

Project Approval Lifecycle Training -

Stage 2
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#### **CA-PMO Pink Sheet**



Capture ideas for follow-up. Use a bright sheet of paper to jot down key information.



I will use this:

Tools and information I can use right away.



Look this up later:

Concepts I want to explore later on my own.



My reference list:

References I want to keep for future use.

### What Will Be Covered Today

- This training covers
  - PAL's role in IT Project Delivery
  - Role of "Critical Partners" and "Core Team" in PAL
  - Stage 2 Preliminary Assessment
  - Stage 2 Alternative Analysis
- This training will not address
  - General Business Analysis Techniques
  - Analysis of your specific project situation

## What is Up First...

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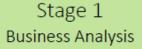
## **Top Issues Departments Face**

Contract management and vendor negotiations Data conversion and migration ☐ Governance and sponsorship ☐ Interface planning and implementation Organizational change management Quality assurance and quality control ☐ Release management Requirements definition and management ☐ Risks and issues Schedule Testing Architecture planning

## **CA Statewide IT Project Delivery**

- Stage 1 Business Analysis (Project Concept)
  - Approval delegated to AIOs (TL 16-08)
  - 30 Day target for CDT approval
- Stage 2 Alternatives Analysis (Project Alternatives)
- Stage 3 Solution Development (Project Procurement)
- Stage 4 Project Readiness & Approval (Project Execution)
  - Recently released (TL 16-07)

## **Project Approval Lifecycle**



Identify Problem/ Opportunity

Establish Business Case/Need

Ensure Strategic Alignment

Assess Organizational Readiness



#### Stage 2 Alternatives Analysis

Assess Existing **Business Processes** 

> Market Research

Mid-level Solution Requirements

Identify Solution Alternatives

COTS/MOTS

Custom

**Existing** 

Recommend Solution

Procurement and Staffing Strategy

Project Timeline

Stage 3 Solution Development

Part A

Procurement Profile

Detailed Solution Requirements

> Statement of Work

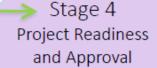
#### Part B

Solicitation Package

Evaluation Methodology

Cost/Payment Model

State Staffing Allocation



Solicitation Release

Select Vendor

Contract Management Readiness

Baseline Project

Cost

Schedule

Project Readiness

Risk Register

DOF/ Legislative Approval



Award Contract and Start Project



Department of Technology Oversight and State Entity Collaboration

#### **PAL Policies and Forms**

- PAL guidelines and forms are located in the Statewide Information Management Manual (SIMM):
  - SIMM 19 Project Approval Lifecycle

http://www.cio.ca.gov/Government/IT Policy/SIMM 19/SIMM19.html

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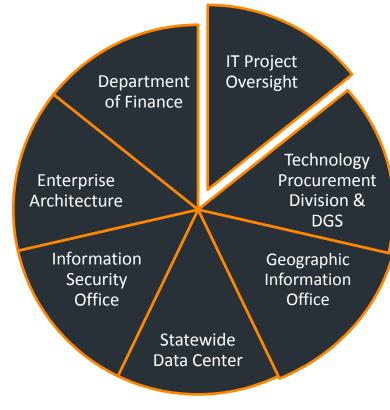
#### Stakeholder Involvement is Key

An important part of the PAL process is ensuring that all the right stakeholders are involved in the planning of your project.



#### **CDT Critical Partners**

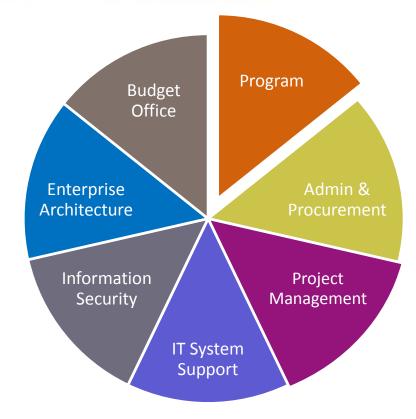
California Department of Technology (CDT) will involve Critical Partners from across the organization as well as other state control agencies (DOF and DGS) in the review of PAL documents.



**CDT Critical Partners** 

## Your PAL Development Team

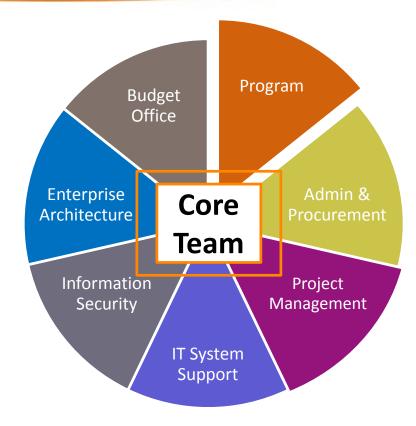
The Proposal Development
Team should include the
necessary human resources to
address all aspects of project
planning.



Department's PAL Development Team

## **Core Team Concept**

The Core Team is a sub-team of the PAL Development Team that will drive the gathering and reporting of PAL information and analysis.



Department's PAL Development Team

#### **Essential Practices**

#### **Core Team Concept**

It is important to have the right level of engagement from the team members.

This means making time and giving commitment. Not having active engagement is a project risk. Plan for these resources to continue to be involved as needed as the project transitions from planning to executing.

If you don't have the PAL Development Team members represented, then that may suggest a potential risk to your project. PAL is intended to uncover potential deficiencies in the project staffing and SME involvement and work with you to mitigate those potential risks.



## **Proposal Development Team**

#### **Program**

- Also known as "the business"— is the driver of the business need.
- Responsible for ensuring that business process needs are met.
- Develops a program-appropriate strategy for stakeholder involvement.

#### **Admin & Procurement**

- Keeps track of time and resources.
- Will be leveraged for understanding department resources.
- Leads or assists with the development of solicitations for IT goods and/or services, and managing support contracts.

## **Proposal Development Team**

#### **Project Management**

 An office specializing in running projects and monitoring the department's IT portfolio.

#### **IT System Support**

The Data custodian organization for the existing or proposed solution.

#### **Information Security**

- Oversees and validates the security and privacy handling of information by the state entity.
- Ensures security controls are suitable for the information classification.



## **Proposal Development Team**

#### **Enterprise Architecture**

 Articulates alternative concepts, explores and evaluates alternatives, and analyzes solution recommendations.

#### **Budget Office**

- Provides financial information regarding the existing operations
- Leads the development of the Financial Analysis Worksheets.

## **Program**

- Program team members should be Subject Matter Experts (SMEs), in the program areas that have the business need.
  - This person should know the resources and functions of the program, including program policy and processes.
- Resources the Program person should bring to the team include:
  - Procedural manuals
  - Relevant policy interpretations
  - A working knowledge of the business process flows

# **Administration & Procurement**

- Administration is a broad area that captures a wide range of functions. Common areas that may be tapped include:
  - Accounting
  - Facilities
  - Contract Management
  - Human Resources
- The Administration team members would bring knowledge and resources such as:
  - Organizational charts
  - Duty statements
  - Contract management knowledge

#### **Administration & Procurement**

- Procurement is a specialized area that captures functions and duties related to:
  - Conducting market research
  - Determining procurement approach
  - Developing solicitations
  - Overseeing overall procurement activities
- The procurement team members would bring knowledge and resources such as:
  - Market research assistance
  - Procurement approach options
  - Costing models
  - Evaluation methodology

## **Project Management**

- The Project Management team member is responsible for:
  - Documenting the analysis and planning activities that the project team is doing, including mapping out a schedule
  - Creating methods and processes to manage the proposal development and the project
- CDT expects that a Project Manager be a core team member from the S2AA onward, where organizational capacity exists.

## IT System Support

- IT System Support is the custodian of the existing data systems.
  - IT is on the Core Team and at the table, but the Program area drives the effort.
- IT System Support team members are responsible for:
  - Serving as SMEs for the technical solution
  - Bringing documentation of the existing system
  - Serving as the liaison with the Statewide Data Center
  - Assisting in estimating IT related project costs for development and infrastructure
  - Maintaining the new solution

## **Information Security**

- Information Security has both a business and technical focus.
- The Information Security team member brings:
  - Knowledge of the information security policies, standards, and controls required based on information classification and system categorization
  - Applies these information security policies and standards to the proposed solution

#### **Enterprise Architecture**

- Enterprise Architecture (EA) focuses on the business and ways technology may be used to meet business needs.
- The EA team member is expected to bring knowledge of:
  - The business
  - Business requirements
  - State entity EA practice and policies
  - Statewide EA Practice and Program
  - Appropriate governance and standards

## **Budget Office**

- The Budget Office team member serves as lead in the development of the Financial Analysis Worksheets (FAWs) included in PAL Stage 2.
- The Budget Office team member will bring knowledge of:
  - State budget processes
  - Budget timelines
  - Cost estimation methodologies

# PAL Stage 2 Process

- Kick-Off Meeting
- CDT Engagement Determination
- Proposal Development Activities
  - Guided
  - Self-directed
- Collaborative Review
  - Using Scorecard Tool

## Up Next...

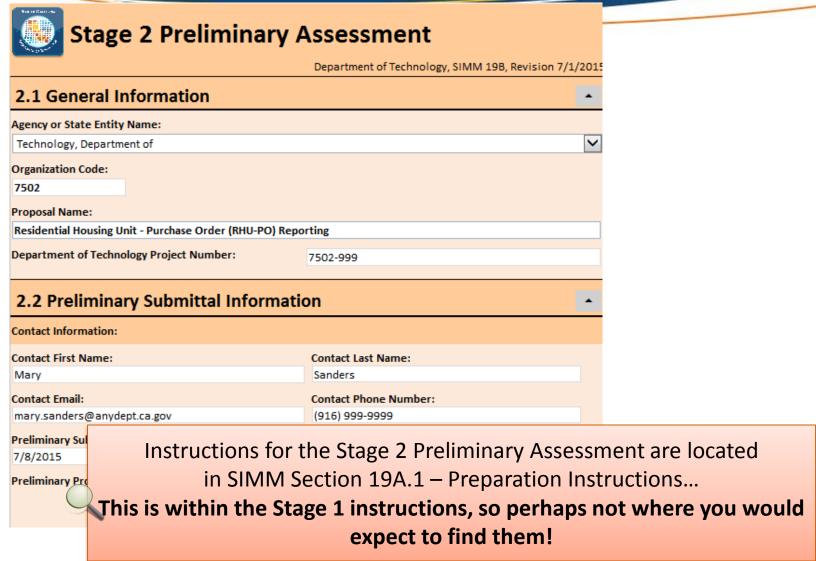
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# **Preliminary Assessment**

# The purpose of the Project Approval Lifecycle Stage 2 Preliminary Assessment is to:

- Help recognize and mitigate project risks early
- Introduce flexibility in PAL reporting

# 2.1 & 2.2 General Submittal Info



# 2.3 Preliminary Assessment

**Intent:** Confirm the agency has identified appropriate project resources, sponsors, and stakeholders; conducted an impact assessment to understand the organization's readiness to take on the project; and completed a project business complexity assessment.

**Outcome:** Provides CDT and partners the opportunity to provide guidance during the collaborative development process with the goal of mitigating risk.

# 2.3.1 Impact Assessment

#### 2.3 Stage 2 Preliminary Assessment

#### 2.3.1 Impact Assessment

- 1. Has the Agency/state entity identified and committed subject matter experts from all business sponsors and key stakeholders?
- 2. Are all current baseline systems that will be impacted by this proposal documented and current (e.g., data classification and data exchange agreements, privacy impact assessments, design documents, data flow diagram, data dictionary, application code, architecture descriptions)?
- 3. Does the Agency/state entity anticipate needing support from the Department of Technology's Statewide Technology Procurement Division to conduct market research for this proposal (Market Survey, Request for Information)?
- 4. Does the Agency/state entity anticipate submitting a budget request to support the procurement activities of this proposal?
- 5. Could this proposal involve the development and/or purchase of systems to support activities included in Financial Information System for California (FI\$CAL) (e.g., financial accounting, asset management, human resources, procurement/ordering, inventory management, facilities management)?
- 6. Does the Agency/state entity have a designated Chief Architect or Enterprise Architect to lead the development of baseline and alternative solutions architecture descriptions?
- 7. Will the Agency/state entity's Information Security Officer be involved in the development and review of any security related requirements?
- 8. Does the Agency/state anticipate performing a business-based procurement to have vendors propose a solution?

#### 2.3.2 Business Complexity Assessment

Business Complexity:

2.2

Business Complexity Zone:



Medium

See **SIMM** 45C and 45D – For the Business Complexity Assessment instructions and Complexity Assessment tool.



Be ready to discuss
the information
provided here during
the Gate 1
Collaborative Review.

The Business
Complexity Zone
auto-populates based
on the Business
Complexity entered.

#### **Essential Practices**

#### **Preliminary Assessment**

PAL is not about fulfilling what CDT wants. It is about performing sufficient planning for your project. PAL process forms are just a document to capture that you have completed a sufficient level of planning for your project.

Planning for a project takes time and effort. Sufficiently planning within the project management discipline areas highlighted in PAL is a necessary ingredient for project success.

# Ingredient for project succe

# Treat project planning activities as if it were a project in itself.

- Specify dedicated staff.
- Make leadership available as sponsors to champion the S2AA from both business and IT.
- Setup a governance structure with plans for resource management, communication, and risks.
- Setup a fully resourced schedule for the completion of the document.
- Plan to have CDT engaged in all the remaining gates.
- You still have to plan for your project no matter what development approach you intend to use.

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#### 2.4 Submittal Information

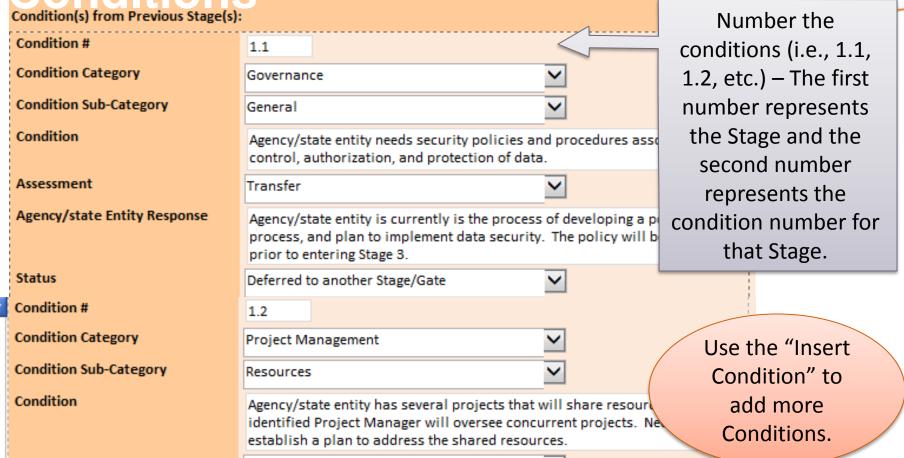


#### Stage 2 Alternative Analysis Select this box to auto-populate the 2.4 Submittal Information contact information with the Preliminary Contact Information: (Use Contact Information from Preliminary Submittal Information <a>Image: Information</a> <a>Image: I Assessment Submittal Contact First Name: Contact Last Name: Sanders Mary Information. Contact Email: Contact Phone Number: mary.sanders@anydept.ca.gov (916) 999-9999 Submission Date: 7/9/2015 Submission Type: New Submission Updated Submission (Post-Approval) Updated Submission (Pre-Approval) Withdraw Submission Project Approval Executive Transmittal: 7502-999 Executive Transmittal 2015 07 08.pdf

When you are ready to submit your Stage 2 Alternatives Analysis, enter the contact information, submission date, submission type, and attach the project approval executive transmittal.

#### 2.4 Submittal Information -

Senditions
Condition(s) from Previous Stage(s):





For Stage 2, you will only have potential conditions identified on the Stage 1 Business Analysis Evaluation Scorecard.

#### PAL is Flexible

#### The Project Approval Lifecycle is flexible.

- The business complexity score and the subsequent technical complexity score will impact what you submit to CDT.
- Conditional approval at a stage gate allows the department to move forward with future planning activities with remediation of specified risks occurring later.

# Review Criteria: Sections 2.3 Preliminary Assessment & 2.4 Submittal Information

- Is the information provided complete?
- Have Business Complexity Assessment scores been verified as reasonable?
- Have any conditions from Stage 1 been adequately addressed and status provided?
- Does the Executive Transmittal contain the appropriate signatures?

Intent: Confirm that the project team has a clear understanding of the current business processes and supporting systems. This "as-is" solution is necessary in order to:

- Accurately estimate the costs, schedule, and scope of the project;
- Successfully perform an effective alternatives analysis; and
- Provide potential vendors enough information to successfully conduct a procurement.

Outcome: Gives the project a baseline to assess impacts to people, process, and technology associated with the project. Later this "as-is" solution will be used for the "To-be" processes that are covered in PAL Stage 3.

# 2.5 Baseline Processes &

#### Syctome

(including manual processes) and the supporting systems (also known as the current "as is" solution).

#### 2.5 Baseline Processes and Systems

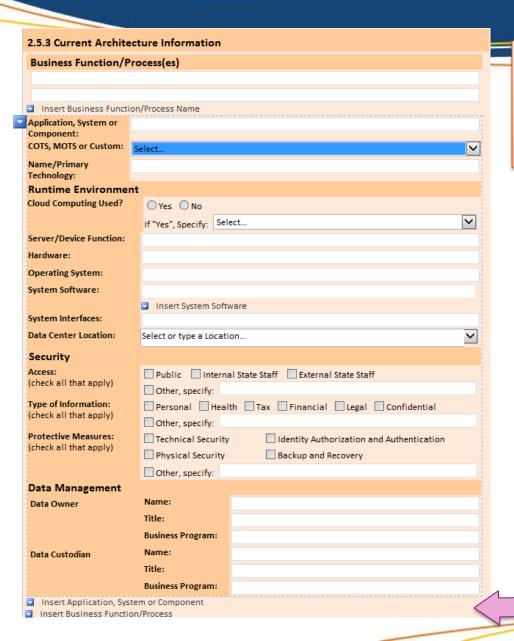
#### 2.5.1 Description

#### 2.5.2 Business Process Workflow

O Click here to attach a file

business processes related to this proposal. The workflow should include: Business Processes, Business Rules, Trigger Events, and Results/Outcomes. The Data Dictionary should also be submitted, if available.

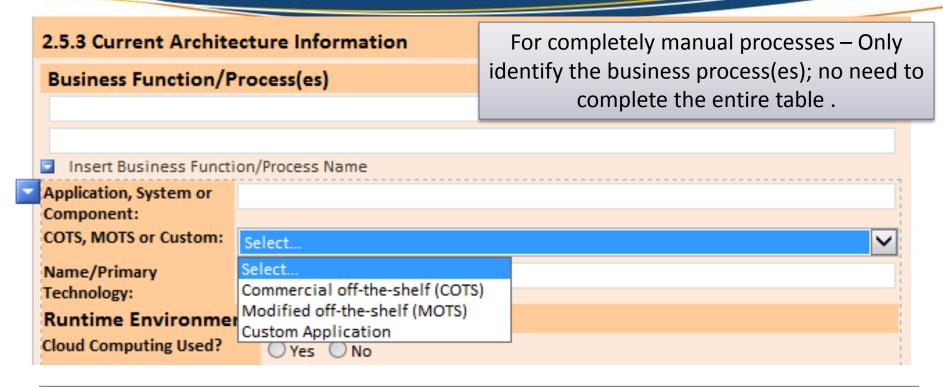
of the current
baseline processes
and supporting
ystems impacted by
this proposal. Also
include the system
cost for both
technology and
program based on
your Financial
Analysis Worksheets.



Business and technical teams will collaborate to complete the information in the **Current**Architecture Information.

#### You can:

- Insert multiple business functions/processes that use the same application, system, or component.
- Insert additional applications, systems or components (as needed) that support a business function/process.
- Insert system software
- Insert business function/processes that use entirely different applications, systems, or components.



**Application, System, or Component:** You will enter the name of the application, system or component that supports the business process.

#### **COTS, MOTS or Custom:**

- "Commercial off-the-shelf (COTS)" a ready-made hardware or software (e.g., Microsoft Office).
- "Modified off-the-shelf (MOTS)" Typically, a COTS product with source code made available to allow for modifications.
- "Custom Application" Computer software developed for a specific customer.

# 2.5 Baseline Processes &

#### tetome

#### **CURRENT SYSTEM – RUNTIME ENVIRONMENT**

#### Runtime Environment

Cloud Computing Used?

Yes No

Server/Device Function:

Hardware:

Operating System:

System Software:

System Interfaces:

Data Center Location:

Select... If "Yes", Specify:

Select.

Software as a Service (SaaS) Platform as a Service (PaaS) Infrastructure as a Service (IaaS)

Insert System Software

Select or type a Location...

#### Select or type a Location...

State Data Center Operated by Department of Technology Agency/State Data Center Operated by Agency/state entity Commercial Data Center

- Cloud Computing Used?:
  - ✓ If SaaS Do not complete further Runtime Environment fields.
  - ✓ If PaaS or laaS Do not complete the Hardware field but complete the remaining Runtime Environment fields.
- Server/Device Function: Server/ device function the current system leverages (e.g., Web service, database, network routers, workstations, tablets).
- Hardware: Hardware the current system leverages (e.g., IBM pSeries, HP Blade Server, etc.).
- Operating System: The operating system that the current system leverages (e.g., Microsoft Windows, UNIX, z/OS).
- **System Software:** The software leveraged by the current system (e.g., Oracle WebLogic Server, Microsoft SQL Server).

**CURRENT SYSTEM - SECURITY** 

Security	
Access: (check all that apply)	Public Internal State Staff External State Staff Other, specify:
Type of Information: (check all that apply)	Personal Health Tax Financial Legal Confidential  Other, specify:
Protective Measures: (check all that apply)	☐ Technical Security ☐ Identity Authorization and Authentication ☐ Physical Security ☐ Backup and Recovery
	Other, specify:

**Type of Information:** The types of information that require protection. See the SAM Section 5305.5 for more information.

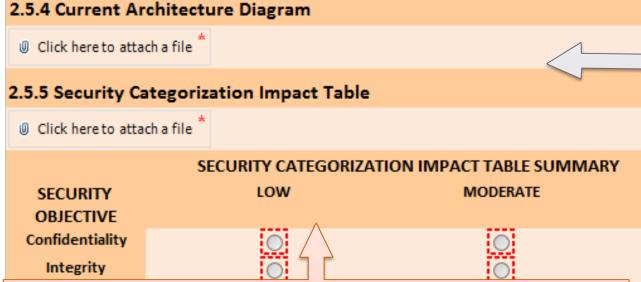
- ✓ Personal e.g., social security numbers, demographic information, and other Personally Identifiable Information (PII).
- ✓ Health Diagnosis, treatment, provider, insurance, or billing information.
- ✓ Tax Federal IRS, state or local tax information.
- ✓ Financial: Confidential or sensitive financial information (e.g., payment processing, salaries, budget, credit card numbers, contract amounts, etc.)
- ✓ Legal: Confidential or sensitive legal information (e.g., arrest records, court records, incarceration records, contracts, lawsuits, legal documents, attorney-client etc.)
- ✓ Confidential Other types of confidential or sensitive information (e.g., business trade secrets, investigations, enforcement actions, etc.)
- ✓ Other Other information that requires protection. NOTE: Even public information may need protection.

#### CURRENT SYSTEM – SECURITY (CONTINUED)

Security	
Access: (check all that apply)	Public Internal State Staff External State Staff Other, specify:
Type of Information: (check all that apply)	Personal Health Tax Financial Legal Confidential Other, specify:
Protective Measures: (check all that apply)	<ul> <li>☐ Technical Security</li> <li>☐ Identity Authorization and Authentication</li> <li>☐ Physical Security</li> <li>☐ Backup and Recovery</li> </ul>
	Other, specify:

- **Protective Measures:** The information is currently protected.
  - ✓ Technical Security Hardware and software security measures (e.g., firewalls, virus protection, intrusion detection/prevention, etc.) used to protect the networks, servers, workstations, and other devices in the infrastructure.
  - ✓ Identity Authorization and Authentication The current system restricts access to specific persons or processes and who can create, read, update, or delete information.
  - ✓ Physical Security Servers and network devices are secured with environmental security measures (e.g., door locks, surveillance equipment, etc.)
  - ✓ Backup and Recovery (Technology Recovery) Data is backed up and stored offsite.
  - ✓ Other The information is currently protected in another way.

#### **CURRENT SYSTEM**



The Security Categorization table should visually categorize and classify information assets (e.g., paper and electronic records, automated files, databases requiring appropriate protection from unauthorized use, access, disclosure, modification, loss, or deletion).

Refer to SIMM 5305-A Information Security Program Management Standard for additional information on security categorization. For details regarding the "Impact Table", refer to Federal Information Processing Standards (FIPS) 199.

Diagram should visually show the business processes and supporting systems, relationships between business processes, information, applications, technology, and interfaces, for the information in Section 2.5.3 Current Architecture Information.

# **Example Security Categorization Tables**

	POTENTIAL IMPACT							
Security Objective	LOW	MODERATE	HIGH					
Confidentiality Preserving authorized restrictions on information access and disclosure, including means for protecting personal privacy and proprietary information.  [44 U.S.C., SEC. 3542]	The unauthorized disclosure of information could be expected to have a <b>limited</b> adverse effect on organizational operations, organizational assets, or individuals.	The unauthorized disclosure of information could be expected to have a <b>serious</b> adverse effect on organizational operations, organizational assets, or individuals.	The unauthorized disclosure of information could be expected to have a severe or catastrophic adverse effect on organizational operations, organizational assets, or individuals.					
Integrity Guarding against improper information modification or destruction, and includes ensuring information non-repudiation and authenticity.  [44 U.S.C., SEC. 3542]	The unauthorized modification or destruction of information could be expected to have a <b>limited</b> adverse effect on organizational operations, organizational assets, or individuals.	The unauthorized modification or destruction of information could be expected to have a <b>serious</b> adverse effect on organizational operations, organizational assets, or individuals.	The unauthorized modification or destruction of information could be expected to have a severe or catastrophic adverse effect on organizational operations, organizational assets, or individuals.					
Availability Ensuring timely and reliable access to and use of information. [44 U.S.C., SEC. 3542]	The disruption of access to or use of information or an information system could be expected to have a <b>limited</b> adverse effect on organizational operations, organizational assets, or individuals.	The disruption of access to or use of information or an information system could be expected to have a serious adverse effect on organizational operations, organizational assets, or individuals.	The disruption of access to or use of information or an information system could be expected to have a severe or catastrophic adverse effect on organizational operations, organizational assets, or individuals.					

High impact should be limited to the most sensitive information; such as – law enforcement, national security, life/safety. Most state information is Moderate. Low is as rare as High impact.

Federal Information
Processing Standards
(FIPS)

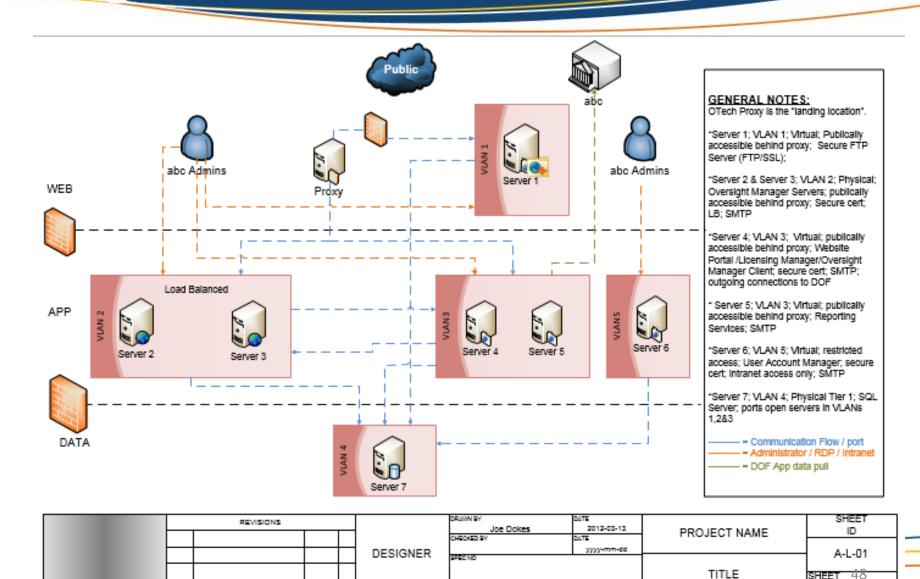
	Potential Impact							
Security Objective	Low	Moderate	High					
Confidentiality A security principle that works to ensure that information is not disclosed to unauthorized persons. Information maintained by state agencies that are exempt from disclosure under the provisions of the California Public Records Act (Government Code Sections 6250-6265) or has restrictions on disclosure in accordance with other applicable state or federal laws. See SAM		Example: System ABC processes and stores Personally Identifiable Information (PII) as defined by Government Code Loss of confidentiality would result in serious adverse effects to individuals.						
Integrity The condition in which information or programs are preserved for their intended purpose; including the accuracy and completeness of information systems and the data maintained within those systems.		Example: The information in system ABC is used to determine eligibility for benefits that may be the only source of funds for an individual or family. Loss of integrity would result in serious adverse effects on individuals in the form of delayed or misdirected payments.						
Availability The reliability and accessibility of information assets to authorized personnel in a timely manner.	Example: The information in system ABC is replicated by department XYZ and is considered a secondary method for payment that is certified available within 4 hours when loss of the primary method occurs. Loss of availability would result in limited adverse effects on the individuals. Individuals may not notice a delay of 4 hours in benefits processing.							

This example is an adaptation of the FIPS 199 impact table that more closely represents the State of California's definitions (SAM Section 5300.4).

California Standards for Information Security Categorization

# Example System Architecture Diagram

DESCRIPTION



1 OF 1

### **Essential Practices**

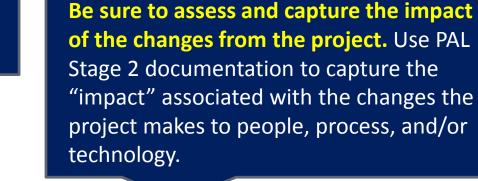
### 2.5 Baseline Processes & Systems

#### **Prepare a Security Categorization Impact Table.**

This is an area where there may be some confusion. Review the example provided here. Additional assistance is available from the department's Information Security Officer.

#### PAL Stage 2 is like an open book test.

You should take the test, but to complete the test sections, refer to the book (the Stage 2 scorecard) to know what is needed.





# **Essential Benefits**

### 2.5 Baseline Processes & Systems

# Properly analyzing the "as-is" solution increases the probability of project success in the following ways:

- (1) Improves the odds that risks and gaps are appropriately captured during project planning.
- (2) Helps establish the baselines for the project which are necessary to set expectations about resources and to measure outcomes.
- (3) Serves as an opportunity to socialize the coming changes by involving and empowering the people within the organization that will be impacted by the changes in the assessment which improves the odds that the project team will gain acceptance and support.
- (4) Helps to avoid missed opportunities to improve the current system or process.



# Review Criteria: Section 2.5 Baseline Processes & Systems



This section should align with S1BA sections 1.7 Program
 Background and Context, 1.8 Strategic Business Alignment, and S2AA FAWs Existing Operations.

#### 2.5 Baseline Processes & Systems should answer:

- What is the purpose of the process?
- Who benefits from the process?
- How does the process support the branch/division?
- How does the process support the mission of the state entity?
- What kind of information/data is involved in the process?
- At a high-level, how many staff (IT and Program/Business) are involved?
- At a high-level, what are costs for the existing system/process for both the IT and Program/Business?

# 2.6 Mid-Level Solution ------ 2.6 Mid-Level Solution

**Intent:** Capture the specific conditions, functionality, quality of service, and capabilities a solution must have in order to meet the business objectives of the project as identified in PAL Stage 1.

**Outcome:** These requirements form the basis for the evaluation of multiple alternative solutions, selection of the alternative that will yield the highest probability of success, and the selection of an acquisition strategy/plan for procuring services. Later these will be used in the development of the Stage 3 detailed solution requirements.

# Business Requirements Through Stage Gates

#### S1BA:

"Business need and opportunity statement"
Business Case has the high level scope and business objectives needed to accomplish the goals of the

project.

#### S2AA:

"What the solution

should do"
Mid-Level Requirements
add detail to business
objectives by defining
functional, nonfunctional, and
transitional
requirements.

#### S3SD:

"How the solution will work"

Detailed solution requirements based on the chosen approach that ensures the solution meets stakeholder needs.

# 2.6 Mid-Level Solution Requirements

#### 2.6 Mid-Level Solution Requirements

Requirements:

B.3 Stage 2 Midlevel Solution Requirement Template.xlsx Microsoft Excel Worksheet 1.02 MB

Mid-level solution requirements specify the conditions, functionality, quality of service, and capabilities a solution must have in order to meet the business need or solve the business problem as described in the Stage 1 Business Analysis. Mid-level solution requirements enable an Agency/state entity to:

- ✓ Evaluate multiple alternative solutions based on Market Research conducted
- ✓ Determine which alternative will yield the highest probability of success
- ✓ Develop an acquisition strategy/plan for procuring IT goods and/or services, if needed

Use Cases may be used to document requirements. If used, detailed functional requirements will be required in Stage 3.

Information

For the purposes of the Project Approval Lifecycle, mid-level solution requirements are subclassified into:

- Functional requirements
- Non-functional requirements
- Project/transition requirements

See SIMM
Section 170 &
SIMM 180
Requirements
Guidelines

Program Admin & Procureme

Project Managemen IT System Support Enterprise Architecture

Budge

# Sample Mid-Level Solution Requirements

	ID	Weak Requirement	Strong Requirement
C	001	"System must have a robust scheduling tool to maximize school testing capacity."  1. "Robust" is subjective to the reader's interpretation of the word unless "robust" is defined in the Glossary of terms with a measurable set of criteria for one to determine whether "robust" has been achieved.  2. "Maximize school testing capacity" is not measurable as one can assume that school capacity will vary widely.  3. Who is doing the scheduling?	"Schedule varying capacities of school testing. Design the solution to schedule 5,000 students in one transaction."
C	002	"System must feature the ability to search system for users by assigned identifier."  1. Only providing the "ability to" may require additional code not included in the existing contract.	"Assign unique identification to users. Design the solution to search for users by assigned unique identification."
C	003	"System must feature the ability for administrative users to add, modify, or delete school test coordinator accounts and information."  1. Providing the "ability to" may require additional code not included in the existing contract.  2. Using the word "or" may get you "add" but not "modify" and "delete".	"Design the solution to permit Administrators to add, modify, and delete school test coordinators and their corresponding user information."
C	004	"System must allow administrative users to administer a practice test to students. The practice test must contain all the functionalities, accommodations and tools (e.g. calculator, spell check, graphing tools, visually based dictionary, dictionary, thesaurus, text pop out, measurement tools, electronic annotation, formula charts, and sketch pads) and range of items (e.g. TEIs) that will be available during the Summative and Interim tests.  1. This requirement contains too many prerequisite requirements.  2. This requirement contains disjointed requirements.  3. It is too long and not scorable; break them into 4 scorable	"Administrative users must be able to administer practice test(s) to students.  Practice tests, Summative and Interim tests must contain the same functionality, accommodations, tools, and range of items.  Functionalities, accommodations and tools include calculator, spell check, graphing tools, visually based dictionary, dictionary, thesaurus, text pop out, measurement tools, electronic annotation, formula charts, and sketch pads.
		. ,	D

requirements.

Range of items include TEI....."

# **Essential Practices**

### 2.6 Mid-Level Solution Requirements

**Strive for simplicity when documenting requirements.** Compound requirements are more difficult to score, implement, and verify. In order to ensure simplicity, requirements should adhere to the four "C's":

- Clear Carefully select words that convey exact meaning and use correct grammar and simple sentence construction to avoid ambiguity.
- Correct Present information accurately and precisely.
- Complete Include important information.
- Concise Eliminate unnecessary words, but not at the expense of clarity, correctness, or completeness.



Requirements should be measurable and testable. Project requirements need to be measurable, testable, and able to be confirmed as either met by the solution or not met.

# Review Criteria: Section 2.6 Mid-Level Solution Requirements

- Do the mid-level solution requirements provide sufficient detail on necessary system functions?
- Are the project/transition requirements from current state to future state clearly described?
- Do the mid-level solution requirements validate the scope, complexity, and cost of the solution as stated in the FAWs?

# 2.7 Assumptions and Constraints

**Intent:** Documenting the project's assumptions and constraints identifies the factors that will influence the development of the alternatives analysis.

**Outcome:** The assumptions and constraints help create a shared understanding among stakeholders of the factors that influence the project alternatives. They will also help identify risks and issues later in the project and define requirements for the procurement.

# 2.7 Assumptions and Constraints

#### 2.7 Assumptions and Constraints

#### Assumptions/Constraints

Staff working hours occur on an 8:00 am - 5:00 pm schedule.

Time-limited grant funds expire on July 2016.

Project funding will be approval and remain available throughout the project lifecycle.

Insert Assumption/Constraint

#### **Examples of Assumptions**

- Replacement parts will be on site within four hours of notification
- New hardware is functional
- Normal availability of services and support
- Dedicated staff will remain in their current roles
- Dedicated staff will train one another

#### Description/Potential Impact

Scheduled work should occur during these hours. Alternative arrangements needed to accommodate work hours outside regular business hours.

Additional resources or cost for staff overtime must be considered in the proposal to meet the July 2016 date for the expiration of the grant funds.

Changes to project funding will impact the ability to meet the deadline and/or may require changes to the established deadline.

#### **Examples of Constraints**

- Hard deadline
- Predetermined budget
- Subject matter expertise
- Contract provisions
- Political reasons
- Resources



# Example Assumptions & Constraints

#### 2.7 Assumptions and Constraints

Assumptions/Constraints	Description/Potential Impact		
The project receives the funding requested.	Department and Department of Finance support and commit the funding required for this project.		
Maritime industry will support and utilize this solution.	The maritime industry is an important part of the process, and their support is required for project to successfully meet objectives.		
Project will continue to be a high priority for Department.	The priority of this project is high, and it will remain at that level for the duration of the project.		
Technology is available to create a solution.	The appropriate technology is available and will be used in the development and implementation of the project.		
Oceanic Intrusive Species Control Fund (OISCF) will fund the OISP project.	Oceanic Intrusive Species Control Fund (OISCF) will provide the appropriate level of funding required for the OISP project.		

# 2.8 Dependencies

**Intent:** Identifying the tasks or activities that need to be completed before others can proceed.

**Outcome:** Documenting dependencies helps projects identify and actively monitor interdependencies. It also helps identify areas of potential risk where risk mitigation and contingency planning is needed.

# 2.8 Dependencies

2.8 Dependencies						
Element	Description					
The data dictionary must be completed prior to data migration.	Data migration from current format into the new solution may not begin until the data dictionary is completed.					
Staff resources assigned to gather requirements.	Staff resources assigned to gather requirements are currently assigned to another project and will not be able to begin					
	until the other project deliverables are completed.					
Insert Dependency						

#### **Elements**

Dependencies are elements or relationships in a project reliant on something else occurring before the element can begin or continue.

#### **Descriptions**

The element's description should highlight the manner a particular element relies on a specific enabling function, service, interface, task, or action to begin or continue.

## **Essential Practices**

### 2.7 Assumptions & Constraints, and 2.8 Dependencie

#### Be specific about assumptions, constraints, and dependencies.

OK: Constraint on SME availability

BETTER: Constraint on Security SME availability

BEST: Constraint on Security SME availability first 2 quarters of the

fiscal year.

# Assumptions, constraints, and dependencies should be quantifiable when possible.

- How many dollars?
- How many days?
- How many PY?
- How much system capacity/ availability?



# Review Criteria: Section 2.7 Assumptions & Constraints, and Section 2.8 Dependencies

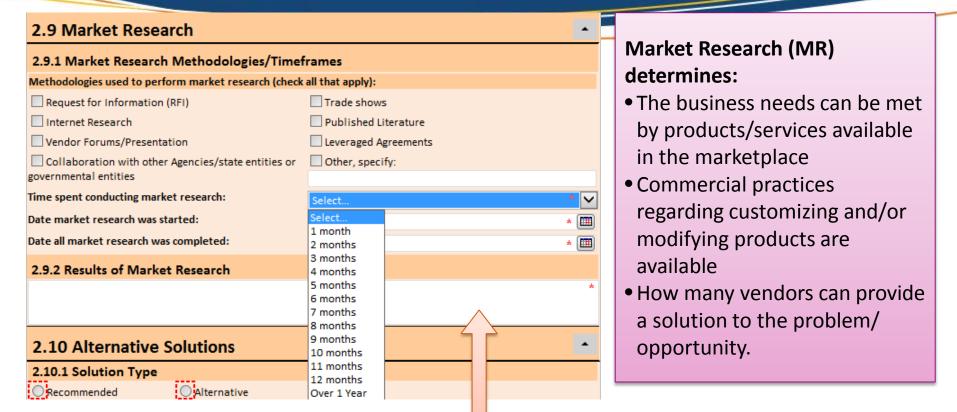
- Keep in mind that all sections are reviewed in relation to each other and the project that you are planning to do.
  - For example, 2.7 Assumptions and Constraints and 2.8
     Dependencies should align with the planning done for 2.12
     Staffing Plan and 2.13 Data conversion/migration.
- Are assumptions and constraints reasonable, realistic, and supported by quantifiable information?
- Are dependencies reasonable and do they clearly describe the elements that are reliant on something else occurring before the element can begin or continue?

# 2.9 Market Research

**Intent:** To provide documentation that Market Research has been sufficiently conducted that identifies potential solutions for the business problems that the project is intended to address.

**Outcome:** A comprehensive understanding of the options available in the marketplace, thus facilitating effective decision-making relative to approach, procurement strategy, staffing decisions, and technology solution.

## 2.9 Market Research



The MR results should include how long the MR was conducted, the results were analyzed, who was involved, how results effected requirements development and procurement methodologies, and how the results align with the recommended alternative.

Refer to the MR Guidelines for guidance located at: http://cio.ca.gov/otp/docs/Market-Research-Guidelines.pdf

Program Admin & Procurement

Project Management IT System Information Support Security

Enterprise Architecture

Budget

66

# **Example Market Research 1**

#### **Market Research Chart**

		Basic posti	ng and sharin	g	Social monitoring		Importing social data			Social platform integration			
	Post to Twitter, Facebook	Share buttons	Badges & buttons in email	Track clicks on posts	Social monitoring	Social prospecting & responses	Load Twitter feed to history	Show Twitter feed on sales dashboard	Load social profile & show in CRM	Klout segment- ation	Social sign- in	Person- alized Facebook ads	Facebook forms
Neolane	X	X		Χ							Χ	Χ	3
Marketo		X		Χ			Χ	?					
Eloqua	Χ	Χ					Χ	Χ	Х	Χ	Χ		
IBM/Unica					Χ								
Aprimo	Χ	Χ		3	?								
Pardot	Χ	Χ		Χ					Χ				
Silverpop	Χ		Χ	Х							X		?
Act-On				Χ	Χ	Χ							
SalesFusion	Χ	X	Χ	Х							Χ		?
TreeHouse		Х											Χ
NetResults									Χ				
Genius				Х					*****				
LoopFuse					X								
HubSpot	Χ	Х	Х		Χ								Χ

# **Example Market Research 2**

#### 4. PLC MARKET OVERVIEW

In 2007, the most recent year for which complete data are available, the global PLC market was approximately \$8.9 billion. Siemens (31.3% market share) and Rockwell Automation (22.1%) are the dominant vendors in this market, with a combined market share of more than 50%. Other large vendors are Mitsubishi Electric (12.7%), Schneider Electric (8.0%), Omron (6.1%), B&R Industrial Automation (3.6%), GE Fanuc (3.5%), and ABB (2.1%). Assorted smaller vendors make up the remaining 10.6% of the market. (4) Figure 3 gives the breakdown.

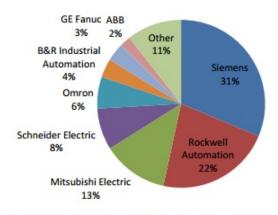


Figure 3. Chart showing 2007 PLC vendor share in the global market. (4)

Vendor market shares in different geographic regions vary considerably. For example, Siemens's industry division (including automation and SCADA systems) had more than half its 2009 revenues from European countries, while Rockwell Automation derived about half its sales from the United States alone.(5) (6)

Market share for vendors can vary considerably by industry as well as region. Figure 4 shows market share in the North American electric utilities market. In this market, Schneider Electric is the leading PLC vendor, with 45% market share, followed by Rockwell Automation (29%), Cutler Hammer (9%), and others (17%). (7)

#### **Market Research Analysis**

- Market Information
- Segmentation
- Trends

# **Essential Practices**

#### 2.9 Market Research

Market Research Should Align to State Policies. Market research conducted should align with state contracting policies for a project of the scope & complexity of the particular project being evaluated.

Don't Cheat your Project when it Comes to Market Research. Make sure that your research is current, comprehensive, and leverages information available from other departments.



# Review Criteria: Section 2.9 Market Research

- Does it describe the methods used to conduct market research?
- Do the results reflect analysis from both an Information Technology and a Business perspective?
- Does the market research support the selection of the recommended solution?

## 2.10 Alternative Solutions

Intent: Document the analysis and thorough consideration that was given to each alternative that was considered. The analysis includes benefits/advantages and disadvantages evaluation of one alternative in contrast to other alternatives that were considered.

**Outcome:** Documenting the alternative analysis helps ensure that a diverse set of solutions was considered from multiple perspectives. Conducting a thorough analysis helps ensure that due diligence was given to assess each option and project costs are reasonable in comparison to competing solutions.

# 2.10 Alternative Solutions

2.10.1 Solution Type							
Recommended	Alternative						
2.10.2 Name							
Alternative 2							
2.10.3 Description							
other public and government	e software solution that meets most of the contities. However, Alterative 2 adds one ye ecommended), and does not provide the call objectives without						
Approach (check all that appl	v)						
Increase staff - new or exi	sting capabilities						
✓ Modify the existing busine	ess process or create a new business proce						
Reduce the services or level of services provided							
Utilize new or increased c	ontracted services						
✓ Enhance the existing IT sy.	ste n						
Create a new IT system	Name – Provide a unique name for the alternative						
Perform a business-based	considered.						
Other, specify:	<b>Description</b> - Include a brief description of the alternative,						
	what it is, and why it was considered.						
	Approach – Identify the approaches that address the						
	problems/objectives.  Program Project IT System Information						

#### 2.10 Alternative Solutions 2.10.1 Solution Type Recommended Alternative 2.10.2 Name Alternative 1 - Business-based Procurement Solution 2.10.3 Description Alternative 1 (recommended) utilizes a business-based procurement that will leverage vendor expe address requirements, provide a solution that meets the schedule and timeframe needed for imple has been implemented by other public and government entities. The Market Research conducted id (5) vendors who have experience implementing solutions that address similar problems and objectives. Alternative 1 is estimated to cost less and will achieve the most benefits. Therefore, th provide the most effective approach to meet the required objectives. Approach (check all that apply) Increase staff - new or existing capabilities ■ Modify the existing business process or create a new business process Reduce the services or level of services provided Utilize new or increased contracted services Enhance the existing IT system Create a new IT system ution Refer to Section 2.10.3 for specific instructions on the sections that are required to be completed for a business-based procurement

### BUSINESS-BASED PROCUREMENT:

- ✓ When the approach is to perform a business-based procurement, some of the technical sections are deferred, as they will be defined by the bidders.
- ✓ Keep in mind that prior to contract award, all deferred sections of the Stage 2 Alternatives Analysis will need to be completed.
- ✓ The Department of
   Technology will review the
   updated Stage 2
   Alternatives Analysis with
   the Stage 4 Project
   Readiness and Approval.

#### 2.10.4 Benefit Analysis

#### Benefits/Advantages

Based on the market research conducted and the financial analysis worksheets completed, Alternative 1 has a 10% estimated lower cost than the Alternative 2 or Alternative 3.

Alternative 1 provides an opportunity to leverage vendor expertise to implement the latest industry technologies and standards based on past performance and projects available.

Alternative 1 allows the Agency/state entity to partner with a vendor for more creative features within the solution to provide best benefit and value to the state.

Alternative 1 requires realized, tangible objective or benefit implementation before payment is made to the vendor. Therefore, there is increased incentive for the vendor to meet the implementation schedule and objectives.

#### Insert Benefit/Advantage

#### Disadvantages

Alternative 1 will be resource intensive.

Alternative 1's architecture information will be deferred to Stage 4, which does not allow for up-front analysis on how the technical aspects of the solution will impact current architecture.

#### Insert Disadvantage

Use the "Insert Benefit/Advantage" or "Insert Disadvantage" to add benefits/advantages or disadvantages.

#### **BENEFIT ANALYSIS:**

- ✓ Also known as "Cost Benefits Analysis"
- ✓ Provides an overview of the tangible benefits or disadvantages of one alternative over the other alternatives considered
- ✓ Describes how the alternative meets certain functional requirements better than another
- ✓ Identifies the strengths and weaknesses of one solution over another

22224						
	Anticipa	ited Time to Achi	eve Objectives	After Project	Go-Live	
Objective Number	Within 1 Year	2 Years	3 Ye	ars	4 Years	
1.1	<b>O</b>	0	C	)		
2.1		•	C	)		
2.2	<b>O</b>		C	)		
3.1	<b>O</b>		C	)		
3.2	0	0	0	)		
3.3	<b>O</b>	0	C	)		
3.4	0	•	C	)		
Insert Objective						
	Anticipate	d Time to Achieve	Financial Bene	fits After Pro	ject Go-Live	
Financial Benefit		Within 1 Year	2 Years	3 Years	4 Yea	ır
Increased Revenue	es	0	0	0	0	
Cost Savings					0	
Cost Avoidance		•			0	
Cost Recovery			<ul><li>•</li></ul>		0	
2.10.5 Assumptions and Constraints						
ssumptions:						^

#### **ASSUMPTIONS/CONSTRAINTS**

- ✓ Include costing assumptions, financial impacts, Federal or state mandates, etc.
- ✓ Provide how identified and determined
- ✓ This section is optional for business-based procurements

#### **ACHIEVE OBJECTIVES:**

- ✓ Estimate how long after project go-live that it will take before an objective is realized. This will help you to determine which alternative provides the best benefit.
- ✓ Add all your objectives from your Stage 1 Business Analysis proposal using the "Insert Objective Number."

#### **ACHIEVE FINANCIAL BENEFITS:**

- ✓ Each financial benefit category should be identified as a business driver in the Stage 1 Business Analysis, Section 1.5
- ✓ A financial benefit category may be left blank
- ✓ Identify when the financial benefit is anticipated

keh

#### 2.10.6 Implementation Approach

Identify the type of existing IT system enhancement or new system p

- Enhance the current system
- Develop a new custom solution
- ✓ Purchase a Commercial off-the-Shelf (COTS) system
- Purchase or obtain a system from another government agency (Tr
- ✓ Subscribe to a Software as a Service (Saas) system
- Other, specify:

Identify cloud services to be leveraged (check all that apply):

- Software as a Service (SaaS) provided by OTech
- Software as a Service (SaaS) provided by commercial vendor
- ✓ Platform as a Service (PaaS) provided by OTech
- Platform as a Service (PaaS) provided by commercial vendor
- ✓ Infrastructure as a Service (IaaS) provided by OTech
- Infrastructure as a Service (IaaS) provided by commercial vendor
- No cloud services will be leveraged by this alternative. Provide a being leveraged:

#### **IMPLEMENTATION APPROACH:**

- ✓ Multiple IT system enhancements or new systems types may be proposed
- ✓ Cloud services (per SAM 4983) must be considered as an alternative
- ✓ Multiple functional groups may be part of a system implementation
- ✓ Identify what type of implementation (e.g., single, incremental, some now and other later) is proposed
- ✓ Mission critical and public facing must be housed in a Tier III or equivalent data center (per AB 2408)

NOTE – This section is deferred for alternatives using the business-based procurement approach (refer to Section 2.10.3).

### 2.10.6 Implementation Approach

#### Identify the implementation strategy:

- All requirements will be addressed in this proposed project in a single implementation.
- Requirements will be addressed in incremental implementations in this proposed project.
- Some requirements will be addressed in this proposed project. The remaining requirements will be addressed at a later date.

Specify the year when remaining requirements will be addressed: 0000

### What about Agile?

### 2.10.7 Architecture Information Business Function/Process(es) Insert Business Function/Process Name Application, System or Component: COTS, MOTS or Custom: Select Name/Primary Technology: Runtime Environment Cloud Computing Used? Yes No Select... If "Yes", specify: Server/Device Function: Hardware: Operating System: System Software: Insert System Software System Interfaces: Data Center Location: Select or type a Location...

Business and technical teams should collaborate to complete each Alternative's architecture information.

### **Consider Including:**

- Multiple business function/processes that use the same application, system, or component.
- Additional applications, systems or components (as needed) that support a business function/process.
- System software information.
- Business function/processes that use entirely different applications, systems, or components.

### **Essential Practices**

### 2.10 Alternative Solutions

### A Thoughtful Alternative Solution Analysis is Important.

- "Do nothing" is not an acceptable third alternative.
- Be sure to spend the time doing an equal level of analysis on Alternatives 2 and 3, as you did for Alternative 1, the Recommended Solution. Then compare these in the analysis.
- Only one alternative should be designated as "Recommended."

Involve Your Enterprise
Architect. The Enterprise
Architect should be able to
articulate existing system
business concerns, alternative
concepts, and help explore &
evaluate alternatives.

Consider Available Reference
Architectures. These resources have already been developed, so use them when identifying potential alternative solutions. See the Tools & Resources slides for a link.



## Review Criteria: Section 2.10 Alternative Solutions

- Keep in mind that all sections are reviewed in relation to each other so the information provided should align across the sections and sub-sections.
  - For example, section 2.10.4 Benefit Analysis should align to S1BA 1.10 Business Problem or Opportunity and Objectives Table, and to the FAWs for each of the alternatives considered.
- Questions that are helpful to answer:
  - Does this lay a foundation on how this alternative could be implemented?
  - Does the solution align with the required functional, nonfunctional and transitional mid-level business requirements?

### 2.11 Recommended Solution

**Intent:** Documents the reasons for choosing and the details of the chosen solution. The rationale should include the factors that led the department to choose the recommended solution and why it represents the best business value.

**Outcome:** A clearly articulated rationale for the recommended solution garners support for the project and helps facilitate approval.

### 2.11 Recommended Solution

#### 2.11.1 Rationale for Selection

O Click here to attach a file

#### 2.11.2 Technical/Initial CA-PMM Complexity Assessment

Complexity

Complexity Zo

chnical Complexity Score: 4.0

Zone I Low Criticality/Risk

Zone II/III Medium Criticality/R

This section auto-populates based on the Technical Complexity Score. Refer to SIMM 45 Appendices C and D for the Complexity Assessment self-assessment tool and instructions. Section 2.11.2 is deferred if a business-based procurement approach was used for the recommended solution.

The Complexity Zone will be used along with the Agency/state entity's delegated cost threshold to determine the scalability of the remaining sections.

**ATTACHMENT**: Attach any relevant documentation that supports the rationale for the selection

#### RATIONALE FOR SELECTION:

- ✓ The information provided should be supported by:
  - ✓ The disadvantages and why those disadvantages did not eliminate the alternative
  - ✓ Advantages over other alternatives
  - ✓ The market research conducted
  - ✓ Overall program costs and benefits
  - ✓ Consideration factors (e.g., alignment with strategies; availability of resources, funding, and contracting resources; etc.)
  - ✓ Resources (time, funding, people, expertise)
  - Why recommended and how it meets the objectives and requirements

# Example Recommended Solution

#### 2.11 Recommended Solution

#### \_

#### 2.11.1 Rationale for Selection

The recommended solution is to have a vendor implement a MOTS in a SaaS environment.

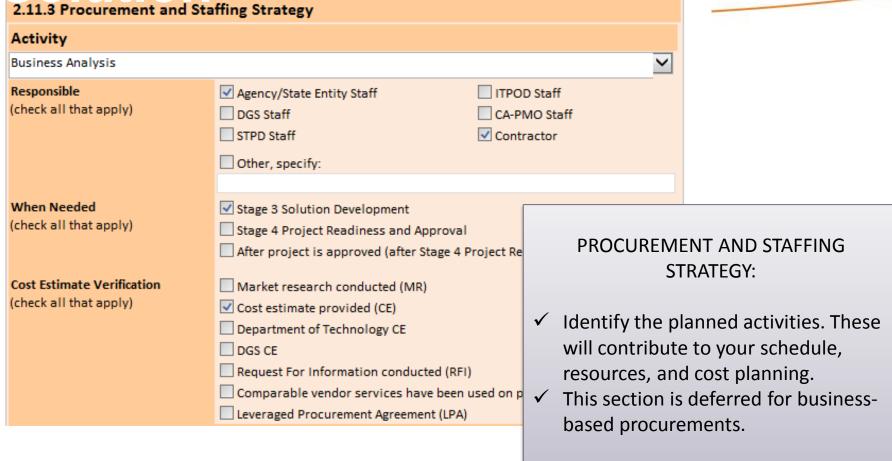
This alternative was chosen because it was considered to be the best value to Department and meets the objectives as stated in the Stage 1 Business Analysis. The solution will align with Department strategic direction to use Cloud services whenever possible. It was deemed to be the best fit considering the degree to which the solution satisfied business objectives, leverages existing technology, and will also adhere to CA Dept. of Technology's and the Department's strategic directions. The risk of the solution was weighed against other alternatives and was judged to be lowest risk for meeting scope, schedule, and budget of the project, and was judged to provide a solid foundation for extensibility and adaptability to meet future changes to the program.

Olick here to attach a file

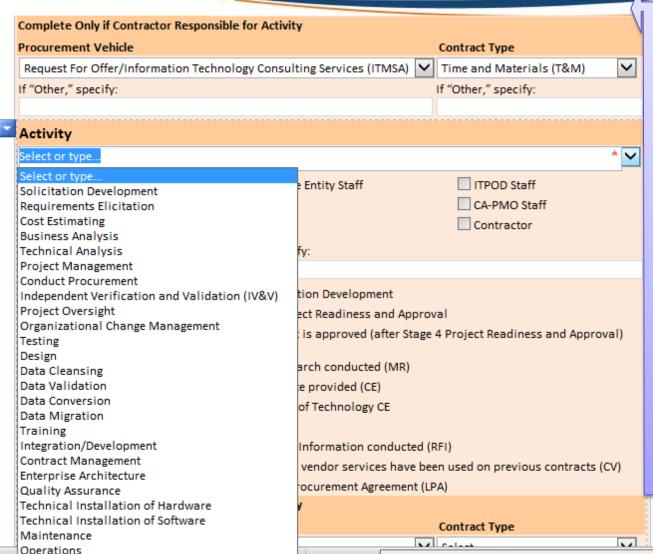
#### 2.11.2 Technical/Initial CA-PMM Complexity Assessment

Complexity	Complexity Zone
Technical Complexity Score: 1.4	<ul> <li>Zone I Low Criticality/Risk</li> <li>Zone II/III Medium Criticality/Risk</li> <li>Zone IV High Criticality/Risk</li> </ul>

Solution



### - Jution



This section is completed if a contractor is responsible for the activity.

Procurement Vehicle: Select the type of procurement vehicle, such as: IFB/RFP, RFO/MSA, RFO/CMAS, ITMSA, NCB, RFQ, etc. Specify if "Other" is selected.

Contract Type: Select the contract type: Fixed price, time and materials, deliverables-based, percentage of benefit, savings-based, or other. Specify if "Other" is selected.

Use the "Insert Activity" to add more activities.

### **S**

#### 2.11.4 Enterprise Architecture Alignment

The target enterprise architecture is to reduce reliance on technology solutions that are either "homegrown" or are no longer supportable or that use outdated technologies that limit available expertise. Alternative 1 provides an opportunity to move toward the target enterprise architecture and will be based on the most relevant, state-ofart technology solutions available.

#### Information Technology Capability Table **Existing Enterprise** New Enterprise Capability Information Technology Capability Capability to be Leveraged Public or Internal Portal/Website Public or Internal Mobile Application Enterprise Service Bus Identity and Access Management Enterprise Content Management (including document scanning and eForms capabilities) Business Intelligence and Data Warehousing Master Data Management Big Data Analytics

#### **INFORMATION TECHNOLOGY CAPABILITY TABLE:**

- ✓ Describe the existing or new enterprise IT capabilities that are needed to meet business objectives of the proposal.
- ✓ No selection required if an IT capability is not applicable to the proposal.
- ✓ This section is deferred for business-based procurements.

#### **ENTERPRISE ARCHITECTURE ALIGNMENT:**

Needed

- ✓ Describe how this proposal moves the Agency/state entity closer to the target enterprise architecture.
- ✓ Describe the reference architecture that the proposal is similar to.
- ✓ This section is deferred for business-based procurements.

#### Requirements Analysis Phase

#### Description

The requirements phase uses the objectives from Stage 1 and mid-level solution requirements from Stage 2 to develop and document the related functional, non-functional, project and transition requirements into measurable and traceable, consistent, and stake-holder approved requirements. The Requirements Analysis Phase duration:

Functional requirements developments is anticipated to take approximately three months.

Requirements Traceability Matrix projected to take two weeks to create project go-live.

-Baseline for requirements change control, design, and testing will take 2.11.5 PROJECT EXECUTING PHASES: control, design, and testing tasks will be on-going through project go-li Test Master Plan will take two weeks to create and on-going communid go-live.

#### Phase Deliverable

Functional Requirements document that provides detailed, measurable requirements.

Requirements Traceability Matrix that links requirements to their orig project life cycle.

Establish a baseline for requirements change control, design, and test PHASE DELIVERABLE

Test Master Plan that documents and communicates tasks and activit adequately tested and can be successfully implemented.

#### **PHASE**

- ✓ Identify project phases that are planned for the proposal
- Justify why phasing is not appropriate (if not used)

#### **DESCRIPTION**

✓ Describe the critical tasks, duration, major milestones, and major tasks

✓ Describe the core functionality or deliverable that results from the phase completion

### **Shution**

2.11.6 High Level Proposed Project Schedule						
Project Planning Star	t Date: 7/1/2015		Project Start D	ate:	8/1/2016	<b>=</b>
Project Planning End	Date: 3/31/2016		Project End Da	te:	3/31/2019	
Activity Name		Start Date		End Date		
Stage 3 Solution De	evelopment	~	9/1/2015	<b>III</b>	2/29/2016	<b>=</b>
Solicitation Development		~	9/1/2015	<b>III</b>	12/31/2015	<b>=</b>
Requirements		10/1/2015	<b>III</b>	3/31/2016	<b>=</b>	
2.11.7 Cost Sum Total Proposed Plant Total Proposed Proje	Select Stage 3 Solution Development Solicitation Development Solicitation Package Review Stage 4 Project Readiness and Approval Pre-solicitation for Industry Comments Solicitation Release Solicitation Protest Period Solicitation Negotiations Solicitation Award Requirements		\$1,500,000 \$25,000,000 \$750,000			
Data Conversion Design Development Data Migration Testing Training Deployment Go Live Maintenance and Operations  Data Conversion  Use the "Insert Activity Name" to add more activities.						

### Solution

### 2.11.7 Cost Summary

Total Proposed Planning Cost: \$1,500,000

Total Proposed Project Cost: \$25,000,000

Average Proposed Operations Cost: \$750,000

#### **SECTION 2.11.7 COST SUMMARY**

#### TOTAL PROPOSED PLANNING COST:

- ✓ All costs for planning activities conducted in Stage 2 through Stage 4
- ✓ Planning costs can be found on the FAW Summary where the "Total Cost" row and "Planning Total" column intersect

#### **TOTAL PROPOSED PROJECT COST:**

- ✓ All project costs for planning (Stage 2 through Stage 4) and project costs (design, development, & implementation), plus one year of M&O costs.
- ✓ Planning and project costs can be found on the FAW Summary tab where the "Total Cost" row and the "Project Total" column intersect.

Use the **SIMM 19 F – Financial Analysis Worksheets** to complete this section

### **Essential Practices**

### 2.11 Recommended Solution

#### **Evaluate existing IT Policies.**

Include an evaluation of existing IT Policies in the analysis of the recommended solution. For example, the state's Cloud First Policy (SAM 4983.1).

### Estimating in terms of project and schedule is very important.

Recommendation **is** to get the most experienced people that you can to help form the basis of your estimates.

**Include Security.** Include Security in the analysis and work associated with identifying the Recommended Solution.



# Review Criteria: Section 2.11 Recommended Solution

- Does the proposed solution meet the required mid-level business requirements identified in Section 2.6 Midlevel Solution Requirements?
- Do the high-level project phases cover expected tasks?
- Are the project timelines reasonable for completion of the work?
- Does the financial summary align to the information found in the FAW Proposed Project and Operations and corresponding BCP worksheets?
- Are security and privacy needs well-defined and consistent with SAM, SIMM, and NIST requirements?

Intent: Documents the approach to staffing the project including the capacity and capability of the business/program, IT, or administrative areas to resource the project while maintaining ongoing operations. This section also captures contingency plans when resources are not available to staff specific areas of the project.

**Outcome:** Identifies how and when staff will be allocated to ensure the project have assess to sufficient staff with the appropriate skillsets and experience. This section also identifies the impact the project will have on existing operations and associated mitigation strategies.

### 2.12 Staffing Plan

2.12.1 Administrative

Administrative resource capacity and capability needed to maintain ongoing operations while the project takes place.

#### 2.12.2 Business Program

- Existing business program resource capacity and capability needed to maintain the business operations that will be impacted by this proposal.
- Describe how you will maintain ongoing program operations in conjunction with proposed project workload.

#### 2.12.3 Information Technology (IT)

- IT resource capacity and capability needed to both support this proposal and maintain existing responsibilities.
- Describe how you will maintain ongoing operations while the proposed project or any other initiative is underway.

#### 2.12.4 Testing

- Testing program resource capacity and capability that will support all stages of testing.
- Describe the dedicated resources to be assigned to support testing and adequately describe the skills and experience of these resources.

### 2.12.5 Data Conversion/Migration

- If this proposal will require data conversion/migration activities, provide a brief description of the plan.
- Describe the capacity and capability of the Agency/state entity's resources that will support this effort.

### 2.12.6 Training and Organizational Change Management

- Training and organizational change management resource capacity and capability needed to support this proposal.
- Describe any business disruption and customer impacts which are anticipated to result from this project.

2.12.7 Resource Capacity/Skills/Knowledge for Stage 3 Solution Development

Describe the capacity, skill, and knowledge of your procurement program and resources that will support the procurement effort (solicitation development, bidding, evaluation, contract award, etc.). Include the skills and experience of these resources that will be dedicated to support procurement activities.

#### Address the following:

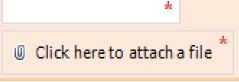
- Does the Agency/state entity's governance framework include procurement-related decision-making in addition to project decision-making?
- Does the Agency/state entity's procurement office have experience using the proposed procurement methodologies identified in section 2.11.3 Procurement and Staffing Strategy? Does the Agency/state entity's procurement office have experience using the STPD Streamlined Template?
- Is the Agency/state entity's procurement office familiar with the different protest formats available, specifically the use of Public Contract Code (PCC) 6611?

#### 2.12.8 Project Management

#### 2.12.8.1 Project Management Risk Assessment

Project Management Risk Score:

Attach file:



#### **2.12.8.1** Project Management Risk Assessment:

Used to evaluate such elements as:

- Will the project require the addition of someone or some group to be successful?
- Do you have organizational commitment to the project?
- Do you have competent and available project management team members?
- Do you have project management tools and infrastructure?
  - ✓ Use SIMM Section 45 A & B to determine the Project Management Risk Assessment score
  - ✓ Attach an electronic copy of the Project Management Risk Assessment

### Sample Staffing Plan

# Proposed Project Manager (PM) Capability Soned Proposed PM's experience Novice eccable record Proposed PM's track record Poor

52	Seasoned	Proposed PM's experience	Novice	1		
53	Impeccable record	Proposed PM's track record	Poor	1.5		
54	Yes	Is the proposed PM PMP certified?	0			
55	High	PM's experience with the business processes None				
56	High	PM's business domain knowledge None				
57	Yes	Does the PM have sufficient technical background/skills?				
58	Yes	Have the sponsors assigned sufficient number of project management No				
59	High	PM's commitment to the project	Low	1		
50	Stage 1 Business Analysis - Project Management Risk Assessment Total:					
51	Stage 1 Business Analysis - Project Management Risk Score:					
52	Stage 2 Alternatives Analysis - Project Management Risk Assessment Total:					
53	Stage 2 Alternatives Analysis - Project Management Risk Score:					

PM Maturity



- ✓ The PM Risk Assessment includes 4 sections. The first 3 sections cover organization, governance, and processes and are completed in Stage 1. The section shown above is Proposed Project Manager Capability and is completed in Stage 2.
- ✓ Each entry is based on the project's self-assessment of the proposed project manager's capability on a range from 0 to 4, with 4 representing a high capability.
- ✓ This is intended to reflect the capability of the resource that will manage your project, not the resource managing PAL.

1 4

Stage 2

# 2.12.8.2 Project Management Planning Are the following project management plans or project artifacts complete, approved by the designated Agency/state entity authority, and available for Department of Technology review? Project Charter Select... Yes No Not Applicable Risk Management Plan Select... \* Select... Select... Yes No Not Applicable

### **Section 2.12.8.2 Project Management Planning**

- ✓ Identify the status of each of the plans/artifacts
- ✓ If a plan/artifact is "Not Applicable," provide a reason why it is not needed or applicable.

### 2.12.9 Organization Charts

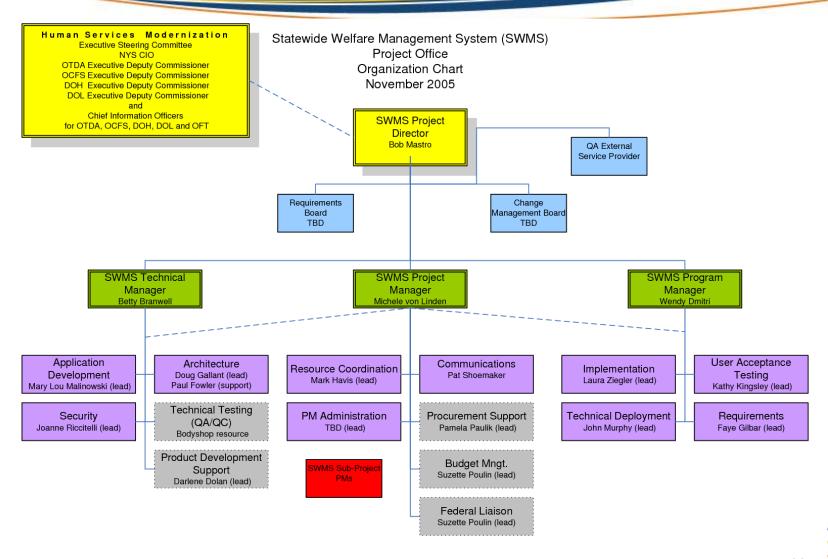
- O Click here to attach a file
- Insert Attachment

#### 2.12.9 Organization Charts

- ✓ Attach the organization charts to show the project reporting relationships for all parties involved in the project. The information should include the number of staff and their classification, as follows:
  - Project Team (e.g., project manager, PMO support, program analysts, SMEs, architects, systems analysts, software developers, quality assurance analysts, requirements analysts, etc.)
  - Procurement Team (e.g., procurement official, procurement official backup, procurement management, contract manager, legal reviewer, information security officer reviewer, budget manager/reviewer, SMEs, etc.)
  - IT Team
  - Business Sponsors and Key Stakeholders
  - Vendor staff (if known prior to Stage 3)
  - IV&V and IT Project Oversight Relationships
  - Impacted program(s) organization chart
  - Agency/state entity organization chart

Use the "Insert Attachment" to add more than one organization chart.

### **Example Organization Chart**



### **Essential Practices**

### 2.12 Staffing Plan

PAL is asking for a Project Org Chart, not the broader department's organization chart. Show relationships between project and stakeholders, the business team, procurement team, technical team, and decision-makers/governance:

- Do you have the people identified?
- Do you have the appropriate reporting structure to facilitate decision making?
- Are the appropriate lines of responsibility drawn?

Not all Project Management Plans have to be completed, and those that do have to be completed, are not necessarily completed at the same time.

- Identify which project management plans are necessary and the status of those plans, indicating when the project expects they will be completed. For those plans determined as not-applicable, indicate why.
- Generic plans are not acceptable. The planning articulated in the plan needs to be specific to your project.
- Use the Sample Library, but do not cut and paste. Use the templates and samples as a starting point, but you must tailor these plans for the context of your project.



### **Essential Practices**

### 2.12 Staffing Plan

### Don't underestimate the importance of the Staffing Plan.

This is about Resources, Skills, and Knowledge. Talk about how you are considering resources with specialized skills in each of these areas.

Ask for help if you need it. If you don't have clarity that you have the appropriate resources, then say so here during the PAL so that CDT can work with you to develop a strategy for remediating that project risk.

**Security.** Be sure to include Security and Procurement in your staffing plan.



### Review Criteria: Section 2.12 Staffing Plan

- In the review of section 2.12 the following questions will be asked of the responses:
  - Does the staffing plan address the resource needs anticipated for the project?
    - As an example, if the project creates an externally facing interface, are resources (for example a project's Public Information Officer for the communication pieces and technical staff to manage the interface) identified in the staffing plan?
  - Does the project need CA-PMO help to meet the project's resource needs?

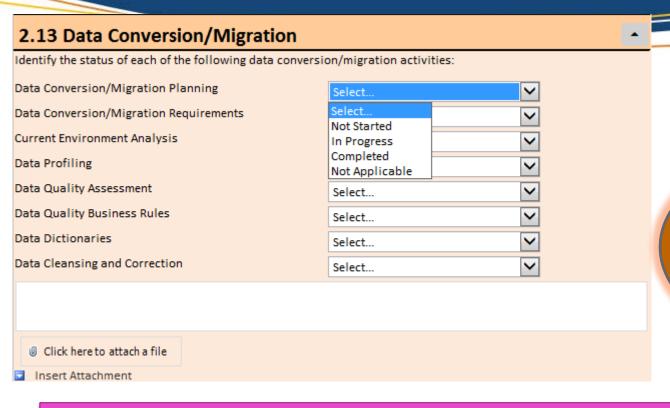
### 2.13 Data Conversion/ Migration

**Intent:** Ensures that the organization has considered the different elements of data conversion/migration that may be needed to successfully deliver the project.

Outcome: Conduct discovery and analysis to identify what data needs to be extracted, transformed, and/or loaded; how that would happen; and do so in a way that ensures data quality and security.

### 2.13 Data Conversion/ Migration





Use the

"Insert Attachment"

to add more than

one completed data

conversion/migration

activity document.

- ✓ Identify the status of each of the data conversion/migration activities with "Not Started," "In Progress," "Completed," or "Not Applicable"
- ✓ If a plan/artifact is "Not Applicable," provide a reason why it is not needed or applicable.

### 2.13 Data Conversion/ Migration

Activity	Definition
Data Conversion/Migration Planning	The process of outlining all required project processes and activities to ensure successful data conversion/migration and the creation of a comprehensive set of plans to manage the data conversion/migration project from initiation until the implementation phase (e.g., establish scope, roles and responsibilities, and data governance; identify risks, constraints, assumptions, data conversion/migration requirements, project team, and data preparation).
Data Conversion/Migration Requirements	The conditions that must be met in order to deem the data conversion/migration successful.
Current Environment Analysis	The process of gathering and compiling information about the current environment to create a blueprint of the current legacy data architecture.
Data Profiling	The process of examining the data available in an existing data source (e.g., a database or a file) and collecting statistics and information about that data
Data Quality Assessment	The process of exposing technical and business data issues in order to plan data cleansing and data enrichment strategies.
Data Quality Business Rules	A business rule expresses specific constraints on the creation, update, and removal of data within a business function. For example, the record of a purchase order may not be entered if the customer's credit rating is not adequate.
Data Dictionaries	A data dictionary is a centralized repository of metadata or information about data, such as its relationship to other data, related business rules, its format and default values. Typically, a data dictionary provides a descriptive list of names, definitions, and attributes of data elements to be captured in an information system or database. It describes the definitions or the expected meaning and acceptable representation of data for use within a defined context of data elements within a dataset.
Activity	Definition
Data Cleansing and Correction	Data cleansing (or data cleaning, data scrubbing) is the process of detecting and correcting (or removing) corrupt or inaccurate records from a record set, table, or database.

Data
Conversion/Migration
Activity Definitions

# Essential Practices 2.13 Data Conversion/Migration

Data Conversion/ Migration activities are intended to ensure the cleanliness and integrity of the data after the project. To do this the documentation should:

- Qualify the work associated with being able to convert and migrate the data.
- Identify what work is necessary to ensure the cleanliness and integrity of the data.



# Review Criteria: Section 2.13 Data Conversion/ Migration

- Does the submission identify the status of data conversion/migration activities?
- Is information about completed data conversion/migration activities attached to the submission?
- If no data migration/conversion is necessary, is the rationale for this clear?

## 2.14 Financial Analysis Worksheet

**Intent:** Documents financial analysis to enable the comparison of current operations costs to proposed alternative costs and financial benefits. FAWs also identify quantity and source of financial resources needed to implement the proposed alternative.

**Outcome:** Provides a detailed financial analysis that contributes to good investment decisions, project transparency, and accountability. The FAWs identify the total estimated project cost, the financial impact to future operation costs, and the funding source.

#### 2.14 Financial Analysis



2.14 Financial Analysis Worksheets		
Click here to attach a file *		
Department of Technology Use Only		
Preliminary Assessment - Department of Technology Use Only		
Original "New Submission" Date		<b>=</b>
Form Received Date		<b>=</b>
Form Accepted Date		<b>III</b>
Form Status	Select	~
Form Status Date		<u> </u>
Main Form - Department of Technology Use Only		
Original "New Submission" Date		<b>=</b>
Form Received Date		<b>=</b>
Form Accepted Date		<b>III</b>
Form Status	Select	~
Form Status Date		<b>=</b>
Form Disposition	Select	~
Form Disposition Date		<b>=</b>

Attach the completed Financial Analysis Worksheets from SIMM 19F.

"Department of Technology Use Only" Section – No entry required.

Attach the FAWs for this proposal. The FAWs should document the cost and resource assumptions the Agency/state entity made during the Project Approval Lifecycle. The FAWs provide a standard format for documenting the projected costs and financial benefits of the current method of operation and the proposed alternative.

#### **Essential Practices**

#### 2.14 Financial Analysis Worksheets

Completing this FAW section is the cost benefit analysis. There is a cost benefit/ risk-reward associated with the project. That is what the Financial Analysis Worksheets (FAWs) are designed to capture.

Alignment is key. All positions and Operating Expenses & Equipment (OE&E) line items on the FAW should align to the submissions within the sections of the Stage 2 form.

Don't forget M&O. Be sure to include estimates for Maintenance & Operations (M&O) in your FAW.

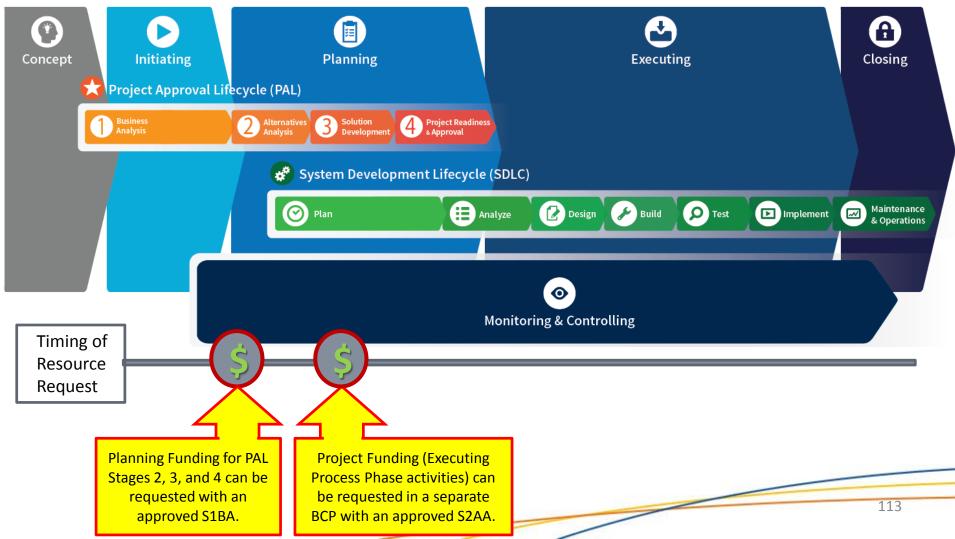


# Review Criteria: Section 2.14 Financial Analysis Worksheets

- The following questions will be asked of the FAWs worksheets:
  - Does the description information for the top 3 alternatives align with section 2.10 Alternative Solutions?
  - Does the existing cost worksheet align to section 2.5
     Baseline Processes and Systems?
  - Does the Funding Plan percentage vertically total 100% by section/budget year?
  - Do the staffing and resources indicated cover the activities in all project phases outlined in section 2.11 Recommended Solution and 2.12 Staffing Plan?

#### When can I request resources?

Project Management Lifecycle (PMLC)



### Stage Gate Review & Approval

- The review and approval of PAL documents will vary based on the quality of the documents submitted.
  - CDT may request further information, clarification, or complete additional research prior to recommending stage gate approval.
  - Remember to dedicate resources to completion of PAL activities— treat PAL like a project.

#### What We Covered Today...

- This training covered
  - PAL's role in IT Project Delivery
  - Role of "Critical Partners" and "Core Team" in PAL
  - Stage 2 Preliminary Assessment
  - Stage 2 Alternative Analysis

# Stage 2 Q&A

#### Questions?

**Ask The Experts** 

Tool Name	References Form Section	Note or Links
Project Approval Lifecycle forms and instructions (SIMM 19)	All	https://cdt.ca.gov/policy/simm-19/
IT Project Reporting Process Flow (SIMM 10)	All	https://cdt.ca.gov/policy/simm/
Gate 2 Collaborative Review Guidelines (SIMM 19B.4)	All	https://cdt.ca.gov/policy/simm-19/
CDT Technology Letters (Policy)	All	https://cdt.ca.gov/policy/technology-letters/

Tool Name	References Form Section	Note or Links
Stage 2 Alternative Analysis guidelines – SIMM 19B	All	http://www.cio.ca.gov/Government/IT_Policy/SIM M_19/SIMM19.html
CA-PMF Sample Library	All	Link to California Project Management Framework Templates page <a href="http://capmf.cio.ca.gov/Templates.html">http://capmf.cio.ca.gov/Templates.html</a>
Understanding Agile	All	https://projectresources.cdt.ca.gov/agile/
Concept Development and Readiness Assessment Template	2.3.1 Preliminary Assessment	Link to California Project Management Framework Templates page
		http://capmf.cio.ca.gov/Templates.html

Tool Name	References Form	Note or Links
	Section	
Complexity Assessment Template (SIMM 45C) and instructions (SIMM 45D)	2.3.2 Business Complexity Assessment	SIMM 45 C Complexity Assessment Template http://www.cio.ca.gov/government/it_policy/simm.  html and http://www.cio.ca.gov/pdf/simm/45/SIMM 45 App endix D 2016 0506.pdf
Gate 2 Evaluation Scorecard, Parts A (SIMM 19B.5) and B (SIMM 19B.6)	2.5 Baseline Processes and Systems	http://www.cio.ca.gov/Government/IT_Policy/SIM M_19/SIMM19.html
Information Security Program Management Standard (SIMM 5305-A)	2.5.5 Security Categorization	http://www.cio.ca.gov/Government/IT_Policy/SIM M/SIMM5305_A.PDF
Security Categorization Table Instructions	2.5.5 Security Categorization	http://csrc.nist.gov/publications/fips/fips199/FIPS- PUB-199-final.pdf#page=8

Tool Name	References Form	Note or Links
	Section	
Gate 2 Mid-level Solution	2.6 Mid-level	http://www.cio.ca.gov/Government/IT_Policy/SIM
Requirements Template	Solution	M 19/SIMM19.html
(SIMM 19B.3)	Requirements	17/8HVHV117.Htm
Requirements Guidance	2.6 Mid-level	http://www.cio.ca.gov/government/it_policy/simm.h
(SIMM 170 & SIMM 180)	Solution	tml
(Silvilvi 170 & Silvilvi 180)	Requirements	<u>um</u>
Statewide Technology Procurement Division's Market Research Guideline	2.9 Market Research	http://www.cio.ca.gov/otp/docs/Market-Research- Guidelines.pdf
Cloud Security Certification	2.10.7 Architecture Information	https://www.fedramp.gov/
History of Software Vulnerabilities	2.10.7 Architecture Information	https://cve.mitre.org/index.html
FIPS 140-2 Validated Encryption Products	2.10.7 Architecture Information	http://csrc.nist.gov/groups/STM/cmvp/documents/14 0-1/140val-all.htm

Tool Name	References Form Section	Note or Links
Reference Architecture Documents	2.10 Alternative Solutions	http://www.cio.ca.gov/ea/documents.asp
Project Management Risk Assessment Template (SIMM 45 Appendix A)	2.12 Staffing Plan	http://www.cio.ca.gov/Government/IT_Policy/SIM <u>M.html</u>
Data Conversion Plan Template and Tools	2.13 Data Conversion/ Migration	https://projectresources.cdt.ca.gov/sdlc/
Financial Analysis Worksheets Template and Instructions (SIMM 19F.1 and 19F.2)	2.14 Financial Analysis Worksheets (FAW)	http://www.cio.ca.gov/Government/IT_Policy/pdf/SI  MM19/SIMM_19F1-Preparation_Instructions.pdf  and  http://www.cio.ca.gov/Government/IT_Policy/SIM  M_19/SIMM19.html

#### Thank You!

**PAL Training Team** 

Contact Us @ CIOPALTraining@state.ca.gov