State Treasurer's Office
Debt Management System II
Modernization Project

Special Project Report (SPR) 2

Project # 0950-019
January 15, 2016
Version 5.0

DOCUMENT INFORMATION AND REVISION HISTORY

Version	Date	Summary of Change
1.0	9/2/2015	Draft SPR 2 Submitted to CalTech
2.0	10/9/2015	Revised Draft 2 Submitted to CalTech
3.0	10/30/2015	SPR 2 Final Version Submitted to CalTech
4.0	12/22/2015	SPR 2 Incorporation of CalTech Edits
5.0	1/15/2016	Alignment with One Vendor Contract Award

Contents

SECTION 1: EXECUTIVE TRANSMITTAL

Information Technology Project Request
Special Project Report
Executive Approval Transmittal

Agency/state entity Name
State Treasurer's Office

Project Title (maximum of 75 characters)	Project Acronym
Debt Management System II Modernization Project	DMS II

SPR Project ID	SPR 1 Approval Date	State entity Priority	Agency Priority
0950-019	5/14/2015	1	N/A

The State Treasurer's Office (STO) is submitting the attached Special Project Report 2 (SPR 2) in support of our request for the California Department of Technology's (CalTech) approval to continue development and/or implementation of this project.

STO certifies that the SPR 2 was prepared in accordance with the State Administrative Manual Sections 4945-4945.2 and that the proposed project changes are consistent with our information management strategy as expressed in our current Strategic Business Plan.

STO has reviewed and agrees with the information in the attached SPR 2.

STO certifies that the acquisition of the applicable information technology (IT) product(s) or service(s) are subject to Government Code 11135 applying Section 508 of the Rehabilitation Act of 1973 as amended, and meets the requirements or qualifies for one or more exceptions (see following page).

APPROVAL SIGNATURES	
Chief Information Officer	**Date Signed**
Jan Ross	12/22/15
Printed name: Jan Ross	
Budget Officer	**Date Signed**
Rebecca Grajski for Karma Manni	12/22/15
Printed name: Karma Manni / Rebecca Grajski	
State Entity Director/Designee Deputy Treasurer for Public Finance	**Date Signed**
Blake Fowler for Tim Schaefer	12-22-15
Printed name: Tim Schaefer	
Agency Chief Information Officer	**Date Signed**
Printed name: N/A	
Agency Secretary	**Date Signed**
Printed name: N/A	

IT Accessibility Certification

Yes or No

Yes	**The Proposed Project Meets Government Code 11135 / Section 508 Requirements and no exceptions apply.**

Exceptions Not Requiring Alternative Means of Access

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

IT Accessibility Certification

(Continued)

Exceptions Requiring Alternative Means of Access for Persons with Disabilities

Yes or No	Accessibility Exception Justification
N/A	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. Explain: Describe the alternative means of access that will be provided that will allow individuals with disabilities to obtain the information or access the technology.

SECTION 2: INFORMATION TECHNOLOGY: PROJECT SUMMARY PACKAGE

2.1 Section A: Executive Summary

1.	Submittal Date	October 30, 2015

		SPR	PSP Only	Other:
2.	Type of Document	X		
	Project Number	0950-019		

			Estimated Project Dates	
			Start	End
3.	Project Title	Debt Management System II Modernization Project		
	Project Acronym	DMS II	July 2013	December 2018

4.	Submitting Agency/state entity	State Treasurer's Office (STO)
5.	Reporting Agency/state entity	N/A

6. Key Project Objectives

- Modernize the existing legacy DMS system and increase functionality
- Eliminate ancillary systems and incorporate associated functionality

8.

Major Milestones	Est Complete Date
FSR Approval	May 2013
SPR 1 Approval	May 2015
SPR 2 Approval	January 2016
Contract Approval	April 2016
Contract Award	May 2016
System Development/Deployment	December 2018
PIER	December 2019
Key Deliverables	
Approved FSR	May 2013
Approved SPR 1	May 2015
Approved SPR 2	January 2016
Approved Contract	April 2016
Signed Contract	May 2016
System Deployed	December 2018

7. Proposed Solution

The STO proposes to undertake a modernization of its existing DMS system to create a robust, secure and flexible system that meets the current and future needs of the State Treasurer's Office.

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2.2 Section B: Project Contacts

Executive Contacts								
	First Name	**Last Name**	**Area Code**	**Phone #**	**Ext.**	**Area Code**	**Fax #**	**E-mail**
State Entity Deputy Treasurer for Public Finance	Tim	Schaefer	916	657-3218				tim.schaefer@sto.ca.gov
Budget Officer	Karma	Manni	916	653-8217				karma.manni@sto.ca.gov
CIO	Jan	Ross	916	653-3965				jan.ross@sto.ca.gov
Project Sponsor	Blake	Fowler	916	651-6743				blake.fowler@sto.ca.gov

Direct Contacts								
	First Name	**Last Name**	**Area Code**	**Phone #**	**Ext.**	**Area Code**	**Fax #**	**E-mail**
Doc. prepared by	Lamont	Dukes	916	653-0648				lamont.dukes@sto.ca.gov
Primary contact	Maisha	Dottery	916	653-0445				maisha.dottery@sto.ca.gov
Project Manager	Maisha	Dottery	916	653-0445				maisha.dottery@sto.ca.gov

2.3 Section C: Project Relevance to State and/or Agency/state entity Plans

1.	**What is the date of your current Operational Recovery Plan (ORP)?**	**Date**	10/2015
2.	**What is the date of your current Agency Information Management Strategy (AIMS)/Strategic Business Plan?**	**Date**	07/2014
3.	**For the proposed project, provide the page reference in your current AIMS and/or strategic business plan.**	**Doc.**	Strategic Business Plan
		Page #	5

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		Yes	**No**
4.	**Is the project reportable to control agencies?**	**X**	

	If YES, CHECK all that apply:
X	**The project involves a budget action.**
	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.
X	**The estimated total development and acquisition costs exceed the Department of Technology's established Agency/state entity delegated cost threshold and the project does not meet the criteria of a desktop and mobile computing commodity expenditure (see SAM 4989 – 4989.3).**
	The project meets a condition previously imposed by the Department of Technology.

2.4 Section D: Budget Information

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Budget Augmentation Required? *		
No		
Yes	X	If YES, indicate fiscal year(s) and associated amount:

FY	13/14	14/15	15/16	16/17	17/18	18/19	19/20
	$664,658	$591,400	$1,381,183	$6,263,752	$5,751,752	$3,363,969	$952,936

* Expenditure and reimbursement authority is approved annually to fund the DMS II project. FY 13/14, 14/15, and 15/16 reflect revised actual and estimated project expenditures. BCP funded amounts were: FY 13/14 = $677,000, FY 14/15 = $1,056,000, and FY 15/16 = $1,382,000.

PROJECT COSTS

1.	Fiscal Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	TOTAL
2.	One-Time Cost	$864,874	$797,714	$1,695,362	$6,709,375	$6,197,375	$3,099,063	$0	$19,363,763
3.	Continuing Costs	$0	$0	$0	$0	$0	$487,718	$952,936	$1,440,654
4.	TOTAL PROJECT COSTS	$864,874	$797,714	$1,695,362	$6,709,375	$6,197,375	$3,586,781	$952,936	$20,804,417

PROJECT FINANCIAL BENEFITS

5.	Cost Savings/Avoidances								
6.	Revenue Increase	$	$	$	$	$	$	$	$

2.5 Section E: Vendor Project Budget

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Vendor Cost for SPR Development (if applicable)	$ N/A
Vendor Name	

VENDOR PROJECT BUDGET

VENDOR PROJECT BUDGET

1.	Fiscal Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	TOTAL
2.	SI Budget	$0	$0	$0	$3,998,796	$3,998,796	$1,999,398	$0	$9,996,990
3.	PM Support Budget	$0	$0	$373,750	$448,500	$448,500	$224,250	$0	$1,495,000
4.	Independent Oversight Budget	$76,800	$115,980	$112,560	$112,560	$112,560	$56,280	$0	$586,740
5.	IV&V Budget	$29,500	$139,500	$134,250	$179,250	$173,250	$87,000	$0	$742,750
6.	Statewide Technology Procurement Division	$18,837	$60,512	$99,792	$0	$0	$0	$0	$179,141
7.	Department of General Services	$0	$6,311	$18,797	$0	$0	$0	$0	$25,108
8.	Miscellaneous Contract Services	$0	$0	$10,000	$0	$0	$0	$0	$10,000
9.	RFP Consultant Budget	$424,651	$27,285	$49,242	$0	$0	$0	$0	$501,178
10.	TOTAL VENDOR BUDGET	**$549,788**	**$349,588**	**$798,391**	**$4,739,106**	**$4,733,106**	**$2,366,928**	**$0**	**$13,536,907**

PRIMARY VENDOR HISTORY SPECIFIC TO THIS PROJECT

	Primary Vendor	N/A
8.1	Contract Start Date	
9.1	Contract End Date (projected)	
10.1	Amount	$

PRIMARY VENDOR CONTACTS

	Vendor	First Name	Last Name	Area Code	Phone #	Ext.	Area Code	Fax #	E-mail
11.	N/A								
12.									
13.									

2.6 Section F: Risk Assessment

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RISK ASSESSMENT

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

General Comment(s)
Refer to Section 5 for a preliminary risk management plan. The DMS II project detailed Risk and Issue Management Plan is attached. The plan will be updated once the system integrator is on board to ensure that the Project manages risk and issues using one integrated project management plan.

SECTION 3: PROPOSED PROJECT CHANGE

3.1 Project Background/Summary

3.1.1 Business Objective

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 also 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:

- Borrow from capital markets and administer the State's debt at the lowest cost to taxpayers, and
- 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.

Within the STO, the Public Finance Division (PFD) is responsible for managing the State's bonded debt portfolio. The PFD oversees the issuance of State debt, and monitors and services the State's outstanding debt. The PFD acts as agent for sale for State general obligation (GO) bonds, revenue bonds, lease revenue bonds, revenue anticipation notes (RANs), and commercial paper (CP). The PFD also acts as agent for sale for revenue bonds issued by different financing authorities. In its function as trustee for State issued bonds and notes, the PFD calculates and ensures the timely and accurate payment of debt service (principal and interest), oversees ongoing tax compliance and manages the continuing disclosure requirements. In addition, the PFD administers the State's investor relations program, maintaining access to public finance information on the Treasurer's website and through the retail investor focused website, Buy California Bonds.

Maintaining the State's credibility, accuracy and efficiency in the capital markets, contributes to the market's confidence in the State's management of debt, and ultimately influences the State's borrowing costs. Any failure to timely or accurately make a required payment or perform required disclosure duties could result in severe penalties such as a credit rating downgrade, expose the State to costly litigation or cause higher borrowing costs.

A proprietary application, owned by the STO, called the Debt Management System (DMS) is used by PFD to help facilitate operational responsibilities. DMS is the official book of record for the State's debt and is integral to the STO's debt management program. The existing DMS was primarily developed to track the State's outstanding debt, calculate debt service payments on outstanding debt, validate the authority to issue debt, and monitor certain trustee functions.

DMS was developed in two phases for the STO. The first phase was implemented in 2002, and replaced an aging legacy system, providing basic debt service payment and tracking capabilities. The second phase, implemented in 2004, added further functionality to replace various ancillary systems that PFD maintained at the time.

STO's Information Technology Division (ITD) assumed full responsibility for the maintenance and operations (M&O) of the DMS following deployment in 2004. Since 2004, the amount of State debt tracked by DMS has increased by over 300%. Furthermore, changes have occurred in the State's financing needs as well as in the capital markets that have affected the types and structures of debt issued by the State. Along with changes in State laws and federal tax laws, these changes have added complexities to the State's debt that the ITD was unable to facilitate in the existing DMS application.

Because the ITD had not been trained to maintain the DMS application and infrastructure at a level of expertise and a pace commensurate with the STO's dynamic business needs, core functions such as CP and variable rate debt obligations have been maintained in disparate, home-grown, ad hoc systems created to address the DMS shortfalls. The risk of error increases as services continue to expand, transactions become more complex and the amount of the State's debt increases.

3.1.2 Business Problem/Opportunity

1. Current System (DMS) is inflexible and difficult to modify with STO's current limited, in-house skill sets.
    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 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:

i. Re-sort takes substantial time and user is unable to proceed until completion;
ii. 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 firm’s 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.

3.1.3 Project Background

In 2013, based on in-depth market research, as well as outreach to other large debt-issuers in the country, STO developed and received approval of a feasibility study report (FSR) to seek a solution-based procurement to replace STO's existing DMS application. The FSR was developed in response to the determination that a commercial off-the-shelf system that fully met STO's business requirements did not exist. STO and CalTech's State Technology Procurement Division (STPD) collaborated on the development of a Request for Proposal (RFP) in 2014. The time spent developing the RFP exceeded the time allotted in the FSR, which was subsequently addressed in SPR 1, as described below.

In February 2015, with the participation of STPD, STO released a draft RFP to assess the likelihood vendors could successfully bid a custom solution to satisfy STO's more than one-thousand requirements. Vendor responses proved that a custom solution would be fraught with risk, complexity and a high likelihood of failing to deploy a successful solution that satisfied all the business requirements in the proposed timeframe.

In March 2015, the DMS II project submitted SPR 1 to address the schedule slippage from the originally approved 2013 FSR and to re-baseline the cost estimates for the DMS II project. The SPR 1 was approved in May 2015.

Seeking to fully understand vendors' concerns in response to the draft RFP, and in a collaborative setting facilitated by STPD, STO reached out to vendors to gain insight on their reactions to the draft RFP. There was a wide range of concerns, but a constant theme was that the scope of the project was excessively large and complex. After contemplating their feedback, we evaluated whether the project's potential for success would increase and the risk of failure decrease if the RFP were broken into one or more modular components, which could be independently bid, built and deployed.

STO requested the DMS II Independent Verification and Validation (IV&V) vendor, Infiniti Consulting Group, assess whether the DMS II business requirements would be achievable if divided into modular procurements. Their findings determined that the requirements could be broken into essentially two groups: one that replaced the core DMS system with a new solution, and a second one that incorporated all additional requirements scoped for DMS II. As a prerequisite to soliciting vendor feedback again, STO sought and gained buy-in from CalTech to engage vendors in a discussion regarding their interest in a modularized proposal.

Again, collaborating with STPD, STO reached out to the vendors for feedback on the idea of a modularized project approach. The vendor reactions to a modular approach were at best tepid, and there was no clear indication that it would improve the likelihood that STO would receive successful, competitive bids from the vendor community. This feedback helped STO appreciate that the core of the DMS functionality, which works

well, is very hard for the vendors to recreate, in part because California's debt management operations are unique from the rest of the nation.

Armed with this emerging view of the challenge to replace the core functionality, IV&V suggested optimizing the proprietary DMS application, by incorporating all of the ad-hoc systems' functionality in a modernized DMS environment. This will allow STO to benefit by retaining the complex core, rather than recreating it. In so doing, the unique complexities of California's debt management application will be continuously operational throughout the duration of the DMS II project.

The DMS II Modernization project will achieve its objective through a series of incremental deployments or "optimization initiatives" representing the addition of new or enhanced functionality in the current application about every two months. The cost, time and risks associated with each optimization initiative are minimal when compared with the original big-bang waterfall approach proposed in the draft-RFP. Furthermore, incremental deployments benefit the PFD users by introducing improved and augmented functionality gradually over the life of the project, mitigating users being forced into extensive training to learn an entirely new system at the end of a lengthy development timespan.

In addition, deploying discrete optimization initiatives will result in the periodic retirement and/or elimination of manual and peripheral support systems. These retirements will be mapped to the optimization initiatives in the initial onboarding, strategy and roadmap development session, post contract award. Furthermore, they will be managed through the master project plan and supported with routine reporting to IPOC, IV&V and the Steering Committee. The DMS II's optimization initiatives approach promotes adaptive planning, evolutionary development, early delivery, continuous improvement, and encourages rapid and flexible responsiveness to change with the deployment of successive optimization initiatives.

Moreover, with incremental software deployments, the state mitigates the risk of expending extraordinary time and money on a system development project that cannot be "turned on" until after the majority of the financial investment and project life has passed. The DMS II Modernization approach minimizes project risks with small investments over short durations that can be quickly developed, tested and deployed.

IV&V supported their optimization recommendation with a second, in-depth analysis of the DMS environment, and determined STO's Oracle platform could be viable well into the future (*in excess of more than a decade based on current Oracle product commitments*). Making the Oracle platform viable includes the removal of obsolete Oracle products, the updating of Oracle software licenses, and the integration of an Oracle reporting tool to replace the Crystal Reports software.

IV&V suggested using DGS' Master Services Agreement (MSA) contract, which would allow STO to procure very specific skills through a Request for Offer (RFO), acquiring

the specialized technical expertise necessary to optimize the performance of the current DMS application and corresponding Oracle environment, by iteratively building and deploying improved functionality in the DMS application.

The DMS application is a proprietary software application owned by the STO, operating on Oracle Forms and an Oracle database. Several MSA vendors are expertly skilled in Oracle application development, as STO has determined through extensive market research with MSA certified vendors. At the present time, five vendors[1] (three of which are certified small business) possessing Oracle-expertise have expressed a desire to respond to STO's RFO. The certified small business vendors expressed appreciation for the use of the MSA as the contracting vehicle.

Optimizing the DMS application will benefit the project by lowering procurement risks because by choosing to modernize the DMS application, resources will not be spent on reinventing the working core of the DMS system. Avoiding unnecessary risk, time and effort by not rebuilding the core of the current DMS application, maximizes the STO's investment of resources and time. This increases the effectiveness of the procurement by focusing contracted services on reducing PFD's dependency on manual or peripheral support systems, while still achieving the full desired future-state of the DMS II application.

Furthermore, STO's ITD staff will have a more ideal knowledge transfer experience with the development of the optimization initiatives, due to retaining the Oracle platforms. To maximize this opportunity, staff are taking formal Oracle training in advance of the contract award, which will be supplemented with the knowledge transfer from the vendors. Therefore, the staff will be well prepared to assume ongoing responsibility for the maintenance and operations, post contract completion; ensuring new and emerging requirements can be incorporated with agility, into perpetuity.

STO informed CalTech of the recommendation to use the MSA contract, via the RFO procurement process, and discussed the distinctions between the RFP and RFO procurement mechanisms. The MSA contract utilizes seven classifications[2] and defines the minimum qualifications of the staff fulfilling each of those classifications. In the DMS II RFO and SOW, STO has described the acceptable minimum qualifications of the staff to be contracted via the MSA, and the roles they must fulfill on the project. STO informed the IPOC, DOF, and LAO of the alternative procurement approach using the MSA to incrementally optimize the DMS application in advance of the May 2015 budget hearings.

[1] In alphabetical order, the five vendors are: Accenture (*MSA certification in process*), Cambria Solutions, KPMG, Natoma Technologies, and Taborda Consulting. However, the RFO will be sent to at least 15 qualifying MSA vendors.

[2] The seven classifications are Senior Project Manager, Project Manager, Senior Technical Lead, Technical Lead, Senior Programmer, Programmer, and Systems Analyst.

Subsequently, in the Senate and Assembly Sub 4 hearings May, 2015, STO shared this decision to more thoroughly vet the possibility of leveraging the DMS application and using the MSA as the procurement vehicle. The legislature asked DOF & LAO if they had any concerns with this approach, and neither agency did. The legislature asked the STO to submit a Joint Legislative Budget Committee (JLBC) report on the project's progress with this change in procurement by October 30, 2015. STO also committed to submit SPR 2, in October, to formalize the change in procurement and re-baseline the project.

The STO then engaged the DGS to fully vet the requirements necessary to have DGS delegate procurement authority to the STO, and thereby authorize STO to use the MSA up to the $10 million dollar procurement threshold. Over the course of June, July and August 2015, the STO and DGS worked together to establish our mutual understanding, requirements and expectations for the STO to use the MSA contracting method.

Concurrently, and because STO is a licensed Oracle customer, STO engaged Oracle in a confidential analysis of the in-production DMS environment and the original DMS II requirements written for the FSR, to aid in the development of the DMS optimization strategy. Oracle scheduled multiple meetings, diving deeper and deeper into the DMS code and architecture, ultimately presenting STO with sufficient information to support IV&V's recommendation. As a result, STO affirmed the recommendation to leverage the existing DMS application, by contracting for the technical expertise necessary to incorporate the DMS II functional and business objectives in an incremental optimization deployment approach.

Throughout this process, STO also consulted with the DMS II Procurement vendor, Grant Thornton, who concurred that optimizing the existing DMS application was viable and discussed the following benefits with STO:

- Reduce overall project risk by:
    - Simplifying project objectives by not contracting for services that reinvent and rebuild the DMS core functionality that currently works
    - Maintaining the underlying working system on the Oracle platform
- Realize the highest likelihood for successfully satisfying the DMS II business requirements by maintaining the core functionality of the DMS application
- Reduce the scope of the contracted IT services by not contracting for services to reinvent and rebuild the core functionality of DMS
- Reduce the procurement timeline by acquiring the necessary technical expertise via the State's MSA contract, which better serves this situation when we can leverage the existing application and Oracle licenses; as opposed to the RFP process which is more aptly suited when the technical solution is not a modernization effort
- Provide the opportunity for "off ramps" throughout the project life cycle, through negotiated functional optimization initiatives, whereby the state maintains a working system in the event of an unplanned departure from the vendor

- Reduce total project expense by deploying the DMS II solution sooner than was projected in the RFP proposal, which slated March 2020 as the end of a big-bang development and the beginning of a turn-key deployment.

Furthermore, STO researched recent modernization procurements including SCO's MyCalPays Project, Consumer Affairs' BreEZe system, DMV's IT Modernization Project, and the AOC's Court Case Management System. We found these initiatives were developed based on a traditional, waterfall approach with detailed articulation of business requirements, where the procurements resulted in repeated change orders, contract amendments, and a recurrent theme of an overall failure to meet expectations at the scheduled time of the turn-key deployment.

However, two successful IT procurements currently in use within the state emerged as a best-of-breed alternative, where the state entities undertook functional optimization initiatives of existing systems with measurable and demonstrated success. STO received a copy of the Department of Water Resources (DWR) contract; and a copy of the CalPERS RFP (No. 2014-7159). STO's CIO reached out to both DWR and CalPERS to apply their insights on the effectiveness, satisfaction and lessons learned from these procurements, relative to the DMS II project.

Summarizing their comments, the STO learned that both IT procurements sought the functional optimization of their current systems, each through an over-arching contract for time and materials, with only very high-level business objectives stated at the outset. However, during the course of engagement, and on a recurring frequency, the vendor and the state collaboratively defined the detailed business requirements of unique optimization initiatives, and then negotiated the respective cost of an initiative based on level of effort. Each optimization initiative was then codified in a Work Order Authorization, under the scope of the original procurement, and the vendor was paid upon completed deployment of the initiative in the Work Order Authorization.

CalPERS stated they have found that seven weeks represented their optimal timeframe to schedule releases of optimization initiatives. Each optimization initiative added value to CALPERS immediately upon completion and deployment. While the development of one optimization initiative was underway, a blended team of state and vendor personnel were analyzing the other optimization initiatives, scoping and codifying the Work Order Authorizations for a continuous development & deployment process until the original high level objectives have been satisfied within the fixed-term and not exceeding the total contract dollars.

CalPERS shared many templates and tools to assist STO in applying this best-of-breed IT procurement model to the DMS II RFO. Additionally, CalPERS has a total of five vendors working concurrently on optimization initiatives, one prime contractor and four sub-contractors. STO met with two of CalPERS' vendor teams to gain insight from the vendors' perspective on contracting for optimization initiatives in support of a

modernization project to ensure the right approach is applied to the DMS II modernization project.

3.1.4 Project Objectives

As a result of the considerable research STO has conducted since May 2015, STO is confident in the decision to leverage the core functionality of the current DMS application, and procure vendor services for the functional optimization of the DMS II objectives. STO seeks to employ the aforementioned best-of-breed approach procuring vendor services where the vendor and state staff will work together and develop the detailed requirements for each optimization initiative. This approach will be thoroughly defined in the DMS II RFO, and rather than "reinvent the wheel" STO will model much of the RFO after CalPERS' language.

Applying lessons learned from the CalPERS and DWR successes, STO will apply the same approach. The evidence supporting this statement is based on comments from CalPERS CIO, who said this procurement model resulted in a better vendor-state team by enhancing the timeliness of knowledge transfer. This was achieved by allowing the state and vendors to learn from each predecessor initiative and apply it in the planning of the next initiative. CalPERS increased their overall potential for a fully successful project optimizing their current system, unhindered by contract amendments and change orders.

The DMS II Modernization project will improve the architecture and application, increase the system functionality, supportability, and flexibility, enabling the STO to effectively manage the State's debt and adapt to evolving business needs. Under this procurement approach, the STO will not use the formal requirements[3] that were previously written for the draft-RFP, but will use a comprehensive list of optimization objectives[4] to create the optimization initiatives.

The decision to use the list of optimization objectives, rather than the former requirements developed for the RFP, is the result of the research conducted by STO with CalPERS, DWR, the vendor community, and the application of the "Recommendations to Improve Large Information Technology Procurements: A Road Map for Success in California"[5] which states "In large-scale IT projects, it may be impossible to adequately specify the exact requirements. There is considerable

[3] The requirements are located in the Offerors' Library, and accessible as a reference source to vendors in advance of preparing their RFO responses. The Offerors' Library is the equivalent of the Bidder's Library, commonly associated with a RFP; however, because this is a Request For *Offer*, the vendors are referred to as Offerors, hence the term "Offerors' Library."

[4] The complete list of Objectives is also identified in the RFO, which contains cross-references to the corresponding Business Process Maps for each objective. The Business Process Maps are located in the Offerors' Library. The Offerors' Library is the equivalent of the Bidder's Library, commonly associated with a RFP; however, because this is a Request For *Offer*, the vendors are referred to as Offerors, hence the term "Offerors' Library."

[5] Written by the *Task Force on Reengineering IT Procurement for Success,* August 2013.

information uncertainty for both the state and vendors. Therefore, the state should allow itself greater flexibility throughout the life cycle of the procurement to address this uncertainty."

3.1.4.1 DMS II Functional Optimization Objectives

Enhance DMS functionality to support the following business processes: (Note: As-is Business Process Maps and Business Process Map Descriptions will be available to all Offerors' during the procurement via the Offerors' Library. Post-procurement, they will be included in the project library and shall be made available upon request to the PMO. The STO's current business processes are expected to change as appropriate to account for increased system functionality.)

a. **Commercial Paper**
b. **Debt Authority**
    i. Projects and Insurance
    ii. Project Lifecycle
c. **Insurance**
d. **Debt Service**
    i. Variable Rate Debt Service Payments
    ii. Fixed Rate Debt Service Payments
    iii. Commercial Paper Debt Service Payments
e. **Pooled Money Investment Account**
f. **Issue Debt**
    i. General Obligation Bond Sale
    ii. Lease Revenue Bond Issuance
    iii. Conduit Bond Issuance
    iv. Revenue Bond Issuance
    v. Post Issuance Process
g. **Bond Call**
h. **Fund Maintenance**
i. **Investments**
j. **Tax**
k. **Reserves**
l. **Fees**
    i. Bond Sale Fees

ii. Ongoing Variable Rate Program and Commercial Paper Fees
iii. Program Administration Fees
iv. Claim Schedule

m. **Disclosure and Financial Reporting**
i. Material Events
ii. Annual Disclosure

n. **Investor Relations**
i. Request For Quote Pool Renewal Process
ii. Daily News Review
iii. Orders and Allotments Database
iv. Incidents

o. **Refund/Refinance**
i. General Obligation Refund/Refinance Analysis
ii. Revenue Refund/Refinance Analysis
iii. Lease Revenue Refund/Refinance Analysis

p. **Issue Sub-process Coordination**

q. **Issue Variable Rate Bonds**

r. **System Administration**

3.1.4.2 DMS II Application Optimization Objectives

Enhance the DMS application to support the following objectives:

a. Enhance DMS User Interface
i. Design a user friendly and visually appealing user interface (UI) with improved usability including optimized layout, navigation, screen space, and scrolling functionality

b. Upgrade Legacy Components
i. Upgrade Oracle Forms Application from 10gR2 to 12c
ii. Upgrade Oracle Enterprise Database from 11gR2 to 12c
iii. Replace Oracle Internet Application Server 10gR2 with Oracle Weblogic 12c

c. Implement Improved Application Functionality
i. Implement Oracle Forms 12c features to improve the user interface, functionality and usability
ii. Incorporate single sign on

iii. Implement as-of reporting functionality e.g. temporal database features such as capturing data, data changes and/or user activities over time

d. Reengineer System Functionality for Business Process and Workflow Management

i. Review existing DMS business process logic and technologies and implement enhanced, auditable and modifiable business process management functionality

ii. Enhance or replace existing activity tracking with workflow and approval processes to identify, notify, schedule and assign transactions to specific users

e. Implement improved reporting capabilities

i. Re-write existing Oracle and Crystal Reports to streamline queries, improve performance and enhance ability to modify

ii. Create ad-hoc reporting capabilities for all users

iii. Create interactive business user and executive user dashboards

f. Modernize DMS Application

i. Conduct code analysis and identify optimization opportunities

ii. Implement improvements identified by code analysis

iii. Remove redundant and unused code from application

iv. Remove obsolete code from DMS II architecture for example Oracle Designer and Headstart

g. Source Code and Configuration Management

i. Create source code repository and configuration management capabilities

h. Testing Tools and Processes

i. Create automated testing processes for the DMS II project that the STO can utilize post system implementation for application upgrades and enhancements

These optimization objectives will be used by the blended STO and vendor team, post contract award, to identify and prioritize the potential[6] universe of optimization initiatives.

[6] The onboarding will identify the *potential* universe of optimization initiatives. However, with incremental deployments, each initiative becomes a learning opportunity from which the State-vendor team will apply adaptive planning, evolutionary development, and continuous improvement of the optimization initiatives. This allows the State-vendor team to rapidly apply incoming information learned in predecessor initiatives. It is this approach that creates a proactive project team to ensure all objectives are fully satisfied. It is conceivable that over the project life cycle optimization initiatives may either combined for greater efficiency, or divided into smaller optimization initiatives, which will be managed through the Master Requirements Traceability Matrix for full visibility and assurance of meeting all DMS II Modernization objectives.

The blended team will jointly analyze and design the functionality to satisfy the optimization initiatives and develop detailed business requirements for each optimization initiative.

The vendor will be authorized through a Work Order Authorization to use the detailed business requirements to develop a requirements traceability matrix (RTM) for each functional optimization initiative, then develop the code, conduct knowledge transfer, test, deploy and stabilize the code. The RTM will serve to map all DMS II functional and application objectives to the optimization initiatives, as described in detail in Section 4.5.6, “Vendor Support.”

It is not expected that there will be a one-to-one relationship between functional and application objectives to optimization initiatives. Rather, it is anticipated that combining some functional objectives, and/or combining some application objectives may be addressed within one or more optimization initiatives. The state and vendor will work together in a blended team to design, develop and deploy optimization initiatives iteratively throughout the life of the contract. Detailed elaboration of these concepts is found later in the report, in Section 4.5.6, “Vendor Support.”

The RTM allows the project team to trace the detailed business requirements to the optimization objectives as a management tool to ensure the objectives of each initiative are achieved. Furthermore, there will be a Master RTM to ensure the full scope of the DMS II objectives are satisfied over the course of the contract. The DMS II PMO support vendor, VIP, will be responsible for managing the Master RTM. The RTM does not serve as a cost management tool, but a scope management tool. In this manner, STO will confirm that all objectives are satisfied through the development and deployment of the DMS II functional optimization initiatives. The costing and payment milestones for each optimization initiative are described in detail in the RFO and SOW.

Moreover, lessons learned will be developed with each DMS functional optimization deployment, to ensure previously undetected system constraints or processes can be applied in the development of successive optimization initiatives. Thus, the DMS II approach will incorporate adaptive planning, evolutionary development, early delivery, continuous improvement, and encourage rapid and flexible responsiveness to change.

3.2 Project Status

In March 2015, the DMS II project submitted SPR 1 to address the schedule slippage from the originally approved 2013 FSR and to re-baseline the cost estimates for the DMS II project. The SPR 1 was approved in May 2015.

In May 2015, the STO testified in the Senate and Assembly Sub 4 hearings in support of STO's submission of the annual DMS II BCP and follow-on SPR 1; and to notify the legislature of the impending change in procurement to optimize the existing platform.

In July 2015, the STO engaged Oracle's technical-solution experts for a comprehensive assessment of the DMS I system to develop a roadmap for optimizing the existing application.

In September 2015, STO requested CalTech send a letter of approval to DGS, in support of STO's use of the MSA contract to optimize the DMS architecture and application. In a conference call in December with Marnell Voss (CalTech), Jim Butler (DGS) and Jan Ross (STO), CalTech gave verbal approval to DGS for STO to use the MSA.

In October 2015, STO released the completed SPR 2, formalizing the change in procurement and re-baselining the project schedule. STO sent the JLBC report to the legislative representatives, on October 30, 2015.

In November 2015, DGS suggested the STO consider awarding one primary vendor contract, and two contingency vendor contracts. Under this scenario, STO would award a Proof of Concept contract to the highest scoring vendor, and also award two contingency contracts, in the event STO wasn't satisfied with the proof of concept.

In December 2015, STO developed the draft Request for Offer incorporating DGS' tiered contract-award approach. If approved, STO would be required to modify the SPR II accordingly. However, after DGS reviewed the draft, they asked STO to consider another alternative. Rather than using a tiered approach with contingency contracts, DGS asked STO to consider awarding and managing up to three vendor contracts concurrently. The goal of three concurrent awards would be to increase the number of optimization initiatives that could be developed concurrently, raising the potential that all initiatives could be completed within the project timeline.

STO analyzed the pros and cons of awarding three concurrent vendor contracts. Subsequently, DGS, CalTech and STO collectively discussed this proposal on a conference call on 12/15/2015. Settling on the idea of awarding up to three concurrent contracts would mean eliminating the paid proof of concept, and introducing an 8-week, time and materials, multi-vendor onboarding, strategy and roadmap development process. Subsequently, the vendors would work concurrently on distinct optimization initiatives, which they would move to a shared staging area where each vendor would be responsible for systems integration and regression testing, prior to promoting code to production.

The complexities of managing three vendor contracts, where the State becomes the Systems Integrator introduced the need for an additional DPM III on the DMS II project, performing the role of Systems Integrator (SI). It was envisioned the SI would

coordinate, monitor and provide oversight on all vendor project plans, schedules, test plans, test results, defect management, migration and stabilization, in addition to overseeing UAT. The SI would be responsible for approving vendor test results and approving migrations to production. The SI would ensure target dates are met, multi-vendor needs are identified and activities are coordinated with the PMO and the DMS project team.

STO submitted SPR 2 v4 on 12/22/15, which reflected the incorporation of the three-vendor approach, but continued to evaluate the STO's true ability to manage the tremendous complexities introduced by the concept of three concurrent awards, where the State is the SI. After meeting with seven more vendor firms, and multiple meetings with Oracle, in addition to meeting with the former Agency Information Officer for CDCR (who has extensive experience and insight on multiple vendor awards), STO determined awarding three concurrent vendor contracts would unnecessarily heighten the risk of project failure.

The risk would be the result of the State assuming responsibility for all architectural decisions, which would be dictated to the three vendors. If the vendors could not be successful both independently and collectively with the State's architectural decisions, the vendors would be absolved from responsibility, as the State would be the responsible entity for imposing the technical constraints on the vendors. This risk would be mitigated if STO's DPM III SI possessed expert-level knowledge of Oracle Forms, exceeding the expertise of the vendors we seek to acquire. Based on broad knowledge of the State's IT skills, STO's Oracle skills, and strong advice from the project's IV&V vendor, this was deemed unrealistic.

After communicating with CalTech, DOF and LAO of STO's decision to seek a single vendor award, and rescind the submission of SPR 2 v4, STO gained CalTech's support to revise the SPR for a single vendor award, and submit SPR 2 v5. However, the additional time spent reviewing the possibility of awarding to three vendors, resulted in significant value to the project team, helping us to better understand our architectural complexities and options, while garnering even greater interest from the vendor community on the DMS II project.

The vendors almost unanimously expressed a desire for a single contract award, where one vendor is the SI and that vendor has the liberty to exercise judgment in selecting sub-contractors. As the SI, with the appropriate level of Oracle forms expertise, the vendor is then responsible for dictating the architectural components and conditions under which all sub-contractors will develop the DMS II optimization initiatives. Furthermore, the vendors believe that with the responsibility of being the SI, and selecting sub-contractors, they can achieve the scope of the project within the given timeline.

The DMS II RFO is on schedule to be distributed to the vendor community, January 22, 2016.

3.3 Reason for Proposed Change

Given the historical statewide challenges of implementing complex IT projects, the STO was in pursuit of the best solution that could be leveraged to meet the business objectives, reduce the project timeline, and minimize risk.

STO's proposed alternative procurement to award a contract to develop and deploy optimization initiatives is on the forefront of an emerging key strategy for the State of California to achieve success in information technology modernization projects. The DMS II's optimization initiatives' model mimics many aspects of an agile[7] system development methodology and will improve the current system with incremental deployments representing the addition of new or enhanced functionality in the current application.

Based on the current DMS assessments, and the considerable advice of industry experts such as Grant Thornton and Infiniti Consulting Group, STO determined leveraging the existing DMS application and platform minimizes overall project risk and increases the likelihood of project success.

Furthermore, it is anticipated that pursuing the modernization of the existing DMS platform reduces the overall project schedule by 15 months.[8]

Other benefits with this approach are characterized below.

- Reduce the degree and impact of organizational change management by maintaining the Oracle platform and core DMS proprietary application. This benefits both the PFD user and the ITD staff supporting the system by reducing the amount of change and accelerating the adoption of enhanced functionality.
- Reduce the time to negotiate and award a vendor contract by using the IT-MSA leveraged contract.

[7] The term "agile" here is used to describe an adaptive approach to designing, developing and deploying initiatives, by taking into consideration information learned from prior initiatives, which may include nuances about the DMS application code, data, and/or infrastructure that were not known at the outset of the project. Incorporating the new information into the analysis and development of subsequent initiatives, creates an environment of continuous improvement in the analysis and design of future optimization initiatives, and overall flexibility to respond to the new, clarifying and often critical information rapidly, than would otherwise be possible through formal change orders or contract amendments.

[8] The DMS II modernization effort is planned for completion in December 2018, which will be supportable with the MSA extension. The State's MSA currently ends in March 2018, but DGS gave assurance that a one-year extension will be issued prior to the end of the MSA, resulting in a new termination date of March 2019. The DMS II contract awards must align with the State's MSA of March 2018, and include an explanation that a one-year option exists, when the MSA is extended through March 2019. The originally planned DMS II procurement, which would have entirely replaced the DMS application, was targeted for completion in March 2020.

- Reduce the complexity of the IT services contract, as it will not require a vendor to propose a custom-built solution on unfamiliar hardware and software that incorporates more than 1,000 requirements.
- Improve deployment through incremental deliverables (rather than a riskier turn-key, big bang deployment after years of development) thus ensuring the state receives a positive ROI of the contract fees paid to the vendor.
- Eliminate unsupported hardware and software, by updating the Oracle products to the most current versions.
- Minimize the cost and operational effort to implement and maintain systems on known technology as STO already owns Oracle software licenses; therefore, the majority of the Oracle license are upgradeable within our current contract. With noted exceptions such as replacing the Crystal Reports tool with the Oracle Business Intelligence Reporting tool.
- Improve business agility by making the existing applications more flexible for satisfying STO's current and future business requirements.
- Improve the DMS' reporting functionality for standard and ad-hoc reports. Crystal Reports will be replaced with Oracle's Business Intelligence reporting tool. Having an integrated Oracle reporting tool will improve the processing time and accuracy of ad-hoc report creation with seamless integration to the rest of the Oracle products. In addition, it offers a more sustainable report management tool and incorporates an executive-level dashboard enabling the Treasurer to more easily engage with the management of California's very large debt portfolio.
- Improve system documentation for long-term sustainability. The existing DMS proprietary application has nominal technical documentation that is used as a guide to manage the technical aspects of the system. However, optimizing DMS will result in a fully documented system with process guides for ongoing maintenance; ensuring new and emerging statutory or legislative changes can be successfully incorporated by STO's staff.
- Improve the technical skills of the IT staff responsible for the maintenance and operations of the DMS system. The IT staff will engage in knowledge-transfer from the SI, as the functional optimization initiatives are analyzed, designed, coded and deployed. Furthermore, the IT staff will receive formal training on the current Oracle products. The training is within the project's budget.
- Improve the Oracle production platform, by eliminating the dependency on obsolete Oracle products such as Designer and Headstart, both of which will be completely removed through the DMS optimization. The Oracle development tools will be upgraded, as well as the Oracle database enterprise edition, and Oracle's forms and reporting tools. These tools were precluded from upgrading to the most current versions due to their design integration with obsolete Oracle products that couldn't support the upgrade of integrated components.
- Eliminate PFD's dependency on ancillary systems, such as Microsoft Excel and Access that were developed after the original DMS deployment to supplement DMS functionality. Additionally, reduce the overhead of double-data entry

currently required to maintain the multiple ancillary systems, and in turn reduce the potential for errors.
- Increase the likelihood for an overall successful project resulting from the aforementioned benefits.

SPR 1 to SPR 2 - Schedule Variance (diagram below not to scale)

SPR 1 - Timeline

|---------- 5 years, 3 months ----------|

Procurement – 2 Y, 3M	**Design, Development, Implementation, (DDI) – 3 Years**
Draft -RFP to Contract Award January 2015 – March 2017	Initiation, Solution Development, End-to-End Testing, UAT, Pilot, Go-Live, Stabilization March 2017 – March 2020

3.3.1 SPR 1 Approved Timeline Explanation

The SPR 1 timeline was based on a traditional IT procurement model where the State requires two years to complete procurement and contract award, and the vendor has one long timeline over which to propose the solution and platform, then design and develop, test and deploy it in a big-bang approach.

The SPR 1 procurement process was scheduled for completion in March 2017. The prolonged procurement timeline was the result of using the Request for Proposal, which is a far more complex contracting method, when compared with the State's Leveraged Procurement Agreements (LPAs) that allow departments to buy directly from suppliers through existing contracts and agreements.

SPR 2 proposes using the State's LPA established for Master Agreements (*a.k.a. Master Servicing Agreements, or MSA*), which are contracts that are competitively bid by DGS. They establish a prequalified list of vendors and simplify the purchasing process for the end user.

By adopting SPR 2 over SPR 1, a full year is shaved-off the procurement timeline. The State benefits in that the development is no longer the riskier big-bang approach, and the deployment is moved up from March 2020 to December 2018.[9]

[9] As noted previously, the DMS II modernization effort is planned for completion in December 2018, which will be supportable with the MSA extension. The State's MSA currently ends in March 2018, but DGS gave assurance that a one-year extension will be issued prior to the end of the MSA, resulting in a new termination date of March 2019.

3.3.2 SPR 2 Proposed Timeline Explanation

SPR 2 - Timeline

|---------- 3 Years ----------|		
RFO Release & Contract Award	**Onboarding & PM Schedule Creation**	**Repetitive Cycles**: Design, Development, Implementation (DD&I) with Stabilization & Integration, 2Y, 8M
1/2016 – 4/2016	**5/2016 - 6/2016**	**July 2016 - December 2018**
		System Performance Optimization
		Database Performance Optimization
		Production Reporting Optimization
		Test Optimization
		Data Optimization

Comparable to the CalPERS' methodology which employs five vendors (one SI and four sub-contractors), the undertaking of the DMS II SPR 2 optimization initiatives is illustrated above in a stacked diagram. The stacking of the high-level optimization initiatives is for illustration purposes only to represent the categories of activities being conducted sometimes in parallel and sometimes sequentially.

The 8-week onboarding will identify the potential universe of optimization initiatives and determine their prioritization for the order in which they will be undertaken. This chart is not intended to represent the individual initiatives that will be identified in the onboarding process. Additionally, the onboarding of the blended STO-vendor team will produce the project schedule that will be used to manage the remainder of the project.

As we learned from the vendors supporting the CalPERS project, the concurrent and multiple optimization initiatives will have varying development periods, but the overall project has a release objective on a regularly recurring schedule. By applying this

The DMS II contract must align with the State's MSA of March 2018, and include an explanation that a one-year option exists, when the MSA is extended through March 2019.

approach to the DMS II Modernization project, the optimization initiatives will be prioritized and planned to achieve a consistent, recurring production release of new functionality, seeking the full deployment of all optimization initiatives within STO's ~2.5 year timeline.

3.3.3 DMS Optimization Prioritization

As previously described, the initial 8-week onboarding session will produce a high-level identification of the anticipated universe of optimization initiatives, prioritizing the order in which they will be planned for development and deployment. The prioritization analysis will be supported through the determination of how the optimization initiatives will benefit (1) PFD's business processes, and (2) the foundational relationship of functionality achieved critical to successor activities, infrastructure components and/or functionality.

3.4 Proposed Project Change

3.4.1 Comprehensive Project Cost Comparison

SPR 2 accounts for the change in the DMS II project's revised procurement approach and reduced timeline. The change in approach accelerates the project schedule and the corresponding planned expenditures. Below is a comprehensive cost comparison for the complete project lifecycle between SPR 1 and SPR 2.

SPR 1 to SPR 2 Cost Comparison			
	SPR 1	**SPR 2**	**Variance Description**
One-Time IT Project Costs			
Staff (Salaries & Benefits)	5,425,827	4,745,355	Most significant variance driver is due to the shortened project timeline. Various other adjustments were made to the State staff resources, including addition of a SSS II Network Administrator and an Associate ISA Test Analyst.
Hardware Purchase	70,000	141,000	Hardware estimates updated to reflect current expectation of project needs
Software Purchase/License	250,000	650,000	Software Purchase/License estimates updated to reflect current expectation of project needs
Telecommunications	0	0	No Change

Software Customization[10]	8,195,040	9,996,990	Vendor cost estimates were updated to reflect current expectation of the vendor staffing needs of the project.
Project Management	1,411,200	1,495,000	PM support vendor contract was executed that was higher than estimated in SPR 1 which in turn offset the shortened project timeline.
Project Oversight	718,060	586,740	Variance is due to the shortened project timeline.
IV&V Services	925,900	742,750	Most significant variance driver is due to the shortened project timeline. Various other minor adjustments were made to the timing of certain IV&V Deliverables.
Statewide Technology Procurement Division	735,861	179,141	Variance is due to the reduction of STPD participation resulting from the revised procurement strategy.
Department of General Services	0	25,108	Variance is due to the project's increased utilization of DGS Leveraged Procurements that were not anticipated in SPR 1.
Miscellaneous Contract Services	0	10,000	Additional vendor resource performed automated forms analysis that was not applicable under the previous solution based procurement that was anticipated in SPR 1.
Procurement Assistance Vendor	619,032	501,178	Variance is due to the shortened procurement timeline.
Data Center Services	75,000	0	Variance is due to the revised expectation that additional Data Center Services will not be required.
Agency Facilities	25,000	112,500	Variance is due to revising the estimates of office space, equipment, etc. that will be required by the project.
Other	50,000	178,000	Variance is due to revised estimates of misc/training needs.
Total One-time IT Costs:	**18,500,919**	**19,363,763**	
Continuing IT Project Costs			

[10] STO worked with IV&V to break up the expected work activities and IV&V provided expertise of systems development to quantify.
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Staff (Salaries & Benefits)	771,772	1,258,404	Most significant variance driver is due to adjustments made to the State staff resources, including addition of a SSS II Network Administrator and an Associate ISA Test Analyst.
Hardware Lease/Maintenance	18,667	21,000	Variance is due to the revised project end date's relationship to the State's Fiscal Years. State reporting requirements result in an additional 2 months of costs that are being reported.
Software Maintenance/Licenses	146,667	150,000	Software Maintenance/License estimates updated to reflect current expectation of project needs
Telecommunications	0	0	No Change
Contract Services	302,400	0	No Change
Data Center Services	33,333	0	Variance is due to the revised expectation that additional Data Center Services will not be required.
Agency Facilities	0	11,250	Variance is due to revising the estimates of office space, equipment, etc. that will be required by the project.
Other	0	0	No Change
Total Continuing IT Costs:	**1,272,839**	**1,440,654**	
Total Project Costs:	**19,773,758**	**20,804,417**	

The DMS II SPR 2 procurement approach will seek to award one vendor contract with a start date in May 2016. The project's "Primary Vendor Budget" allotment will be incrementally paid to the vendor upon deployment of optimization initiatives, as described later in Section 4.5.6.4 Costing Approach. It is STO's expectation that the completion of all optimization initiatives will occur within the proposed project timeline and the total allotment for the "Primary Vendor Budget" is not anticipated to exceed the total of $9,996,990.

Beginning in July 2016, the SI will begin working on the optimization initiatives. It is expected that the schedules of each optimization initiative will vary by their unique detailed business requirements (which are produced in the "Analysis" phase - see Illustration 4.5.6.1). However, the STO seeks a recurring consistent optimization deployment which will be factored into the prioritization and scheduling of the initiatives.

Additionally, the STO-vendor team onboarding session will produce the preliminary (or initial) master project schedule by which the project will be managed. The Master Project Schedule will be administered by the DMS II PMO support vendor, VIP.

3.4.2 Project Cost Comparison FY 16/17: One-Year Only View

The following table compares the planned DMS II project costs for FY 16/17, between SPR 1 and SPR 2. Cost variances between SPR 1 and SPR 2 for FY 16/17 are primarily the result of accelerating the schedule by bringing vendors onboard nine months ahead of the SPR 1 schedule and delivering optimization initiatives much sooner than the SPR 1 deployment date of 3/2020. Additionally, two more project staff have been added: 1) an Associate Information Systems Analyst, performing the role of a Test Analyst (this workload was previously unaccounted for); and, 2) a Systems Software Specialist II, performing the role of a Network Administrator. Due to the immediate and ongoing workload of the upgraded Oracle infrastructure, it was determined a network administrator is needed throughout the duration of the optimization initiative deployments.

SPR 1 to SPR 2 Cost Comparison FY 16/17		
	SPR 1	**SPR 2**
One-Time IT Project Costs		
Staff (Salaries & Benefits)	529,792	1,255,269
Hardware Purchase	0	120,000
Software Purchase/License	0	500,000
Telecommunications	0	0
Contract Services		
Software Customization	910,560	3,998,796
Project Management	302,400	448,500
Project Oversight	112,560	112,560
IV&V Services	173,250	179,250
Statewide Technology Procurement Division	199,584	0
Department of General Services	0	0
Miscellaneous Contract Services	0	0
Procurement Assistance Vendor	19,438	0
TOTAL 16/17 Contract Services	**1,717,792**	**4,739,106**
Data Center Services	8,333	0
Agency Facilities	5,000	45,000
Other	25,000	50,000
Total 16/17 Project Costs	**2,285,917**	**6,709,375**

3.4.3 Project Milestones for SPR 2

Realized and/or Planned Milestones for SPR 2	DATE
Obtained STO Executive Sponsor approval for the use of the state's MSA contracting vehicle	9/1/2015
STO requested STPD Deputy Director, CalTech, to send letter to DGS approving STO's use of the MSA contract.	9/1/2015
STPD Deputy Director gave verbal authorization to DGS approving STO's use of the state MSA contract on the DMS II project, stipulating continued STPD oversight.	12/15/2015
DGS Delegated Procurement Authority to STO, for up to $10M vendor contract, stipulating CalTech, STPD oversight on procurement.	12/21/2015
Develop RFO	9/1/2015 – 1/21/2016
Release RFO	1/22/2016
Deadline to submit questions for Offerors' Conference	2/12/2016
Offerors' Conference	2/18/2016
Post responses to questions	2/25/2016
Submission of Intent to Participate	3/1/2016
Final Filing Date	3/25/2016
Preliminary Review	April 2016
Evaluation and Scoring of Offers	April 2016
Finalists Selected	4/20/2016
Finalist(s) Interviews	4/25/2016 – 4/28/2016
Contract Award	4/29/2016 – 5/13/2016
8-week Blended-Team Onboarding	5/16/2016 – 7/8/2016
Optimization Development Begins	7/11/2016
Recurring Deployments[11]	9/19/2016 – 12/30/2016
DMS II Modernization effort completed	December 2018

[11] Under this procurement model, the Master Project Schedule will be produced at the close of the 8-week onboarding session. At which time, the anticipated universe of optimization initiatives will be identified, and scheduled.

3.4.4 Accessibility

The modernization effort 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 their final product 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.

3.4.5 Impact of Proposed Change on the Project

To address the changes associated with adopting a new procurement strategy to meet the business objectives, reduce the project timeline, and minimize risk, the project assessed the implications of the proposed changes on the following areas and reviewed the attached checklist questions to ensure that the revised procurement approach would not adversely impact the overall project objectives.

Overall Project Impact Summary	
Impact Area	**Impact Summary**
Objectives	• The objective to satisfy the PFD's business requirements for effective debt management remains unchanged.
Scope	• The scope of the project is reduced by eliminating the work necessary to rebuild the core functionality of the current DMS application, as previously described in this document. The Offerors' Library is available for reference, and contains the original requirements developed for the RFP. However, the DMS II Modernization project will use Optimization Objectives, as stated herein and in the RFO, from which detailed business requirements will be derived.
Schedule	• The project deployment date is earlier by 15 months.
Costs	• Due to awarding a contract ten (10) months ahead of the originally approved SPR 1 contract award date, the project will move the approved funding forward from the FY 17/18 and FY 18/19 to meet the earlier start date. However, a total project cost decrease is anticipated due to reducing the scope and achieving deployment 15 months earlier than was approved in SPR 1.
Quality	• The STO anticipates enhanced quality due to leveraging the existing system. Furthermore, organizational change impacts will be reduced as users are already familiar and comfortable with the DMS application on the Oracle platform.
Resources	* With the proposal of a 3-vendor award, the project had originally planned to add a DPM III State SI to the project, but maintain the

Overall Project Impact Summary	
Impact Area	**Impact Summary**
	remainder of the current staffing level through June 2018. * However, one of the lessons learned from California's IT projects is that workloads actually increased during development and post deployment. Some examples include the post-deployment on the CalPERS' MyCalPERS project, the pilot deployment of the SCO's MyCalPAYs project, and the Employment Development Department's deployment of the Unemployment Insurance Modernization Project. Furthermore, the FI$CAL project has already realized the need to augment project staffing levels, well beyond original estimates, while the project is still in development. * As result of these lessons learned and the additional analysis STO conducted post SPR 2 v4 submission, STO has identified a revision to the staffing proposed in SPR 2 v4, and acknowledges the likelihood of a future staffing need (described below). * First, the change from SPR 2 v4, includes the removal of the DPM III State SI, and the addition of an Associate ISA and a Systems Software Specialist II beginning in FY16/17 and continuing through the end of the project. * SPR 2 v4 proposed the State SI lead UAT, among numerous other activities. However, with the removal of the State SI, and because currently STO has no dedicated test analysts, the Associate ISA would be a dedicated test analyst, under oversight of the PMO, to lead the UAT effort that is critical to each optimization initiative, prior to migrating to production. STO's baseline funding for IT staff is insufficient to devote staff to independent testing as applications are developed and deployed. Consequently, the application developers are called upon to also perform their own "independent" testing, which is contrary to standard best-practices, as the tendency is to lose objectivity when testing one's own applications. * In addition, the currently understaffed condition in ITD's Technical Services Section has created an environment where staff only have bandwidth to maintain the currently deployed operating systems and databases with patches across all enterprise product suites. The ongoing insufficient staffing level precluded undertaking the critical analysis, planning and deployment workloads necessary for a comprehensive upgrade to the current Oracle products. It is expected that many of the initial optimization initiatives will be devoted to bringing the end-of-life and obsolete Oracle products to current versions. Because state staff is required to participate in the planning, design, development and deployment of these initiatives in a blended team with the vendor, and perform maintenance and operations into perpetuity on current and future Oracle products as they are released, STO has realized there is insufficient bandwidth

Overall Project Impact Summary	
Impact Area	**Impact Summary**
	within the current staffing structure to support this additional and ongoing workload. For this reason, a Systems Software Specialist II has been identified as the appropriate classification to ensure success in this capacity. * STO will reevaluate the adequacy of the future-state staffing structure in 17/18, and determine if a supplemental request will be submitted for BY18/19 to support the DMS II post contract completion.[12]
Contract Award Date	The Contract Award Date has changed from March 20, 2017 to May 2016 (exact day to be determined) advancing the contract award date by 10 months.
Development Start Date	The project's Development Start Date has changed from 3/20/20 to multiple successive initiative development start dates tentatively beginning as early as 9/19/2016[13] and completing by 12/31/2018 which is a total 15-month reduction from the approved SPR 1 schedule.

The Implication Assessment chart is found on the following page.

[12] The potential permanent staff augmentation is not the result of the alternative procurement model. On 12/10/15, CalTech's Deputy Director of Independent Project Oversight, Rebecca Stilling, requested STO consider adding "placeholder" language to the DMS II SPR 2 that a staffing augmentation may be necessary prior to project completion. Her recommendation was based on the history of California's IT deployments, whether new or modernization initiatives. STO agreed to include this language, and will revisit this discussion in 2017. At that time, the project will be sufficiently underway to make a qualified determination regarding the appropriate number of additional staff that may be needed. STO has yet to determine that a permanent staff augmentation will be required. Furthermore, STO will evaluate whether such a request is more appropriate in the form of a departmental Budget Change Proposal (BCP) as the potential permanent staff will serve STO's departmental IT application development efforts, of which DMS II is only one application that will be supported. Or, if the DMS II project will submit SPR 3 to request the permanent staff augmentation in the context of this project. After a final determination has been made, the decision will be shared with CalTech, DOF and LAO.

[13] Under this procurement model, the Master Project Schedule will be produced at the close of the 8-week onboarding session. At which time, the anticipated universe of optimization initiatives will be identified, and scheduled.

STO's Implication Assessment of the Procurement Change		
Question	**Yes/No**	**Comments**
1. Are there existing requirements that conflict with the proposed change?	No	Due to leveraging the current DMS platform, the original requirements from SPR 1 will be located in the Offerors' Library for reference, but none of them are in conflict with the functional and business objectives found on this topic in Section 3.1.4.
2. Are there other pending requirement changes that conflict with the proposed change?	No	
3. Are there consequences of not making the change?	Yes	Not making the change in procurement to leverage the current DMS application results in increased project scope, increased project risk, increased project schedule, delayed solution delivery, increased impact of organizational change management, and increased likelihood of a challenged turnkey delivery based on vendor feedback and recent similar IT procurements.
4. Are there possible adverse side effects or other risks of making the proposed change?	No	Due to the aforementioned research, STO believes we have lowered the risk of adverse project outcomes by changing the procurement model from a big-bang approach to incremental optimization initiatives.
5. Will the proposed change adversely affect performance requirements or other quality attributes?	No	STO believes the proposed change in procurement will not adversely affect the performance requirements, or negatively affect other quality attributes, "Quality" is the highest priority for the DMS project, thus the performance requirements are not being lowered by retaining the functional core.
6. Is the proposed change feasible within known technical constraints and current staff skills?	Yes	The change in procurement approach from an entirely new product solution as proposed in SPR 1, to leveraging the core DMS application actually leverages the technical staff's knowledge of the current system. However, staff are

		enrolled in Oracle training at the present time to establish a strong foundation of Oracle skills, in preparation for the knowledge transfer activities included in each optimization initiative. The formal training and knowledge transfer will prepare staff to provide maintenance and operations post deployment.
7. Will the proposed change place unacceptable demands on any resources?	No	Moving away from a big-bang development and deployment reduces the demands PFD and ITD staff would have experienced at go-live, learning a brand new system, and instead doles out small chunks of new functionality iteratively, in a known environment.
8. Must any tools be acquired to implement and test the change?	No	No tools are required to implement and test the change in procurement approach from a big-bang deployment to optimization initiatives.
9. Will the proposed change affect the sequence, dependencies, effort, or scheduled duration of any tasks currently in the project schedule?	Yes	The Contract Award Date has changed from 3/20/2017 to 5/2016 which would reduce the procurement timeline by 10 months. The Development Start Date (original big-bang deployment) has changed from 3/20/20 to many successive development deployments dates beginning as early as 3Q2016 and completing 12/31/2018. The successive multiple start dates are based on deploying functional optimization initiatives throughout the vendor contract, thus allowing the state to realize actual benefits from the proposed change more than four years earlier and completing all initiative deployments 15-months earlier than the approved SPR 1. The sequencing will be reflected in the project schedule of initiatives, as produced in the 8-week onboarding.
10. Will prototyping or other user input be required to verify the proposed change?	No	No prototyping will be conducted on DMS II initiatives. CalPERS' MyCalPERS project served as the prototype for this change. Although the proposed change has been discussed

		with the users, it was validated with the DMS II Procurement Vendor, Grant Thornton; and the DMS II IV&V vendor, Infiniti Consulting.
11. Will effort that has already been invested in the project be lost if this change is approved?	No	This change in procurement takes advantage of all effort already invested in the project.
12. Will the proposed change cause an increase in cost, such as increasing licensing fees?	Likely	Under SPR 1, the licensing was really indeterminate, as the solution was yet to be proposed by the vendor. With the proposed change in procurement, leveraging STO's Oracle licensing, which currently consists of Production, Disaster Recovery, and Test/Dev, all of it will migrate to the new versions of Oracle under our current software licenses. However, Oracle requires additional licensing to establish the vendor's development and test environment, mirroring STO's production environment. Additionally, it is anticipated STO will update the current reporting platform by acquiring a new Oracle Business Intelligence reporting tool. The project budget has been aligned to reflect funding for this acquisition.
13. Will the change affect training, or project support plans?	No	Under the SPR 1 procurement, technical and business staff would have required extensive training on the new solution. Under SPR 2, the training requirements are expected to be less than those planned in SPR 1. The project support plans are unchanged, as all project resources remain committed under this new procurement approach.

3.4.6 Feasible Alternatives Considered

The following alternatives were considered:

1. The STO's pursuit of a business-based procurement to procure a new system to meet business requirements is described in chronological order of events, beginning

in Section 3.1.3 Project Background. As explained in detail, replacing the DMS system with a business-based procurement resulted in an extremely poor vendor response to the STO's draft-RFP, in addition to increased project risks. For the reasons described in this section, STO moved to the alternative procurement to seek technical expertise to augment the existing DMS application and infrastructure through optimization initiatives.

2. The STO then moved forward with the concept of engaging a single vendor to update the legacy system through optimization initiatives. As described in the Section 3.1.3 Project Background, STO planned to use this approach until DGS recommended STO consider a multi-vendor contract award, to mitigate the risk of a single-point of failure, in the event a contractor fails to perform to expectations.

3. The STO analyzed the use of multiple vendors updating the legacy system through optimization initiatives with up to 3 vendors, per DGS' recommendation. DGS explained that a multi-vendor award presents a greater opportunity to ensure all optimization initiatives would be completed in the projected timeframe, while reducing overall project risk with a single-point of failure, in the event a contractor fails to perform to expectations

4. After considerable additional research and analysis, it was determined that the original plan of engaging a single vendor to update the legacy system through optimization initiatives, is the appropriate contracting model to be used for this project.

3.4.7 Implementation Plan

Implementation Plan
1. Contract Award: 4/29/2016 – 5/13/2016
2. 8-Week Onboarding Session of Blended Team 5/16/2016 – 7/8/2016
3. Recurring Deployments 9/19/2016 - 12/30/2018*
4. Conduct a Post Implementation Evaluation Report on the DMS II project in accordance with CalTech requirements one-year post implementation, due 12/31/2019.
* Note: the schedule of deployments will be developed jointly with the selected vendor.

SECTION 4: UPDATED PROJECT MANAGEMENT PLAN

The project has developed and approved most of its foundational Project Management Plans (PMPs) consistent with industry standards and the size, scope and complexity of the DMS II project. The project team is managing activities and expectations in accordance with these plans.

The PMPs developed to date include the Project Charter, Project Governance Plan, Quality Management Plan, Procurement Management Plan, Deliverable Management Plan, Contract Management Plan, Communication Management, Risk and Issue Plan, and the Document Management Plan.

The following PMPs are in development:

- Cost Management Plan is in draft
- Stakeholder Management Plan
- Master Project Management Plan
- Organizational Change Management

The following PMPs are in development and may be further modified to incorporate the SI processes and methodology, once the SI contract has been awarded:

- Requirements Management Plan
- Configuration Management Plan
- Scope Management Plan
- Change Control Plan
- Schedule Management Plan

4.1 Project Manager Qualifications

In 2014, the DMS II project recognized the need for an experienced project manager (PM) and its value to the overall success in implementing the DMS II project. An experienced PM was hired in October 2014 to lead the project. The PM possesses the experience, depth and breadth of skills necessary for the DMS II project size, scope and complexity.

The PM's responsibilities include ensuring that the project meets the functional and business requirements, the project is completed with the highest level of quality, and the project is completed fulfilling its scope, within budget and on time. The PM is also responsible for overseeing the work activities of the DMS II vendors and designated project staff.

The qualifications of the PM include:

- Previous experience managing IT projects of similar size, scope and complexity;
- Knowledge and expertise with applying team leadership principles including working with many stakeholders;

- Previous experience managing System Integrators and vendor contracts;
- Knowledge and expertise in risk management, risk planning and risk mitigation;
- Project Management Professional certification (PMP);
- Change Management certification (PROSCI);
- System Development Lifecycle Certification (ASPE);
- State of California CalQ Project Management Certification;
- ITIL Application Management Lifecycle;
- Applied experience in the application of structured project management principles;
- Operational experience in developing and implementing project management practices;
- Extensive experience with state procurement policies, procedures and practices;
- Extensive experience working with Control Agencies (DOF, CalTech, and DGS) and the Legislature;
- Extensive knowledge of state project approval procedures and criteria;
- Practical experience in defining business requirements for large IT projects (COTS and application development projects);
- Experience with public sector budgeting, accounting, and procurement functions and the potential application of information technology to support those functions;
- Experience in IT budgeting, planning, and coordination;
- Knowledge of computer hardware, software, applications, and networks, with a focus on enterprise financial systems;
- Vast experience in the practical application of industry standards and best practices for IT Project delivery;
- Strong communication and leadership skills and an ability to work with diverse teams and communicate difficult and complex issues clearly and concisely.

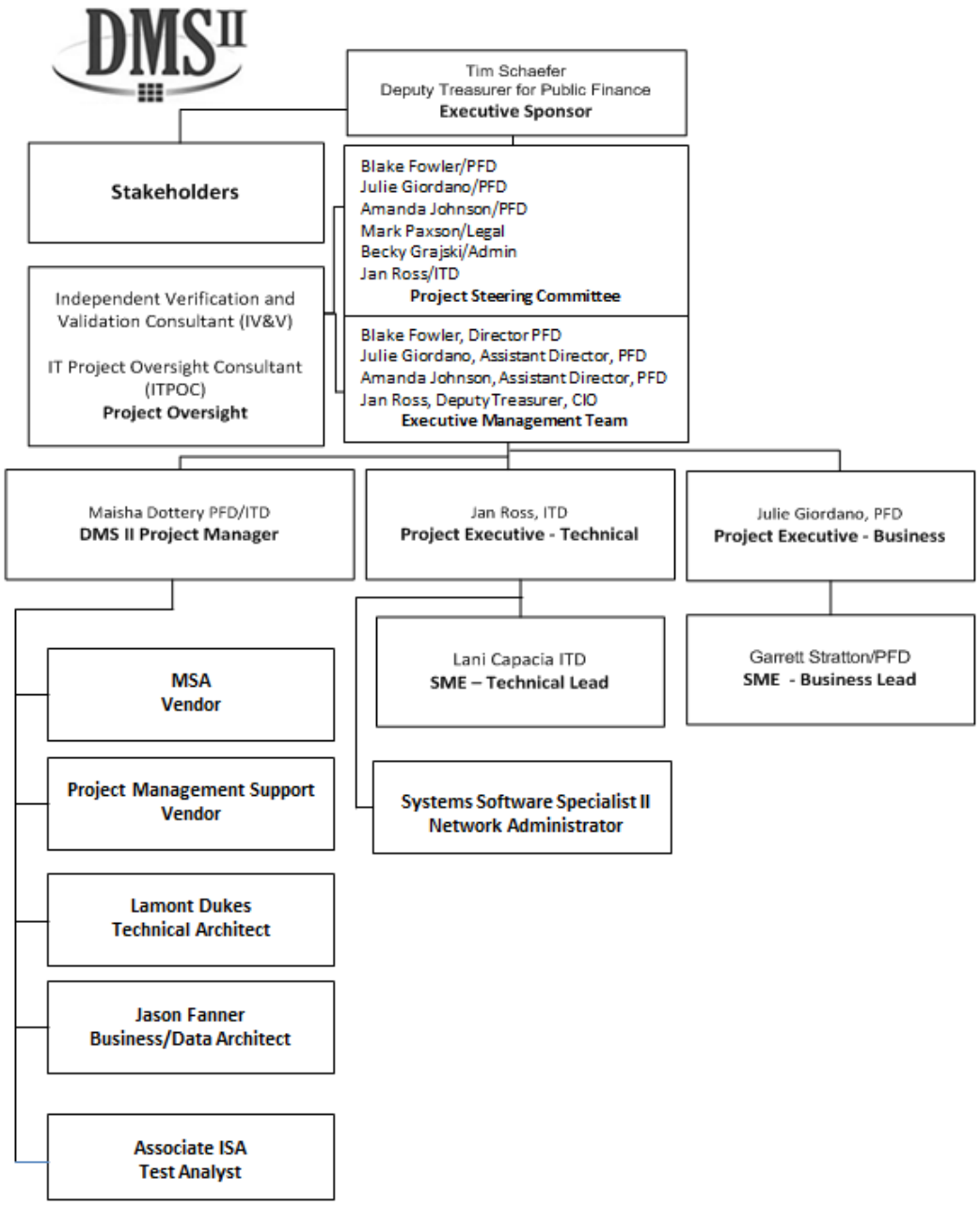
4.2 Project Management Methodology

The STO recognizes the importance of sound project management practices and principles in achieving successful project outcomes. The STO will use the industry standard PM methods and tools to facilitate project management activities. The level of detail in the DMS II PMPs will be commensurate with the scope, complexity and risk of the project.

4.3 Project Organization

Following is the proposed DMS II project organizational structure, FY 16/17

Figure 4.3.1: DMS II Project Organization



State Staff Resources and Availability

Pursuant to the DMS II Project Organization Chart (above), the following State resources are committed to this project:

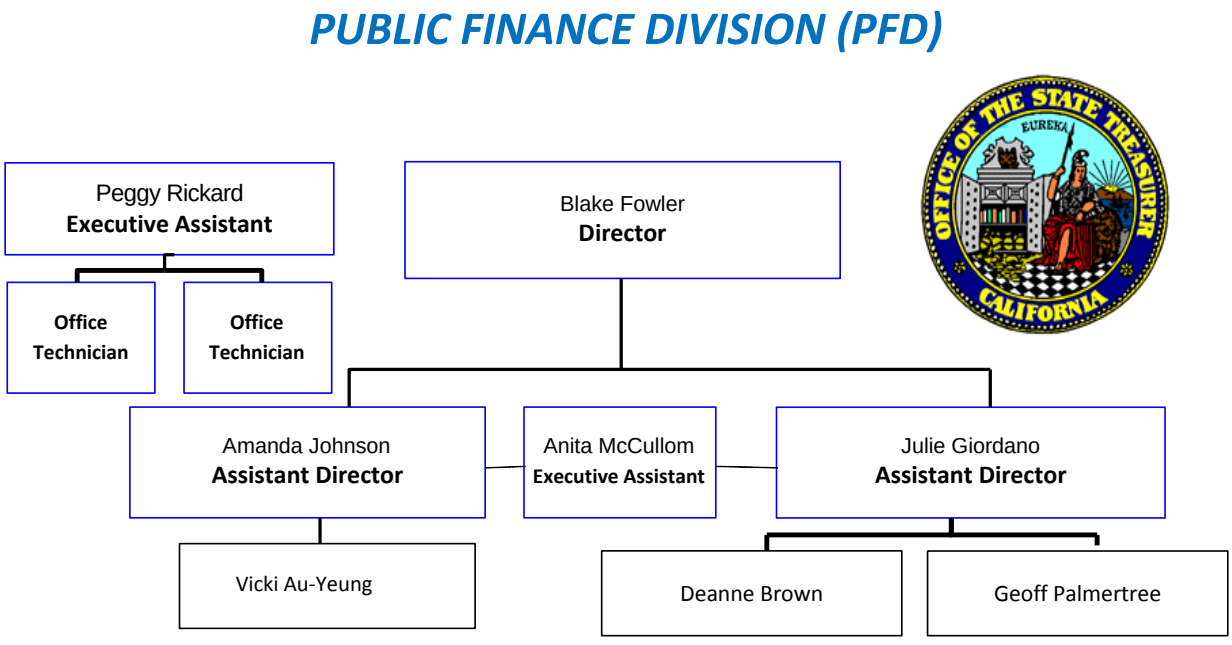
State Staff Availability Summary			
Staff/Role	**# Staff**	**Availability of Staff Participation**	**Limits on Availability**
Project Management			
Project Manager (PM)	1	Dedicated	
Technical Architect	1	Dedicated	
Business/Data Architect	1	Dedicated	
PM Support Vendor	1.5	Dedicated	
Program/Business			
Business Manager/Lead	1	Dedicated	
Program Staff/SME	1	Dedicated	
Subject Matter Experts	12	25%	Availability may be constrained by peak workload cycles
Technical			
Senior Programmer	1	Dedicated	
Staff Programmer	1	Dedicated	
Information Systems Analyst	1	Dedicated	
Systems Software Specialist	1	Dedicated	
ITD Executive	1	50%	
Subject Matter Experts	3	20%	Availability may be constrained by operational emergencies
Oversight			
Independent Verification and Validation Vendor	1-3	Dedicated	Availability subject to terms of contract
Independent Project Oversight Consultant (Department of Technology)	1	Dedicated	

The State Project Manager will work with the Contractor to plan for and integrate State and Contractor resources and activities into the State's master project schedule, as appropriate.

While subject matter experts from PFD will be assigned to the DMS II Project on an as needed basis, the impacted program's business is cyclical in nature, with two periods of peak workload each year. The first period generally begins in March and lasts through the end of April and the second period generally begins in September and lasts through the end of November. During these peak times, availability of subject matter experts may be affected. For this reason, PFD's executive management team will use the roadmap developed in the 8-week onboard to define the plan by which SMEs will rotate onto and/or off the blend-team supporting optimization initiatives.

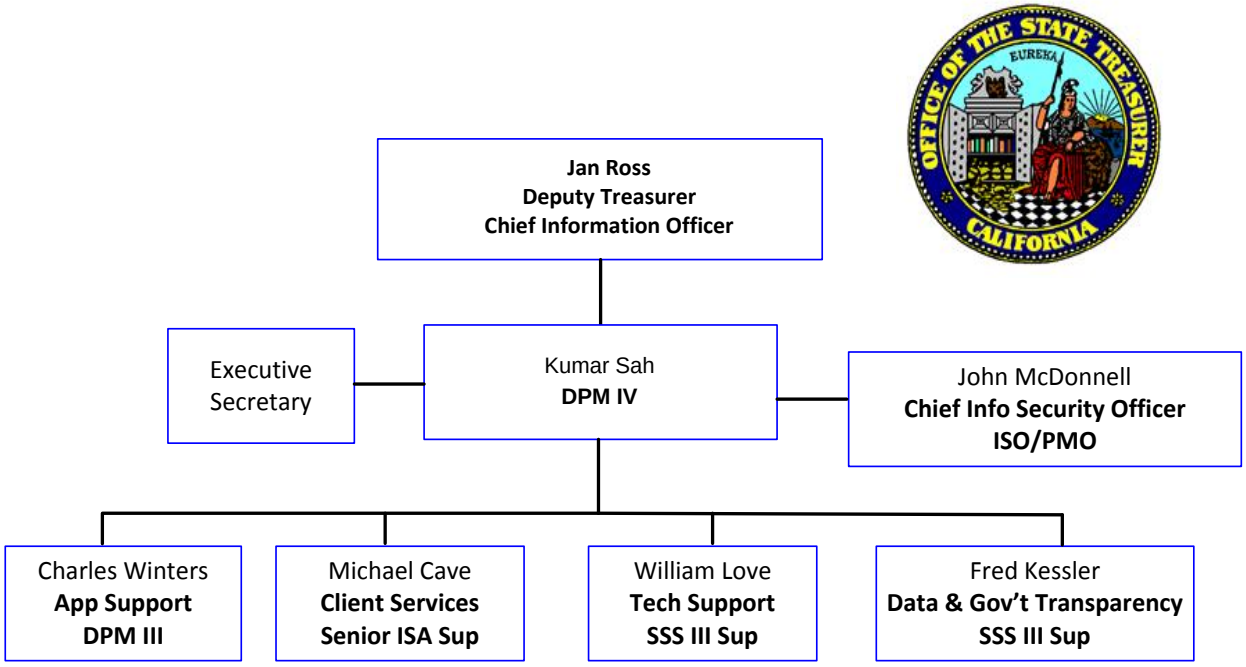
Following is a high-level depiction of PFD's organizational structure

Figure 4.3.2: Impacted Program Organization



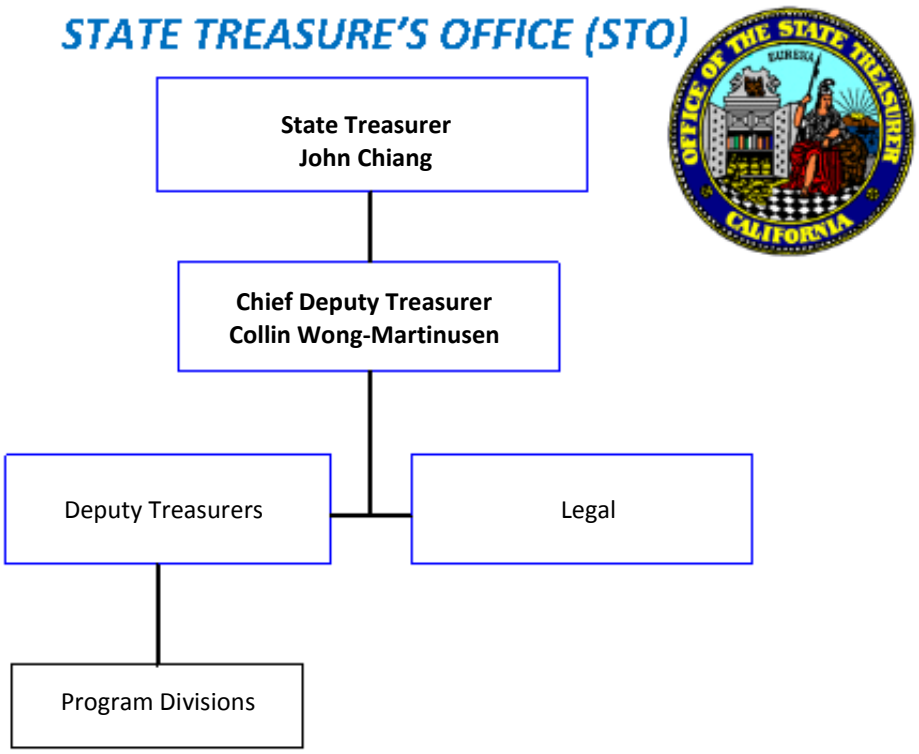
Following is a high-level depiction of ITD's organizational structure

Figure 4.3.3: Information Technology Organization



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

Figure 4.3.4: STO Organization



4.4 Project Tradeoff Matrix

All four project priorities are significantly important to the success of the project and will be managed accordingly. While the project tradeoff matrix below shows the relative importance of the schedule, scope, resources, and quality, using a factor or 1 (highest) to 4 (lowest) as weighted against each of the other categories; a deviation in any one area will impact the other three.

Therefore, quality has to be the highest of the four categories because the most detrimental effects to the state of California would result from inaccuracy in the system, versus the consequences arising from the other three categories. For example, the cost of inaccurate or untimely debt service payments would be particularly detrimental to the state and the bond markets, at large. If this were to occur, California's credit rating would be immediately downgraded, provoking a sharp increase in higher borrowing costs for an indeterminate period, negatively impacting California's budget.

Schedule	Scope	Resources	Quality
2	4	3	1

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

4.5 Project Plan

4.5.1 Project Scope

The project objective remains the same, enable the successful management of debt by the PFD. The project will optimize the existing DMS system and incorporate the functionality of the various ancillary systems that were developed to address deficiencies in the DMS.

The DMS II is expected to extract data to a file to be shared with external systems such as the Financial Information System for California (FI$Cal) system.

The new system may interface with the STO document management system and other existing proprietary systems used by PFD to conduct its business.

4.5.2 Project Assumptions

- Project funding will be available throughout the project lifecycle
- Timely project approvals will be received from Control Agencies (e.g. CalTech, DGS and DOF)
- Committed project resources will be available throughout the project lifecycle
- Effective project oversight will be provided throughout the project lifecycle

- 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
- All stakeholders (project team, customers, SMEs, etc.) will participate in accordance with the approved project plan
- Decision-making authorities (internal and external) will provide feedback and decisions in a timely manner
- The project will adhere to a formal project management methodology
- Project risk, issue and change management strategies will be employed
- Project risks and issues will be identified and addressed in a timely manner

4.5.3 Project Phasing

It is anticipated that the project deliverables will be deployed as both independent and interdependent optimization initiatives. The schedule for all optimization initiatives will be developed in the 8-week blended team onboarding session, post-contract award and will not exceed the term of the contract from May 2016 – December 31, 2018.

4.5.4 State Project Roles and Responsibilities

Executive Sponsor:

- Set policy direction
- Resolve policy issues, outstanding item(s) or other critical issues that cannot be resolved by the Project Steering Committee (PSC)
- Champion the project to internal and external stakeholders
- Ensure sustained buy-in at all levels
- Secure spending authority and resources for the project
- Keep abreast of project status and issues

Program Sponsor:

- Chair the Project Steering Committee (PSC)
- Participate on Executive Management Team (EMT)
- Champion the project to internal and external stakeholders
- Ensure sustained buy-in at all levels
- Approve the Project Charter
- Empower the Project Manager with the appropriate authority
- Provide direction and guidance in resolving strategic and major issues
- Secure spending authority and resources for the project
- Facilitate open communication regarding the project

- Remove obstacles that could impede success
- Advocate for alignment of practices with policy
- Advocate for tools to facilitate efficiencies
- Ensure decisions are made by the PSC within defined time constraints
- Ensure resources are made available to implement the decisions timely
- Report progress to executive staff within STO, as appropriate
- Communicate progress on the Project to other State entities, e.g., legislators, Control Agencies, etc., as appropriate
- Approve Project artifacts and deliverables, as appropriate

Project Steering Committee (PSC):

- Make decisions on policy and scope changes that would result in deviations of 10% or greater (including scope reductions)
- Act as project advocates within the STO and to external entities
- Identify and communicate potential conflicts in proposed policies between other STO initiatives and this effort
- Ensure resources are made available to implement decisions made by the PSC
- Remove barriers to enable the project team to successfully execute the project
- Approve Project artifacts and deliverables, as appropriate
- Voting members are limited to the following:
    - Program Sponsor, Chair of PSC
    - Project Executive, Business (who also performs the role of Vice Chair)
    - Project Executive Technical, Deputy Treasurer and CIO
    - Assistant Director, PFD
    - Staff Counsel
    - Director, Administration Division

Executive Management Team:

- Provide leadership and executive oversight for the project
- Provide a forum for informal discussion on matters that need to be addressed and/or voted on by the PSC prior to escalation
- Ensure project issues are addressed before they impede the project's progress
- Ensure project resources are made available in a timely manner
- Provide guidance on resolution of matters escalated by the Project Manager, including any scope, schedule, or budget changes that do not exceed a 10% variance
- Report project achievements and status to the PSC and Executive Sponsor
- Approve project artifacts and deliverables, as appropriate
- Oversee organizational change management activities
- Attend project meetings as requested by the Project Manager
- Approves or denies all Work Order Authorizations
- Approves or denies the Acceptance Criteria is has been satisfied
- Membership comprises PFD Director, Assistant PFD Directors and STO CIO

Project Executives (Business & Technical):

- Chair the EMT
- Remove obstacles within span of control that could impede project success
- Provide strategic direction and support to the project
- Ensure decisions made by the EMT and Program Sponsor are implemented
- Escalate issues for resolution to the EMT and/or Program Sponsor as appropriate
- Approve project artifacts and deliverables
- Sign Work Order Authorizations
- Approve/Deny Change Control requests

Project Manager:

- Manage the project for the STO
- Develop and maintain a project management infrastructure that includes human resource management, scope management, cost management, schedule management, risk and issue management, change management, quality management, and communications management
- Oversee and ensure STO and vendor compliance with contractual requirements
- Develop the project plans with the team and monitor team performance, including contractor performance through project completion
- Review and approve project artifacts and deliverables
- Secure acceptance and approval of deliverables from key project stakeholders and participants
- Identify and implement tools to enhance project communications
- Effectively engage the Business and Technical Managers in project activities
- Communicate project status to the EMT and key stakeholders
- Escalate risks and issues in a timely manner
- Participate as a member of the Change Control Board (CCB)
- Present agenda items to the PSC, but not a voting member of the PSC
- Provide staff support to the PSC
- Make recommendation to the EMT for approval or denial of all Work Order Authorizations
- Make recommendation to the EMT for approval or denial of the Acceptance Criteria has been satisfied
- Contract Manager
    - The PM and the PMO Support team are responsible for deliverable tracking, approval, monitoring, and managing contracts according to the DMS II Contract Management Plan that has been finalized and acknowledged by CalTech's IPO.

Business Lead:

- Responsible for the day-to-day performance of the program staff assigned to the project
- Provide PFD Program knowledge and expertise to the project

- Manage specific project plan activities and contribute to project plan development with the Project Manager
- Review and approve project deliverables and outputs as required
- Coordinate and ensure that subject matter experts are engaged appropriately and timely
- Ensure that appropriate resources are identified and engaged for user acceptance testing and product acceptance
- Responsible for the development and implementation of the data cleansing strategy, activities, and plan
- Participate in organizational change management and training activities
- Provide support to the CCB
- Assist Project Manager, as requested

Technical Lead:

- Provide leadership and guidance to the technical staff assigned to the project
- Manage technical processes and requirements
- Manage specific project plan activities and contribute to project plan development with the Project Manager
- Review and approve project deliverables and outputs as required
- Review plans and official documentations to ensure sufficient internal controls and procedures are in place
- Partner with IT management to acquire appropriate technical assistance for areas such as enterprise architecture, database, software development, security, testing, and product deployment
- Ensure project adherence to STO and state-level technical policies, processes and standards
- Ensure technical documentation meets agreed-upon content and quality standards
- Participate in the development and implementation of the data cleansing strategy and plan
- Provide support to the CCB
- Assist Project Manager, as requested

Core Team Members:

- Full-time employees assigned to the project
- Understand the work to be completed by the project
- Complete project tasks and deliverables in accordance with the approved project plan
- Inform the Business and Technical Managers of issues, risks, quality concerns, etc. encountered on the project
- Proactively provide status updates
- Advocate for the project with peers

Stakeholders:

- Includes all the people who are in any way affected by the project's outcome, both internal and external to the STO
- Provide input, as needed, to ensure agreed-upon outcomes are realized

Subject Matter Experts:

- Contribute program/domain expertise when called upon
- Participate in project activities as requested
- Review and validate deliverables pertaining to their respective areas of expertise

Project Management Office/PM Support:

- Establish and maintain the State's project management plans and processes
- Monitor project adherence to the approved project management plans and processes
- Perform administrative support functions for the project
- Manage deliverable review and approval processes
- Maintain project documentation
- Participate in project activities as requested
- Assist Project Manager, as requested

4.5.5 External/Contracted Project Roles and Responsibilities

Independent Verification &Validation (IV&V):

- Provide an objective assessment of all processes and products to ensure the project is following best practices and that the end-product will satisfy the user's requirements
- Conduct reviews and provide recommendations to the PM and staff to facilitate early detection and correction of errors or concerns
- Perform assessments and provide information to improve insight into issues and risks before they become problems that could impede the progress of the project and/or the quality of the development effort

Department of Technology/Independent Project Oversight Consulting (IPOC):

- Provide independent oversight of the project's project management processes and documentation
- Report on the project's activities, performance, risks, issues, and schedule management

Department of General Services:

- Delegated approval to STO to use of the state's MSA contract, stipulating that procurement oversight will be provided by the State Technology Procurement Division of the California Department of Technology

Project Management Support Services:

- Provide expertise in project management and assist the PM in developing the methodology and framework for project execution activities
- Develop project management plans
- Manage project management support activities (e.g. schedule management, risk and issue management, change control and defect management)
- Train project staff on project management best practices

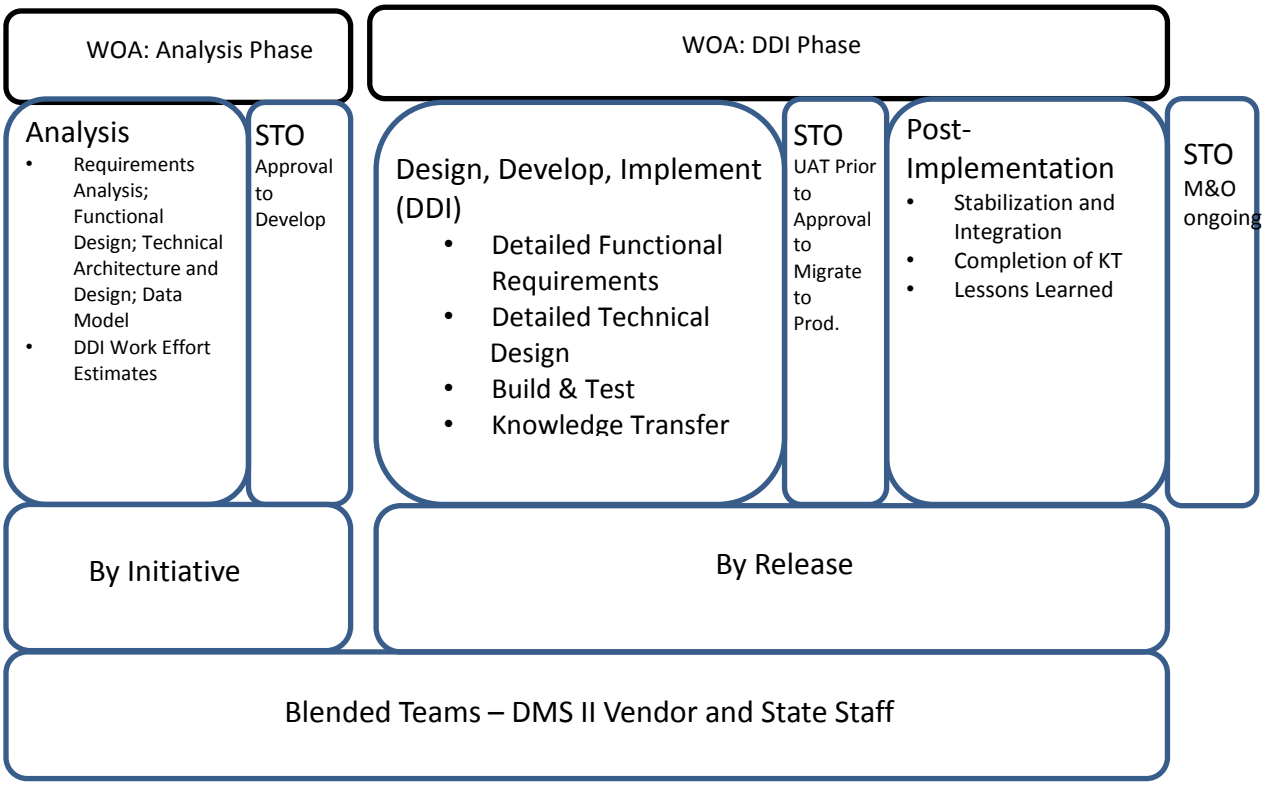
Procurement Vendor Support:

- Provide expertise on procurement methods and the development of procurement documents (Grant Thornton)

4.5.6 Vendor Support:

The vendor will be responsible for delivering the DMS II Application and Infrastructure optimization objectives described previously in Section 3.1.4 “Project Objectives” and illustrated in the “STO & Vendor Partner Approach” below.

4.5.6.1 Illustration - STO & Vendor Partner Approach



The blended team approach is built around two major categories of work to be performed in the delivery of functional optimization initiatives. The two major categories are (1) Analysis activities and (2) Design/Development/Implementation (DDI) activities. Knowledge Transfer (KT) activities are planned to be concurrent in both phases.

After the onboarding session has been completed, the State and vendor will agree on the first optimization initiative(s). The vendor will then prepare a high-level estimate of the anticipated work effort for both the Analysis and DDI phases of the first initiative. The high-level estimate will serve as the baseline scope, budget and schedule for the initiative. The vendor will present the high-level estimate to the State and IV&V and explain the rationale behind it. Once satisfied, the state will direct the vendor to prepare a Work Order Authorization (WOA) for the analysis phase of the optimization initiative, which must include a resource-loaded schedule and acceptance criteria for the delivered work products.

At the conclusion of the analysis phase, it is expected that the high-level estimate may need to be refined. Furthermore, it is anticipated these high-level estimates will increase in accuracy as each successive initiative is developed and the teams mature in knowledge, processes and working together.

Following the successful completion of the analysis phase, the state will direct the vendor to prepare and submit a WOA for the DDI phase, including level of effort estimate resulting from the analysis activities, a resource-loaded schedule and acceptance criteria for the delivered work products and deployed system functionality.

Approval of WOAs for each initiative will be determined by STO based on the level of effort estimates, the schedule and the acceptance criteria. Post WOA-approval, the resource loaded schedules of both phases will be used to track activities, schedule and scope. In addition, the high-level estimate originally developed for the optimization initiative will serve as the baseline against which both subordinate WOAs are tracked.

STO’s expectations for supporting scope and change management with this approach are defined in more detail in the DMS II Schedule Management and Change Control plans. But at a summary level, scope will be managed by the scope statement in the WOAs. Any changes requiring the updating or amending a WOA would trigger a formal change request for submission, review and approval or denial by the Change Request Control Board.

4.5.6.2 The Approach for Analysis Activities

Analysis activities include the creation of requirements for initiatives. Analysis is expected to be by groups of related initiatives, because synergistic opportunities may occur between initiatives. However, it is expected that separate documentation will be produced for each initiative. The analysis activities also include estimates for developing solutions. A WOA will be the vehicle by which the State authorizes the vendor to perform the analysis. The vendor will present weekly reports on the progress made as defined in the WOA. The analysis activities will be paid at the completion of the analysis phase, when the acceptance criteria is satisfied, based on time-and-materials as pre-approved in the WOA.

The analysis activities include:

- Requirements definition to be led by the vendor with support from the DMS II project team for gathering requirements through facilitated meetings and then documenting requirements. Documentation will be used to assess scope, schedule, prioritization, value and service level expectations.
- Level of Effort (LOE) estimates for development of initiatives, developed by vendor, based on the requirements analysis documentation. LOEs will be accompanied by proposed solution designs (functional, technical architecture and data modeling as applicable) and work descriptions provided by the vendor.
- Satisfying the pre-defined acceptance criteria.

4.5.6.3 The Approach for DDI Activities

DDI activities by the vendor include the creation of detailed business requirements, the development of detailed technical designs, knowledge transfer (KT) plans, code-level design and code build activities, test plans and execution (system, integration, performance, compliance, security, and regression), training, technical and user documentation, and release preparations and support. Development activities also include lessons learned and KT activities. DDI activities will be paid on a time and materials basis for each initiative that satisfies the pre-defined acceptance criteria, as authorized in the WOA.

The DDI activities for each initiative include:

- Detailed business requirements analysis and functional design sessions to be led by the vendor. Detailed requirements will be used to create technical designs, test plans, KT plans, quality plans, requirements traceability matrices, and success measurements.
- Detailed technical design sessions will be the responsibility of the vendor. The technical design document will be used to ensure integration of new functionality, and ongoing maintainability.
- KT planning sessions will be the responsibility of the vendor. The KT plan will be used to ensure integration of vendor and state resources on blended DDI teams, in addition to providing progressive growth in expertise sufficient for STO staff to provide ongoing maintenance and operations (M&O) support. The KT plan is expected to be detailed for weekly progress measurement against each KT topic and each progress milestone by resource.
- The test and test-script development effort will be the responsibility of the vendor for the aforementioned tests that are vendor-responsibility (not including UAT). The test plan will be used to ensure high-quality and thorough testing in all test phases. Test scenarios and scripts must demonstrate adequate test coverage by tracing to the requirements traceability matrix. The test plan will be used to establish progress metrics for weekly activity progress.

- Code-level design and build activities will be the responsibility of the vendor. Weekly and monthly progress metrics will be developed by the vendor and employed to ensure progress against the plan.
- System test will be led by the vendor. Weekly progress metrics will be developed by the vendor and employed to ensure progress against the plan.
- Integration, regression, performance, compliance and security test plans will be developed by the vendor. The vendor will be expected to perform and support testing activities by conducting the tests and training the ITD technical staff in their execution.
- Application training, user documentation, and implementation readiness activities will be the responsibility of the vendor. The vendor is expected to create appropriate training materials and conduct the train-the-trainer sessions on the application. The vendor is also expected to create user and technical documentation required for post-implementation support and operations. The vendor will create an Implementation Readiness scorecard to be used jointly by STO and the vendor to seek approval to implement optimization initiatives.
- The vendor is responsible for analyzing and correcting defects for each DDI, during a 90-day post implementation stabilization period, and through the contractual warranty period. (STO will assume ongoing M&O support for DDI changes after stabilization and the 1-year contractual warranty period has expired.)
- The vendor will complete KT during the stabilization period, as well as conduct lessons learned sessions for continuous process improvement.
- Satisfying the pre-defined acceptance criteria.

4.5.6.4 Costing Approach for Functional Optimization Initiatives

With this approach, it is expected the vendor will be assigned one or more optimization initiatives at the outset of the contract. At the commencement of an initiative, the state-vendor team will conduct detailed analysis on a time and materials basis. The analysis will produce requirements from which the vendor will develop the WOA for the DDI phase.

The vendor is not guaranteed a minimum number of optimization initiatives, or a minimum contract dollar amount. The vendor may be awarded subsequent optimization initiatives after successfully completing, integrating and deploying the approved initial optimization initiative(s).

Each initiative offers the vendor the opportunity to prove they can be successful working with the state on distinct, limited-scope development efforts that seamlessly integrate into the fully operational DMS application. With each deployment, the state realizes immediate benefit from that optimization initiative, and the vendor is correspondingly compensated for that particular initiative deployment.

The anticipated total cost of all optimization initiatives for analysis and development will not exceed the cap of $9,996,990 for the duration of the 30-month contract. Each optimization initiative will have an estimated budget defined in the high-level estimate before the State directs the vendor to develop a WOA.

The costing approach for the optimization initiatives will be task-based in accordance with anticipated systems development lifecycle (SDLC) activities. The creation of functional scope and design tasks, along with technical design and data models, will be paid on a time and materials basis. As will the detailed functional and technical design, development and implementation (DDI) tasks in accordance with approved WOAs submitted by the vendor. For every functional optimization initiative, all deliverables (DEL) and work products will be included and itemized in the vendor's LOE proposal and accompanying Deliverable Expectation Documents (DEDs). Therefore, DELs and work products are neither expensed, nor paid for independently of the completed DDI work for optimization initiative.

The vendor must support the development of optimization initiatives within the processes defined in the DMS II project management plans for Requirements, Configuration, Scope, Change Control and Schedule management. Each functional optimization initiative will be deployed to production iteratively, based upon the schedule approved by the STO from the WOAs.

Vendor Activities Included in the cost of the WOA: Analysis Phase

- Business analysis
    - Vendor facilitates sessions for the definition of requirements for scope, prioritization, impact, service level expectations, level of effort estimates and acceptance criteria with PFD, ITD and SI staff. Includes functional design, technical architecture and design, and data modeling.
    - Vendor work products to be developed include, but are not limited to: Business (functional) Requirements Document (BRD), and RTM identifying which optimization initiative objectives are satisfied with this initiative, resource loaded schedule and acceptance criteria.
    - At the conclusion of the Analysis Phase, vendor must submit the work products including the acceptance criteria to the DMS II PMO:
        - The DMS II PMO is responsible for validating all work products and acceptance criteria were satisfied, then present the validation to the EMT for approval and payment of the WOA.

Vendor Activities Included in the cost of the WOA: Design Phase

- Overall solution design and cost estimates for initiatives
    - As described in the subsequent bullets, the vendor creates a WOA DED development cost for each initiative based on the business analysis. DED to include approach, schedule, and cost for Design, Development and Implementation (DDI) effort, including testing, resource loaded schedule

and acceptance criteria along with component costs for each DEL and activity defined below.
    - Vendor work products to be developed include, but are not limited to: DED and Level of Work (LOE) costing of DDI effort for each initiative, resource loaded schedule and acceptance criteria.
- Detailed Business Requirements Analysis and Functional Design
    - Vendor analyzes the Analysis' BRD and the code analysis to determine the most efficient approach for assembling requirements to form unique functional optimization initiatives. Furthermore, with input from PFD and ITD, the vendor will recommend the priority for the development and deployment of the functional optimization initiatives. As each functional optimization initiative is undertaken, the vendor will create Detailed Business Requirements Analysis and Functional Design DELs for each initiative. DEL to include (as applicable): Use Cases, user screens (UIDs), workflows, reports, batch processing requirements, Business Rules, Data Rules, Supplemental Specifications (SPSs) for Security and Access rules, Decision Matrices, List of Values (LOV) tables; and all DELs must include a Requirements Traceability Matrix, defined test scenarios and scripts, and Implementation Readiness Training requirements/plan, resource loaded schedule and acceptance criteria.
    - Vendor work products to be developed include, but are not limited to: DEL for Detailed Business Requirements.
- Detailed Technical Design and Knowledge Transfer (KT) Plan
    - Vendor creates Detailed Technical Design and KT Plan DEL for each initiative. Detailed Technical Design DEL to include, at a minimum: Technical Application Architecture schematic, application and module schematics, interfaces, logical database models/designs, data values and edits, data administration, security matrix, object inventory, online/batch processing data conversion, and table values. Additionally, create KT plan to include, at a minimum, the universe of functional and technical topics/sub-topics requiring KT, including functional design; progress measures and milestones for each topic/sub-topic to mark progress; SI KT mentors planned for each topic/sub-topic; and STO KT recipients by topic/sub-topic; and KT schedule.
    - Vendor work products to be developed include, but are not limited to: DEL for Detailed Technical Design and DEL for KT Plan for each initiative.
- Test Plan
    - Vendor creates Detailed Test Plan DEL for each initiative. DEL to include, at a minimum: Unit/System/Integration, Performance/Compliance, Security/Regression requirements, test environment needs, expected test results, traceability of tests to requirements, and testing progress measurements.
    - Vendor work products to be developed include, but are not limited to DEL for Test Plan for each initiative.
- Code-level Design and Build

- Vendor creates Code-level Design and Build DEL for each initiative. Activities to include, at a minimum: Code-level Design and Build of all components (functional modules, in-line documentation, common routines/utilities/tables, merging code with other code streams, technical documentation), progress and quality measurements.
- Vendor work products to be developed include, but are not limited to: Code-level design and build components and development in-progress metrics for each initiative/group.

- Data Quality/Data Conversion
  - With support from ITD and PFD, vendor analyzes data quality in the proprietary DMS system and related ancillary systems, identifying all data conversion candidates from existing and ancillary systems, assist the State with data cleansing, conversion extracting, transforming and loading legacy data into the System.
  - Vendor work products to be developed include, but are not limited to DEL for data conversion.
- Unit Test
  - With support as needed from ITD, vendor conducts Unit Testing of all components for each initiative. Activities to include, at a minimum: Unit Testing and Test Results for all components using automated tools to be recommended by vendor, progress and quality measurements to be provided during test execution.
  - Vendor work products to be developed include, but are not limited to: Test execution logs, results, and in-progress metrics for each initiative.
- System Test
  - With support and participation from ITD in the execution of system tests, vendor creates and executes Detailed System Test DEL for each initiative. DEL to include, at a minimum: Unit/System test logs and results (Test Plan versus actual), scenarios conducted, scripts executed, defects submitted and resolved, open issues and pending resolutions, along with progress and quality measurements to be provided during test execution.
  - Vendor work products to be developed include, but are not limited to: DEL for system Test and in-progress metrics for each initiative.
- Integration Test and User Acceptance Test
  - With support and participation from ITD and PFD, vendor performs integration testing of the code products for each initiative; and, provides oversight and guidance to ITD and PFD in the execution of user acceptance testing (UAT). Work to include at a minimum for both integration and regression: test results analysis, defect correction, and retest preparations.
  - The State Associate ISA will be responsible for structuring the user acceptance testing (UAT) scripts in alignment with requirements, coordinating the execution of UAT by ITD and PFD on each initiative, tracking the results and ensuring they satisfy the predefined UAT

acceptance criteria; vendor is responsible for tracking outcomes of UAT against a defect log and working defects to complete resolution.
    - Vendor work products to be developed include, but are not limited to: Test plans, execution logs, results, and in-progress metrics for each initiative/group.
- Performance, Compliance, and Security Test
    - With support from ITD and STO's Chief Information Security Officer, vendor conducts performance, compliance and security testing of the code products for each initiative. Work to include, at a minimum: test results analysis, performance issues correction, and retest preparations.
    - Vendor work products to be developed include, but are not limited to: Test execution logs, results, and in-progress metrics for each initiative.
- Regression Test
    - With support from ITD, vendor performs regression testing of the code products for each initiative. Work to include, at a minimum: test results analysis, defect correction, and retest preparations.
    - Vendor work products to be developed include, but are not limited to: Test execution logs, results, and in-progress metrics for each initiative.
- Training, Documentation and Implementation Readiness
    - With assistance from ITD, vendor creates Training, Documentation and Implementation Readiness DEL for each initiative. DEL to include, at a minimum: finalized code and work products, user documentation, training materials, training courses, and implementation readiness scorecard approval to proceed with implementation.
    - Vendor work products to be developed include, but are not limited to DEL for Training, Documentation and Implementation Readiness, and in-progress metrics for user readiness for each initiative.
- Release Implementation Support
    - Vendor leads ITD in the implementation of delivered code and work products. Activity to include, at a minimum: Build, staging and migration support, cutover plan/support, and implementation validation.
    - Vendor work products to be developed include, but are not limited to: Release Implementation for each initiative.
- Post-Implementation Stabilization and Integration Support
    - Vendor provides post-implementation support of delivered code and work products. The stabilization period for each initiative will be determined with the LOE costing of the DDI effort and will be based on expected production usage schedules. Minimum stabilization periods are expected to be 90 days post implementation and will be mutually agreed upon and codified. Stabilization activity to include, at a minimum: post-implementation defect analysis, correction, re-training, re-testing as appropriate (unit, system, integration, performance, regression, user acceptance), and implementation test validation.
    - Vendor work products to be developed include, but are not limited to: full warranty coverage for each initiative.

- Lessons Learned
    - Vendor conducts post-implementation lessons learned for delivered code and work products by functional optimization initiative, and as component activity to detailed business requirements and functional design of subsequent functional optimization initiatives, to include, at a minimum: facilitation or assistance in lessons learned sessions and documentation to review successes, challenges, continuous improvement ideas for all Analysis and DDI activities for each initiative (Lessons learned is not a deliverable).
    - Vendor work products to be developed include, but are not limited to: Lessons learned documentation for each initiative.
- Knowledge Transfer (KT)
    - Vendor completes activities outlined in the KT plan. The KT DEL to include, at a minimum: the universe of functional and technical topics/sub-topics requiring KT (plan versus actual); progress measurements logs and milestones for each topic/sub-topic (plan versus actual); identification of Vendor-KT mentors for each topic/sub-topic and ITD-KT recipients by topic/sub-topic; KT schedule (plan versus actual); progress and quality measurement logs; and demonstration of achievement of key success indicators (KPIs), along with completion of KT milestones established for respective ITD staff members.
    - Vendor work products to be developed include, but are not limited to: DEL for KT showing completion and in-progress metrics for each initiative.
- Project, Quality, and Performance Management
    - With assistance from PMO, vendor completes project, quality and performance management activities during each functional optimization initiative to demonstrate progressive completion of planned goals and excellence in product development. The span of these activities includes support of time, resource, risk, cost, configuration, scope, and change management. The Performance Management DEL includes, at a minimum: progress and quality measurements to be provided on a weekly or semi-monthly basis for each sub-activity during project execution, along with completion of performance milestones established for each initiative.
    - Vendor work products to be developed include, but are not limited to: DELs for project management for each initiative (submitted weekly or biweekly.)
- At the conclusion of every optimization deployment (DDI Phase), vendor must submit the RTM and the acceptance criteria developed at the outset of the initiative, to the DMS II PMO:
    - A comprehensive binder of technical documentation (all DELs, DEDs, LOEs, and DDIs) in order of optimization deployment will be maintained by the DMS II PMO, including a comprehensive traceability matrix mapping all business and key objectives to the functional optimization initiatives.
    - The DMS II PMO is responsible for collecting all RTMs and updating the Master RTM.

- The DMS II PMO is responsible for validating acceptance criteria was satisfied and present the validation to the EMT for approval and payment of the WOA.

4.5.6.4.1 Cost Management

STO will be responsible for approving each Work Order Authorization and ensuring the aggregate sum of approved work does not exceed the cap of $9,996,990. While it is anticipated that all of the optimization initiatives can be completed for this aggregate sum, in the event there are more initiatives to complete at the end of the project, as determined by contract term and/or funds, the STO IT staff is expected to be sufficiently skilled to address the remaining initiatives, as described below in 4.5.6.6 Schedule Management.

4.5.6.5 Project Schedule

The STO has developed the following project schedule, which will guide the contract award process for the vendor and establish the contract end date.

1.	RFO Release Date	1/22/2016
2.	Deadline to Submit Questions for Offerors' Conference	2/12/2016, 3:00 p.m., PST
3.	Offerors' Conference	2/18/2016, 10:00 a.m., PST
4.	Post Response to Questions	2/25/2016
5.	Submission of Intent to Participate (Mandatory)	3/1/2016, 3:00 p.m., PST
6.	Final Filing Date	3/25/2016, 3:00 p.m., PST
7.	Preliminary Review	
	a. STO and STPD	April 2016
8.	Evaluation and Scoring of Offers	April 2016
9.	Finalists Selected	4/20/2016
10.	Finalist Interviews	4/25/2016 – 4/28/2016
11.	Contract Award	4/29/2016 – 5/13/2016
12.	8-Week Blended-Team Onboarding	5/16/2016 – 7/8/2016
13.	Optimization Development Begins	7/11/2016
14.	Recurring Optimization Deployments	9/19/2016 – 12/30/2016
15.	DMS II Modernization effort completed	December 2018

4.5.6.5.1 Schedule Management

The DMS II project will follow the rigors defined in the approved Schedule Management Plan.

Of note, it is intended that all the optimization initiatives will be completed within the timeline identified above in lines 13 – 15. Prior to the contract award, the STO technical team will be taking Oracle technical training in the new versions of Oracle to ensure they

have the skill set to take maximum advantage of the knowledge transfer associated with the development, deployment and stabilization of each optimization initiative. Additionally, STO technical staff will continue with formal training over the course of the project life, if and when new Oracle products are introduced to the STO environment.

The formal technical training and the comprehensive knowledge transfer that occurs with every initiative deployment, repetitively over the life of the project, is designed to equip the STO staff with the skills to undertake future maintenance and operations of the DMS II environment, incorporating new business functionality and requirements that emerge post deployment. It is also intended that this level of in-house skills development will enable staff to undertake any initiative, in the unplanned event that not all of the initiatives are developed prior to project completion.

Project Monitoring and Oversight

DMS II Project Manager

The PM oversees the monitoring, planning, controlling and execution of activities, by monitoring project progress and performance, delivering quality results on time and within budget according to the parameters set out in the project plan for the DMS II project to increase the likelihood of a successful deployment. The PM also creates a monthly project status report that is submitted to CalTech to provide an overall status on the health of the project. The PM meets frequently with CalTech, IPOC, and IV&V to communicate the project status.

CalTech IPOC

The CalTech IPOC provides project oversight to ensure compliance with project performance, schedule, and budget requirements, as well as state policies and standards. IPOC is primarily focused on the project's processes, and project management.

Independent Verification and Validation

The IV&V standard for providing project oversight is defined by IEEE 1012-2004. The IEEE standard describes software IV&V processes as generally determining if development products of a given activity conform to the requirements of that activity, and if the software satisfies the intended use and user needs. The IEEE standard answers the dual question, "… did we build the product right, and did we build the right product?"

As defined in the IEEE standards, IV&V processes include activities such as assessment, analysis, measurement, inspection, and testing of software products and processes.

These IV&V processes further include assessing software in the context of the system, including the operational environment, hardware, interfacing software, operators, and

users. The DMS II project's IV&V Consultant provides a detailed, structured report of findings, deficiencies and recommendations for remediation to the DMS II project.

Vendor
Vendor will provide a project manager to coordinate and oversee their respective vendor team, the deliverables, the relationship with the STO, and the contract expectations. STO will approve and/or provide the methodologies and templates employed by the vendor to be used in support of daily, weekly, and semi-monthly progress measurements, tracking performance and issue resolution.

It is expected the vendor will likely hire subcontractors to support the DMS II Modernization project. In that event, the vendor will perform as the Systems Integrator, responsible for work products developed within the contractual obligations to the STO. SI is responsible for the vendor's Analysis and DDI activities including all work products as described above and performing according to the schedule.

Complexity Assessment Results
The Complexity Assessment/Risk Rating for the DMS II project remains high at this time.

4.6 Quality Management

Quality Management Plan (see attached DMS II Quality Management Plan)

4.7 Change Management

Change Management Plan is under development to align with the functional optimization initiatives approach.

4.8 Authorization Required

Approval of SPR 2 is required from the DMS II Project Steering Committee, CalTech, and the Department of Finance.

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SECTION 5: UPDATED RISK MANAGEMENT PLAN

5.1Risk Register

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

#	Risks	Probability (1 - 5) Low to High	Potential Impact (1 - 5) Low to High	Risk Management Action must begin…	Risk Level* (1 - 25)	Cause	Consequences	Avoidance Plan	Mitigation Plan
1.	**Audit and Control Needs**	**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
2.	**Budget**	**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
3.	**Client/Server Architecture**	**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
4.	**Customer Sophistication**	**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
5.	**Design and Implementation**	**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

#	Risks	Probability (1 - 5) Low to	Potential Impact (1 - 5)	Risk Management Action must	Risk Level* (1 - 25)	Cause	Consequences	Avoidance Plan	Mitigation Plan
									contingency plan
6.	**Development Environment**	**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
7.	**External Environment**	**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
8.	**Facilities**	**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
9.	**Human Resources: Skills, Availability**	**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
10	**Infrastructure**	**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
11	**Legislation**	**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

#	Risks	Probability (1 - 5) Low to	Potential Impact (1 - 5)	Risk Management Action must	Risk Level* (1 - 25)	Cause	Consequences	Avoidance Plan	Mitigation Plan
12	**Litigation**	**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 CalTech; secure source code and system documentation; develop plan to continue project w/in-house staff or another vendor, if necessary
13	**Management Processes**	**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
14	**Other Projects**	**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
15	**Paradigm Shift**	**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
16	**Regulations**	**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
17	**Requirements Management**	**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	Follow procedures for handling changes; evaluate impact of change to project and communicate to management; renew

#	Risks	Probability (1 - 5) Low to	Potential Impact (1 - 5)	Risk Management Action must	Risk Level* (1 - 25)	Cause	Consequences	Avoidance Plan	Mitigation Plan
								management process; require sponsor approval of changes	commitment to plan;
18	**Schedule**	**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
19	**Sponsorship Commitment**	**2**	**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
20	**Structure of Installed Systems**	**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
21	**Supplier/Vendor Capability/Capacity**	**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 & CalTech, as needed
22	**System Architecture**	**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

#	Risks	Probability (1 - 5) Low to	Potential Impact (1 - 5)	Risk Management Action must	Risk Level* (1 - 25)	Cause	Consequences	Avoidance Plan	Mitigation Plan
23	**Technology**	**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
24	**Turnover**	**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
25	**Security**	**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

Plan 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. The Risk Management Plan has been finalized and is being executed on the project. At regular intervals, the project team members will 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.

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.

SIMM 30C, Rev. 06/2014

EXISTING SYSTEM/BASELINE COST WORKSHEET

Agency/state entity: State Treasurer's Office

All costs to be shown in whole (unrounded) dollars.

Date Prepared: January 2016

Project: DMS II

	FY 2013/14		FY 2014/15		FY 2015/16		FY 2016/17		FY 2017/18		FY 2018/19		SUBTOTAL	
	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts
Continuing Information Technology Costs														
Staff (salaries & benefits)	3.0	406,016	3.0	406,016	3.0	406,016	3.0	406,016	3.0	406,016	3.0	406,016	**18.0**	**2,436,095**
Hardware Lease/Maintenance		10,000		10,000		10,000		10,000		10,000		10,000		**60,000**
Software Maintenance/Licenses		110,000		110,000		110,000		110,000		110,000		110,000		**660,000**
Contract Services		0		0		0		0		0		0		**0**
Data Center Services		25,000		25,000		25,000		25,000		25,000		25,000		**150,000**
Agency Facilities		0		0		0		0		0		0		**0**
Other		0		0		0		0		0		0		**0**
Total IT Costs	**3.0**	**551,016**	**3.0**	**551,016**	**3.0**	**551,016**	**3.0**	**551,016**	**3.0**	**551,016**	**3.0**	**551,016**	**18.0**	**3,306,095**
Continuing Program Costs:														
Staff	57.0	4,830,015	57.0	4,830,015	57.0	4,830,015	57.0	4,830,015	57.0	4,830,015	57.0	4,830,015	**342.0**	**28,980,090**
Other		5,022,416		5,022,416		5,022,416		5,022,416		5,022,416		5,022,416		**30,134,496**
Total Program Costs	**57.0**	**9,852,431**	**57.0**	**9,852,431**	**57.0**	**9,852,431**	**57.0**	**9,852,431**	**57.0**	**9,852,431**	**57.0**	**9,852,431**	**342.0**	**59,114,586**
TOTAL EXISTING SYSTEM COSTS	**60.0**	**10,403,447**	**60.0**	**10,403,447**	**60.0**	**10,403,447**	**60.0**	**10,403,447**	**60.0**	**10,403,447**	**60.0**	**10,403,447**	**360.0**	**62,420,681**

SIMM 30C, Rev. 06/2014

EXISTING SYSTEM/BASELINE COST WORKSHEET

Agency/state entity: State Treasurer's Office

All costs to be shown in whole (unrounded) dollars.

Date Prepared: January 2016

Project: DMS II

	Subtotal		FY 2019/20		FY 2020/21		FY 2021/22		FY 2022/23		FY 2023/24		TOTAL	
	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts
Continuing Information Technology Costs														
Staff (salaries & benefits)	18.0	2,436,095	3.0	406,016	0.0	0	0.0	0	0.0	0	0.0	0	**21.0**	**2,842,110**
Hardware Lease/Maintenance		60,000		10,000		0		0		0		0		**70,000**
Software Maintenance/Licenses		660,000		110,000		0		0		0		0		**770,000**
Contract Services		0		0		0		0		0		0		**0**
Data Center Services		150,000		25,000		0		0		0		0		**175,000**
Agency Facilities		0		0		0		0		0		0		**0**
Other		0		0		0		0		0		0		**0**
Total IT Costs	**18.0**	**3,306,095**	**3.0**	**551,016**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**21.0**	**3,857,110**
Continuing Program Costs:														
Staff	342.0	28,980,090	57.0	4,830,015	0.0	0	0.0	0	0.0	0	0.0	0	**399.0**	**33,810,105**
Other		30,134,496		5,022,416		0		0		0		0		**35,156,912**
Total Program Costs	**342.0**	**59,114,586**	**57.0**	**9,852,431**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**399.0**	**68,967,017**
TOTAL EXISTING SYSTEM COSTS	**360.0**	**62,420,681**	**60.0**	**10,403,447**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**420.0**	**72,824,127**

SIMM 30C, Rev. 06/2014 **PROPOSED ALTERNATIVE: DMS Modernization**

Date Prepared: January 2016

Agency/state entity: State Treasurer's Office All Costs Should be shown in whole (unrounded) dollars.

Project: DMS II

	FY 2013/14		FY 2014/15		FY 2015/16		FY 2016/17		FY 2017/18		FY 2018/19		SUBTOTAL	
	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts
One-Time IT Project Costs														
Staff (Salaries & Benefits)	2.1	315,086	2.9	448,125	5.7	843,970	8.7	1,255,269	8.7	1,255,269	4.4	627,635	32.4	4,745,355
Hardware Purchase		0		0		0		120,000		14,000		7,000		141,000
Software Purchase/License		0		0		0		500,000		100,000		50,000		650,000
Telecommunications		0		0		0		0		0		0		0
Contract Services														
Software Customization		0		0		0		3,998,796		3,998,796		1,999,398		9,996,990
Project Management		0		0		373,750		448,500		448,500		224,250		1,495,000
Project Oversight		76,800		115,980		112,560		112,560		112,560		56,280		586,740
IV&V Services		29,500		139,500		134,250		179,250		173,250		87,000		742,750
Statewide Technology Procurement Division		18,837		60,512		99,792		0		0		0		179,141
Department of General Services		0		6,311		18,797		0		0		0		25,108
Miscellaneous Contract Services		0		0		10,000		0		0		0		10,000
Procurement Assistance Vendor		424,651		27,285		49,242		0		0		0		501,178
TOTAL Contract Services		549,788		349,588		798,391		4,739,106		4,733,106		2,366,928		13,536,907
Data Center Services		0		0		0		0		0		0		0
Agency Facilities		0		0		0		45,000		45,000		22,500		112,500
Other		0		0		53,000		50,000		50,000		25,000		178,000
Total One-time IT Costs	**2.1**	**864,874**	**2.9**	**797,713**	**5.7**	**1,695,362**	**8.7**	**6,709,375**	**8.7**	**6,197,375**	**4.4**	**3,099,063**	**32.4**	**19,363,763**
Continuing IT Project Costs														
Staff (Salaries & Benefits)	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	3.1	419,468	3.1	419,468
Hardware Lease/Maintenance		0		0		0		0		0		7,000		7,000
Software Maintenance/Licenses		0		0		0		0		0		50,000		50,000
Telecommunications		0		0		0		0		0		0		0
Contract Services		0		0		0		0		0		0		0
Data Center Services		0		0		0		0		0		0		0
Agency Facilities		0		0		0		0		0		11,250		11,250
Other		0		0		0		0		0		0		0
Total Continuing IT Costs	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**3.1**	**487,718**	**3.1**	**487,718**
Total Project Costs	**2.1**	**864,874**	**2.9**	**797,713**	**5.7**	**1,695,362**	**8.7**	**6,709,375**	**8.7**	**6,197,375**	**7.5**	**3,586,781**	**35.5**	**19,851,481**
Continuing Existing Costs														
Information Technology Staff	3.0	406,016	3.0	406,016	3.0	406,016	3.0	406,016	3.0	406,016	1.5	203,008	16.5	2,233,087
Other IT Costs		145,000		145,000		145,000		145,000		145,000		72,500		797,500
Total Continuing Existing IT Costs	**3.0**	**551,016**	**3.0**	**551,016**	**3.0**	**551,016**	**3.0**	**551,016**	**3.0**	**551,016**	**1.5**	**275,508**	**16.5**	**3,030,586**
Program Staff	56.2	4,666,500	56.2	4,664,417	56.1	4,641,501	56.1	4,641,501	56.1	4,641,501	57.1	4,802,060	337.7	28,057,481
Other Program Costs		5,022,416		5,022,416		5,022,416		5,022,416		5,022,416		5,022,416		30,134,496
Total Continuing Existing Program Costs	**56.2**	**9,688,916**	**56.2**	**9,686,833**	**56.1**	**9,663,917**	**56.1**	**9,663,917**	**56.1**	**9,663,917**	**57.1**	**9,824,476**	**337.7**	**58,191,977**
Total Continuing Existing Costs	**59.2**	**10,239,932**	**59.2**	**10,237,849**	**59.1**	**10,214,933**	**59.1**	**10,214,933**	**59.1**	**10,214,933**	**58.6**	**10,099,984**	**354.2**	**61,222,563**
TOTAL ALTERNATIVE COSTS	**61.3**	**11,104,806**	**62.1**	**11,035,562**	**64.8**	**11,910,294**	**67.8**	**16,924,308**	**67.8**	**16,412,308**	**66.0**	**13,686,765**	**389.8**	**81,074,044**
INCREASED REVENUES		0		0		0		0		0		0		**0**

SIMM 30C, Rev. 06/2014 **PROPOSED ALTERNATIVE:** **DMS Modernization**

Date Prepared: January 2016

Agency/state entity: State Treasurer's Office All Costs Should be shown in whole (unrounded) dollars.

Project: DMS II

	Subtotal		FY 2019/20		FY 2020/21		FY 2021/22		FY 2022/23		FY 2023/24		TOTAL	
	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts
One-Time IT Project Costs														
Staff (Salaries & Benefits)	32.4	4,745,355	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	32.4	4,745,355
Hardware Purchase		141,000		0		0		0		0		0		141,000
Software Purchase/License		650,000		0		0		0		0		0		650,000
Telecommunications		0		0		0		0		0		0		0
Contract Services														
Software Customization		9,996,990		0		0		0		0		0		9,996,990
Project Management		1,495,000		0		0		0		0		0		1,495,000
Project Oversight		586,740		0		0		0		0		0		586,740
IV&V Services		742,750		0		0		0		0		0		742,750
Statewide Technology Procurement Division		179,141		0		0		0		0		0		179,141
Department of General Services		25,108		0		0								25,108
Miscellaneous Contract Services		10,000		0		0								10,000
Procurement Assistance Vendor		501,178		0		0		0		0		0		501,178
TOTAL Contract Services		13,536,907		0		0		0		0		0		13,536,907
Data Center Services		0		0		0		0		0		0		0
Agency Facilities		112,500		0		0		0		0		0		112,500
Other		178,000		0		0		0		0		0		178,000
Total One-time IT Costs	**32.4**	**19,363,763**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**32.4**	**19,363,763**
Continuing IT Project Costs														
Staff (Salaries & Benefits)	3.1	419,468	6.3	838,936	0.0	0	0.0	0	0.0	0	0.0	0	9.4	1,258,404
Hardware Lease/Maintenance		7,000		14,000		0		0		0		0		21,000
Software Maintenance/Licenses		50,000		100,000		0		0		0		0		150,000
Telecommunications		0		0		0		0		0		0		0
Contract Services		0		0		0		0		0		0		0
Data Center Services		0		0		0		0		0		0		0
Agency Facilities		11,250		0		0		0		0		0		11,250
Other		0		0		0		0		0		0		0
Total Continuing IT Costs	**3.1**	**487,718**	**6.3**	**952,936**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**9.4**	**1,440,654**
Total Project Costs	**35.5**	**19,851,481**	**6.3**	**952,936**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**41.8**	**20,804,417**
Continuing Existing Costs														
Information Technology Staff	16.5	2,233,087	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	16.5	2,233,087
Other IT Costs		797,500		0		0		0		0		0		797,500
Total Continuing Existing IT Costs	**16.5**	**3,030,586**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**16.5**	**3,030,586**
Program Staff	337.7	28,057,481	58.0	4,962,619	0.0	0	0.0	0	0.0	0	0.0	0	395.7	33,020,100
Other Program Costs		30,134,496		5,022,416		0		0		0		0		35,156,912
Total Continuing Existing Program Costs	**337.7**	**58,191,977**	**58.0**	**9,985,035**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**395.7**	**68,177,012**
Total Continuing Existing Costs	**354.2**	**61,222,563**	**58.0**	**9,985,035**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**412.2**	**71,207,598**
TOTAL ALTERNATIVE COSTS	**389.8**	**81,074,044**	**64.3**	**10,937,971**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**454.0**	**92,012,015**
INCREASED REVENUES		0		0		0		0		0		0		**0**

SIMM 30C, Rev. 06/2014 **ECONOMIC ANALYSIS SUMMARY** Date Prepared: January 2016

Agency/state entity: State Treasurer's Office All costs to be shown in whole (unrounded) dollars.

Project: DMS II

	FY 2013/14		FY 2014/15		FY 2015/16		FY 2016/17		FY 2017/18		FY 2018/19		SUBTOTAL	
	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts
EXISTING SYSTEM														
Total IT Costs	3.0	551,016	3.0	551,016	3.0	551,016	3.0	551,016	3.0	551,016	3.0	551,016	18.0	3,306,095
Total Program Costs	57.0	9,852,431	57.0	9,852,431	57.0	9,852,431	57.0	9,852,431	57.0	9,852,431	57.0	9,852,431	342.0	59,114,586
Total Existing System Costs	60.0	10,403,447	60.0	10,403,447	60.0	10,403,447	60.0	10,403,447	60.0	10,403,447	60.0	10,403,447	360.0	62,420,681
PROPOSED ALTERNATIVE	DMS Modernization													
Total Project Costs	2.1	864,874	2.9	797,713	5.7	1,695,362	8.7	6,709,375	8.7	6,197,375	7.5	3,586,781	35.5	19,851,481
Total Cont. Exist. Costs	59.2	10,239,932	59.2	10,237,849	59.1	10,214,933	59.1	10,214,933	59.1	10,214,933	58.6	10,099,984	354.2	61,222,563
Total Alternative Costs	61.3	11,104,806	62.1	11,035,562	64.8	11,910,294	67.8	16,924,308	67.8	16,412,308	66.0	13,686,765	389.8	81,074,044
COST SAVINGS/AVOIDANCES	(1.3)	(701,360)	(2.1)	(632,115)	(4.8)	(1,506,848)	(7.8)	(6,520,861)	(7.8)	(6,008,861)	(6.0)	(3,283,318)	(29.8)	(18,653,363)
Increased Revenues		0		0		0		0		0		0		0
Net (Cost) or Benefit	(1.3)	(701,360)	(2.1)	(632,115)	(4.8)	(1,506,848)	(7.8)	(6,520,861)	(7.8)	(6,008,861)	(6.0)	(3,283,318)	(29.8)	(18,653,363)
Cum. Net (Cost) or Benefit	(1.3)	(701,360)	(3.4)	(1,333,475)	(8.2)	(2,840,323)	(16.0)	(9,361,184)	(23.8)	(15,370,045)	(29.8)	(18,653,363)		

SIMM 30C, Rev. 06/2014 **ECONOMIC ANALYSIS SUMMARY** Date Prepared: January 2016

Agency/state entity: State Treasurer's Office All costs to be shown in whole (unrounded) dollars.

Project: DMS II

	SUBTOTAL		FY 2019/20		FY 2020/21		FY 2021/22		FY 2022/23		FY 2023/24		TOTAL	
	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts
EXISTING SYSTEM														
Total IT Costs	18.0	3,306,095	3.0	551,016	0.0	0	0.0	0	0.0	0	0.0	0	21.0	3,857,110
Total Program Costs	342.0	59,114,586	57.0	9,852,431	0.0	0	0.0	0	0.0	0	0.0	0	399.0	68,967,017
Total Existing System Costs	360.0	62,420,681	60.0	10,403,447	0.0	0	0.0	0	0.0	0	0.0	0	420.0	72,824,127
PROPOSED ALTERNATIVE	DMS Modernization													
Total Project Costs	35.5	19,851,481	6.3	952,936	0.0	0	0.0	0	0.0	0	0.0	0	41.8	20,804,417
Total Cont. Exist. Costs	354.2	61,222,563	58.0	9,985,035	0.0	0	0.0	0	0.0	0	0.0	0	412.2	71,207,598
Total Alternative Costs	389.8	81,074,044	64.3	10,937,971	0.0	0	0.0	0	0.0	0	0.0	0	454.0	92,012,015
COST SAVINGS/AVOIDANCES	(29.8)	(18,653,363)	(4.3)	(534,525)	0.0	0	0.0	0	0.0	0	0.0	0	(34.0)	(19,187,888)
Increased Revenues		0		0		0		0		0		0		0
Net (Cost) or Benefit	(29.8)	(18,653,363)	(4.3)	(534,525)	0.0	0	0.0	0	0.0	0	0.0	0	(34.0)	(19,187,888)
Cum. Net (Cost) or Benefit	(29.8)	(18,653,363)	(4.3)	(534,525)	0.0	0	0.0	0	0.0	0	0.0	0	(34.0)	(19,187,888)

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PROJECT FUNDING PLAN

Agency/state entity: State Treasurer's Office

All Costs to be in whole (unrounded) dollars

Date Prepared: January 2016

Project: DMS II

	FY 2013/14		FY 2014/15		FY 2015/16		FY 2016/17		FY 2017/18		FY 2018/19		SUBTOTALS	
	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts
TOTAL PROJECT COSTS	**2.1**	**864,874**	**2.9**	**797,713**	**5.7**	**1,695,362**	**8.7**	**6,709,375**	**8.7**	**6,197,375**	**7.5**	**3,586,781**	**35.5**	**19,851,481**
RESOURCES TO BE REDIRECTED														
Staff	1.1	200,217	1.1	206,313	1.7	314,178	2.7	445,623	2.7	445,623	1.4	222,812	**10.6**	**1,834,766**
Funds:														
Existing System		0		0		0		0		0		0		**0**
Other Fund Sources		0		0		0		0		0		0		**0**
TOTAL REDIRECTED RESOURCES	**1.1**	**200,217**	**1.1**	**206,313**	**1.7**	**314,178**	**2.7**	**445,623**	**2.7**	**445,623**	**1.4**	**222,812**	**10.6**	**1,834,766**
ADDITIONAL PROJECT FUNDING NEEDED														
One-Time Project Costs	1.0	664,658	1.8	591,400	4.0	1,381,183	6.0	6,263,752	6.0	5,751,752	3.0	2,876,251	**21.8**	**17,528,996**
Continuing Project Costs	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	3.1	487,718	**3.1**	**487,718**
TOTAL ADDITIONAL PROJECT FUNDS NEEDED BY FISCAL YEAR *	**1.0**	**664,658**	**1.8**	**591,400**	**4.0**	**1,381,183**	**6.0**	**6,263,752**	**6.0**	**5,751,752**	**6.1**	**3,363,969**	**25.0**	**18,016,714**
TOTAL PROJECT FUNDING	**2.1**	**864,874**	**2.9**	**797,713**	**5.7**	**1,695,362**	**8.7**	**6,709,375**	**8.7**	**6,197,375**	**7.5**	**3,586,781**	**35.5**	**19,851,481**
Difference: Funding - Costs	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**0.0**	**0**
Total Estimated Cost Savings	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**0.0**	**0**

FUNDING SOURCE**														
General Fund	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Federal Fund	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Special Fund	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Reimbursement	100%	864,874	100%	797,713	100%	1,695,362	100%	6,709,375	100%	6,197,375	100%	3,586,781	100%	19,851,481
TOTAL FUNDING	100%	864,874	100%	797,713	100%	1,695,362	100%	6,709,375	100%	6,197,375	100%	3,586,781	100%	19,851,481

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PROJECT FUNDING PLAN

Agency/state entity: State Treasurer's Office

All Costs to be in whole (unrounded) dollars

Date Prepared: January 2016

Project: DMS II

	SUBTOTALS		FY 2019/20		FY 2020/21		FY 2021/22		FY 2022/23		FY 2023/24		TOTALS	
	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts	PYs	Amts
TOTAL PROJECT COSTS	**35.5**	**19,851,481**	**6.3**	**952,936**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**41.8**	**20,804,417**
RESOURCES TO BE REDIRECTED														
Staff	10.6	1,834,766	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**10.6**	**1,834,766**
Funds:														
Existing System		0		0		0		0		0		0		**0**
Other Fund Sources		0		0		0		0		0		0		**0**
TOTAL REDIRECTED RESOURCES	**10.6**	**1,834,766**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**10.6**	**1,834,766**
ADDITIONAL PROJECT FUNDING NEEDED														
One-Time Project Costs	21.8	17,528,996	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**21.8**	**17,528,996**
Continuing Project Costs	3.1	487,718	6.3	952,936	0.0	0	0.0	0	0.0	0	0.0	0	**9.4**	**1,440,654**
TOTAL ADDITIONAL PROJECT FUNDS NEEDED BY FISCAL YEAR*	**25.0**	**18,016,714**	**6.3**	**952,936**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	0.0	0	**31.2**	**18,969,651**
TOTAL PROJECT FUNDING	**35.5**	**19,851,481**	**6.3**	**952,936**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**41.8**	**20,804,417**
Difference: Funding - Costs	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**0.0**	**0**
Total Estimated Cost Savings	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**0.0**	**0**
FUNDING SOURCE**														
General Fund	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Federal Fund	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Special Fund	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Reimbursement	100%	19,851,481	100%	952,936	100%	0	0%	0	0%	0	0%	0	100%	20,804,417
TOTAL FUNDING	100%	19,851,481	100%	952,936	100%	0	0%	0	0%	0	0%	0	100%	20,804,417

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ADJUSTMENTS, SAVINGS AND REVENUES WORKSHEET

Agency/state entity: State Treasurer's Office

Date Prepared: January 2016

Project: DMS II

Annual Project Adjustments	FY 2013/14 PYs	FY 2013/14 Amts	FY 2014/15 PYs	FY 2014/15 Amts	FY 2015/16 PYs	FY 2015/16 Amts	FY 2016/17 PYs	FY 2016/17 Amts	FY 2017/18 PYs	FY 2017/18 Amts	FY 2018/19 PYs	FY 2018/19 Amts
One-time Costs												
Previous Year's Baseline	0.0	0	1.0	664,658	1.8	591,400	4.0	1,381,183	6.0	6,263,752	6.0	5,751,752
(A) Annual Augmentation /(Reduction)	**1.0**	**664,658**	**0.8**	**(73,257)**	**2.2**	**789,783**	**2.0**	**4,882,569**	**0.0**	**(512,000)**	**(3.0)**	**(2,875,501)**
(B) Total One-Time Budget Actions	1.0	664,658	1.8	591,400	4.0	1,381,183	6.0	6,263,752	6.0	5,751,752	3.0	2,876,251
Continuing Costs												
Previous Year's Baseline	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
(C) Annual Augmentation /(Reduction)	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**3.1**	**487,718**
(D) Total Continuing Budget Actions	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	3.1	487,718
Total Annual Project Budget Augmentation /(Reduction) [A + C]	**1.0**	**664,658**	**0.8**	**(73,257)**	**2.2**	**789,783**	**2.0**	**4,882,569**	**0.0**	**(512,000)**	**0.1**	**(2,387,783)**

[A, C] Excludes Redirected Resources

Total Additional Project Funds Needed [B + D]

Annual Savings/Revenue Adjustments

Cost Savings	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Increased Program Revenues		0		0		0		0		0		0

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ADJUSTMENTS, SAVINGS AND REVENUES WORKSHEET

Agency/state entity: State Treasurer's Office

Date Prepared: January 2016

Project: DMS II

Annual Project Adjustments	FY 2019/20 PYs	FY 2019/20 Amts	FY 2020/21 PYs	FY 2020/21 Amts	FY 2021/22 PYs	FY 2021/22 Amts	FY 2022/23 PYs	FY 2022/23 Amts	FY 2023/24 PYs	FY 2023/24 Amts	Net Adjustments PYs	Net Adjustments Amts
One-time Costs												
Previous Year's Baseline	3.0	2,876,251	0.0	0	0.0	0	0.0	0	0.0	0		
(A) Annual Augmentation /(Reduction)	**(3.0)**	**(2,876,251)**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**		
(B) Total One-Time Budget Actions	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**21.8**	**17,528,996**
Continuing Costs												
Previous Year's Baseline	3.1	487,718	6.3	487,718	0.0	(465,218)	0.0	(465,218)	0.0	(465,218)		
(C) Annual Augmentation /(Reduction)	**3.1**	**0**	**(6.3)**	**(952,936)**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**		
(D) Total Continuing Budget Actions	6.3	487,718	0.0	(465,218)	0.0	(465,218)	0.0	(465,218)	0.0	(465,218)	**9.4**	**(885,436)**
Total Annual Project Budget Augmentation /(Reduction) [A + C]	**0.1**	**(2,876,251)**	**(6.3)**	**(952,936)**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**		

[A, C] Excludes Redirected Resources

Total Additional Project Funds Needed [B + D]	**31.2**	**16,643,560**

Annual Savings/Revenue Adjustments

Cost Savings	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0		
Increased Program Revenues		0		0		0		0		0		