



Stage 1 Business Analysis

California Department of Technology, SIMM 19A.3 (Ver. 3.0.9, 02/01/2022)

1.1 General Information

1. Agency or State entity Name: 7502 - Technology, Department of

If Agency/State entity is not in the list, enter here with the [organization code](#).

[Click or tap here to enter text.](#)

2. Proposal Name and Acronym: CalTABS Modernization

3. Proposal Description: (Provide a brief description of your proposal in 500 characters or less.)

CDT proposes to replace their 20 year old custom home grown CalTABS application with COTS billing products that integrates the data center usage data with SaaS/COTS billing application powered with digital capabilities, improved workflows, BI reporting capabilities, excellent user experience, enhanced security, business continuity, disaster recovery protection, ease of maintenance and better production support mechanism. CalTABS (<https://cdt.ca.gov/caltabs/>) is cost recovery system for data center services usage across state departments and other agencies. \$330 M (approx.) USD is billed annually via this system. It collects resource (service) usage data, assigns service codes to each resource and generates customer billing.

4. Proposed Project Execution Start Date: 7/1/2024

5. S1BA Version Number: Version 1

1.2 Submittal Information

1. Contact Information

Contact Name: Gaddam Ram & Natividad Nevarez

Contact Email: gaddam.ram@state.ca.gov & natividad.nevarez@state.ca.gov

Contact Phone: 279-465-9842 & 916-898-4541

2. Submission Type: New Submission

If Withdraw, select Reason: Choose an item.

If Other, specify reason here: Click or tap here to enter text.

Sections Changed, if this is a Submission Update: (List all sections changed.)

Click or tap here to enter text.

Summary of Changes: (Summarize updates made.)

Click or tap here to enter text.

3. Attach [Project Approval Executive Transmittal](#) to your email submission.
4. Attach [Stage 1 Project Reportability Assessment](#) to your email submission.

1.3 Business Sponsorship

1. Executive Champion (Sponsor)

Title: C.E.A. • OFFICE OF ADMINISTRATION

Name: Burnett, Miles

Business Program Area: Office of Administration - RATES & COST RECOVERY

2. Business Owner

Title: Business Manager for RATES & COST RECOVERY

Name: Nevarez, Natividad

Business Program Area: Office of Administration - RATES & COST RECOVERY

3. Product Owner

Title: Business Lead for RATES & COST RECOVERY

Name: Uyeda, Robyn

Business Program Area: Office of Administration - RATES & COST RECOVERY

TIP: Copy and paste or click the + button in the lower right corner on any section to add additional Executive Champions, Business Owners, or Product Owners with their related Business Program Areas as needed.

1.4 Stakeholder Assessment

The Stakeholder Assessment is designed to give the project team an overview of communication channels that the state entity needs to manage throughout the project. More stakeholders may result in increased complexity to a project.

1. Indicate which of the following are interested in this proposal and/or the outcome of the project. (Select 'Yes' or 'No' for each.)

State Entity Only: Yes

Other Departments/State Entities: Yes

Public: No

Federal Entities: No

Governor's Office: No

Legislature: No

Media: No

Local Entities: No

Special Interest Groups: No

Other: Yes

2. Describe how each group marked 'Yes' will be involved in the planning process.

This being critical billing system for charging data center usage by state departments/local agencies/police departments, these participating agencies would be interested in the outcome of the project as it impacts their billing, cost recovery and online viewing/reporting capabilities.

1.5 Business Program

1. Business Program Name: RATES & COST RECOVERY

2. Program Background and Context: (Provide a brief overview of the entity's business program(s) current operations.)

CalTABS is cost recovery system for data center services usage across state departments and other agencies. \$330 M (approx.) USD is billed annually via this system. It collects resource (service) usage data, assigns service codes to each resource, and generates customer soft copy invoicing, billing reports & ability to view billing online.

Current system is heavily customized and requires complex Mainframes, SAS, SQL Server, ASP/DOTNET and System Administration skill sets to support the ongoing production support operations. We have one consultant doing both application development (L3) and platform system administration (L4) and not in line with segregation of duties. Also the documentation is outdated and not reliable. Over time, numerous band aids have been configured into CalTABS and the staff able to cope with its complexity has been reduced to a bare minimum. This has resulted in a single point of failure for CDT.

This project aims to replace CalTABS (As-Is) which has been highly customized with a low/no code cloud based SAAS application.

3. How will this proposed project impact the product or services supported by the state entity?

CDT proposes to replace their 20 year old custom home grown CalTABS application with COTS products that integrates the data center usage data with SaaS/COTS billing application and provide following benefits.

- Improve billing business processes to achieve the most efficiency out of the new application
- **Better reliable and scalable system** Current system has been 20 years old and does not have proper documentation and hence not reliable. Also, it takes relatively long period of time to scale up or spin new environments for future project/growth potential needs. At a minimum we intend to have Dev, Test, UAT and PROD environments for better support operations
- **Minimize custom development (Low code/No Code)** for ease of maintenance and support operations. Procure licenses for a new application and implementation services to configure the new tool and migrate the required data
- **Segregation of Duties (L3/L4)** We intend to build sustainable team structure with right sizing, skilling and mixing. Current system is heavily customized and requires complex Mainframes, SAS, SQL Server, DOTNET and System Administration skill sets to support the ongoing production support operations. We have one consultant doing both application development (Level 3) and platform system administration (Level 4) and not in line with segregation of duties
- **Faster Onboarding timelines** – We intend to reduce this onboarding time frame to less than 45 days with new comprehensive commercial off the shelf (COTS)/Software as a service (SaaS) system solution
- **Mitigate single point of failure** For last 20 years, we had single consultant supporting L3 and L4 support operations which is HIGH RISK. We intend to build skilled team with appropriate team size to provide critical support operations
- **Enhanced digital capabilities with product upgrades** Take advantage of COTS product upgrades to stay relevant with market transitions in providing modern billing capabilities
- **Ease of integration & Workflow capabilities** Standardization of data layouts across monthly, weekly & daily files. Also build ETL workflow capabilities with modern plug in plug out adaptors/micro services. Standardize and automate the integration of usage data from different source systems
- **Boost Performance** Separate Online Transaction Processing (OLTP) and Online Analytical Processing (OLAP) databases to boost performance.
- **Enable Out of Box (OOB) capabilities** Configure out of the box billing dash boards, measures, KPI's and standard workflows
- **Excellent user experience** with responsive web design/multi form factor & mobile capabilities
- **Enhanced security**, business continuity & disaster recovery protection
- **Better vendor product documentation** & support mechanism

4. Business Program Name: RATES & COST RECOVERY

5. Program Background and Context: (Provide a brief overview of the entity's business program(s) current operations.)

CalTABS is cost recovery system for data center services usage across state departments and other agencies. \$330 M (approx.) USD is billed annually via this system. It collects resource (service) usage data, assigns service codes to each resource, and generates customer soft copy invoicing, billing reports & ability to view billing online.

Key Features

- ✓ Collects resource usage data
- ✓ Assigns account codes for each resource to identify the workload
- ✓ Maintain service billing rates
- ✓ Provides usage reports

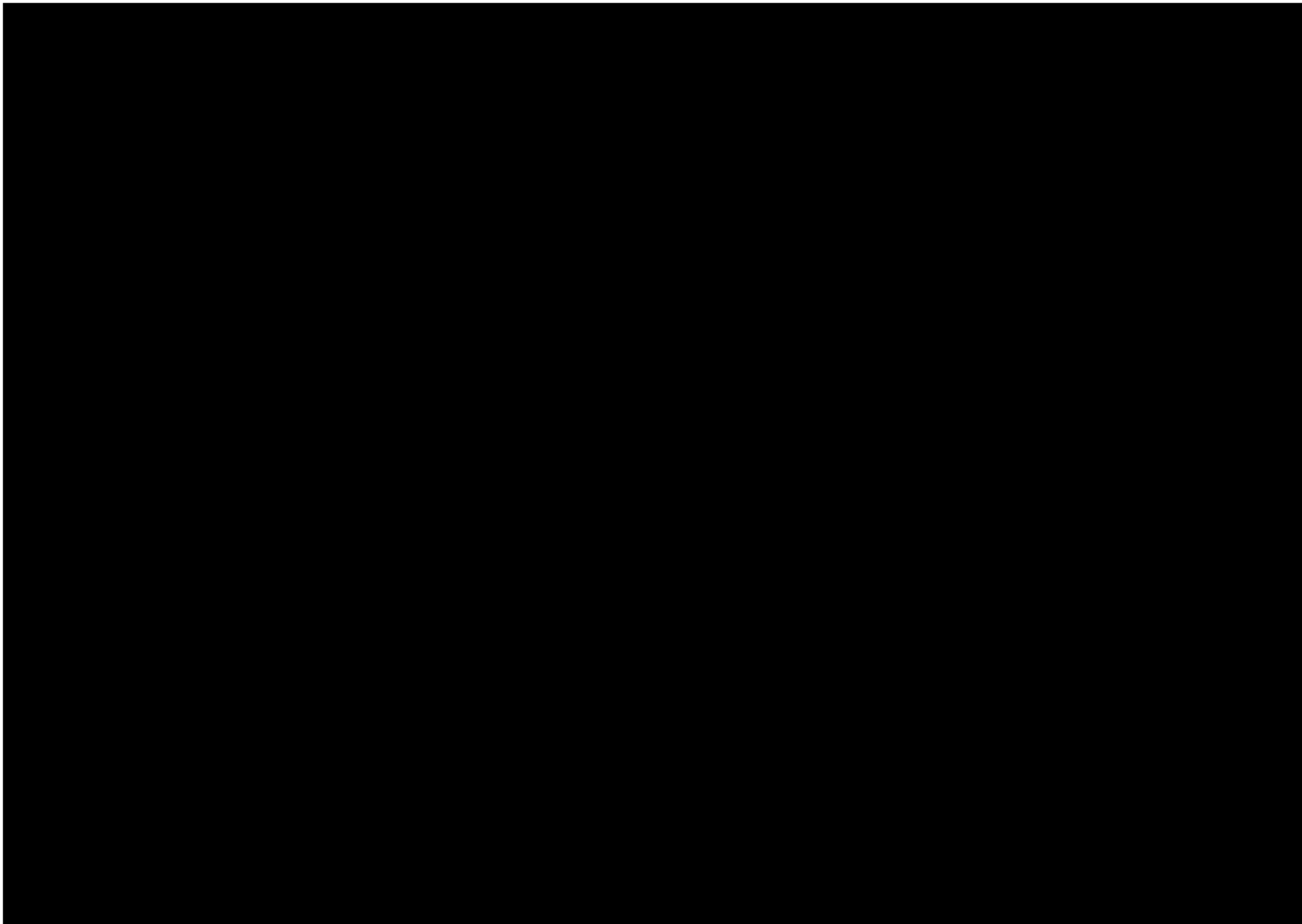
Benefits

- ✓ Usage-based accounting
- ✓ Customer Chargeback
- ✓ IT cost allocation and analysis
- ✓ Resource utilization reporting

Key Features

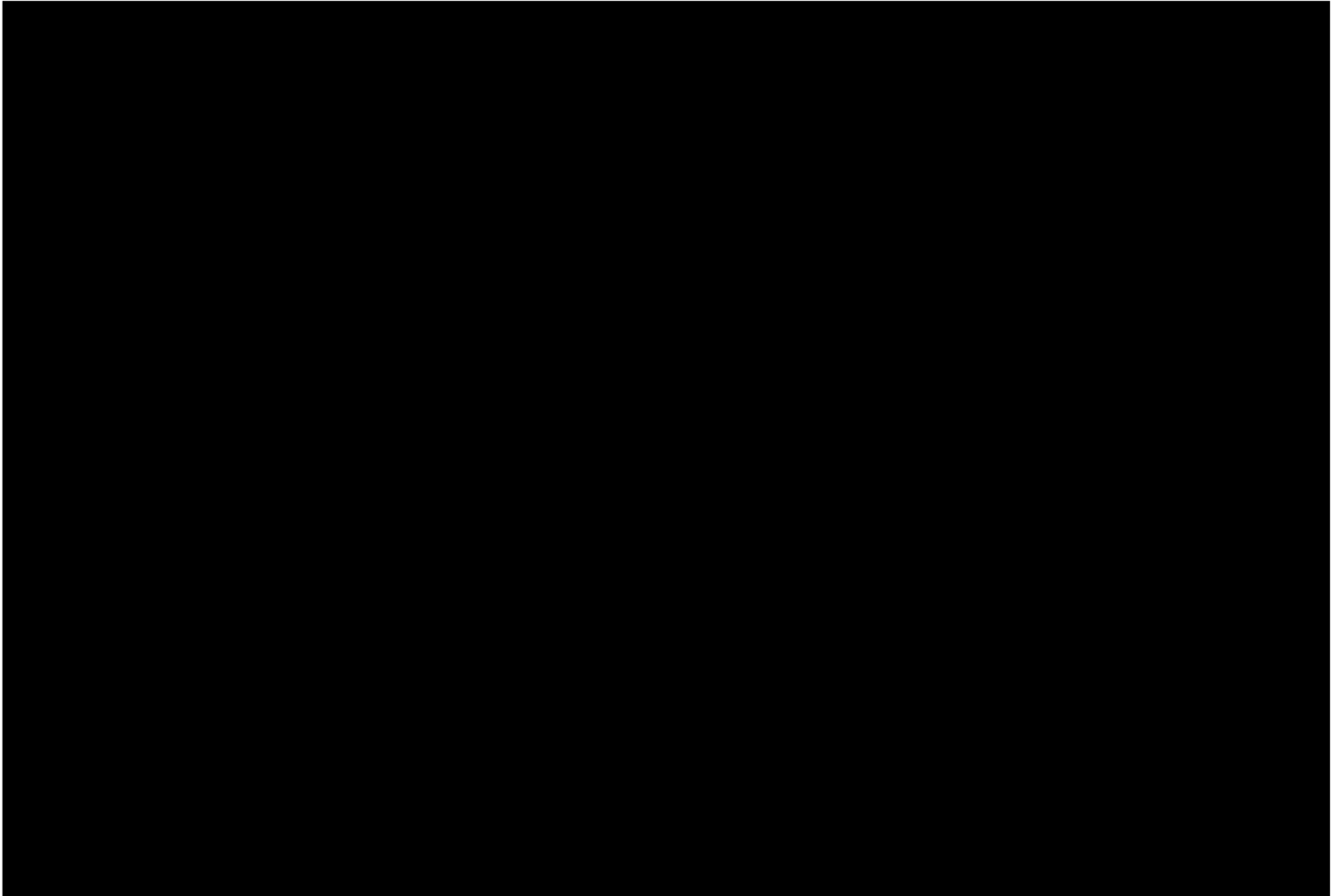
Key Component	Description
Customer Website	1000+ customers login & view their invoices, obtain statement of account and run detail reports
Admin Portal	This is used to administer the system and create CSR files from Excel files
Validation/load routines	These are routines that read the CSR files, apply billing algorithms/ logic and upload to the database
SSRS Portal	Internal portal used by Client Reps, Internal groups, Rates & Cost Recovery teams. It also provides a view into critical tables such as Rate and Client Table
TDS/Z Mainframe	This creates CSR files from SMF data. Used to provide the Mainframe CPU (Batch, TSO, STC, OE/MVS, Zip) and Mainframe DB2 data
ESP Scheduler	Scheduler to schedule mainframe jobs, data transfers via FTP that run on mainframe including triggers
Visual Scheduler	Cron Auto scheduler that runs batch programs, emails reports, error logs, links to SQL Server for updates
Daily/Weekly/Monthly	Jobs which are run daily/weekly/monthly and adhoc basis

System High Level Architecture



- Daily and Weekly usage data Comes from Mainframe.
- This Data is processed in SAS to convert to CSR format.
- CSR data files are validated and applied business rules to transform data and loading to database.
- Admin Console is used to administer the system and create CSR files from Excel files.
- SSRS Portal is Internal portal used by Client Reps, Internal groups, Rates & Cost Recovery teams.
- CalTABS front end customer facing website for users to login and view invoices

Data Center Usage data ETL Workflow



CalTABS Production Support Operations

Currently, production support operations follow enterprise wide service now ticketing process for any issues identified by the end users/business users. Tickets get routed to CIO CalTABS assignment group. The assignment group consists of business, functional and technical SME's who assists with trouble shooting billing issues. Also, one vendor consultant is engaged in providing system technical and administration support services.

Key CalTABS System Statistics

Key Stat	Value
Revenue	\$25+ Million Per Month
No of data Sources	33 Data Sources
No of Users	1000+

Daily/Weekly/Monthly Vol	1M+/7M+/31+ Million Records
Database Key Stats	80 Tables, 70 Views, 150 Stored Procedures
Database Volumes	30 Million to 2.1 Billion Rows of data
SSRS Key Stats	44 sheets & 120+ RDL Reports
SAS Key Stats	128+ programs/macros
Mainframe CPU & DB2 usage	Daily about 1 million SMF records processed
DSNLIST	Processes over 110 million records relating to discrete dataset names on Vacaville to bill for HSM and DASD. Daily record count is 1Million
ADABAS CPU	Processes over 1.5 million records per month

CalTABS Production Support Operations

Currently, production support operations follow enterprise wide service now ticketing process for any issues identified by the end users/business users. Tickets get routed to CIO CalTABS assignment group. The assignment group consists of business, functional and technical SME's who assists with trouble shooting billing issues. Also, one vendor consultant is engaged in providing system technical and administration support services.

This project aims to replace CalTABS (As-Is) which has been highly customized with a low/no code cloud based SAAS application.

TIP: Copy and paste or click the + button in the lower right corner to add Business Programs, with background and context and impact descriptions as needed.

1.6 Project Justification

1. Strategic Business Alignment

Enterprise Architect

Title: Information Technology Manager II

Name: Stanfield, Valerie

Strategic Plan Last Updated? 6/20/2023

Strategic Business Goal: **Bridge to Future 2023** Operational Excellence - Optimize processes and decision-making, reduce complexity, and effectively manage risk.

Vision 2023 (3) Make common technology easy to access, use, share and reuse across government

Alignment: Over time, numerous band aids have been configured into CalTABS and the staff able to cope with its complexity has been reduced to a bare minimum. This has resulted in a single point of failure for CDT. Mitigate risk of single point of failure, reduce complexity and build efficient billing system for accurate reporting and invoicing. This project aims to replace CalTABS (As-Is) which has been highly customized with a low/no code cloud based SAAS application.

Strategic Business Goal: **Bridge to Future 2023** Exceptional Customer Service Understand customer needs, seek feedback, and improve interactions.

Alignment: Enable responsive web design/multi form factor, mobile capabilities and optimize existing business processes to provide better end user experience.

Strategic Business Goal: **Bridge to Future 2023** Innovative Growth Strategy: Increase business opportunities, maintain a security-minded approach, and adopt new products and services that meet the evolving needs of our customers.

Alignment: Enhance digital capabilities with product upgrades. Take advantage of frequent COTS product upgrades to stay relevant with market transitions in providing modern billing capabilities. Ease of integration & Workflow capabilities Standardization of data layouts across monthly, weekly & daily files. Also build ETL workflow capabilities with modern plug in plug out adaptors/micro services. Standardize and automate the integration of usage data from different source systems. Separate Online Transaction Processing (OLTP) and Online Analytical Processing (OLAP) databases to boost performance.

Strategic Business Goal: **Bridge to Future 2023** People-Centric Organization: Foster an organizational culture that puts people first and attracts diverse talent and promotes teamwork.

Alignment: We intend to build sustainable team structure with right sizing, skilling and mixing. Segregate Level 3 application development and maintenance skill sets with Level 4 Platform Installation and Administration support activities to ensure Segregation of Duties (SOD) compliance. We intend to build diversified skilled team with appropriate team size to provide critical level 2, 3 & 4 support operations. By right staff sizing, skilling and mixing will contribute in achieving high morale, positive attitude, and increased work productivity.

TIP: Copy and paste or click the + button in the lower right corner to add Strategic Business Goals and Alignments as needed.

Mandate(s): None

Bill Number/Code, if applicable: [Click or tap here to enter text.](#)

Add the Bill language that includes system-relevant requirements:

Not Applicable

TIP: Copy and paste or click the + button in the lower right corner to add Bill Numbers/Codes and relevant language as needed.

2. Business Driver(s)

Financial Benefit: No

Increased Revenue: No

Cost Savings: No

Cost Avoidance: No

Cost Recovery: Yes

Will the state incur a financial penalty or sanction if this proposal is not implemented? Choose Yes or No.

If the answer to the above question is "Yes," please explain:

Yes, CDT could be liable for state departments/local agencies in case of not maintaining an efficient billing system for accurate reporting and invoicing.

Improvement

Better Services to the People of California: No

Efficiencies to Program Operations: Yes

Improved Equity, Diversity, and/or Inclusivity: No

Improved Health and/or Human Safety: No

Improved Information Security: Yes

Improved Business Continuity: Yes

Improved Technology Recovery: Yes

Technology Refresh: Yes

Technology End of Life: Yes

1.7 Business Outcomes Desired

Executive Summary of the Business Problem or Opportunity:

CalTABS is a 20-year-old cost-recovery system with approximately 1000 users. It generates customer billing for usage of data center services across state departments and other agencies. Approximately \$330M is billed annually via CalTABS.

Over time, numerous band aids have been configured into CalTABS and the staff able to cope with its complexity has been reduced to a bare minimum. This has resulted in a single point of failure for CDT.

This project aims to replace CalTABS (As-Is) which has been highly customized with a low/no code cloud based SAAS application.

Objective ID: 1.0

Objective: Efficiencies to program operations (business driver): Adequate support coverage. Currently dependent on single contractor for technical guidance and subject matter expertise. Any vacation or leave from the contractor impacts the ability to support the system.

Metric: Subject matter expert availability

Baseline: Currently contractor is available about 80% of the time

Target Result: Increase team size to support coverage 100% the time during standard business hours and extended hours (as applicable)

Objective ID: 2.0

Objective: Secure program operations: Ensure that new cost recovery billing system meets state security standard policies, procedures and guidelines to ensure there are zero violations or security incidents.

Metric: Number of Security Incidents

Baseline: 0

Target Result: 0

Objective ID: 3.0

Objective: Currently to build a new environment for any project or major enhancements work it takes about 90+ days to secure infrastructure, install, configure, deploy code, migrate data and make environment ready. We want the new commercial off the shelf (COTS)/Software as a service (SaaS) system to build new environment within 10 business days.

Metric: Time taken to create new cloud or SaaS lower environments within couple of hours

Baseline: Currently it takes more than 90+ days to build, size, configure and make environment ready

Target Result: <=10 business days to build new environment for new project initiatives or training needs

Objective ID: 4.0

Objective: Currently, the system documentation is outdated, and a BIA compliance item has been logged to update the documentation within next one year. However, this being old system and only one contractor having the knowledge of the system has become bottleneck. The contractor has to do this on top of production support and other completing project initiatives. We intend to get commercial off the shelf (COTS)/Software as a service (SaaS) system which does thorough product releases with appropriate functional, technical system documentation.

Metric: Up to date product release notes and product system documentation available

Baseline: Current system documentation is outdated and requires major update to become relevant. No system documentation available for technical components, programs, workflows and processes for running the monthly, daily and weekly jobs.

Target Result: We intend to get commercial off the shelf (COTS)/Software as a service (SaaS) system which provides thorough functional, technical system documentation and product release notes.

Objective ID: 5.0

Objective: Given that system is heavily customized and requires knowledge of varied diversified skill sets (such as Mainframe knowledge, SAS, SQL Server, DOTNET and System Administration) to provide ongoing production support operations. It is very difficult to hire specialists having all

these skills. Also, it takes more than 6 months to provide knowledge transition and onboard a new staff member. We intend to reduce this onboarding time frame to less than 30 days with new comprehensive commercial off the shelf (COTS)/Software as a service (SaaS) system solution.

Metric: Ramp up time taken to learn and support system by new staff member

Baseline: Currently, it takes 180+ Days given the technology landscape complexity

Target Result: We intend to reduce this onboarding time frame to less than 45 days with new comprehensive commercial off the shelf (COTS)/Software as a service (SaaS) system solution.

Objective ID: 6.0

Objective: Current system is heavily customized and has 128 SAS programs, 80 RDL reports, 120 stored procedures, 12+ JCL Mainframe jobs, 25 ASP/DOTNET web screens to process data center usage data from 33 data sources. We intend to rationalize the technology landscape, standard source data formats and leverage out of box capabilities. We intend to acquire Zero or Low code solution systems.

Metric: Lines of code to process source data files

Baseline: Currently we have about 50,000 lines of code across the technology landscape

Target Result: We intend for zero code or low code commercial off the shelf (COTS)/Software as a service (SaaS) system solution. Target to have configurable system with less than 10000 lines of custom code.

Objective ID: 7.0

Objective: Technical Team Segregation of duties (SOD compliance): Currently, there is only one staff member does Level 3 and Level 4 activities. We intend to segregate staff for Level 3 Application Development Support and Level 4 Platform Administration technical Support activities

Metric: L3 and L4 staff to comply with segregation of duties (SOD) compliance

Baseline: Currently one staff member does Level 3 and Level 4 activities

Target Result: We intend to segregate technical staff for Level 3 Application Development Support and Level 4 Platform Administration technical Support activities. Also, right size Level 3 and Level 4 team with appropriate technical skill sets

Objective ID: 8.0

Objective: Shared responsibility for sustainable technical support operations. Avoid vendor lock in and single point of failure. Have reliable product vendor & implementation partner to provide system implementation, integration, and support coverage. Also, right size state technical team for sustainable Level 3 and Level 4 support operations

Metric: Have reliable product vendor & implementation partner (listed in Gartner/Forrester etc. magic quadrants) to provide system implementation, integration, and postproduction support coverage. Also, budget for additional fourteen (14) state full time positions.

Baseline: Currently there are one contractor providing level 3 and level 4 technical support operations

Target Result: Budget for additional fourteen (14) full time equivalent (FTE) state staff positions which includes Business Analysts 2 FTE, Functional Analysts 2 FTE, System Integration Developers 2 FTE, Technical Front End Developers 2 FTE, Report Technical Developers 2 FTE and Platform Administration Support 4 FTE. Also have reliable product vendor support coverage with minimum two (2) vendor resources for providing guidance and support for state staff on advanced and complex system integration/workflow/report/web components. Have reliable product vendor & implementation partner (listed in Gartner/Forrester etc. magic quadrants) to provide system implementation, integration, and postproduction support coverage.

Objective ID: 9.0

Objective: Migrate existing data into new system across Online Transaction Processing (OLTP) and Online Analytical Processing (OLAP) instances respectively

Metric: Migrate all data from existing to new system target instances

Baseline: Currently, all the data is stored in single database instance

Target Result: Migrate existing (100%) data into new system

Objective ID: 10.0

Objective: Current system is heavily customized and has 128 SAS programs, 80 RDL reports, 120 stored procedures, 12+ JCL Mainframe jobs, 25 ASP/DOTNET web screens to process data center usage data from 33 data sources. We intend to acquire commercial off the shelf (COTS)/Software as a service (SaaS) system and leverage out of box reporting, business intelligence analytics and dash boards for excellent user experience

Metric: Number of out of box reports, analytics, dashboards enabled

Baseline: Current system everything is customized and has zero out of box reports

Target Result: We intend to acquire commercial off the shelf (COTS)/Software as a service (SaaS) system and enable 100% out of box reporting, business intelligence analytics and dash boards for excellent user experience

Objective ID: 11.0

Objective: Current system has custom grown excel accelerator with complex macros for processing manual files and convert them for data processing. We intend to acquire commercial off the shelf (COTS)/Software as a service (SaaS) system solution that has simplified integration for manual file processing.

Metric: Currently, they have about 25 data sources that requires manual processing that are subject to excel convertor and follow several manual steps before loading them into the database. We want the new system to process them with simplified web/screen front end processing instead of convertor utility tools.

Baseline: Currently, they have about 25 data sources that requires manual processing that are subject to excel convertor and follow several manual steps before loading them into the database.

Target Result: We want to process all the external manual files in new system with simplified web/screen front end processing. We want zero convertor utility tools and improve user productivity.

TIP: Copy and paste or click the + button in the lower right corner to add Objectives as needed. Please number for reference.

TIP: Objectives should identify WHAT needs to be achieved or solved. Each objective should identify HOW the problem statement can be solved and must have a target result that is specific, measurable, attainable, realistic, and time-bound. Objective must cover the specific. Metric and Baseline must detail how the objective is measurable. Target Result needs to support the attainable, realistic, and time-bound requirements.

1.8 Project Management

1. Project Management Risk Score: 0.5

(Attach a completed [Statewide Information Management Manual \(SIMM\) Section 45 Appendix A Project Management Risk Assessment Template](#) to the email submission.)

2. Project Approval Lifecycle Completion and Project Execution Capacity Assessment

Does the proposal development or project execution anticipate sharing resources (state staff, vendors, consultants, or financial) with other priorities within the Agency/state entity (projects, PALs, or programmatic/technology workload)?

Answer: Yes

Does the Agency/state entity anticipate this proposal will result in the creation of new business processes or changes to existing business processes?

Answer (No, New, Existing, or Both): Both New and Existing Processes

1.9 Initial Complexity Assessment

1. Business Complexity Score: 1.4

(Attach a completed [SIMM Section 45 Appendix C](#) to the email submission.)

2. Noncompliance Issues: (Indicate if your current operations include noncompliance issues and provide a narrative explaining how the business process is noncompliant.)

Programmatic regulations: Yes

HIPAA/CIIS/FTI/PII/PCI: No

Security: Yes

ADA: Yes

Other: Choose Yes or No.

Not Applicable: Yes

Noncompliance Description: Currently, it is observed that username and passwords for connecting to the data sources have been hard coded in the program code instead of being referred from a database table or secure password protected file references. Also, the web development is non ADA compliant. Cal TABS current system does not satisfy SIMM 5300 security requirements.

3. Additional Assessment Criteria

If there is an existing Privacy Threshold Assessment/Privacy Information Assessment, include it as an attachment to your email submission.

How many locations and total users is the project anticipated to affect?

Number of locations: 150+ state agencies and 1000+ user base

Estimated Number of Transactions/Business Events (per cycle): 30+ Million usage data rows processed per monthly billing cycle

Approximate number of internal end-users: 1000

Approximate number of external end-users: 100+

1.10 Funding

Planning

1. Does the Agency/state entity anticipate requesting additional resources through a budget action to **complete planning** through the project approval lifecycle framework? Choose an item.

If Yes, when will a budget action be submitted to your Agency/DOF for planning dollars?

[Click or tap to enter a date.](#)

2. Please provide the Funding Source(s) and dates funds for planning will be made available:

[Click or tap here to enter text.](#)

Project Implementation Funding

1. Has the funding source(s) been identified for **project implementation**? Yes

If known, please provide the Funding Source(s) and dates funds for implementation will be made available:

01-JUL-2024

Will a budget action be submitted to your Agency/DOF? Yes

If "Yes" is selected, specify when this BCP will be submitted: 17-JUL-2023

2. Please provide a rough order of magnitude (ROM) estimate as to the total cost of the project: Between \$10 Million and \$50 Million

End of agency/state entity document.

Please ensure ADA compliance before submitting this document to CDT.

When ready, submit Stage 1 and all attachments in an email to ProjectOversight@state.ca.gov.

Department of Technology Use Only

Original "New Submission" Date: 7/14/2023

Form Received Date: 7/14/2023

Form Accepted Date: 7/14/2023

Form Status: Completed

Form Status Date: 7/14/2023

Form Disposition: Approved

If Other, specify: [Click or tap here to enter text.](#)

Form Disposition Date: 7/14/2023

Department of Technology Project Number (0000-000): 7502-021