

# Debt Management System II

California  
State Treasurer's Office



## Feasibility Study Report

Revised April 2013

# 1.0 Executive Approval Transmittal

**Information Technology Project Request**



**Feasibility Study Report  
Executive Approval Transmittal**

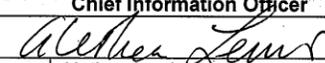
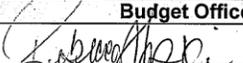
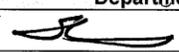
<b>Department Name</b>		
State Treasurer's Office		
<b>Project Title (maximum of 75 characters)</b>		
Debt Management System II		
<b>Project Acronym</b>	<b>Department Priority</b>	<b>Agency Priority</b>
DMS II	1	N/A

I am submitting the attached Feasibility Study Report (FSR) in support of our request for the California Technology Agency's approval to undertake this project.

I certify that the FSR was prepared in accordance with State Administrative Manual Sections 4920-4930.1 and that the proposed project is consistent with our information technology strategy.

I have reviewed and agree with the information in the attached Feasibility Study Report.

I also certify that the acquisition of the applicable information technology (IT) product(s) or service(s) required by my department that are subject to Government Code 11135 applying Section 508 of the Rehabilitation Act of 1973 as amended meets the requirements or qualifies for one or more exceptions (see following page).

<b>APPROVAL SIGNATURES</b>	
<b>Chief Information Officer</b>	<b>Date Signed</b>
 <b>Printed name:</b> Alethea Lewis	4/4/2013
<b>Budget Officer</b>	<b>Date Signed</b>
 <b>Printed name:</b> Becky Gajski	4/5/2013
<b>Department Director/Designee</b>	<b>Date Signed</b>
 <b>Printed name:</b> Steve Coony	4/5/13
<b>Agency Chief Information Officer</b>	<b>Date Signed</b>
<b>Printed name:</b> N/A	
<b>Agency Secretary</b>	<b>Date Signed</b>
<b>Printed name:</b> N/A	

# Feasibility Study Report Executive Approval Transmittal

## 1.1 IT Accessibility Certification

Yes or No

<b>Yes</b>	<p><b>The Proposed Project Meets Government Code 11135 / Section 508 Requirements and no exceptions apply.</b></p> <p>The proposed project does not change the current system’s accessibility for individuals with disabilities.</p>
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### Exceptions Not Requiring Alternative Means of Access

Yes or No	Accessibility Exception Justification
No	The IT project meets the definition of a national security system.
No	The IT project will be located in spaces frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment (i.e., “Back Office Exception.”)
No	The IT acquisition is acquired by a contractor incidental to a contract.

### Exceptions Requiring Alternative Means of Access for Persons with Disabilities

Yes or No	Accessibility Exception Justification
No	<p>Describe the alternative means of access that will be provided that will allow individuals with disabilities to obtain the information or access the technology.</p> <p>Explain: Meeting the accessibility requirements would constitute an “undue burden” (i.e., a significant difficulty or expense considering all agency resources).</p>
No	<p>Describe the alternative means of access that will be provided that will allow individuals with disabilities to obtain the information or access the technology.</p> <p>Explain: No commercial solution is available to meet the requirements for the IT project that provides for accessibility.</p>

# Feasibility Study Report Executive Approval Transmittal

## IT Accessibility Certification (continued)

### Exceptions Requiring Alternative Means of Access for Persons with Disabilities

Yes or No	Accessibility Exception Justification
No	<p>Describe the alternative means of access that will be provided that will allow individuals with disabilities to obtain the information or access the technology.</p> <p>Explain: No solution is available to meet the requirements for the IT project that does not require a fundamental alteration in the nature of the product or its components.</p>

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# INFORMATION TECHNOLOGY PROJECT SUMMARY

## 2.0 Information Technology Project Summary Package

### 2.1 Section A: Executive Summary

1.	Submittal Date	January 2013 (Original) April 2013 (Revised)
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		FSR	SPR	PSP Only	Other:
2.	Type of Document	√			
	Project Number	0950-019			

			<b>Estimated Project Dates</b>	
3.	Project Title	Debt Management System II	<b>Start</b>	<b>End</b>
	Project Acronym	DMS II	July 2013	Oct 2018

4.	Submitting Department	State Treasurer's Office
5.	Reporting Agency	N/A

	<b>Project Objectives</b>
	<p><b>The key project objectives are to:</b></p> <ul style="list-style-type: none"> <li>• Replace legacy DMS with a new data solution</li> <li>• Reengineer business processes integral to identified solution</li> <li>• Eliminate ancillary systems and incorporate associated functionality</li> </ul>

8.	<b>Major Milestones</b>	<b>Est. Complete Date</b>
	FSR Approval	March 2013
	Funding Approval	June 2013
	Contract Approval	June 2015
	SPR Approval	August 2015
	Contract Award	October 2015
	System Development/Deployment	October 2018
	PIER	October 2019
	<b>Key Deliverables</b>	
	Approved FSR	March 2013
	Approved Funding Request	June 2013
	Approved RFP	January 2014
	Approved SPR	October 2015
	Signed Contract	August 2015
	System Deployed	October 2018

# INFORMATION TECHNOLOGY PROJECT SUMMARY

<b>7.</b>	<b>Proposed Solution</b>
The State Treasurer's Office proposes to undertake a solution-based procurement to seek a technical solution from vendors to replace the existing DMS.	

## 2.2 Section B: Project Contacts

<b>Project #</b>	<b>0950-019</b>
<b>Doc. Type</b>	<b>FSR</b>

Executive Contacts								
	First Name	Last Name	Area Code	Phone #	Ext.	Area Code	Fax #	E-mail
<b>Chief Deputy Treasurer</b>	Steve	Coony	916	654-3786		916	653-3125	<a href="mailto:scoony@treasurer.ca.gov">scoony@treasurer.ca.gov</a>
<b>Budget Officer</b>	Rebecca	Grajski	916	653-7345		916	445-9549	<a href="mailto:bgrajski@treasurer.ca.gov">bgrajski@treasurer.ca.gov</a>
<b>CIO</b>	Alethea	Lewis	916	654-3064		916	653-2662	<a href="mailto:alewis@treasurer.ca.gov">alewis@treasurer.ca.gov</a>
<b>Program Sponsor</b>	Blake	Fowler	916	651-6743		916	653-4042	<a href="mailto:bfowler@treasurer.ca.gov">bfowler@treasurer.ca.gov</a>

Direct Contacts								
	First Name	Last Name	Area Code	Phone #	Ext.	Area Code	Fax #	E-mail
<b>Doc. Prepared By</b>	Michael Garrett	Cave Stratton	916	653-3549		916	653-0120	<a href="mailto:mcave@treasurer.ca.gov">mcave@treasurer.ca.gov</a>
			916	653-2633		916	653-4042	<a href="mailto:gstratton@treasurer.ca.gov">gstratton@treasurer.ca.gov</a>
<b>Primary Contact</b>	Michael	Cave	916	653-3549		916	653-0120	<a href="mailto:mcave@treasurer.ca.gov">mcave@treasurer.ca.gov</a>
<b>Project Manager</b>	Katie	Carroll	916	653-2995		916	653-3125	<a href="mailto:kcarroll@treasurer.ca.gov">kcarroll@treasurer.ca.gov</a>

# INFORMATION TECHNOLOGY PROJECT SUMMARY

## 2.3 Section C: Project Relevance to State and/or Departmental Plans

1.	What is the date of your current Operational Recovery Plan (ORP)?	Date	10/18/2007		
2.	What is the date of your current Agency Information Management Strategy (AIMS)?	Date	N/A	<b>Project #</b>	<b>0950-019</b>
3.	For the proposed project, provide the page reference in your current AIMS and/or strategic business plan.	Doc.	N/A	<b>Doc. Type</b>	<b>FSR</b>
		Page #	N/A		

4.	Is the project reportable to control agencies?	Yes		No
	If YES, CHECK all that apply:	√		
	√ a) The project involves a budget action.			
	b) A new system development or acquisition that is specifically required by legislative mandate or is subject to special legislative review as specified in budget control language or other legislation.			
	√ c) The estimated total development and acquisition cost exceeds the departmental cost threshold and the project does not meet the criteria of a desktop and mobile computing commodity expenditure (see SAM 4989 – 4989.3).			
	d) The project meets a condition previously imposed by Finance.			

# INFORMATION TECHNOLOGY PROJECT SUMMARY PACKAGE

## 2.4 Section D: Budget Information

Project #	0950-019
Doc. Type	FSR

Budget Augmentation Required?																
No																
Yes	X	If YES, indicate fiscal year(s) and associated amount:														
		FY	13/14	FY	14/15	FY	15/16	FY	16/17	FY	17/18	FY	18/19	FY	19/20	
		\$676,930		\$793,074		\$2,672,622		\$3,936,982		\$3,716,982		\$1,735,361		\$264,968		

### PROJECT COSTS

1.	Fiscal Year	13/14	14/15	15/16	16/17	17/18	18/19	19/20	TOTAL
2.	One-Time Cost	\$1,079,106	\$1,064,766	\$3,173,210	\$4,703,787	\$4,483,787	\$1,510,568	\$0	\$16,015,224
3.	Continuing Costs	\$0	\$130,484	\$104,387	\$0	\$0	\$490,249	\$817,306	\$1,542,426
4.	TOTAL PROJECT BUDGET	\$1,079,106	\$1,195,250	\$3,277,597	\$4,703,787	\$4,483,787	\$2,000,817	\$817,306	\$17,557,650

### PROJECT FINANCIAL BENEFITS

13.	Cost Savings/Avoidances	\$0	\$0	\$0	\$0	\$0	\$0
14.	Revenue Increase	\$0	\$0	\$0	\$0	\$0	\$0

# INFORMATION TECHNOLOGY PROJECT SUMMARY PACKAGE

## 2.5 Section E: Vendor Project Budget

Vendor Name	TBD
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Project #	0950-019
Doc. Type	FSR

### VENDOR PROJECT BUDGET

1.	Fiscal Year	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	TOTAL
2.	Primary Vendor Budget	\$0	\$0	\$1,821,120	\$2,731,680	\$2,731,680	\$910,560	\$8,195,040
3.	PM Support Budget	\$0	\$0	\$201,600	\$302,400	\$302,400	\$100,800	\$907,200
4.	IV&V Budget	\$151,198	\$151,198	\$151,198	\$151,198	\$151,198	\$50,399	\$806,389
5.	CTA Oversight Budget	\$73,189	\$73,189	\$73,189	\$73,189	\$73,189	\$48,793	\$414,738
6.	Other Budget	\$324,996	\$140,172					\$465,168
7.	<b>TOTAL VENDOR BUDGET</b>	<b>\$549,383</b>	<b>\$364,559</b>	<b>\$2,247,107</b>	<b>\$3,258,467</b>	<b>\$3,258,467</b>	<b>\$1,110,552</b>	<b>\$10,788,535</b>

# INFORMATION TECHNOLOGY PROJECT SUMMARY PACKAGE

## 2.6 Section F: Risk Assessment Information

Project #	0950-019
Doc. Type	FSR

### RISK ASSESSMENT

	Yes	No
Has a Risk Management Plan been developed for this project?	√	

General Comment(s)
Refer to Section 7 for a preliminary Risk Management Plan. A detailed plan will be developed in collaboration with the primary solution provider.

## 3.0 Business Case

### 3.1 Business Area Identification

The State Treasurer's Office (STO), a Constitutional Office, has broad authority and responsibility for over \$115 billion in outstanding State debt (bonds, notes, and commercial paper). The STO provides for the issuance and sale of all State bonds, notes, and other evidences of indebtedness issued by the State. The Treasurer serves as Trustee, Registrar, and Paying Agent for all general obligation bonds and certain revenue bonds. Collectively, this is considered "debt management." The STO's core debt management objectives are 1) to borrow from capital markets and administer the State's debt at the lowest cost to taxpayers, and 2) provide essential disclosure and analysis regarding the State's debt to the Governor, Legislature, taxpayers, investors, rating agencies, and other interested parties. In fulfilling these obligations, the STO is governed by federal tax laws and regulations, regulatory bodies for municipal securities, the State Constitution and laws, and various documents that contain the terms of the different issuances of debt. The STO's Public Finance Division (PFD) administers the programs that manage the State's overall debt portfolio and carries out the fiduciary responsibilities of the State Treasurer. PFD consists of three sections: 1) Conduit Financing and Investor Relations Section (CFIRS), 2) Interim Financing Section (IFS), and 3) Debt Issuance Section (DIS). Division responsibilities include the following:

- Issue State of California general obligation (GO) bonds, revenue anticipation notes and certain revenue bonds.
- Arrange short-term financing for projects through the use of commercial paper and loans from the Pooled Money Investment Account.
- Coordinate with various state agencies and compile the state's disclosure document.
- Provide for all required notices and disclosure including continuing disclosure, the annual Debt Affordability Report and other financial reporting.
- Provide budgetary and accounting information for bond sales and debt service.
- Perform agent for sale functions for conduit and other State bond financings.
- Perform trustee functions for GO and other General Fund supported debt including payments of fees, debt service, and bond calls.
- Administer the State's Investor Relations Program, which researches and responds to inquiries from investors.
- Serve as the state's liaison to the rating agencies.
- Assure compliance with federal tax laws and regulations, and state laws applicable to State debt.

PFD utilizes the STO's Debt Management System (DMS) to carry out division responsibilities. DMS was developed to administer the State's outstanding debt, track and

pay debt service and fees on outstanding debt, and track and validate the authority to issue new debt. It was developed in two phases. The first phase, implemented in 2002, replaced an aging legacy system, which provided basic debt service payment capabilities and tracking of the State's debt. The second stage, implemented in 2004, added further functionality to replace various ancillary systems that the STO maintained at that time. DMS is the official book of record for State bond issues and related debt service and is integral to the State's debt management program.

To respond to market, legislative, and legal changes, PFD adjusts its policies, marketing practices, types and structures of the State issuances of debt. The significant changes, which have taken place in recent years, combined with the current system's inherent inflexibility, have rendered DMS functionally incomplete and materially inadequate for current needs. Consequently, various ad hoc systems have been created in Excel and Access to address the system's inadequacies. Core functions, such as short-term and variable rate debt service are now maintained in these ancillary systems. These additional systems supplement DMS to ensure that legal and contractual obligations of the STO are met. Maintaining these ancillary systems, as well as fixing DMS run-time and data integrity problems has come to require a substantial amount of both PFD and IT staffs' time. Further, redundant data entry into multiple spreadsheets and databases has exposed the system to the potential for costly debt management mistakes. The risk of error increases as services continue to expand and transactions become more complex.

To maintain the State's credibility in the bond market, the STO must exhibit accuracy, diligence, and efficiency. This contributes to the market's perception of the State's ability to manage its debt and ultimately influences the State's borrowing costs (interest rates, issuance costs, and other issuance expenses). Any failure to timely or accurately make a required payment or perform required disclosure duties can also result in severe penalties, expose the State to costly litigation or cause significantly higher borrowing costs for the State. A new debt management system is required to replace the current system in order to ensure that State debt continues to be issued and serviced at the lowest possible cost to the State.

## **3.2 Business Problem or Opportunity**

1. Current System (DMS) is inflexible and difficult to modify.
  - a. As business needs change multiple sources external to DMS have been required to be created and must now be maintained to manage the State's debt outside of DMS instead of being properly integrated with DMS.
  - b. As the public finance industry continues to change and evolve, the STO must remain flexible and responsive to the market by offering new and different types of products and financing structures, and its debt management system must be capable of adapting to those changes.
  - c. Changes in business needs have required that data be input into DMS for which DMS was not originally designed to handle. This has required PFD to have the STO's Information Technology Division (ITD) input and correct data directly in the system tables of DMS. These workarounds and back-end

- adjustments have rendered the current system vulnerable to data integrity issues.
2. DMS is unable to accurately facilitate the STO's core fiduciary responsibility of timely, accurate, and expeditious payments and transfers of debt service and fees to agents, depositories and brokerage firms.
    - a. All non-fixed rate debt (commercial paper, variable rate bonds, convertible option bonds, etc.) is calculated and tracked in multiple Excel files and other ancillary systems outside of DMS.
    - b. This lack of central accounting and repository for all critical bond information requires greater internal controls to mitigate inaccuracies.
    - c. Manual control procedures have been established to prevent erroneous information from adversely affecting the issuing and management of debt.
  3. Ancillary systems to DMS that assist in managing debt outside of DMS require extensive auditing.
    - a. These procedures and data checks require substantial staff hours.
  4. DMS is unable to accurately track the following key elements:
    - a. Historical debt service for complex forms of debt. These are tracked in multiple external Excel files.
    - b. Statute, and Resolution authority that is required for new debt issuance, reporting, and proofs of compliance with state law.
    - c. Series data that is required for new debt issuance, reporting, and proofs of compliance with state law.
    - d. Committee on Uniform Securities Identification Procedures (CUSIP) data. Various external sources must be maintained and referenced to trace debt by CUSIP.
    - e. Ongoing expenses associated with debt that must be calculated and tracked in multiple external excel files.
    - f. Certain types of call provisions associated with some series. Other sources must be referenced.
    - g. Investments in escrow accounts.
  5. DMS provides inaccurate data for reports that the STO is mandated to provide.
    - a. DMS generated reports are now manually copied to Excel to be adjusted and audited.
  6. DMS calculations are inconsistent with market standards.
    - a. Differences in debt service calculations require extensive auditing and reconciliation to multiple sources.
  7. Refunding eligibility cannot be determined with current data.
    - a. DMS does not adequately track historical data that is necessary in order to analyze outstanding debt for purposes of eligibility to be refunded.
    - b. Inability to timely prove refunding eligibility can cost the State millions of dollars annually in lost opportunity for debt service savings.
  8. DMS is difficult to navigate.
    - a. Differing modules within DMS contain different search criteria and thus some modules lack the ability to search using the most helpful criteria.
    - b. Some system views do not show the entire screen thus buttons and functionality are not viewable and can be missed.

- c. System unnecessarily re-sorts data while navigating through system
    - Re-sort takes substantial time and user is unable to proceed until completion.
    - User must navigate back to original screen after re-sort and re-input search criteria into “Find” field in order to proceed with work.
  - d. Data is fragmented between multiple modules.
  - e. System often freezes when user is inputting data or running certain reports. IT staff must terminate user instances or restart the database in order to continue.
9. Master Reserve fund calculations and project maintenance is cumbersome
- a. The system calculates master reserve amounts and the report takes hours to complete
  - b. Changing associated projects requires multiple steps.
  - c. System inputs require redundant data entry.
10. DMS data input is difficult to validate.
- a. Some information is stored in system tables that are unable to be viewed again after initial input and thus cannot be checked for accuracy.
  - b. Some information is stored by the system in a way that it cannot show in reports until after data has been activated.
  - c. Projects rental payment calculations often fail to run correctly due to unknown user input error.
    - i. User must start over input without knowing why calculations failed.
11. DMS automation is limited.
- a. Only a few required input fields are automated and most data entry is manually done.
  - b. Manual entry is time consuming and prone to error.
12. DMS ability to import and export necessary data is limited.
- a. Some external systems contain data that is manually input into DMS
  - b. Loan information is manually input from reports provided by SCO.
  - c. DMS is not capable of interfacing data to the new FI\$Cal System.
13. Tracking and reporting of firms that work with the STO is inadequate in DMS.
- a. System currently does not have functionality to send quarterly report notifications and it does not allow for any date to be entered for the admission date after the start of the pool period as well as it does not retain historical information when a firms name is changed.
14. DMS notifications of upcoming tasks are not user friendly
- a. User is not provided with sufficient information to know what task is due.
  - b. System notifications cannot be modified after entry.
  - c. Inputting user completion status into DMS is unnecessarily time consuming.
    - i. Notifications are sent multiple times even when user has completed that task.
    - ii. Only one task’s status can be changed at a time.

### 3.3 Business Objectives

Note: Objectives marked with an asterisk have a measurable component and are explained further in section 3.3.1.

1. Manage the State debt and fund projects in the most efficient, cost-effective and error-free manner feasible.
  - a. Track bond sales, indenture provisions and debt information accurately including sufficient elements to analyze portfolios for opportunities to lower costs, such as refunding. \*
  - b. Streamline business processes consistent with best practices and market standards.
2. Carry out fiduciary responsibilities to bondholders as Trustee, Registrar and Paying Agent for State debt.
  - a. Maintain rating agency and investor confidence in the State by providing timely, accurate, and expeditious payments and transfers of debt service and fees to agents, depositories and brokerage firms. \*
3. Perform all fiduciary debt issuance, reporting and debt maintenance responsibilities.
  - a. Provide on time notices and documents to bondholders and to the market such as notices of redemption and continuing disclosure. \*
  - b. Maintain all reserve funds. \*
4. Track and manage bond proceeds, funds, and investment agreements. \*
  - a. Investment and reinvestment of proceeds.
  - b. Interest earnings on proceeds.
  - c. Administration expenses charged to project funds.
  - d. Costs of issuance, underwriter's expenses and takedown amounts.
  - e. Departmental expenditures of bond funds.
5. Comply with all Federal and State laws regarding issuance and maintenance of debt.
  - a. Calculate and track statute and resolution authority and/or appropriations.
  - b. Provide for reporting and calculations to prove compliance with various State laws.
  - c. Accurately track and structure issuances compliant with Federal tax laws and regulations.
  - d. Accurately track and maintain tax arbitrage calculations.\*
  - e. Provide reporting and history of debt to prove compliance with various federal tax laws and regulations.
6. Maintain accurate records to provide State debt information to management, other entities and the public.
  - a. Maintain records of historical debt service and efficiently project future debt service.
  - b. Provide information to Legislature and Executive branches of government for budgetary and fiscal decisions concerning long-term debt management.\*
  - c. Provide accurate and necessary budget data to other State agencies. \*
  - d. Provide accurate reports as required by executive management. \*

- e. Provide necessary information to user for complex financial analysis such as trend analysis, comparative expense analysis, and debt modeling. \*
  - f. Increase accessibility of the State's debt information to investors and the public.\*
7. Increase efficiency in interacting with external systems.
    - a. System should provide automated capability to facilitate information exchange with FISCAL and other external systems.
    - b. Provide easy access to applicable electronic documents
  8. Accurately track loans and loan balances from the General Fund.
  9. Decrease time required to perform project maintenance functions.\*
    - a. Master reserve calculations must be able to be performed timely.\*
    - b. Streamline project maintenance inputs and allow for input errors to be fixed without requiring user to start over.
  10. Enhance activity tracking capability to ensure applicable staff is aware of critical upcoming tasks.\*
    - a. The improved activity tracking function should notify staff with sufficient information regarding the task to be completed.
    - b. Task completion status should be accurate.
    - c. User input of completion status should be able to be performed quickly.
  11. Maintain pool member information.
    - a. Track historical information of firms.
    - b. Keep records related to the various firms and their participation with the STO.
  12. Accurately track projects and rental payments.\*

### 3.3.1 Project Performance Indicators Evaluation Plan – Measurable Objectives

The business functions of PFD do not provide for direct measurement, however, any decrease in the staff hours required to perform PFD functions and meet its business objectives can provide an indirect measurement of success. Managerial staff, with an average experience of 10 years at the STO performing and overseeing these functions, was surveyed to provide the estimates and metrics below.

Objectives (from 3.3)	Objective Measurable Component	Recipient	Metric (applicable staff per occurrence)	Number of Applicable Staff	Baseline Metric	Target Metric	By Date	Methodology
1.a. Track bond sales, indenture provisions and debt information accurately, including sufficient elements to analyze portfolios for opportunities to lower costs such as refunding.	Staff hours researching debt and analyzing candidates for refunding eligibility	PFD	Weeks	4	4 Weeks	1 Week	One year post implementation	Staff survey
2.a. Maintain rating agency and investor confidence in the State by providing timely, accurate, and expeditious payments and transfers of debt service and fees to agents, depositories and brokerage firms.	Staff hours performing fee and debt service calculations for variable rate bonds	PFD	Weeks	2	3 Weeks	1 Week	One year post implementation	Staff survey
3.a. Provide on time notices and documents to bondholders and to the market such as notices of redemption and continuing disclosure.	Staff hours performing Material Event Notices	PFD	Hours	6	4 Hours	3 Hours	Six months post implementation	Staff survey
3.b. Maintain all reserve funds. 9.a. Master reserve calculations must be able to be performed timely.	Staff hours performing monthly master reserve fund calculations	PFD	Hours	1	8 Hours	2 Hours	One year post implementation	Staff survey
4.(all) Track and manage bond proceeds, funds, and investment agreements.	Staff hours maintaining ancillary tracking systems	PFD	Hours	7	16 Hours	0 Hours	One year post implementation	Staff survey

<b>Objectives (from 3.3)</b>	<b>Objective Measurable Component</b>	<b>Recipient</b>	<b>Metric (applicable staff per occurrence)</b>	<b>Number of Applicable Staff</b>	<b>Baseline Metric</b>	<b>Target Metric</b>	<b>By Date</b>	<b>Methodology</b>
5.d. Accurately track and maintain tax arbitrage calculations.	Staff hours tracking and maintaining tax arbitrage calculations	PFD	Hours	3	3 Hours	1 Hour	One year post implementation	Staff survey
6.b. Provide information to Legislative and Executive branches of government for budgetary and fiscal decisions concerning long-term debt management. 6.c. Provide accurate and necessary budget data to other State agencies. 6.d. Provide accurate reports as required by executive management. 6.e. Provide necessary information to user for complex financial analysis such as trend analysis, comparative expense analysis, and debt modeling.	Staff hours researching and reporting debt information	PFD	Days	3	2 Days	1 Day	Six months post implementation	Staff survey
6.f. Increase accessibility of the State's debt information to investors and the public.	Public contacts PFD and requests information regarding state debt. PFD researches and responds	PFD	Hours	2	6 Hours	1 Hour	Six months post implementation	Staff survey
9.(all) Decrease time required to perform project maintenance functions. 12. Accurately track projects and rental payments.	Staff hours performing project maintenance duties in DMS and ancillary systems	PFD	Hours	1	16 Hours	4 Hours	One year post implementation	Staff survey
10.(all) Enhance activity tracking capability to ensure applicable staff is aware of critical upcoming tasks.	Staff hours researching activities and clearing ticklers	PFD	Hours	6	4 Hours	1 Hour	Three months post implementation	Staff survey

### 3.4 Business Functional Requirements

Following are high-level business requirements for the proposed system. A more detailed and complete description of the requirements will be included in the Request for Proposal (RFP).

Note: Parenthetical references the applicable objective(s) for each functional requirement.

1. Replace legacy DMS with a new debt management solution that, at a minimum:
  - a. Eliminates ancillary systems and the need for them by integrating their function within a new, complete system. **(all)**
  - b. Accurately calculates debt service and fees for all types of debt instruments. **(1,2,2a,3,6a)**
  - c. Maintains information sufficient to
    - Prove a debt issuance is compliant with federal tax laws and regulations. **(1a,3,3a,4All,5c,5d,5e)**
    - Prove a debt issuance is compliant with State laws. **(1a,3,5a,5b)**
    - Analyze debt for refunding eligibility. **(1a,5b)**
  - d. Provides accurate records and timely reports, notices and disclosures. **(3,3a,5e,6b,6c,6d)**
  - e. Maintains historical information. **(1a,3,5all,6all,11all,12)**
  - f. Tracks bond proceeds including expenditures, expenses, investments and earnings. **(4all)**
  - g. Tracks relevant and useful information regarding firms. **(11all)**
  - h. Tracks loans and loan balances. **(8)**
  - i. Streamlines user interfaces. **(9b,10c)**
  - j. Maintains information security and integrity. **(all)**
  - k. Tracks issuance authority under applicable statute, resolutions, and/or appropriations. **(5a,5b)**
  - l. Automates certain manually input data, performs certain automated data validation checks and allows user to perform quick and easy validation checks. **(all)**
  - m. Performs project maintenance reserve fund maintenance functions. **(3b,9all,12)**
  - n. Provides necessary functionality to automate import and export of data from external systems. **(7,7a)**
  - o. Notifies users of tasks to be completed and tracks completion status. **(10all)**
  - p. Provides interface data to new FI\$Cal System. **(7a)**
2. Validate existing data and migrate to new system. **(1a,3,3b,4all,5all,6all,8,10all,11all,12)**
3. Maintain data for compliance with Federal tax law and regulations and State law. **(3,4II,5all)**
4. Quickly link to the electronic document management system repository (currently Filenet). **(7b)**

### Other special requirements

1. Integrate identified solution into current business processes. **(all)**
2. Solution must be consistent with best practices and market standards. **(1b)**

## 4.0 Baseline Analysis

### 4.1 Current Method

PFD administers the State's overall debt portfolio and carries out the fiduciary responsibilities of the Treasurer. PFD processes are facilitated by DMS, which was implemented in 2004. DMS is a custom-developed, browser-based system. It was developed using Oracle's development tool suite, relational database management system (RDBMS), and Headstart utility for error handling.

Due to deficiencies with DMS, PFD has also developed several ancillary Microsoft (MS) Excel spreadsheets, MS Word documents, MS Access applications and manual workarounds to facilitate timely and effective management of the State's debt.

PFD also uses the following proprietary applications in conjunction with DMS and the ancillary systems to facilitate its debt management functions:

- *DBC Finance* is used to validate DMS's debt service calculations and as a planning tool to run scenarios prior to a bond sale.
- *FileNET* is the enterprise document management system used by a number of STO divisions, boards, commissions, and authorities. It was implemented as part of the original DMS project, and is used to store and retrieve historical documents and files.

In addition, PFD obtains interest rate data for the State's outstanding variable rate debt obligations from The Municipal Market Monitor (TM3), a third party subscription-based service that provides various tools and data regarding municipal securities to the State.

The ITD maintains development and production environments in support of DMS. The DMS development environment consists of one server that houses both the application and database for development and testing purposes. The production environment includes primary and stand-by servers. The primary production environment includes an application server and a database server located in Sacramento. The stand-by production environment includes one server that hosts both the database and the application, and is located at STO's backup site in Los Angeles. Primary database transactions are replicated to the stand-by database in real-time.

## **Objectives of Current System**

The primary objectives of the current DMS are to facilitate PFD's efforts to:

- Manage the State debt in the most efficient, cost effective, and error-free manner;
- Carry out fiduciary responsibilities to bondholders as trustee, registrar and paying agent for State debt;
- Provide accurate and necessary information to the Legislative and Executive branches of government for budgetary and fiscal decisions concerning long-term debt management; and
- Promote the marketability of State debt instruments.

## **Abilities of Current System**

The current DMS creates a number of challenges for PFD, resulting in unnecessary, additional effort by PFD staff to carry out their basic responsibilities. In addition, PFD's programmatic needs have evolved over the years and the capabilities of the system have not been able to meet these needs. As a result, PFD staff has had to implement and use various manual workarounds and applications such as Excel, Word, and Access to ensure efficient and effective management of the State's debt.

## **Level of User and Technical Staff Satisfaction**

As indicated above, DMS does not adequately meet PFD's needs to manage the State's debt. Staff has had to develop a variety of tools and manual workarounds to effectively perform their jobs. In addition, due to some unnecessary restrictive business rules and design features employed during the development of the system, technical staff has found the system difficult to enhance and maintain. As a result, there is general dissatisfaction and frustration on the part of the users and the technical team with the current DMS.

## **Data Input**

With the exception of a few required input fields, data is manually entered into DMS by PFD staff. The system contains various business rules and system checks that perform limited data validation processes.

## **Data Characteristics**

DMS uses Oracle's RDBMS as its backend database. The database contains 202 tables and is approximately 4.6 gigabytes in size.

## **Provisions for Security, Privacy and Confidentiality**

Provisions for security, privacy and confidentiality include:

- User authentication requiring unique user names and passwords for each user.
- Role-based security, with roles defining what functionality each user is allowed to perform.
- Data-level security, where a combination of role and user-id defines what information each user has access to.
- Firewalls to prevent external network access into STO servers and databases.
- Security card key control on computer room to prevent unauthorized access.

## **Equipment Requirements**

The equipment requirements of the current system are documented in Section 4.2.1, Existing Infrastructure.

## **Software Characteristics**

The software characteristics of the current system are documented in Section 4.2.1, Existing Infrastructure.

## **Internal and External Interfaces**

Currently, there are no electronic internal and external interfaces with DMS. DMS has limited ability to import data from internal or external sources. Instead, most information is provided via hardcopy reports and email.

## **Personnel Requirements**

The following table lists the personnel requirements for support of the current system.

<b>Classification</b>	<b>Number of Positions</b>
PFD Management	0.5
PFD Staff	3.0
IT Management	0.5
IT Staff	3.5

## **System Documentation**

DMS includes a searchable online help feature to facilitate ease of use. In addition, PFD and ITD staff maintain user (functional) and technical (architecture) documentation to facilitate the use and maintenance of the system. Staff also has access to the original Use Cases that were created as part of the original development effort.

## **Failures of the Current System**

The failures of the current system to meet the functional requirements and objectives of PFD are documented in Section 3.2, Business Problems and/or Opportunity.

## **4.2 Technical Environment**

### **Expected Operational life of Proposed Solution**

There is no fixed date for when the proposed solution would be retired. The proposed solution will need to provide the flexibility to accommodate changes as technological and programmatic needs evolve.

The STO will review vendor hardware and software revisions and upgrades as they occur and implement them, as appropriate.

### **Necessary Interactions of Proposed Solution to Other Systems**

The proposed solution will provide data to internal and external partners electronically via email or other electronic exchange medium as agreed to by the partners. The system must be designed so that any required interfaces are securely and easily maintained, including any future interfaces.

### **State-Level Information Processing Policies**

In accordance with the State Administrative Manual (SAM) Information Management Principles, the STO has developed information management policies and processes commensurate with its operational needs and organizational structure. This includes, but is not limited to, policies regarding information access and security.

### **Financial Constraints**

The STO will submit a Spring Finance Letter to obtain funding to implement the project. The STO recognizes and is sensitive to the fact that the State is facing significant financial constraints, and believes that this project will contribute to the long-term fiscal health of the State. If the current system is not replaced, the STO's ability to effectively and efficiently manage the State's debt may be compromised, as the system is unstable and very labor intensive to use and maintain.

### **Legal and Public Policy Impacts**

CA Government Code Section 12333, 5702, 16720 et seq. gives the Treasurer fiduciary and trust powers in connection with State debt, designates the Treasurer as agent for sale on State bonds, and authorizes the Treasurer to issue and administer the GO Bond Program. Further, as an issuer of tax-exempt debt, the STO must maintain compliance

with various issuance, tracking, and payment requirements as specified under various federal tax laws.

### **Agency Policies and Procedures Related to Information Management**

The STO information management policies are consistent with State-level policies and practices.

### **Anticipated Changes in Operational Environment**

The STO does not anticipate any changes to the operational environment at this time, other than those required for routine/regular maintenance.

### **Availability of Personnel**

The STO's ITD provides primary support for STO applications, databases and technical environment. Services include application development and maintenance, testing, database support and maintenance, help desk, security, and technical environment support and maintenance.

ITD will require additional staff to assist with the development, as well as the ongoing operations and maintenance of the new system.

#### **4.2.1 Existing Infrastructure**

The STO network spans four California locations including the main office in Sacramento, satellite offices in Los Angeles and Oakland, and the State data center. All production systems and servers are hosted at the State data center in the Tenant Managed Services (TMS) environment.

### **Desktop Workstations**

The STO workstations run Windows XP sp3 and Windows 7 sp1. The STO standard for new deployments is Windows 7 sp1. Maintenance agreements are in place for all workstations.

### **WAN/LAN Infrastructure**

The four sites are connected by the statewide network, CSGnet. The Sacramento office is connected to CSGnet by a 45 MB DS3 link; the Los Angeles office is connected by a 50 MB Opt-E-MAN link; and the Oakland office is connected by a 6 MB DSL link. The STO LAN currently consists of 100Mb Ethernet VLAN's at the Sacramento, Los Angeles and Oakland locations.

## **Server Infrastructure**

The STO servers run Windows Server 2003 and Windows Server 2008. The standard for new deployments is Windows Server 2008 R2 sp1 VM. The server farm is 80% virtual; VMware ESX 3.5 is the virtualization platform. Maintenance agreements are in place for all servers.

## **Network Protocols**

The STO uses TCP/IP as the standard network protocol and SMTP for email communications.

## **Application Development Software**

The STO uses the following development tools:

- Oracle Developer Suite (Designer, Forms and Reports Builder)
- TOAD (Tool for Oracle Application Development)
- ASP .NET Development Framework
- Microsoft .NET Windows Forms
- PowerBuilder
- Crystal Reports
- Erwin Data Modeler

## **Personal Productivity Software**

The STO uses Microsoft's Office 2010 suite of products for personal productivity.

## **Operating System Software**

The STO servers and workstations run Microsoft operating systems.

## **Database Management Software**

The STO has two database environments. Oracle 11gR2 is the primary database management system for production applications at the STO. Microsoft SQL Server 2008 R2 Standard is used by technical operations and some proprietary systems.

## **Application Development Methodology**

The STO follows a standard application development methodology based on traditional system development lifecycle (SDLC) phases: Analysis, Design, Develop, Test,

Implement, and Maintain. The STO will ensure that the project team employs industry standard application development practices.

### **Project Management Methodology**

The STO has developed a project management guide based on the Project Management Institute's (PMI) Project Management Body of Knowledge (PMBOK) and the State's CA-PMM. The STO guide includes detailed project management procedures and standard templates. However, the STO will use the CA-PMM templates, as appropriate, to facilitate the California Technology Agency's (CTA) review and oversight.

## **5.0 Proposed Solution**

To meet the project objectives identified in Section 2, the STO is proposing to develop a RFP to secure a prime vendor using a solution-based procurement. The STO proposes to conduct iterative confidential discussions with bidders during the solicitation process to ensure that they understand the STO's requirements and that the winning vendor is qualified and capable of meeting the requirements prior to entering into a contract.

### **5.1 Solution Description**

As mentioned above, the STO proposes to use a solution-based procurement approach. As such, the solution described here is very high-level; a more detailed and complete description will be included in a Special Project Report (SPR) upon completion of the procurement once the solution is known.

The proposed system must provide an integrated, automated solution to replace the existing DMS, as well as incorporate the functionality of the various ancillary systems created to address DMS deficiencies. The vendor will define the detailed structure of the actual solution, and will be responsible for the overall integration of the proposed processes and technologies.

Working with STO staff, the vendor will also determine how best to address the functionality provided by the existing proprietary systems used by PFD. The vendor contract will include the purchase of all software, hardware, and licensing, as well as the necessary vendor resources to develop and implement the solution.

The STO staff will work closely with the vendor to provide knowledge of the existing DMS and ancillary and proprietary systems, and the business environment in which the systems are used. This will help ensure that the vendor has a thorough understanding of STO needs and requirements, and can provide a solution that will address STO's needs in the most effective and efficient manner.

The STO will hire a consultant to assist with the development of a RFP to solicit a prime vendor to implement a system that meets STO objectives and requirements.

The STO will also secure the services of a project management (PM) support vendor and an independent verification and validation (IV&V) vendor to help ensure a successful project outcome. The project management support vendor will assist with project management activities to facilitate effective management of the project through the use of project management best practices. The IV&V vendor will provide an objective assessment of all products and processes throughout the project lifecycle to ensure the project is following industry best practices and that the product of the project will meet the defined requirements. IV&V will facilitate early detection and correction of errors and improve management insight into issues and risks before they become problems that could impede the progress and quality of the development effort.

In addition, the CTA will perform project oversight to ensure compliance with project performance, schedule, and budget requirements, as well as state policies and standards.

### **Hardware**

The proposed hardware solution will be determined as part of the solution-based procurement and must meet or exceed current STO and CTA standards.

### **Software**

The proposed software solution will be determined as part of the solution-based procurement. The software solution should include all the necessary components to meet the STO's complete business needs.

### **Technical Platform**

The technical platform will be determined following the evaluation of vendor proposals during the procurement process. Vendors will be encouraged to propose solutions that will work within the current STO environment, and that comply with STO and CTA policies and standards.

### **Development Approach**

Based on the market research, it is anticipated the development approach will be custom development; however, through the RFP process, the vendors may identify and propose solution alternatives that incorporate other approaches that satisfy STO objectives and requirements. The STO will select the alternative that best meets its requirements.

## **Data Conversion**

The STO recognizes the importance of data conversion to the project, and will ensure that appropriate plans and processes are in place to facilitate a successful conversion effort. Since the initial DMS was implemented, PFD staff has developed several ancillary systems to support the debt management program. In addition to the primary DMS database, the data created by these ancillary systems will also need to be analyzed for inclusion into the new system. This will require detailed planning and dedicated resources at the onset to analyze potential data challenges and develop appropriate risk mitigation plans and strategies to minimize impact to the project.

Data conversion will be a collaborative effort between the State and the vendor; however, the State will have primary responsibility for data cleansing. A detailed plan will be developed to document the data conversion scope, approach and processes, as well as any assumptions, constraints and risks. The plan will also identify and document the roles and responsibilities of all the involved parties.

The plan will include, but not necessarily be limited to, a description of any preparation requirements that must be completed prior to data conversion; an inventory and cross-reference of source and target data elements and schemas; processes for extracting, transforming, cleansing and loading the data; tools needed to execute the conversion; strategy and procedures for data backup and restore; strategy and procedures for quality assurance and control; any required security and privacy controls; and data conversion acceptance criteria.

The STO will identify and assign staff with the requisite knowledge of the data and how it is used to work with the project team during the conversion effort.

## **Integration Issues**

The vendor will be the system integrator and will be responsible for developing and integrating the new system with existing infrastructures and systems to meet STO requirements. The STO staff will work closely with the vendor to ensure integration requirements are met, including but not necessarily limited to:

- Data storage, retrieval, archive and purge
- Data interfaces with other systems and/or entities
- System and data security
- Network security firewalls and related appliances
- Network bandwidth
- Backup/recovery
- Compliance with State and federal laws and regulations

## **Procurement Approach**

The STO proposes to develop an RFP to secure a prime vendor using a solution-based procurement. The solution-based procurement approach provides the needed flexibility to ensure vendors have a clear understanding of the STO's business requirements, and the capability to meet the requirements prior to entering into a contract.

### **• Proposed Prime Vendor Procurement Vehicle**

The proposed prime vendor procurement vehicle is the RFP. It is anticipated that the following weighting criteria will be used.

- Administrative Requirements: Pass/Fail
- Quality of Proposed Solution: 30%
- Experience/Qualifications/Past Performance: 30%
- Work Performed in U.S.: 10%
- Costs: 30%

The STO will secure the Department of General Services (DGS) approval of the weighting criteria prior to releasing the RFP.

### **• Proposed Prime Vendor Contract Type**

The proposed prime vendor contract type is fixed-price. To help mitigate contract risks, the STO plans to implement, at a minimum, a 10% withhold for each accepted deliverable, as well as incorporate contract language that includes liquidated damages. Depending on the project risk rating, the STO may also require a Letter of Credit.

The project's contract administrator will work with the appropriate procurement authorities, including STO's Business Services Section, STO Legal Office, and DGS Procurement Division, as appropriate to implement processes and procedures in accordance with STO and state-level contract policies and procedures. This includes, but is not necessarily limited to:

- Monitoring contract activities for compliance
- Reviewing and approving invoices for payment
- Processing amendments and/or contract renewals, as needed, in a timely fashion
- Verifying all work is completed and accepted by the STO prior to the contract expiration date
- Reporting any contract deficiencies or disputes immediately to the appropriate procurement authorities
- Maintaining an accurate auditable paper trail of contract administration
- Performing contract close out activities

- **Market Research**

The STO conducted market research to determine the availability of potential sources to meet its debt management needs. The market research did not yield any potential sources on the market that would fully address its needs. See below for the methodology and a summary of the market research findings.

Methodology

To facilitate the market research, the STO developed a survey to solicit feedback on potential sources to meet its debt management needs. The survey included questions on the participants’ debt management requirements, the system(s) employed to manage the debt, the functions addressed by the system, any identified deficiencies or limitations, if vendor resources were used to develop the system, and the system costs. It was sent to the top 18 municipal issuers (based on the dollar amount issued since 2003), the top ten trustee banks (according to Bond Buyer), and various software vendors identified through the survey process or through conversations with market participants. Survey participants included:

- Municipal issuers of debt
- Banks that perform trustee services
- Software vendors

<b>Survey Respondents</b>	
Municipal Issuers	Los Angeles Counties, New York (NY) Municipal Water Authority, Port Authority of New York and New Jersey, State of Connecticut, State of Oregon, State of Washington, State of Wisconsin, State of Indiana, State of Ohio, State of Massachusetts, City of Chicago
Trustee Banks	Deutsche Bank, Huntington National Bank, US Bank, Wells Fargo, Wilmington Trust, Zions First National Bank, BNY Mellon, Regions Bank, Union Bank
Software Vendors	SunGard, TS Partners (Transtar), Integrated Software Solutions, Fi-Tek, DBC, Mun-Ease

Summary of Findings

Based on the market research, it appears that no other entity performs all the same functions as the STO, and that there is no one integrated solution available on the market to meet the STO’s debt management needs. The research did identify systems and processes in use by other entities that may have some ability to meet some of the STO’s needs. The States of Ohio and Massachusetts both perform some level of debt management and trustee functions similar to the STO; they have issued approximately

15% and 25%, respectively, of the debt managed by the STO. Both rely on two or more systems that together meet some of their debt management needs. In addition, they both outsource a portion of their trustee functions to various trustee banks.

The trustee banks that responded to the survey perform no debt management functions similar to the STO. Instead, they focus generally on payment notifications and payment processing. They utilize various stand-alone systems to perform their trust duties.

The software products that were identified during the survey have very limited capability to meet STO's needs. Several vendors have software solutions that could perform payment processing; however, these systems have the capability of meeting only approximately 25% of the STO's functional requirements off-the-shelf, with up to 15-25% additional functionality with some customization. The identified debt management software appears to have slightly more built-in capability but is still lacking most functions.

Due to California's unique statutory requirements, all of the identified software would require substantial customization to meet STO's complete debt management needs. Therefore, the STO believes that a solution-based procurement is the best approach for securing a comprehensive integrated solution to meet its needs, with the least amount of risk.

As a result of the fragmented systems used by the survey respondents, the market research did not yield any useful cost data. Refer to Section 8.0 for an analysis and summary of the estimated cost for the proposed project, including the methodology that was used to determine the costs.

- **Proposed Personal Services Contracts**

The STO plans to secure outside consulting services for the following:

- RFP development assistance
- IV&V
- PM support

The STO believes the proposed services are of such a highly specialized and technical nature that the necessary expert knowledge, experience, and ability are not available through the civil service system. However, the STO will make a formal request to other state agencies to determine the potential availability of state resources to perform the work within the required timeframe, prior to entering into a consulting contract for the services.

- **Small Business (SB) and certified Disabled Veteran Business Enterprise (DVBE)**

The STO Business Services Section administers the STO SB/DVBE program. The RFP development team will work with the Business Services Section to ensure STO and state-level SB/DVBE participation requirements are achieved.

- **Contract Term**

It is anticipated that the contract term will be three years for development, plus one year of maintenance.

- **Prior Contracting Information**

Type of Procurement	Type of Contract	Vendor	Contract History
Competitive RFP	Prime Solution Vendor	Covansys	Original Amount: \$5,668,585.80 Original Term: 24 months  Amendment #1: Increased amount of contract by \$500,000 for a total a contract amount of \$6,168,585.50 to cover unanticipated tasks.  Amendment #2: Contract amended to extend contract term by 1 year at no additional costs to the state.

### **Technical Interfaces**

STO staff will work with the vendor to provide access to any legacy systems and data needed to accommodate the new system and functionality. Unless the vendor proposes replacement applications, systems or technologies, the new system must provide an automated interface to any system and entity with which the STO currently uses or anticipates interacting with to perform its debt management functions, including, but not limited to, the following:

- DBC Finance (a proprietary application used by PFD to calculate debt service)
- Thompson Reuters Municipal Market Monitor (TM3)
- FI\$Cal

## **Accessibility**

The proposed solution must satisfy the accessibility requirements, as outlined in Government Code Section 11135, and Section 508 of the Rehabilitation Act, and Section 4833 of the State Administrative Manual. The STO will require the vendor to certify that the proposed solution will meet these requirements. To ensure compliance with accessibility requirements and standards, the project team will conduct accessibility reviews and tests at appropriate times throughout the project lifecycle.

## **Testing**

The selected vendor must provide detailed written test plans for all components of the proposed solution. Test plans must address usability, unit, integration, system, performance and program processes. Test plans must also include test scenarios, designed for all customer use cases to ensure adequate performance under realistic conditions. Test scripts must be developed and exercised to thoroughly test system functionality for all customer scenarios.

STO program and technical staff will work with the vendor throughout the testing process. The vendor will be responsible for training the STO testers. The STO will provide input into the test plan and will sign off on the final testing deliverables and processes. In addition, all test data, test scripts, results, use cases and documentation must be packaged and provided to STO staff for subsequent reuse.

The STO anticipates using the IV&V vendor to oversee the testing phase to ensure adequate testing is performed, and that the system will meet the business and technical requirements.

## **Resource Requirements**

Vendor and STO staff will be involved in all project activities, including project management, analysis, design, development, testing, change management, training, and implementation activities. STO project staff will include both program and technical staff. The following summarizes the human resources required to implement the new system.

- Integration vendor resources needed to complete the project on time and budget
- Vendor project management support resources
- IV&V resources
- STO Project Leadership Team, comprised of the Chief Deputy Treasurer, PFD Deputy Treasurer, PFD Director and IT Director/CIO
- STO dedicated full-time Project Director
- STO Program Manager
- STO IT Manager

- STO Contract Administrator
- Executive Steering Committee, comprised of Chief Deputy Treasurer, PFD Deputy Treasurer, PFD Director, IT Director, Administration Division Director, STO Chief Council, and appropriate Vendor representatives
- STO project staff dedicated to the project
- STO program and technical subject matter experts (SMEs), including information security personnel, as needed
- STO budget personnel, as needed
- STO procurement specialists, as needed
- M & O staff, as needed, to ensure a successful production transition of the new system

The exact resource requirements needed to implement the new system are not yet known as the proposed solution and system integrator have not yet been identified. Resource estimates are provided in Section 8, Economic Analysis Worksheets. More detailed and complete information will be provided in the SPR. At that time, the STO will also update the number and classification of the state resources that will be needed to perform ongoing maintenance and operation of the new system.

### **Training**

Project training will require a collaborative effort between the vendor and the STO. However, the vendor will be responsible for the development of training materials and the overall success of the training effort. The vendor will provide a strategy that fully addresses the training needs of the STO's affected staff. The vendor may use a variety of training approaches and concepts, including but not necessarily limited to, classroom training, hands-on training, interactive exercises, computer-based training, mentoring, or a blended learning approach. The vendor will collaborate with the STO on the content of the training and the optimal delivery method. The STO may consult with the IV&V vendor, as needed.

It will be the STO's responsibility to identify and approve the staff that will attend the training and ensure their availability for the training.

### **Ongoing Maintenance**

The STO will develop a comprehensive Maintenance and Operations Plan in collaboration with the selected integration vendor. The STO will retain the services of the integration vendor to provide support for the system for the first year after implementation. STO staff will perform maintenance in subsequent years. During the vendor maintenance period, vendor staff will provide detailed knowledge transfer to STO staff for maintenance, enhancement and support of the new system.

A product warranty and technical support contract for both hardware and software will be utilized, as appropriate, to ensure the vendor provides adequate strategies and procedures for ongoing maintenance and support for the new system.

### **Information Security**

STO debt management programs and systems do not collect confidential information, and therefore do not require any extra security measures such as encryption. However, STO Information Security Office (ISO) staff will be engaged throughout the project to ensure the project's security practices are consistent with STO and state-level information security policies and practices. ISO staff involvement will include, but not necessarily be limited to, the following:

- Information security oversight during appropriate phases of the project
- Review of security requirements
- Review of security test plans
- Disaster recovery testing
- Ensuring compliance with appropriate SAM and (Statewide Information Management Manual) SIMM requirements

### **Confidentiality**

The project team will work with STO ISO staff to ensure STO and State policies and guidelines are followed with regard to the confidentiality of information. STO staff will only have access to data for which they have an approved business need and right to know. Their access level to the systems and data will be controlled by their defined access privileges and role.

### **Impact on End Users**

The proposed solution will have a broad impact on most of PFD's staff. The project will replace systems and tools used by most of PFD's staff to perform their daily operations. The vendor, with input from STO management and staff, will provide training plans for STO staff and key stakeholders who will use the new system. In addition, the STO will develop an organizational change management plan and strategy to help facilitate staff acceptance and use of the new system. The plans must include all tasks and activities necessary to ensure the organization successfully transitions to the proposed solution. This will include, but necessarily be limited to, developing program procedures, training plans, and communication strategies.

### **Impact on Existing System**

It is the intent of this project to replace the existing DMS and the various ancillary systems created by PFD staff to augment the deficiencies of the current DMS. The proposed solution may also replace and/or interface with existing debt management related proprietary systems, such as DBC Finance.

At the conclusion of the project, it is expected that PFD will retire the existing DMS and ancillary systems and spreadsheets.

### **Consistency with Overall Strategies**

The proposed solution must be consistent with STO statutory requirements and strategic goals, as well as industry best practices and trends for debt management.

The proposed solution must also be consistent with all STO and state-level IT policies and strategies.

### **Impact on Current Infrastructure**

It is expected that the proposed solution will leverage as much of the current STO infrastructure as necessary to meet project objectives in the most cost-effective manner. During the review of the proposals, the STO will determine the impact of the proposed solution on its existing infrastructure, and make a decision to upgrade, replace or enhance infrastructure components, as necessary to achieve project objectives. Any decisions resulting from this review will be reflected in the SPR.

### **Impact on Data Center**

The STO anticipates hosting the system at the OTech data center. Once the solution is known, the STO will engage OTech on anticipated hosting needs.

### **System Hosting/ Data Center Consolidation**

The new system will be housed at OTech, using the TMS offering. The current DMS is already hosted at OTech via a TMS agreement.

### **Backup and Operational Recovery**

The system will be backed up via STO's enterprise backup system. Backup and recovery plans will be consistent with STO's Business Continuity Plan. Data retention will follow STO and State-level policies and requirements. Data will be backed up and retained offsite, as required.

## Public Access

The proposed solution will not be accessible to the public.

## 5.2 Rationale for Selection

Of the alternatives examined, a solution-based procurement approach most effectively meets the full range of STO's program goals and objectives and poses the least risk to the State. This approach will provide the needed flexibility to ensure the proposed solution will meet STO objectives and requirements. The STO will set forth its requirements in an RFP and allow the vendor community to respond with proposals to meet those requirements.

Specific advantages of the solution-based procurement include:

- **Proven solution that meets business problem** – The basic principle of a solution-based procurement model is the delivery of a solution to meet a defined business problem. It encourages vendors to deliver only solutions that have proven to be effective. Through iterative confidential discussions, the STO will engage with potential bidders to ensure they fully understand STO objectives and requirements and are capable of meeting the requirements prior to entering into a contract.
- **Minimizes risk to the State** – Using a solution-based procurement, the STO will define the functional requirements needed to meet the STO's business needs, and the vendors will propose the technical solution and provide the technical resources and expertise to meet those needs. This approach will minimize risk to the State.
- **Places increased responsibility and accountability on the vendor for performance** – Since the vendor is responsible for defining and providing the technical solution to address the STO's business problems and objectives, it is in the vendor's best interest to not only provide a solution that has been proven to be effective, but also to provide the resources necessary to achieve a successful project outcome.
- **Leverages expertise** – The STO will secure a single qualified vendor with knowledge, expertise and proven success in debt management system implementations. The STO will define the program functionality required to meet STO objectives and requirements and the vendor will provide the technical expertise to propose and implement the best technical solution to those programmatic needs. This approach will maximize the chances of a successful project outcome.
- **Timely implementation** – Of the alternatives considered, this alternative will result in the timeliest implementation. The STO has limited resources to work on a new system. Using dedicated vendor resources, the implementation schedule will be shortened and the STO will be able to retire the existing deficient DMS sooner.

- **Provides best value to the STO and the State** – The evaluation process will use a “best value” approach for vendor selection. This will consider which proposal provides the best solution to meet the STO’s needs, as well as all relevant cost over the life of the acquisition to ensure the proposed solution is the most cost effective. This method may result in a slightly higher priced solution, but will also result in the selection of the most technically superior solution to meet the STO’s needs.

## **Costs**

The costs presented in this FSR are estimates only. They were derived using the vendor staffing levels for the prior DMS and current MSA vendor rates. Once a vendor has been selected, the STO will submit a detailed SPR detailing the proposed solution and finalized one-time and ongoing costs for approval prior to entering into a contract with the selected vendor.

Funding to cover the cost of the project will be requested through the Spring Finance process. See Section 8.0 Economic Analysis worksheets (EAWs) for preliminary funding details, including one-time and ongoing estimates.

## **5.3 Other Alternatives Considered**

As stated previously, the STO conducted market research to determine the availability of potential sources to meet its debt management needs. The market research did not yield any viable alternatives that could meet STO’s needs.

The STO considered three alternatives to the solution based-procurement approach, as presented below. They were deemed inadequate to meet STO business objectives and/or too risky to pursue.

### **Alternative 1: Do Nothing.**

#### **Description**

This alternative involves taking no action to make any business or technical changes to the existing system.

This alternative was immediately dismissed due to the risks and inadequacies of the current system.

## **Alternative 2: Upgrade the existing DMS.**

### **Description**

This alternative involves upgrading the existing DMS to incorporate the functionality of the existing ancillary systems created by PFD, as well as other required enhancements to meet PFD's evolved business needs.

This alternative was dismissed as the design and structure of the system and database are inflexible to accommodate the changes and enhancements required to meet STO's evolved business needs.

## **Alternative 3: Implement a custom-built system using STO resources.**

### **Description**

This alternative involves replacing the existing DMS with a comprehensive custom-built solution using STO resources. The STO resources would be responsible for development and maintenance of the proposed system, including identifying and configuring all software and hardware components.

### **Advantages**

- STO staff has been maintaining the existing DMS and is therefore familiar with the functionality and PFD processes.
- All components would be completely under the STO's control; the STO can ensure the system is developed using software and hardware technologies currently in use at the STO.
- The STO may not need to seek a budget augmentation to implement the new system, as the implementation schedule can be controlled, based on the availability of STO funds and resources.

### **Disadvantages**

- This alternative will not solve PFD's program problems in a timely manner. The implementation timeframe would be very long and protracted, as the STO does not have the resources or funds to redirect to this effort to complete it in timely manner without significantly impacting production operations and other critical services.
- The new system may not be fully integrated since there may be multiple implementation phases and components over the life of the project.

- Risk of project failure would be borne by the State alone.

## **Costs**

This alternative was not estimated because it does not satisfy all of the critical project objectives as effectively as the selected alternative. Additionally, the only way to accomplish the project with existing STO resources in a timely manner would be to redirect resources from other critical tasks, which would jeopardize other programs and services.

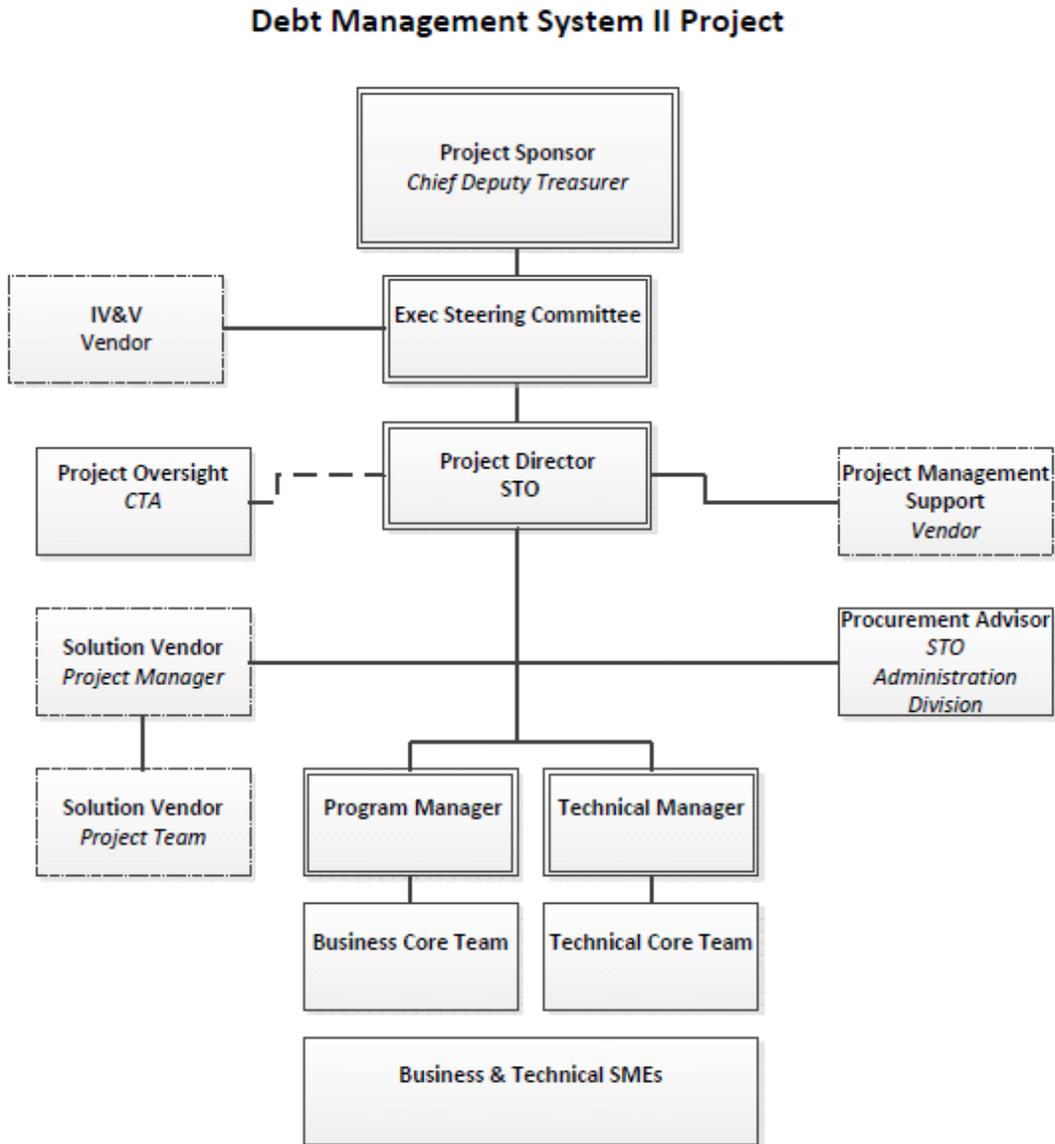
## **6.0 Project Management Plan**

The STO recognizes the importance of sound project management practices and principles in achieving successful project outcomes. The STO will use the methods and tools outlined in the California Project Management Methodology (CA-PMM) to facilitate project management activities. The level of detail will be commensurate with the scope, complexity and risk of the project.

## 6.1 Project Organization

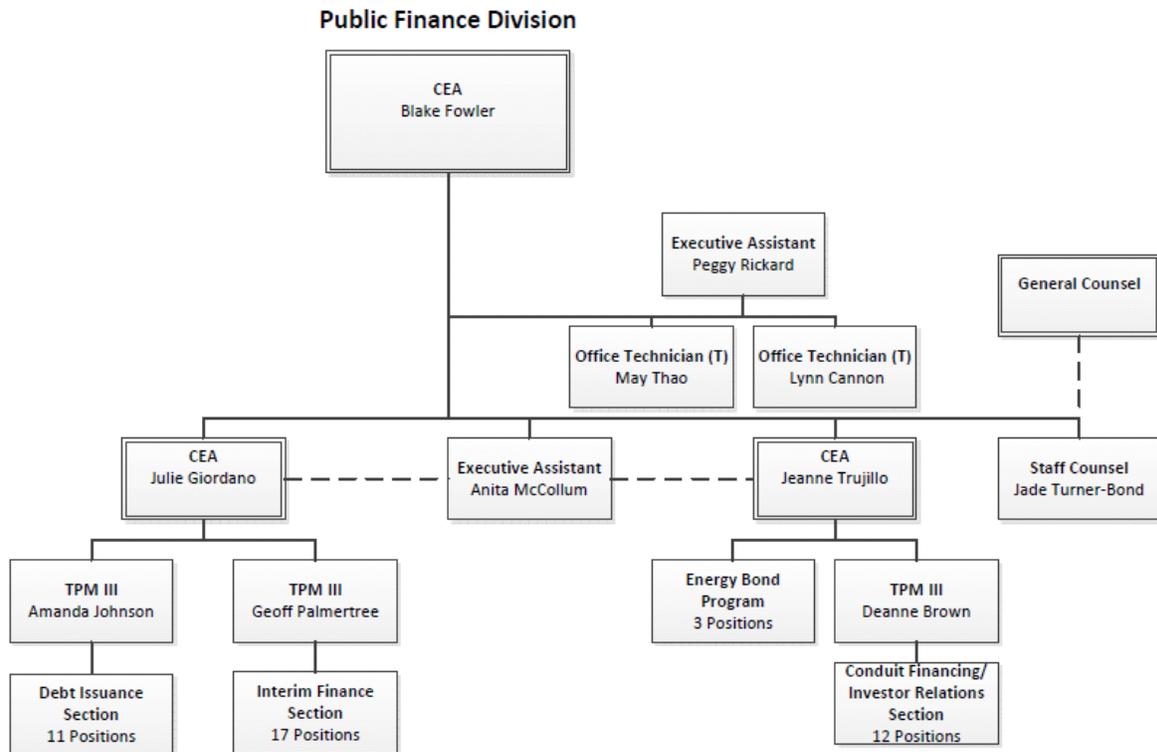
The project team organizational structure is depicted in the following figure. Project team members will be selected based on their program and technology expertise and prior involvement on projects.

**Figure 1: Project Team Organization**



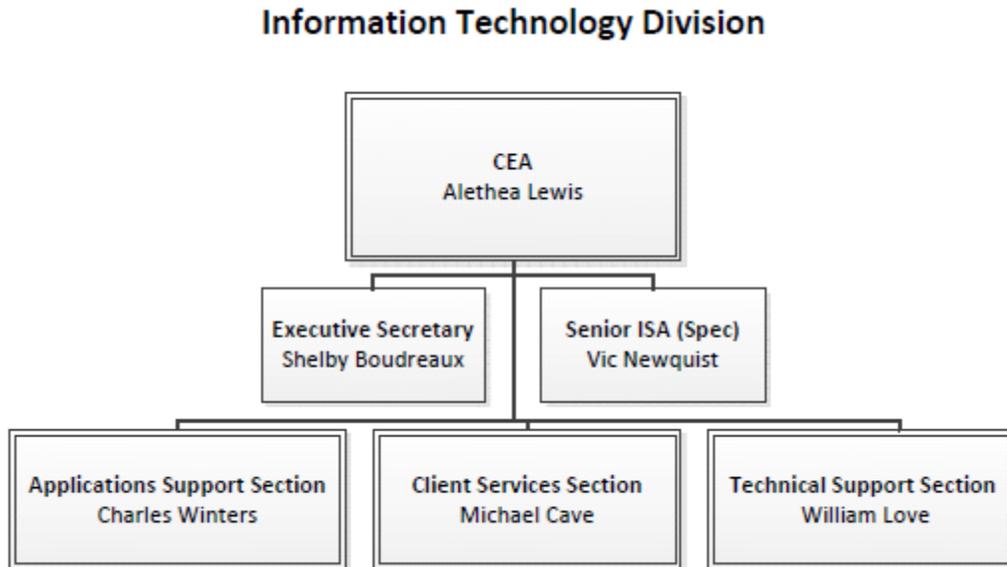
Following is a high-level depiction of PFD's organizational structure.

**Figure 2: Impacted Program Organization**



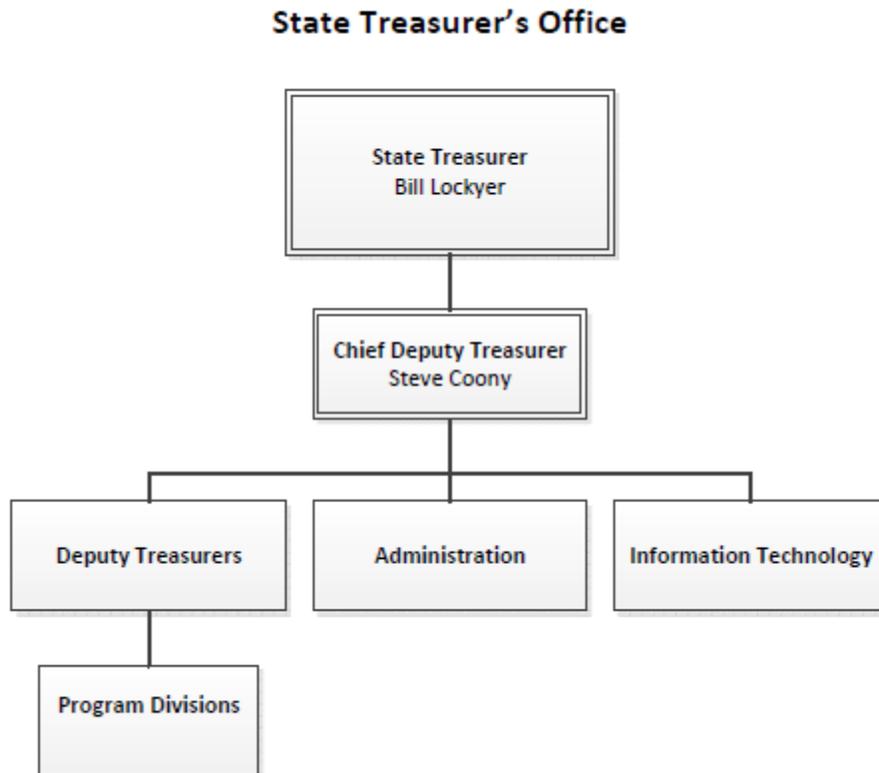
Following is a high-level depiction of ITD's organizational structure.

**Figure 3: IT Organization**



Following is a high-level depiction of the STO organizational structure.

**Figure 4: STO Organization**



## 6.2 Project Manager Qualifications

The Project Manager is a Deputy Treasurer at the STO and member of the STO Executive Team. She reports directly to the Chief Deputy Treasurer, the Executive Sponsor for the DMS II Project. Prior to assuming the role of Deputy Treasurer, she held several high-level management positions within the Public Finance Division, including Division Director, and currently provides oversight of the program. In addition to being intimately familiar with the program functions supported by the current DMS, she was instrumental in bringing the original system online. She was brought onto the project when it was evident that the project was in trouble. She led the program staff activities and participated in the negotiations of a contract extension to allow for the completion of necessary programming and testing to bring the project to a successful conclusion, at no additional cost to the State. She is familiar with the details of the project and can apply the lessons learned from the prior DMS project to the new project.

As a part of her current position, as well as her role in PFD, she has managed people, processes and budgets. She is a skilled risk manager and effective communicator. She developed effective and collaborative relationships with management and staff within DOF, and has represented the STO with DOF and the Legislature. Because of her executive management experience, and her experience with the program and the prior DMS project, the STO believes she is uniquely qualified to manage the DMS II project. Because of her position and standing at the STO, she will have full authority and autonomy for day-to-day decision making on the project.

To facilitate her PM responsibilities and ensure compliance with State PM policies and directives, the Project Manager will attend the State's project management training.

## 6.3 Project Plan

The project management team will follow the CA-PMM to develop the project plan. Microsoft Project will be used to develop the timeline, identify the tasks involved, assign resources and monitor task completion within the schedule and resources allocated.

### Project Priorities

The project trade-off matrix below shows the relative importance of the project schedule, scope, resources, and quality, using a factor of 1 (highest) to 4 (lowest) for each of the categories.

Schedule	Scope	Resources	Quality
4	1	3	2

1 = Most important/constrained factor – the factor cannot be changed

2 = Next most important factor – the factor is somewhat flexible to the project circumstance

3 = Factor can be adjusted

4 = Most flexible of the four factors

### **Project Scope**

The project will, at a minimum, replace the existing DMS system and incorporate the functionality of the various ancillary systems that were developed to address deficiencies in the DMS, as appropriate. As a part of the RFP development phase, PFD may identify additional enhancements to be addressed by the new system.

The new system will need to interface with the STO document management system and any other existing proprietary systems used to by PFD to conduct its business, unless they are replaced by this project.

### **Project Assumptions**

- A Spring Finance Letter will be approved to provide funding and spending authority
- Project funding will be available throughout the project lifecycle
- The project will be authorized to use the solution-based procurement model
- The project will be authorized to leverage a COTS solution to the extent feasible
- Supporting contracts and procurements will be completed on schedule
- There will be sufficient interest from qualified vendors so that they will bid on the project
- STO management will maintain the project as high priority throughout the project lifecycle
- Program and technical staff with the requisite knowledge, skills, and experience will be assigned to the project team
- Appropriate subject matter experts will be made available to the project team as they are needed
- The project will adhere to a formal project management methodology. Project risk, issue and change management strategies will be employed.

### **Project Phasing**

Project phasing will be encouraged as a way to manage the risk and impact on program operations. If appropriate, a phased schedule will be developed in consultation with the approved vendor so as to ensure a realistic and achievable project approach and schedule.

## **Project Schedule**

Following is a high-level project schedule for the planning phase. An updated project schedule will be developed in collaboration with the solution provider and will be included in an SPR, upon completion of the procurement.

<b>Task</b>	<b>Start</b>	<b>Finish</b>
Obtain CTA approval of FSR	1/24/2013	3/30/2013
Obtain DGS approval of procurement approach	1/24/2013	3/30/2013
Obtain DOF approval of FSR/Finance Letter	1/24/2013	6/30/2013
<b>Pre-Solicitation</b>		
Hire RFP Consultant	4/1/2013	7/1/2013
Hire IV&V Vendor	4/1/2013	7/1/2013
Develop RFP	7/2/2013	10/31/2013
STO RFP Review and Approval	11/1/2013	11/29/2013
CTA RFP Review and Approval	12/2/2013	1/31/2014
DGS RFP Review and Approval	12/2/2013	1/31/2014
<b>Solicitation</b>		
Release RFP	2/3/2014	2/3/2014
Conduct Bidders Conference	3/3/2014	3/7/2014
Receive Conceptual Proposals	5/29/2014	5/29/2014
Receive Draft Proposals	8/31/2014	8/31/2014
Receive Final Proposals	11/30/2014	11/30/2014
Evaluate Final Proposals	12/1/2014	4/30/2015
Select Vendor	5/1/2015	5/1/2015
Obtain STO/DGS approval of contract	5/4/2015	6/30/2015
Develop Special Project Report (SPR)	5/1/2015	6/30/2015
Obtain STO management approval of SPR	7/1/2015	7/15/2015
Obtain CTA/DOF approval of SPR	7/16/2015	8/31/2015
Notify Joint Legislative Budget Committee	9/1/2015	10/2/2015
Issue Notice of Intent to Award	10/5/2015	10/16/2015
Sign Contract	10/19/15	10/23/2015
Start Development	11/2/2015	10/31/2018

## 6.3 Authorization Required

Approval of this FSR is required internally from the STO Executive Office, the CIO and the Budget Officer. Approval is required from CTA and DOF as part of the standard FSR review process. In addition, the FSR must be submitted to DGS to obtain their approval and support of the procurement approach.

An informational copy of the FSR will be provided to the Legislative Analyst's Office.

## 7.0 Risk Management Plan

A risk is any event that could prevent the project from progressing as planned, or reaching a successful completion. Risk management is the process of identifying risk, assessing risk, and taking steps to reduce risk to an acceptable level, considering the associated costs and benefits of the proposed risk response.

The Risk Management Plan (RMP) describes how risk management will be structured and performed on the project. The STO RMP will address all lifecycle phases and associated deliverables, providing a comprehensive framework for assessing each aspect of the project for potential risk.

The STO risk management approach will include:

### **Risk identification**

Risk identification consists of determining which risks are likely to affect the project and documenting the characteristics of those risks. Risk identification will occur throughout the project lifecycle. All project team members will be involved in the risk identification process.

### **Risk Assessment**

Risk assessment is the act of determining the probability that a risk will occur and the impact the risk will have on the project, should it occur. It includes a review and determination of whether the identified risks are acceptable (i.e., the project will accept the impacts if the risk event occurs). If the risks are deemed unacceptable, they will be assigned a priority, and an appropriate risk response will be developed.

### **Risk Response Planning**

Risk response planning is the process of developing options for dealing with the risks the project team has identified and quantified. Possible response options include:

- Acceptance – No action needed; the project will accept the impact of the risk.

- Avoidance – Change the project to eliminate the threat posed by the risk.
- Transference – Shift the impact of the risk to a third party (e.g., a vendor). This does not eliminate the risk, it simply shifts responsibility.
- Mitigation – Take early action to reduce the probability and/or impact of the risk to an acceptable level.
- Defer – Postpone the determination of how to address the risk for a later time.

### **Risk Contingency Planning**

Contingency planning involves preparing a plan in advance as to a course of action should a risk event take place.

### **Risk Monitoring and Control**

Risk monitoring and control is the process of tracking identified risks, monitoring residual risks, identifying new risks, and executing risk response plans, as needed. It also involves reporting risk status, recording risk information changes in the risk register, and evaluating the effectiveness of response plans.

## **7.1 Risk Register**

High-level project risks have been identified in the RMP, presented on the following pages. The information included is very preliminary. A more complete and thorough RMP will be developed in coordination with the solution provider, based on the identified solution and other project attributes. Upon completion, the updated RMP will be distributed to the appropriate stakeholders.

The following processes will be used to identify risks:

All project team members will be empowered to identify project risks and mitigation strategies. The team will employ various techniques to identify risks, including brainstorming, reviewing and analyzing historical data, lesson learned, assumption analysis, stakeholder interviews, and SWOT (strengths, weaknesses, opportunities, threats) analysis. The team will also review project documentation (e.g., work breakdown structures, cost estimates, project schedule, procurement plan and methodology, etc) to identify potential risks. Risks will also be identified through oversight and quality assurance processes and reviews.

Describe the process to be used to escalate risks the resolutions of which are beyond the project manager's level of authority?

The process used to escalate risks beyond the PM's level of authority is:

The project management team (PMT) will work with the executive sponsors to develop a risk escalation plan and procedures, including a prioritization strategy and the types of risks that must be elevated. The PMT will update the executive sponsors and key stakeholders, as appropriate, in accordance with the defined escalation process and procedures. All risks will be assigned a priority and an owner, and documented in the risk register. Project risks will be monitored and reviewed at regular intervals to ensure adequate and timely response measures are taken. Risk status will be discussed at project status meetings.

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Definition of Probability and Impact Scales

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Instructions: Assess the probability and the impact of potential risk items, and develop a response strategy for risks rated High and, where feasible or appropriate, for other risks rated Medium or Low.

Probability Scale		Impact Scale	
1	<20%	1	Less than a 5% change to schedule, scope, budget, or quality
2	21 - 40%	2	5 - 10% change to schedule, scope, budget, or quality
3	41 - 60%	3	11 - 15% change to schedule, scope, budget, or quality
4	61 - 80%	4	16 - 24% change to schedule, scope, budget, or quality
5	>80%	5	25% or greater change to schedule, scope, budget, or quality

Risk Register

Instructions: Consider each potential risk and quantify the risk level. Use the definitions in the student notebook for clarity. Add other constraints and obstacles to the list as you identify them.

\* 1-9 = Low Risk Level, 10-15 = Medium Risk Level, 16-25 = High Risk Level

#	Risks	Probability (1 - 5)	Potential Impact (1 - 5)	Risk Management Action must begin...	Risk Level* (1 - 25)	Cause	Consequences	Avoidance Plan	Mitigation Plan
1					0 Green				
2					0 Green				
3					0 Green				
4					0 Green				
5					0 Green				

6					0 Green				
	<b>Audit and Control Needs</b>	4	2	Over a year from now	2.64 Green	Inadequate project management, weak management and development processes, insufficient quality control	Potential impact to project budget, schedule and quality	Implement best practice quality management processes; Incorporate formal reviews into project plan/schedule; perform external audits	Conduct design and code walkthroughs; perform quality assurance testing prior to acceptance testing
	<b>Budget</b>	3	5	Within the next six months	15 Yellow	Insufficient funding allocation; unexpected budget cuts; project costs exceed budget allocation	Potential impact to project budget, schedule and quality	Ensure business case is solid and budget request covers all anticipated project costs; meet with external stakeholders and enlist support for the project	Monitor project spending; revisit project funding approach; request additional funding; reduce scope; delay project until funds are secured
	<b>Client/Server Architecture</b>	2	5	Over a year from now	3.3 Green	Staff not familiar with proposed technology and/or not involved at appropriate level to receive adequate knowledge transfer; training is inadequate	Potential impact to project budget, schedule and quality	Ensure architecture is sound and proven; ensure project staff possess knowledge and skills in proposed architecture	Include technical staff in the review and development of technical specifications and designs; secure external expertise, as needed
	<b>Customer Sophistication</b>	2	4	Over a year from now	2.64 Green	Appropriate users are not involved in the project; training is inadequate	Potential impact to project budget, schedule and quality	Provide training prior to system testing and implementation; Demonstrate system features early to give customers early exposure to system	Develop clear written procedures and ensure project plan includes sufficient time for user involvement and training
	<b>Design and Implementation</b>	2	5	Over a year from now	3.3 Green	Flawed system design; performance issues; component integration issues; data conversion issues; may be unable to meet some requirements due to design limitations	Potential impact to project budget, schedule and quality	Make sure vendor has the knowledge and capability to deliver the solution	Involve appropriate business/technical staff in design/implementation reviews; employ rigorous testing strategies; develop contingency plan
	<b>Development Environment</b>	2	5	Over a year from now	3.3 Green	Development environment not properly established or not established timely; tools do not work as expected; developers unfamiliar with tools	Potential impact to project budget, schedule and quality	Certify development environment structure/requirements prior to project startup	Ensure environment is built by staff who are knowledgeable w/the environment and tools/conduct test to verify environment is sound

	<b>External Environment</b>	2	4	Within the next six months	8	Green	Project approvals (FSR, BCP, RFP) not received timely	Potential impact to project budget and schedule	Establish a communications plan to keep external stakeholders apprised of project status and issues throughout the project lifecycle	Assess communication shortcomings and conduct outreach to ensure stakeholder input/support
	<b>Facilities</b>	1	2	Six months to a year from now	1.32	Green	Facilities are inadequate (insufficient workspace, no phones, furniture, office supplies); work environment noisy or disruptive	Potential impact to project budget, schedule and quality	Begin facility search as soon as funds are approved	House staff in different locations and implement an effective communication strategy; conduct regular project team meetings
	<b>Human Resources: Skills, Availability</b>	2	5	Six months to a year from now	6.6	Green	Insufficient/inappropriate staffing; lack of required knowledge/skills; unavailability of management to make decisions in a timely manner	Potential impact to project budget, schedule and quality	Determine resource requirements and skill sets at project onset; ensure team members have required skills; provide training before project starts	Document staffing gaps and secure approval to address them; obtain external support
	<b>Infrastructure</b>	1	4	Over a year from now	1.32	Green	Existing infrastructure not robust enough to accommodate proposed solution; proposed solution incompatible with existing infrastructure	Potential impact to project budget, schedule and quality	Include details about existing infrastructure in the RFP; require vendor to identify needed changes/upgrades	Provide for any necessary infrastructure changes/upgrades in project plan/budget; monitor to ensure changes/upgrades are implemented timely
	<b>Legislation</b>	1	4	Over a year from now	1.32	Green	Legislative changes may impose changes to the project/solution; legislative factors may impact support for the project	Potential impact to project budget and schedule	Obtain legislative sponsorship/support prior to project initiation	Secure approval to implement legislative requirements as an enhancement post implementation
	<b>Litigation</b>	1	5	Over a year from now	1.65	Green	Contractor delays and/or performance issues may impact project	Potential impact to project budget and schedule	Make sure contract is sound and enforceable; implement sound contract management processes; establish an escrow account to hold source code on the State's behalf	Engage STO legal, DGS and CTA; secure source code and system documentation; develop plan to continue project w/in-house staff or another vendor, if necessary

<b>Management Processes</b>	1	4	Within the next six months	4	Green	Ineffective PM processes and plans; PM processes not adhered to; lack of PM delegated authority; project approvals and decisions not timely	Potential impact to project budget and schedule	Recruit experienced PM; adopt and use best practice PM processes; obtain agreement on PM decision-making authority and autonomy	Secure management commitment /buy-off on project plan/resources; communicate when decisions will be needed; provide sufficient time for approvals
<b>Other Projects</b>	2	4	Six months to a year from now	5.28	Green	Project delayed due to other priorities; resource conflicts with other projects; project success dependent on other projects	Potential impact to project budget and schedule	Confirm project's priority in relation to other projects; secure dedicated project resources; build project plan to take into account potential impacts of other projects	Ensure project plan/schedule considers impacts of other projects and availability of resources; monitor and adjust schedule as necessary
<b>Paradigm Shift</b>	3	5	Over a year from now	4.95	Green	Users resistant to change; unrealistic expectations; ineffective organizational change management and preparation	Potential impact to project schedule	Ensure project scope is clearly communicated to all stakeholders; develop an approach to get feedback during the project; manage expectations; demonstrate incremental results	Review project deliverables w/users at key milestones to ensure expectations are being met; hold focus groups to address issues and concerns
<b>Regulations</b>	1	4	Over a year from now	1.32	Green	New/changed regulatory requirements may impose unexpected changes to the project/solution	Potential impact to project budget and schedule	Work with sponsor to defer any regulatory changes until after project is implemented	Determine impact of change(s) and develop plan to minimize impacts
<b>Requirements Management</b>	3	5	Six months to a year from now	9.9	Green	Requirements not fully understood/defined; uncontrolled scope creep	Potential impact to project budget and schedule	Obtain signoff on project scope/requirements; develop requirements traceability matrix; implement change management process; require sponsor approval of changes	Follow procedures for handling changes; evaluate impact of change to project and communicate to management; renew commitment to plan;
<b>Schedule</b>	3	4	Six months to a year from now	7.92	Green	Artificial/unrealistic estimates; schedule omits necessary tasks; scope creep; project resources and tools may not be acquired timely	Potential impact to project budget, schedule and quality	Create a realistic, achievable schedule; plan the project in phases; add in adequate contingency	Maintain project schedule; review project progress against schedule; timely communicate schedule risks

	<b>Sponsorship Commitment</b>	1	5	Over a year from now	1.65	Green	Lack of executive sponsorship/management commitment; change in priorities; change in leadership	Potential impact to project budget and schedule	Confirm project's priority; reach consensus on sponsor roles and responsibilities; emphasize project benefits; communicate project status frequently	Establish sponsor expectations; obtain signoff on commitments; meet w/sponsor to understand reason for lack of interest, make adjustments as needed
	<b>Structure of Installed Systems</b>	2	3	Over a year from now	1.98	Green	Integration issues with installed systems	Potential impact to project budget, schedule and quality	Validate installed system changes with vendor prior to project startup	Provide for any necessary changes to installed systems in project plan and budget; monitor to ensure changes are made timely
	<b>Supplier/Vendor Capability/Capacity</b>	2	5	Over a year from now	3.3	Green	Poor contractor performance; inadequate/insufficient resources allocated (number of resources and skill-levels); contractor does not deliver products as promised	Potential impact to project budget, schedule and quality	Clearly document expectations in the solicitation document; include penalties in the contract for poor performance and clear criteria for when penalties will be executed; develop issue escalation process	Work with vendor to develop deliverables expectation document (DED); review and signoff on DEDs prior to finalizing deliverables; engage STO legal, DGS & CTA, as needed
	<b>System Architecture</b>	1	5	Over a year from now	1.65	Green	System architecture not sound/stable; potential integration issues	Potential impact to project budget, schedule and quality	Use solution-based procurement model and compensate based on sound and stable system; define system performance technical requirements up front	Require comprehensive system performance testing
	<b>Technology</b>	1	5	Over a year from now	1.65	Green	Technology unsuitable or inappropriate as a solution; unable to secure technology when needed; technology becomes obsolete; required performance unattainable	Potential impact to project budget, schedule and quality	Use solution-based procurement model and compensate based on sound and stable system; require vendor to propose and secure technology	Provide sufficient time to acquire technology in a timely manner; require comprehensive system performance testing
	<b>Turnover</b>	2	5	Over a year from now	3.3	Green	Untimely staff changes; unable to secure experienced replacement staff in a timely manner	Potential impact to project budget, schedule and quality	Clearly define roles, responsibilities and skill levels; develop cross training plan and cross train staff prior to losing staff; identify backup or alternative staff	Assess existing staff workload and adjust as needed; work w/sponsor to secure new resources, if necessary

	<b>Security</b>	1	4	Over a year from now	1.32 Green	Security implications may be overlooked during design	Potential impact to project budget, schedule and quality	Ensure security requirements are clearly defined and communicated	Incorporate security testing in project plan; conduct tests to validate security provisions/features
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What are your plans for monitoring the high and medium level risks?

The plans for monitoring the high and medium level risks are:

Risk monitoring will be a standard part of the project review processes and will occur throughout the project lifecycle; adjustments will be made as needed. Once the initial Risk Management Plan has been developed, the appropriate project team members will periodically revisit the basic assumptions and premises of each risk to determine if they are still valid. The team will assess whether the situation has changed in a way that affects the nature or impact of the risk, as the risk may have changed sufficiently so that the current mitigation strategy is ineffective and a new approach is needed. Conversely, a risk may have diminished in a way that allows resources allocated to it to be redirected. As a part of risk monitoring, the team may identify new risks or modify existing risks as the project progresses.

What is your approach to measuring the effectiveness of the risk response plans?

The approach to measuring the effectiveness of the plan is:

The project team will monitor risk response activities and compare actual outcomes to expected outcomes to evaluate whether the actions taken actually achieved the intended objective. The team may also employ tools such as stakeholder surveys and external reviews to evaluate the effectiveness of the plans. These tools will aid in developing subsequent risk management alternatives and more effective risk management decisions.

## 8.0 Economic Analysis

The STO proposes to pursue a solution-based procurement. In accordance with control agency requirements, the STO conducted market research to identify potential sources to meet its business objectives, and price and cost estimates. However, the market research did not yield any useful cost data because the solutions identified will only marginally meet STO's needs. As such, the costs provided are estimates only. The STO will submit an SPR at the end of the procurement phase when the solution and associated costs are known.

The following are assumptions and supporting details for the cost estimates for the proposed alternative:

- The project costs are based on a 3-yr implementation.
- State staff costs are based on estimated proposed staff's projected participation on the project.
- Prime vendor costs are based on vendor staffing levels used for the existing DMS implementation and current MSA vendor rates.
- All vendor costs are based on select MSA rates for the respective service category.

### Proposed Staffing

The STO will re-direct the following IT and program resources.

<b>Redirected Staff (Salaries &amp; Benefits)</b>		
<b>Classification/Role</b>	<b>Average Participation</b>	<b>Estimated Costs</b>
CEA (Project Director)	100% beginning with system development	\$665,088
CEA (Program Executive)	30% beginning with procurement phase	\$349,664
Treasury Program Manager (TPM) III (Program Manager)	25% beginning with procurement phase	\$301,093
TPM I (Business Manager)	100% beginning with procurement phase	\$1,044,174
Associate Treasury Programmer Officer (Business Analyst)	25% beginning with procurement phase	\$243,027
Senior Information Systems Analyst (Senior ISA), Supervisor (IT Project Manager)	50% beginning with system development	\$220,212
Staff Programmer Analyst (Staff PA) (Programmer)	100% beginning with system development	\$385,134

The STO will request the following new PYs.

<b>New Staff (Salaries &amp; Benefits)</b>		
<b>Classification/Role</b>	<b>Average Participation</b>	<b>Estimated Costs</b>
TPM II (Project Program Manager)	100% beginning with procurement phase	\$637,576
Senior PA (Lead Programmer)	50% during procurement phase; 100% beginning with system development	\$463,477
Systems Software Specialist II (Technical Architect)	50% during procurement phase; 100% beginning with system development	\$447,244

### **Proposed Contract Services**

The following contracts will be utilized.

<b>Contract Services</b>		
<b>Role</b>	<b>Average Participation</b>	<b>Estimated Costs</b>
RFP assistance for prime vendor procurement	100% during pre-solicitation phase & 40% during solicitation phase	\$371,004
IV&V reviews and consultation, as needed	40% beginning with RFP development	\$806,389
PM support	100% beginning with system development	\$907,200
Solution Provider	100% for duration of system development	\$8,195,040
CTA oversight (periodic reviews and consultation)	50% beginning with procurement phase	\$414,738
DGS procurement/contract support	25% during procurement phase	\$94,164
Data Center services as needed on hosting requirements	20% during system development phase	\$75,000

### **Proposed Hardware/Software Purchases**

<b>Item</b>	<b>Cost</b>
Servers (6)	\$60,000
Storage	\$10,000
Software/Licenses	\$250,000

### Estimated Annual Continuing Costs

Item	Cost
IT Staff (Salaries & Benefits)	\$668,306
Contract Services (1-yr maintenance support)	\$302,400
Hardware Maintenance/Licenses	\$14,000