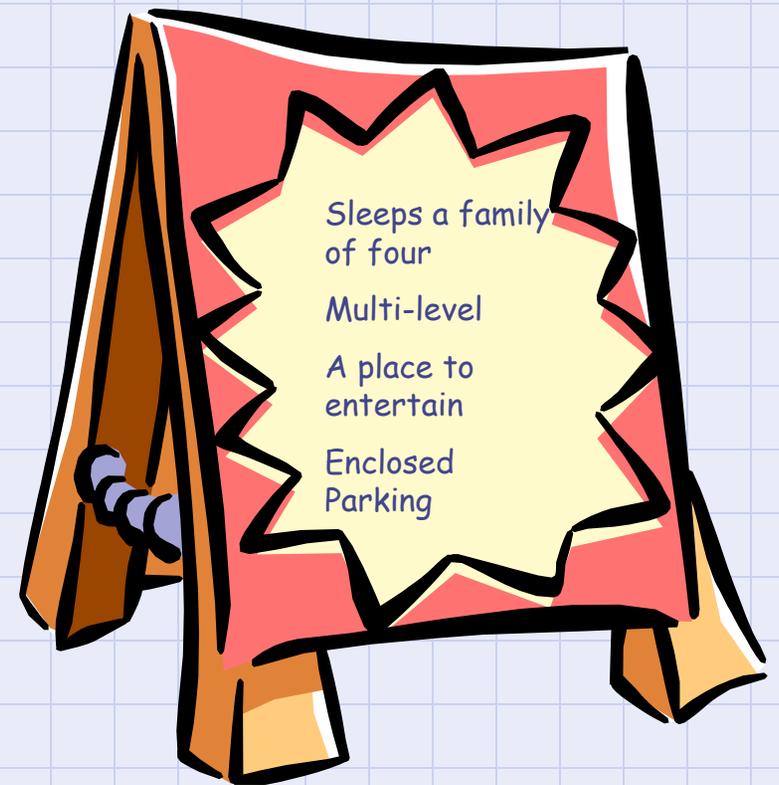
◆ Define High Level Requirements

◆ What are High Level Requirements?

- The basic "facts" our business case needs to address
- These requirements will be translated into "testable" low level requirements during the Definition phase

◆ What's available to help me?

- The Requirements Development and Management Process Guide
- High Level Requirements Examples



Plan It!



Phase 1: Vision

◆ Build a Business Case

◆ What should a Business Case contain?

- The business need
- The projected costs and value
- Clearly identified scope
- Benefits and Risks
- Technologies Used
- DSG Review and IRB Approval

◆ What's available to help me?

- A Business Case Template
- Business Case Estimating Tool
- SAP Process Guide

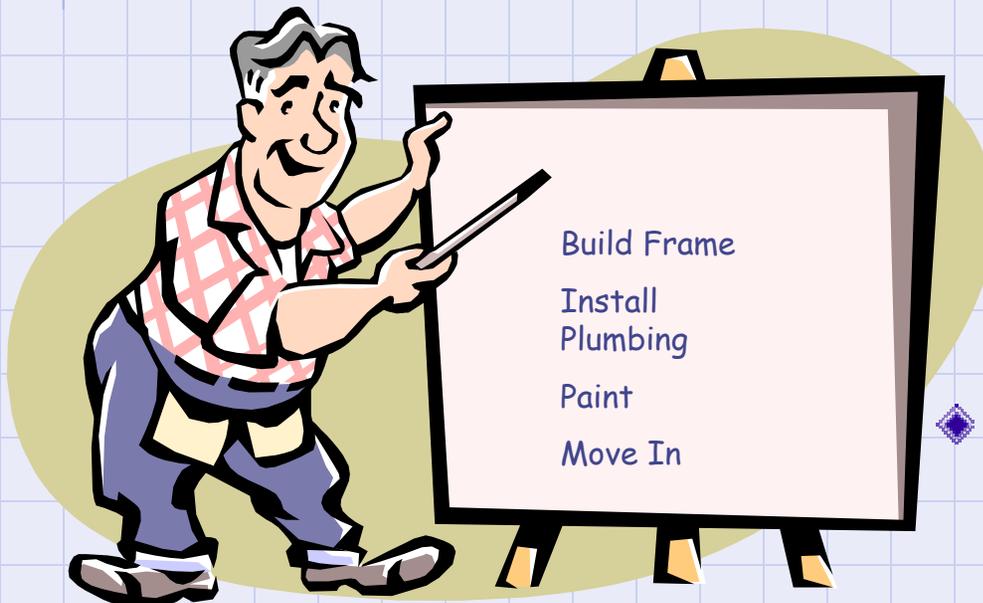


Plan It!



Phase 1: Vision

- ◆ Build a Statement of Objectives (SoO) and a Task Order (TO)
 - ◆ What is the purpose of the SoO and TO?
 - Give background of solution
 - Objectives of the solution
 - Government provided resources
 - Outputs of deliverables
 - Timeframe
 - ◆ What's available to help me?
 - SoO Sample
 - TO Sample



Phase 1: Vision

Plan It!



◆ Form an IPT (Integrated Project Team)

◆ An IPT:

- Is comprised of different team members from different organizations
- Brings together the right skills to complete the solution
- Reports to the Executive Sponsor



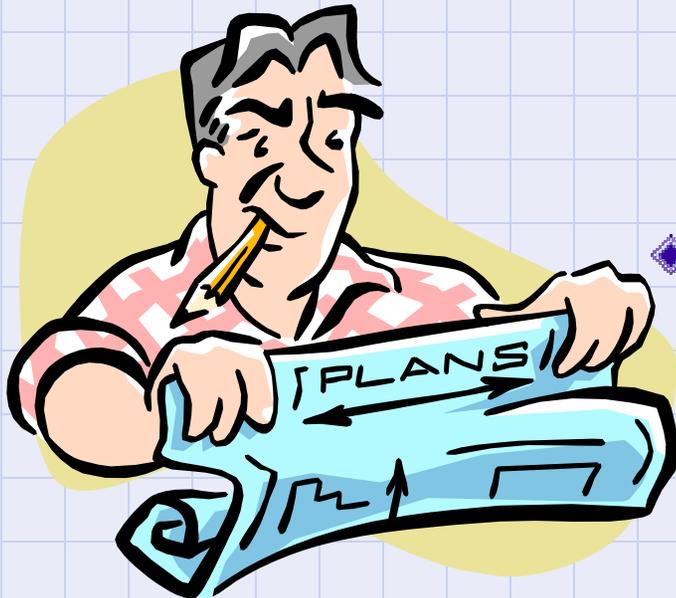
Plan It!



Phase 1: Vision

◆ Create the Solution Acquisition Plan

- ◆ What is a Solution Acquisition Plan?
 - Estimates the work needed to complete the acquisition
- ◆ What's available to help me?
 - The Solution Acquisition Process Guide
 - The Acquisition Planning Estimating Worksheet



Plan It!



Phase 1: Vision

◆ Develop the Work Breakdown Structure (WBS)

- ◆ What's in a Work Plan?
 - Necessary Tasks
 - Level of effort
 - Cost
 - Schedule

- ◆ What's available to help me?
 - WBS Example



Plan It!



Phase 1: Vision

- ◆ The Security Vision Phase checklist
- ◆ What is a Security Checklist?
 - Each phase of the SLC contains a security checklist which needs to be completed
 - A FSA system's security officer will be assigned to perform system security checks
- ◆ What's available to help me?
 - SLC System Security Process Guide
 - SLC Security Checklists



Phase 1: Vision

Plan It!



◆ Begin Project Management Activities

◆ What types of management activities?

- Status Reporting
- Risk and Issue Tracking
- Use the WBS and SAP to manage the project and ensure the project is meeting the requirements in these documents

◆ What's available to help me?

- Solution Acquisition Project Management Process Guide
- Project Management templates



Plan It!



Phase 1: Vision

◆ A Quick Review:

What we talked about...

- High Level Requirements
- Business Case
- Task Order/SOO
- IPT
- Solution Acquisition Plan (SAP)
- Work Breakdown Structure
- High Level Requirements
- SLC Security Vision Phase Checklist

◆ Additional recommended activities include:

- Status reports
- Risk & Issue Tracking
- RDM Plan
- Quality Assurance Plan
- Configuration Management Plan
- TTS Plan

The Definition Phase



Design It!

Phase 2: Definition

Design It!



◆ Purpose of the Definition Phase

- Develop solution requirements
- Develop and accept a preliminary design for the solution

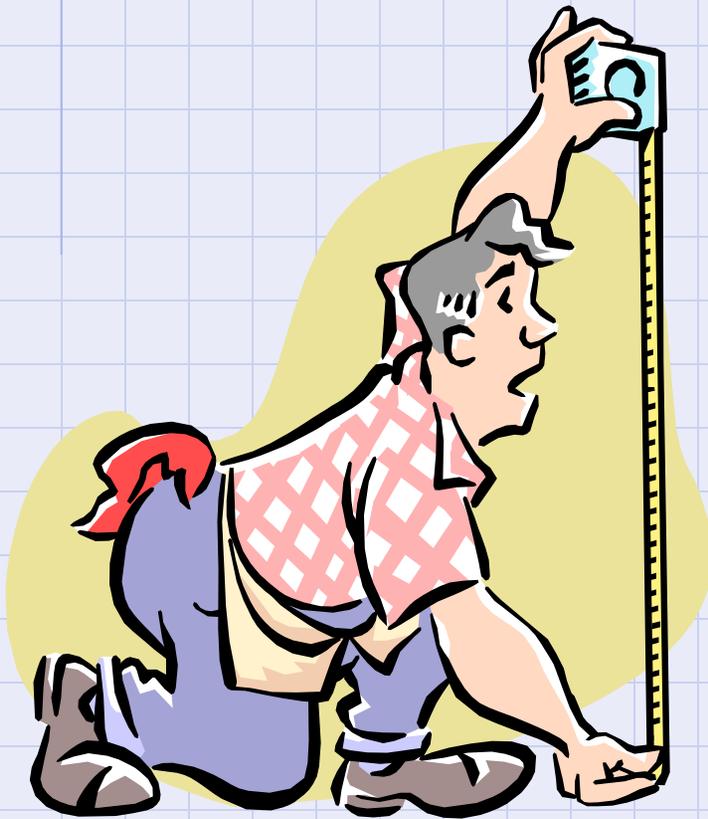


Phase 2: Definition

Design It!



◆ Create and Approve Low Level Requirements



- ◆ What are low level requirements?
 - High level requirements broken into specific testable requirements
 - Low level requirements are mapped to high level requirements to ensure we meet and achieve the overall objective

- ◆ What's available to help me?
 - The Requirements Development and Management Process Guide
 - The Requirements Traceability Matrix

Phase 2: Definition

Design It!



◆ Develop and Document the Preliminary Design

- ◆ What is the preliminary design?
 - Reflects the functional solution of what will be delivered
 - Often, the design visually depicts the solution through graphic models, process flows, or block diagrams

- ◆ What's available to help me?
 - Preliminary Design Example



Phase 2: Definition

Design It!



◆ Create a Configuration Management Plan

◆ What is Configuration Management?

- The process for identifying, managing, and tracking all solution components throughout the project
- Plan is approved by the Project Manager

◆ What's available to help me?

- The Configuration Management Process Guide
- Configuration Item Index and Configuration Library Samples



Phase 2: Definition

Design It!



◆ Document and Approve a Quality Assurance Plan

- ◆ What is a Quality Assurance Plan?
 - A plan describing when and how reviews will be performed throughout the project.
- ◆ What's available to help me?
 - Quality Assurance Process Guide
 - Quality Assurance Plan Template



Phase 2: Definition

Design It!



◆ Document and Approve a Transition to Support Plan



◆ What is Transition to Support?

- Identification of the organization that has on-going responsibility for the support and maintenance of the solution after deployment
- Transfer of on-going responsibility to the support organization

◆ What's available to help me?

- Transition to Support Process Guide
- Transition to Support Plan Template

Phase 2: Definition

Design It!



- ◆ The Definition Phase Security checklist
 - ◆ What is a Security Checklist?
 - A FSA system's security officer performs system security checks to ensure that the solution requirements and Preliminary Design meet the SFA's security requirements.
 - Sign off on the SLC Definition Phase Checklist.
 - ◆ What's available to help me?
 - SLC System Security Process Guide



Design It!



Phase 2: Definition

◆ A Quick Review:

What we talked about...

- Low Level Requirements
- Preliminary Design
- Configuration Management Plan
- Quality Assurance
- Transition to Support (TTS)
- Definition Phase Security Checklist

◆ Additional recommended activities include:

- Status reports
- Risk & Issue Tracking
- Business Case Updated
- Library
- Transition to Support Plan
- Requirements Development & Management Plan

The Construction Phase



Build It!

Phase 3: Construction

Build It!



◆ Purpose of the Construction Phase

- Develop the Detailed Design
- Build and Accept a Solution



Phase 3: Construction

Build It!



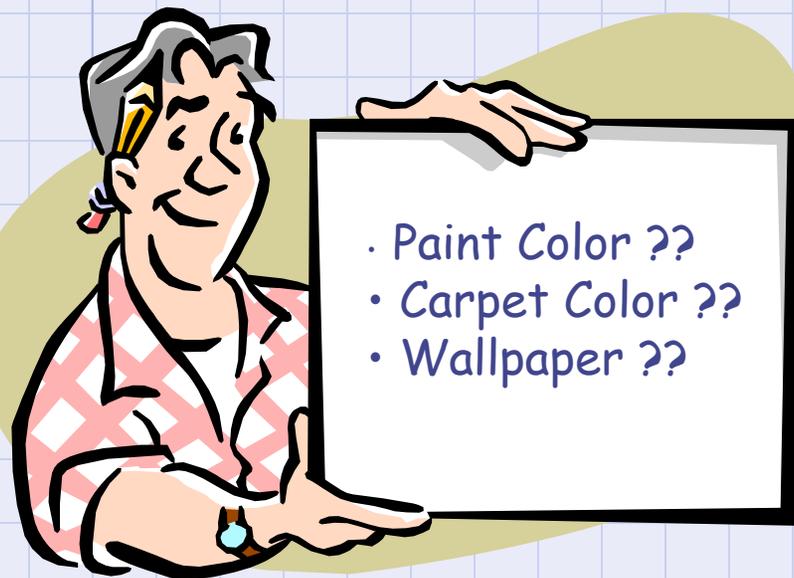
◆ Develop and Approve the Detailed Design

◆ What is the Detailed Design?

- Refines the Preliminary Design into a Detailed Design
- Physically depicts the solution through architecture, design, database schemas and report prototypes
- Contains specific information enabling the solution to be thoroughly developed and tested

◆ What's available to help me?

- Detailed Design Document Samples
- FSA CIO Technology Handbook ³²



Phase 3: Construction

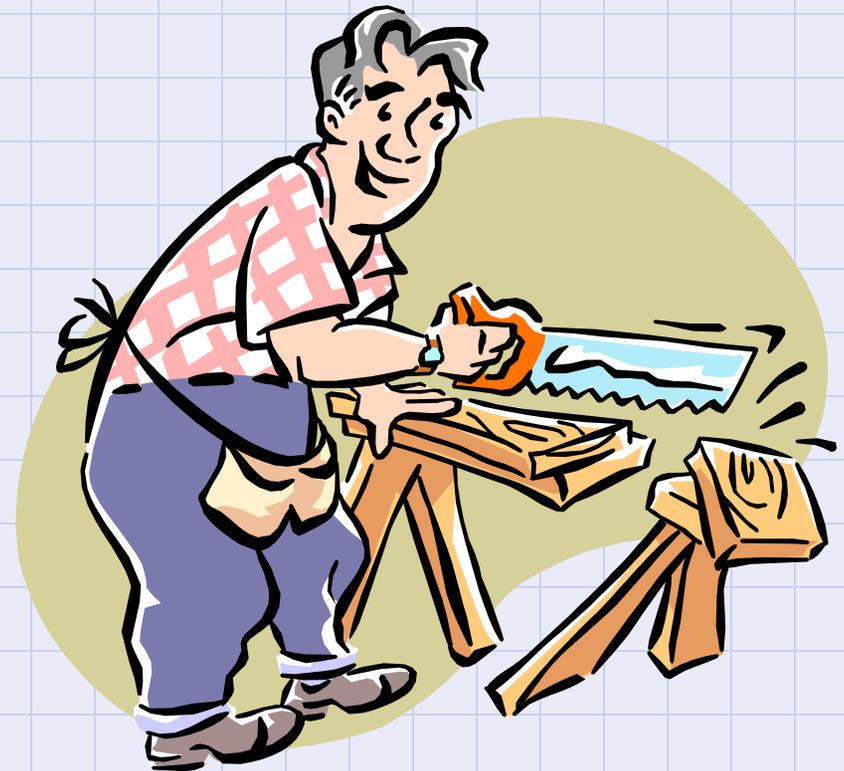
Build It!



◆ Build the Solution

- ◆ What does building mean?
 - Transforming the design into the solution
 - Solution is built in a development environment in preparation for testing
 - Some solutions are purchased off the shelf and some may be purchased services

- ◆ What's available to help me?
 - FSA CIO Information Technology Handbook

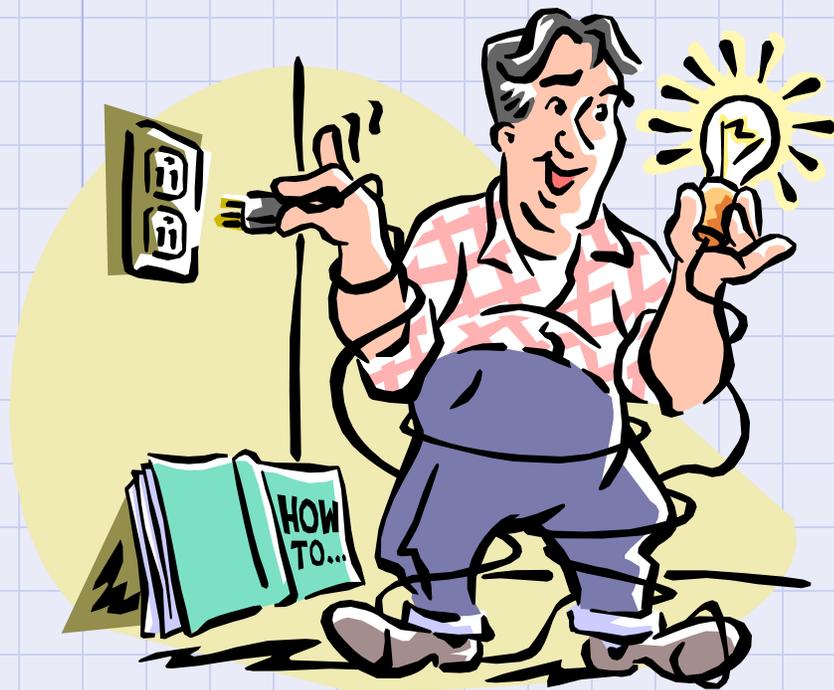


Phase 3: Construction

Build It!



◆ Test the Solution



- ◆ What is involved in testing?
 - Developed test plans are executed
 - Tests are performed to ensure the solution satisfies the defined functional, technical, physical and quality requirements

- ◆ What is available to help me?
 - FSA System Integration and Testing Process Handbook
 - FSA CIO IT Handbook

Phase 3: Construction

Build It!



◆ Conduct Production Readiness Review (PRR)

◆ What is a PRR?

- An official sign-off of the solution's readiness
- Reviews are conducted to ensure performance, security and quality standards are achieved
- Assesses the readiness of the technology infrastructure

◆ What's available to help me?

- PRR Checklist
- PRR Procedures Guide in the Information Technology Handbook



Phase 3: Construction

Build It!



◆ The Construction Phase checklist

◆ Is there a security component in this phase?

- The Construction Phase contains numerous security activities. A large portion of these activities is dedicated to documentation
- The SLC Construction Phase Checklist should be signed off by the System Security Officer

◆ What's available to help me?

- SLC System Security Process Guide



Build It!



Phase 3: Construction

◆ A Quick Review:

What we talked about...

- Detailed Design Document
- Test Plans/Tested Solution
- Product Readiness Review
- Quality Assurance
- Definition Phase Security Checklist

◆ Additional recommended activities include:

- Status reports
- Risk & Issue Tracking
- Construction Phase Risk Assessment
- Configuration Management Audit Findings
- Transition to Support Plan Updated
- Test Results

The Deployment Phase



Move In!

Phase 4: Deployment

Move In!



◆ Purpose of the Deployment Phase

- Deploy the developed solution into production



Phase 4: Deployment

Move In!



◆ Successful Deployment of the Solution

◆ What is Deployment?

- Transitions the solution into everyday use

◆ What is the Transition to Support Readiness Review?

- Ensures support readiness activities have been planned, managed, and completed prior to transition

◆ What's available to help me?

- Transition to Support Process Guide



Phase 4: Deployment

Move In!



◆ Complete System Security Plan

- ◆ What does the System Security mean?
 - All System Security activities are brought to closure
 - A documented plan is approved for maintaining security
 - Security Controls are tested

- ◆ What's available to help me?
 - Deployment Phase Security Checklist
 - Transition to Support Process Guide



Phase 4: Deployment

Move In!



◆ A Quick Review:

What we talked about...

- Solution is successfully deployed
- Transition to Support Readiness Review
- System Security Plan

◆ Additional recommended activities include:

- Project inventory list complete
- Configuration Item Index is baselined and migrated
- Applicable Training conducted
- Quality Reviews Documented

Phase 4: Deployment

Move In!



◆ What the Deployment Phase provided:

◆ Critical

- Solution is successfully deployed
- Project inventory list complete
- TTS Readiness Review complete
- SLC Security Deployment Phase checklist
- System Security Plan
- Configuration Item Index is baselined and migrated

◆ Recommended

- Applicable Training conducted
- SLAs established
- QA Reviews documented

The Support Phase



Maintain It!

Phase 5: Support

Maintain It!



◆ Purpose of the Support Phase

- Provide operational and maintenance support for the solution

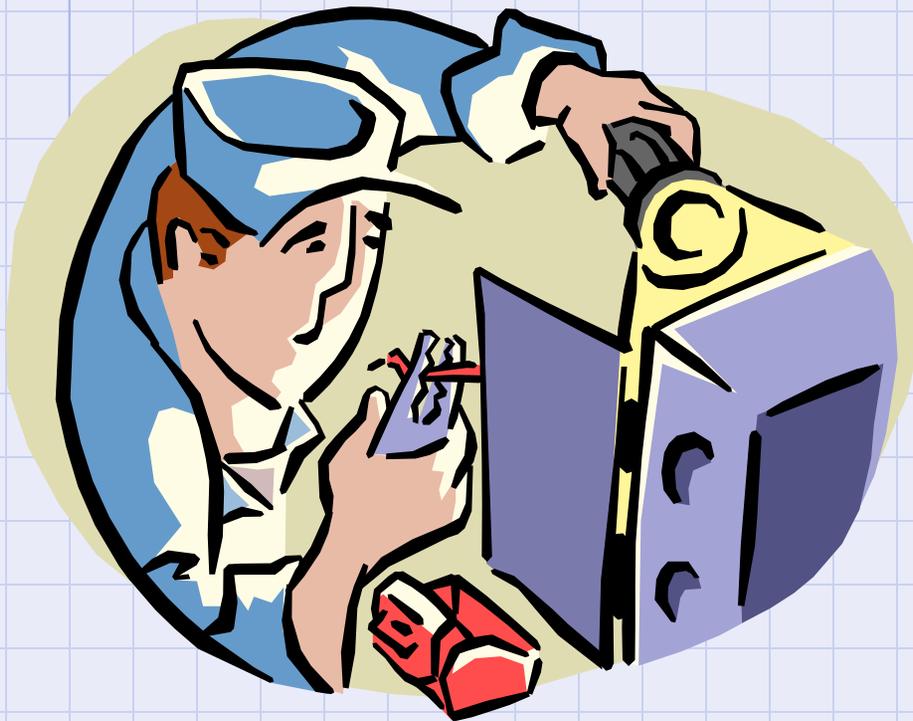


Phase 5: Support

Maintain It!



◆ Transition the solution to the support organization



- ◆ What does transitioning the solution mean?
 - The support organization takes over primary responsibility for the solution
- ◆ What's available to help me?
 - The Transition to Support Process Guide
 - The Transition Readiness Checklist

Phase 5: Support

Maintain It!



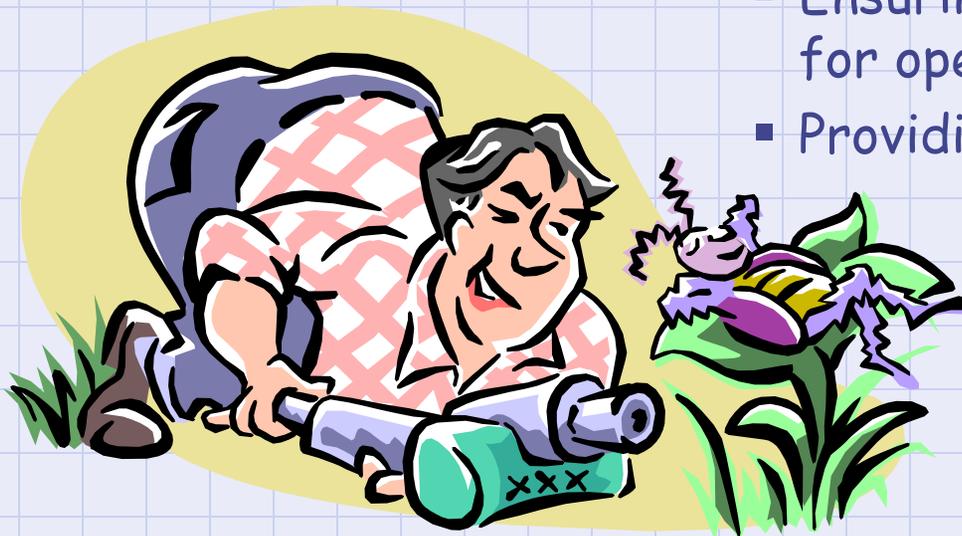
◆ Plan for Operations and Maintenance costs

◆ What does Operations and Maintenance costs mean?

- Continually fixing, repairing and performing minor enhancements on the solution
- Ensuring operational budget is available for operating and maintaining a solution
- Providing Help Desk or other services

◆ What's available to help me?

- IT Investment Operating Procedures



Phase 5: Support

Maintain It!



- ◆ The Support Phase checklist
 - ◆ Is there a security component in this phase?
 - Several security activities and documents should be maintained in this phase
 - The System Security Plan should be continually reviewed and updated as the system undergoes major changes
 - FSA recommends these reviews occur every year due to the rate of system change occurring at FSA.
 - ◆ What's available to help me?
 - SLC System Security Process Guide



Phase 5: Support

Maintain It!



◆ A Quick Review:

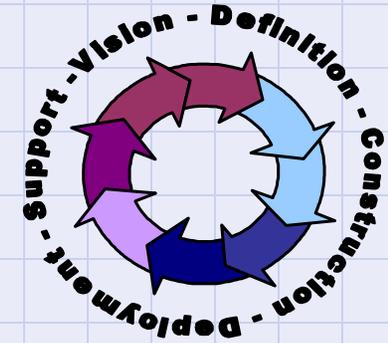
What we talked about...

- Transition to Support Organization
- Operations and Maintenance
- SLC Security Support Phase Checklist

◆ The Support Phase will continue until the system is retired or until a new solution is envisioned and the life cycle begins again

What's Left?

A Completed Dream house...



Plan It!
Vision



Design It!
Definition



Build It!
Construction

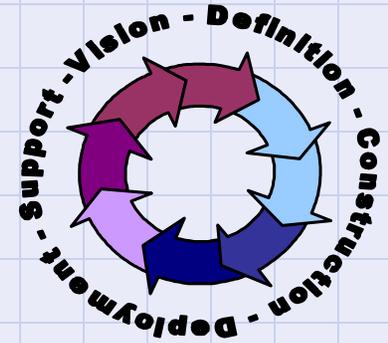


Move In!
Deployment



Maintain It!
Support

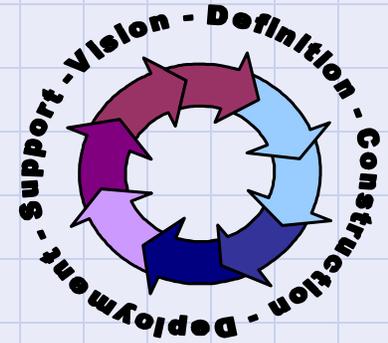
Where can I get my copy?



- ◆ Available at <http://FSA.ed.gov/technologyhandbook>
- ◆ Check the FSA CIO Homepage <https://FSAnet.ed.gov/cio>



Where can I get more information?



- ◆ Contact your SLC Subject Matter Experts
- ◆ ?????? Please fill in contact information to provide. Would you prefer e-mail addresses or phone numbers???????

