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: 7730 - Franchise Tax Board**

   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: Mainframe Workload Growth 2026/27 (MFWG 26/27)**

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

   The Franchise Tax Board (FTB) proposes to replace the enterprise mainframe server, and increase processing capacity and memory to meet workload growth projections and strategically plan for future capacity needs. In addition, FTB proposes to refresh its off-site capacity backup (CBU) mainframe to ensure the department's ability to recover critical applications and services in the event the central campus server is down because of an unexpected outage.

4. **Proposed Project Execution Start Date: 1/2/2026**

5. **S1BA Version Number: Version 1**

1.2 Submittal Information

1. **Contact Information**

   Contact Name: Christina Casale

   Contact Email: chrissy.casale@ftb.ca.gov

   Contact Phone: (916) 845-4116

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

   Name: Nadean Shavor

   Business Program Area: Technology Services Division

   Title: C.E.A

   Name: Jeanne Harriman

   Business Program Area: Finance & Executive Services Division

   Title: C.E.A

   Name: Timothy Paulsen

   Business Program Area: Infrastructure Services Bureau

2. **Business Owner**

   Title: IT Manager II

   Name: Raymond Basiri

   Business Program Area: Server Engineering Services

   Title: IT Manager I

   Name: David Smith

   Business Program Area: Mainframe Engineering Unit A

   Title: IT Manager I

   Name: Hiroshige Koshigoe

   Business Program Area: Mainframe Engineering Unit B

3. **Product Owner**

Title: IT Manager II

Name: Raymond Basiri

Business Program Area: Server Engineering Services

Title: IT Manager I

Name: David Smith

Business Program Area: Mainframe Engineering Unit A

Title: IT Manager I

Name: Hiroshige Koshigoe

Business Program Area: Mainframe Engineering Unit B

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: No

   Public: No

   Federal Entities: No

   Governor's Office: No

   Legislature: No

   Media: No

   Local Entities: No

   Special Interest Groups: No

   Other: No

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

   N/A

1.5 Business Program

1. **Business Program Name:** Infrastructure Services Bureau – Mainframe Services Management Section

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

   FTB's operational and disaster recovery (DR) requirements are met through the use of separate mainframe servers. One located at its central campus, and the other at its off-site disaster recovery location.

   Central Campus Mainframe Server (z15):

   FTB's Tier III equivalent Data Center provides mainframe and distributed systems access and the necessary operating and storage capacity for FTB to administer its programs successfully. For example, for Fiscal Year 2023/24 FTB's Data Center processed, on average, approximately 59 million online transactions and 410 thousand batch jobs per month. During April of 2024, FTB processed approximately 116 million online transactions and roughly 157 thousand batch jobs. Also, in Fiscal Year 2023/24 the Data Center also generated approximately 1.9 million print pages per month of in-house documents, notices, bills, and letters during peak filing season (January through March), and a yearly total of 21.1 million. In Fiscal Year 2023/24, FTB received more than 23.8 million tax returns and processed more than 9.3 million payments, responded to more than 2.7 million telephone calls, serviced over 55 million internet contacts, and collected approximately $162 billion in revenue (which is about 78% of California's General Fund revenue[1]).

   FTB's mainframe server, the IBM z15, is essential to the mission-critical legacy applications, Taxpayer Information (TI), Business Entity Tax System (BETS), and Court Ordered Debt (COD). Additionally, the mainframe server supports application systems operating in the distributed environment such as the Accounts Receivable Collection System (ARCS), Professional Audit Support System (PASS), Integrated Non-Filer System (INC), IVR, Enterprise Data to Revenue (EDR), Internal and External Taxpayer Folder (ITF and MyFTB), and public facing self-service applications for taxpayers and tax professionals (FTB.CA.GOV and External Authentication for Secure E-Services or EASE). All of these systems are dependent on the data that resides within the mainframe server, and therefore rely on the mainframe environment having sufficient processing capacity and storage space to support the efficient, effective, and secure operations of those application and their dependent processes.

   Historically, FTB has replaced the mainframe server every 4 years, skipping a bi-annual generation and purchasing the most current server available at the time. FTB's last mainframe server replacement was FY 2020/21. FTB usually increases capacity by upgrading MIPS (Millions of Instructions Per Second) every 2 years based on the historical growth rate of approximately 10% per year. The capacity and processing capabilities purchased with the IBM z15 (in FY 2020/21), along with a slower average growth rate of 5% in MIPS usage since its installation, allowed FTB to defer a "MIPS only" upgrade originally planned for FY 2023/24. At the current

[1] Revenue figures based on the 2023-24 Cash Report reported in the Department of Finance's July 2024 Finance Bulletin.

projected average growth rate of 5%, the mainframe server has sufficient capacity to meet FTB's processing needs through FY 2025/26.

FTB estimates the mainframe workload growth rate based on historical and current trends. Future system needs also impact mainframe server capacity and storage requirements; increases in the number of filers; enhanced security requirements; modernized interface (GUI) for legacy software; new software purchases and vendor related software upgrades; automating processes to create resource efficiencies; and project and system enhancements. These will all require additional CPU and storage capacity which must be taken into consideration and included in growth projections.

Off-Site Capacity Backup (CBU) Mainframe Server (z14):

The z14 ZR1 (CBU) disaster recovery mainframe is a critical component of FTB's disaster recovery plan. The IBM z14 ZR1 (CBU) at the secondary off-site location enables seamless recovery of all mainframe applications and services in the event of an unforeseen loss of server because of an emergency or disaster. This strategic placement enhances our ability to manage the technology recovery process and significantly improves business continuity.

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

   FTB's revenue generating activities are significant to the state of California (making up approximately 78% of General Fund revenue) each year. Because of this, it is crucial for FTB to mitigate the risks associated with an unsupported mainframe server infrastructure. This means that required hardware, service, software, and microcode upgrades must be fully supported by the manufacturer at all times.

   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: Enterprise Architecture – EA Operations and Compliance Section

   Name: Jason Willoughby & Enzo Palmer

   Strategic Plan Last Updated? 7/21/2023

   Strategic Business Goal: Goal 1: Exceptional Service - Strive to continuously enhance our customers' experience.

   Strategy 1.3: Educate our customers on the use of multi-channel services and information to improve their experience.

Alignment: FTB promotes the following self-service tools to improve customer service to the taxpayers of California:

- Interactive Voice Response System (IVR)
- External Taxpayer Folder (MyFTB)
- Public facing self-service applications (FTB.CA.GOV and External Authentication for Secure E-Services or EASE)

The operation of each of these tools is dependent on sufficient mainframe server processing and storage capacity.

Strategic Business Goal: Goal 2: Effective Compliance - Fairly administer the law to ensure taxpayers file and pay the correct amount.

Strategy 2.2: Improve data, information, and knowledge sharing with the tax community and government partners

Alignment: Although the vast majority of taxpayers voluntarily comply with their tax obligation, some do not file correctly or pay their taxes. For this group, it is FTB's responsibility to enforce the law through a variety of measures with fairness and flexibility to help these taxpayers return to voluntary compliance as soon as possible. FTB's mainframe server is host to the legacy systems providing the data necessary to determine and enforce compliance and payment. Upgrading the mainframe server to align with workload growth increases the capacity and provides FTB with the ability to continue to administer and enforce California Tax Law effectively.

Strategic Business Goal: Goal 4: Operational Excellence - Optimize our processes, products, services, and resources to better serve our internal and external customers.

Strategy 4.3: Leverage and modernize IT systems and processes to support and improve business and administrative activities.

Strategy 4.5: Standardize and modernize our hardware and software to optimize operations.

Alignment: As innovation occurs and best practices evolve in tax and business administration, FTB embraces change in a creative and responsible manner to enhance the operational infrastructure. FTB's mainframe server is pivotal to providing additional information to taxpayers as they become increasingly mobile. Upgrading the mainframe server to align with workload growth ensures the continued ability of FTB to provide excellent customer service.

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:

Click or tap here to enter text.

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: Yes

Cost Recovery: No

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

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

Click or tap here to enter text.

Improvement

Better Services to the People of California: Yes

Efficiencies to Program Operations: Yes

Improved Equity, Diversity, and/or Inclusivity: No

Improved Health and/or Human Safety: No

Improved Information Security: No

Improved Business Continuity: No

Improved Technology Recovery: No

Technology Refresh: Yes

Technology End of Life: Yes

1.7 Business Outcomes Desired

Executive Summary of the Business Problem or Opportunity:

The current mainframe server does not have sufficient CPU capacity to handle the growth of current workloads effectively and efficiently beyond FY 2025/26. In addition, the life of FTB's off-site capacity backup (CBU) mainframe cannot be extended beyond May 2027 and must be refreshed to ensure the department's ability to recover critical applications and services in the event the central campus server is down because of an emergency or disaster.

Central Campus Mainframe Server (z15):

FTB estimates mainframe workload growth rate based on historical and current trends. Based on the current average 5% estimated growth rate, and strategically planning for future system impacts, we will need additional capacity before FY 2026/27. Without the additional capacity the central campus mainframe server will no longer be able to support dependent program areas without significant process and performance degradation.

As more processes continue to shift to online processing, reliance on the mainframe server's "real time" capacity has increased. FTB cannot tolerate Central Processing Unit (CPU) depravation or lack of capacity without significant impact. Insufficient processing (CPU) capacity results in increased return processing time, increased backlogs, increased online response times and inability to meet batch processing timeframes. These negative results, in turn, can lead to negative revenue impact, customer dissatisfaction, inability to process workloads in real time, decreased use of online services and increased risk to the Tax Systems Modernization (TSM) effort of which the second phase is known as the Enterprise Data to Revenue 2 project (EDR2).

FTB must keep the mainframe server operating with sufficient performance and capacity to handle critical revenue generating workloads. Operating below 90% of CPU capacity is recommended for optimum efficiency.

Applications running on the mainframe server work more efficiently if the information/data they require remains in the mainframe's central storage (memory). Sufficient central storage (GB of memory) needs to be available for processing work to maximize the available CPU processing throughput. As CPU utilization increases, central storage should be augmented correspondingly.

On April 25, 2023, IBM (International Business Machines) announced a staged withdrawal from marketing of the z15 mainframe server which is the model FTB currently uses. First, IBM ended hardware upgrades in December 2023, followed a year later by the withdrawal of microcode capacity upgrades in December 2024. Once the mainframe server is removed from market, it can no longer be upgraded for capacity needs. This increases the likelihood of failure because it becomes more challenging to find replacement parts or service providers when needed. Failure to upgrade can also impact FTB's ability to operate in the most efficient environment as newer generations of mainframe servers continue to enhance their performance levels.

In addition, upgrading the mainframe server and increasing capacity (MIPS) will enable FTB to meet projected workload growth needs through FY 2027/28 and to strategically plan for future capacity needs through FY 2029/30. Planning for projected needs through FY 2029/30 will meet FTB's long term goals and provide the assured system stability required for a Tier III equivalent Data Center.

Off-site Capacity Backup (CBU) Mainframe Server (z14):

In addition to refreshing the enterprise mainframe server, FTB must also replace the z14 CBU server which has reached its end of support at FTB's off-site disaster recovery location.

On October 13, 2020, IBM announced a withdrawal from marketing of IBM z14 ZR1 (CBU) mainframe currently in use at an offsite location. The final stage of this withdrawal will end the support for z14 ZR1 (CBU) machine on September 30, 2027. As a result, it is imperative that FTB purchases and

implements a new mainframe (CBU) before this date to retain the ability to recover mainframe applications and services in the event of disaster.

To ensure optimal performance, the disaster recovery mainframe must be equipped with sufficient processing capacity and storage space to support the recovery of mission critical legacy applications and run current production workload. Originally purchased in FY 2019/20, the plan was to replace the z14 ZR1 (CBU) every four years. However, due to the current economic environment, FTB deferred the replacement for additional two years.

Both of these upgrades (z14 and z15) also align with California State Digital Strategy to ensure human centered design and efficient growth scaling through modernizing FTB's mobile presence and providing a strong platform for the backbone of FTB's applications.

The timing of this S1BA submission takes into account the lead time typically needed to procure and purchase the hardware and to negotiate software contracts so that the refresh of both mainframes can be implemented during the second quarter of FY 2026/27, prior to peak filing season from March - May.

Objective ID: 1.1

Objective: By the end of November 2026, FTB will have sufficient CPU processing capacity (MIPS) and full vendor support to meet the projected capacity requirements for FY 2026/27 through FY 2027/28. This will ensure that FTB operates at the recommended guideline of utilizing less than 90% of available general processor capacity.

Metric: Mainframe server processing capacity

Baseline: The CPU is currently running at 83% of capacity (as of the end of FY 2023/24), and is projected to be running at 91% by FY 2026/27

Target Result: Using no more than 90% of CPU capacity through FY 2027/28

Objective ID: 1.2

Objective: By the end of November 2028, FTB will have sufficient CPU processing capacity (MIPS) to meet the projected capacity requirements for FY 2028/29 through FY 2029/30. This will ensure that FTB operates at the recommended guideline of utilizing less than 90% of available general processor capacity.

Metric: Mainframe server processing capacity

Baseline: We are projected to be utilizing more than 100% of CPU capacity by FY 2028/29

Target Result: Using no more than 90% of CPU capacity through FY 2029/30

Objective ID: 2.0

Objective: By the end of April 2027, FTB will refresh the End of Support (EOS) CBU z14 mainframe currently installed at its off-site disaster recovery location. The refreshed CBU mainframe will be configured with the base level of capacity required to initialize the production Logical Partition (LPAR) within FTB's established 2-hour Recovery Time Objective (RTO). Meeting this objective will ensure FTB’s ability to recover mission critical legacy applications and run current production workload following an unexpected outage of its central campus server.

Metric: Time to recover mainframe-dependent services following an outage

Baseline: FTB's current offsite z14 server enables the department to recover mainframe-dependent services within its 2-hour RTO following an unexpected outage

Target Result: Refresh the z14 server with a new mainframe CBU prior to its EOS in May 2027 to ensure there are no gaps in FTB's disaster recovery plan and ultimately maintains the 2-hour RTO standard in the event of an unexpected outage

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: 0.6**

   (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)**:** No

1.9 Initial Complexity Assessment

1. **Business Complexity Score:** 1.3

   (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: No

HIPAA/CIIS/FTI/PII/PCI: No

Security: No

ADA: No

Other: No

Not Applicable: No

Noncompliance Description:

N/A

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: 14 Locations (FTB Main Campus and its 13 Field Office Locations)

   Estimated Number of Transactions/Business Events (per cycle): >600 million per year

   Approximate number of internal end-users: 6,000+

   Approximate number of external end-users: Population of all CA Taxpayers and those that utilize FTB's other services (e.g. non-tax debt programs) via IVR or web access

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? No

   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:

   N/A

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:

   General and Special Funds, 7/1/2026

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

If “Yes” is selected, specify when this BCP will be submitted: Fall 2025

2. Please provide a rough order of magnitude (ROM) estimate as to the total cost of the project: Less than $10 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: 09/09/2024.

Form Received Date: 09/09/2024.

Form Accepted Date: 09/09/2024.

Form Status: Complete.

Form Status Date: 09/09/2024.

Form Disposition: Approved

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

Form Disposition Date: 09/09/2024.

Department of Technology Project Number (0000-000): 7730-222.