Washington Office of Superintendent of
PUBLIC INSTRUCTION

SAFS Feasibility Study

2024

SCHOOL ACCOUNTING AND FINANCIAL SYSTEM (SAFS) FEASIBILITY STUDY

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1. EXECUTIVE SUMMARY

Business Objectives

The School Apportionment and Financial Systems (SAFS) system is the primary tool used to allocate operating revenue across the State's public K-12 education system, funding 380 education partner districts that serve more than a million youth. Half of the State's Operating Budget is apportioned through the SAFS system, highlighting the significance of this system's impact for the State of Washington. Considering the breadth of data collected from the Office of Superintendent of Public Instruction's (OSPI's) education partners, the system also functions as a critical data repository and brokerage for education information, leveraged by educators, administrators and legislators across the State.

Due to annual legislative updates to education funding policies and reporting mandates, SAFS calculations have become exponentially more complex than the legacy system was originally designed to handle more than 20 years ago. Given the increasing complexity and unwieldy nature of the customized legacy system, OSPI partnered with Gartner to explore and define the future state of apportionment and conduct an Alternatives Analysis to determine the best fit solution strategy for the SAFS Modernization. The current state analysis enumerated risks with the legacy system and demonstrated a high probability of failure.

Not only is the potential impact of SAFS system failure significant for this broad stakeholder group, the current state of the disrepair and sub-optimal disaster recovery, exacerbated by years of underfunding, greatly increases the potential of catastrophic system failure. The tangible and intangible cost of such a failure would likely be felt by the majority of the State's residents.

There is a clear and imminent need to modernize the aging SAFS legacy system with future state capabilities including front-end data collection, a data repository and calculation engine and reporting. OSPI seeks to transform the legacy SAFS system using secure, modern technologies to establish an efficient, user-friendly platform for education data collection, funding and enrollment calculation, payment distribution and reporting. Guided by principles of maintaining focus on customers, increasing operational efficiency and leveraging modern technology, the SAFS Modernization will address improvement opportunities including agility, integrated architecture, data integration, automation, self-service and accurate forecasting.

Recommendation

Gartner recommends the future state be enabled through a modern cloud architecture leveraging a Low-Code Application Platform (LCAP), such as Microsoft Power Platform, Salesforce, Service Now, etc., on which to configure layers of functionality to meet the agency's unique needs. Transition to a low-code/no-code environment is a strategic shift for OSPI, in that it reduces reliance on costly, difficult to source professional coders, as required by the current customized environment, and empowers "citizen developers", such as business staff currently managing SAFS programs, to manage day to day operations of the system.

The transition from legacy customization to an LCAP configuration requires a carefully planned

approach to the system's design to ensure it meets OSPI's dynamic needs. Gartner recommended OSPI leverage an authoritative RFP as soon as possible to elicit vendor proposals for their best fit LCAP solution architecture. Given the broad variety of emerging options in the LCAP market, and the degree to which these architectures can vary in cost and complexity, Gartner recommends OSPI complete the solicitation in tandem with securing project funding to identify an implementation partner and improve the accuracy of the proposed project budget and timeline to provide the most accurate funding request for the FY 25-27 biennium.

Expected Costs

The project is anticipated to cost an additional $12 million over current legacy costs across the span of seven years, including a complex procurement in year 1, implementation in years 2-4, and updated operating costs in years 5-7.

Justification and Expected Benefits

OSPI evaluated five alternatives, including an analysis of the potential cost and impact of doing nothing as a baseline, deferred maintenance on the existing system, traditional custom development, a Commercial Off the Shelf (COTS) solution and a Low Code Application Platform (LCAP). The Baseline and Option 1 contemplate continued investment in the legacy platform, Option 2 contemplates a transformation of the legacy system, while Options 3 and 4 offer alternatives to replace and modernize the system.

OSPI evaluated the options through an Alternatives Analysis Framework with quantitative scoring and qualitative review in four criteria categories: Strategic Alignment, Operational Excellence, Risk Management and Fiscal Impact.

The LCAP architecture consistently scored higher than the other options in each category, given its close strategic alignment with State and OSPI strategic IT objectives, mitigation of the performance and maintenance risks associated with the other options, and offering the most functionality for the lowest anticipated implementation and ongoing operational costs.

Figure 1: Weighted Alternative Scores with Heatmap

Category	Baseline: Sustain Legacy	#1: Deferred Maintenance	#2: Custom Development	#3: COTS Solution	#4: LCAP with Custom Apps
Strategic Alignment	0.00	0.15	0.27	0.20	0.35
Operational Excellence	0.14	0.53	0.95	0.95	1.16
Solution Implementation	0.05	0.44	0.50	0.63	0.69
Fiscal Impact	0.30	0.30	0.30	0.30	0.70
Overall Score	**0.49**	**1.41**	**2.02**	**2.07**	**2.89**
	$5,457,000	$14,013,000	$29,270,000	$29,172,000	$15,371,000

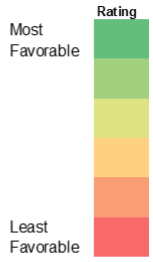
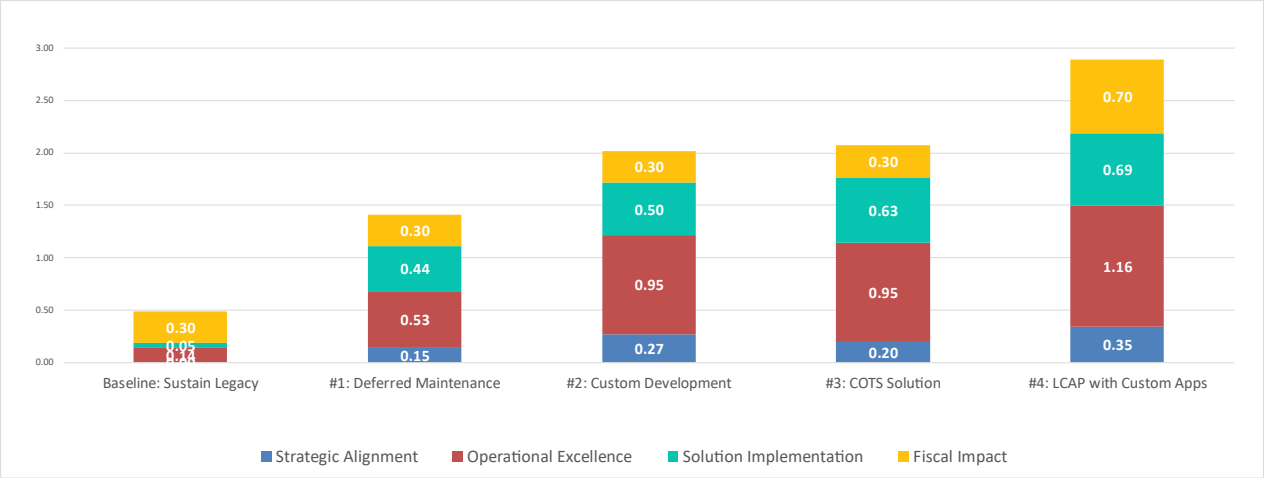


Figure 2: Weighted Alternative Scores by Evaluation Criteria



Risks

All the alternatives considered have some degree of risk, with the highest degree of risk expected if nothing is done and the lowest degree of risk with implementing an LCAP solution. While the LCAP architecture is expected to significantly reduce the current level of reliance on external vendors to update and maintain the solution, risks associated with the initial procurement and solution design must be addressed. Given these risks are largely connected to unknown factors including licensing and service agreement costs, Gartner recommends a targeted and immediate focus on partner selection to clarify these costs and reduce risks for the upcoming project funding request.

2. BACKGROUND AND NEEDS ASSESSMENT

Background

The Washington Office of Superintendent of Public Instruction (OSPI) is the primary agency charged with overseeing public K-12 education in Washington state. The agency's established mission statement is to:

"Transform K-12 education to a system that is centered on closing opportunity gaps and is characterized by high expectations for all students and educators. We achieve this by developing equity-based policies and supports that empower educators, families, and communities."

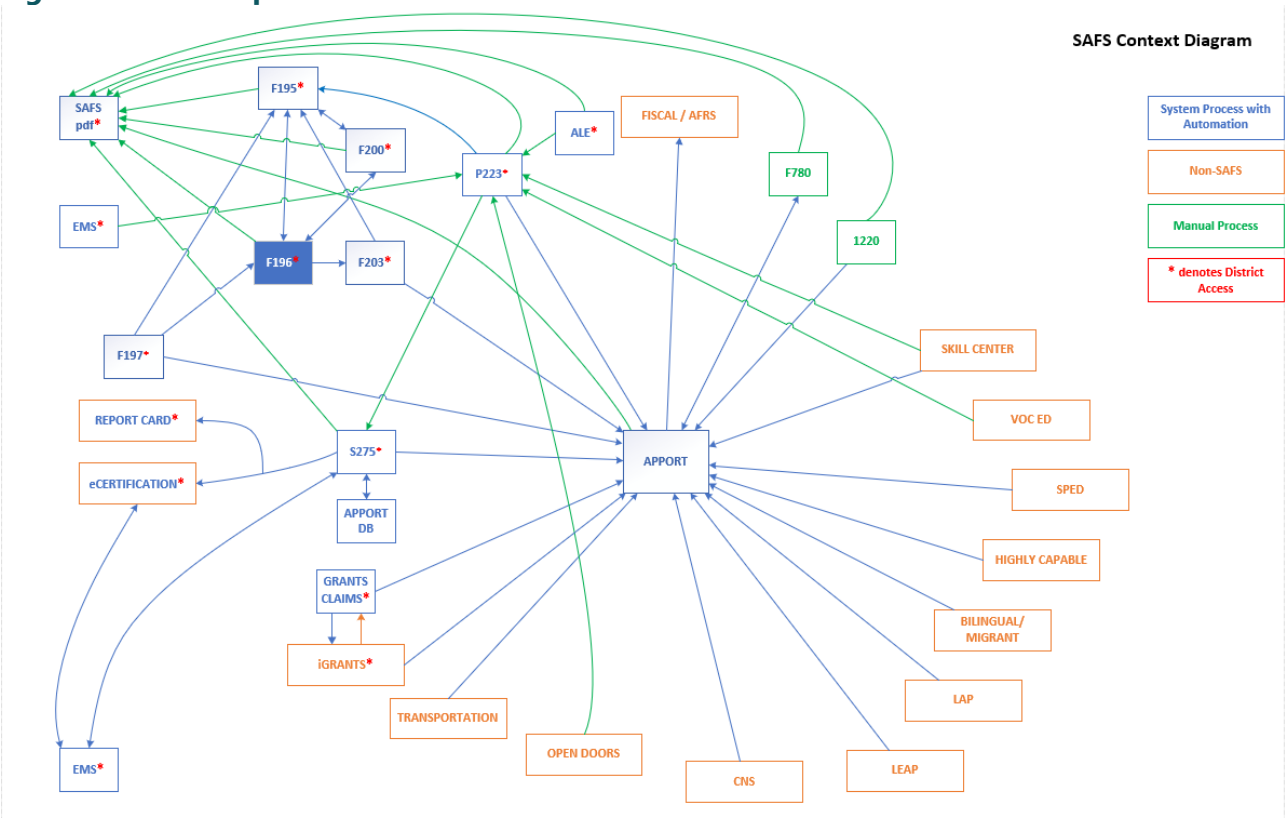
A vital component to this work is OSPI's responsibility to allocate educational funding for the State's 305 public school districts, twelve charters, nine Educational Service Districts (ESDs), six state-tribal education compact schools, and other institutions that provide public education to the State's K-12 student population – roughly 1.1 million youth served in total.

District funding is calculated and allocated using the School Apportionment and Financial Systems (SAFS), a suite of multiple systems that OSPI built and maintains. SAFS is a mission-critical suite of tools that performs the role of calculating monthly payments of State and Federal dollars to each of the Washington State school districts and public education institutions. These funding apportionments are calculated monthly and sent to the Treasurer's Office for disbursement, with scheduled system updates pushed bi-annually and additional calculation modifications implemented annually as required by the Washington Legislature. Timely funding to districts, as well as the public-facing documentation detailing the funding apportionment amounts and intentions, empowers educators, families, and communities to take an active part in OSPI's mission while ensuring its success.

SAFS stakeholders can be grouped into two categories: internal support and external partners. SAFS is supported by eight OSPI business staff, the OSPI IT team, and an externally contracted IT Support and Development team. Partners include public-school districts that are critical stakeholders in the SAFS operation, providing most of the data input and leveraging access to SAFS digital output posted to the agency's website. State partners include the Legislature that has critical input and oversight to the funding model that informs Apportionment, the State Auditor's Office that leverages output data, OneWashington for integration and the Office of Chief Information Officer (WaTech). The public, including those with access to SAFS data outputs, as well as children and families are also impacted by the OSPI's SAFS Modernization decisions.

As shown in Figure 3 below, SAFS includes multiple components that feed into the apportionment calculations (Apportionment). These components are grouped into one of two categories: SAFS components (blue and green boxes in the Figure below); and non-SAFS components (orange boxes). In addition to the lawfully required public access to this information, school districts are required to publicly forecast funding needs up to four years in the future. This projection tool and its source calculations are also provided through SAFS.

Figure 3: SAFS Dependencies



Need For Modernization

The current SAFS system is unstable, running on outdated technology that is plagued with performance issues, manual ingest processes, and single points of failure.

The current system is at high risk of catastrophic failure. The SAFS system has insufficient technical infrastructure and fragmented architecture resulting in performance and stability issues. OSPI has a significant lack of internal technical expertise and has full reliance on outside technical contractors to maintain the SAFS system. At present, the system's annual maintenance budget is entirely consumed with updating calculations to meet new Legislative requirements, as opposed to maintaining the system. The severe deferred maintenance has led to reliance on unsupported legacy software, and a handful of outdated laptops capable of running this software. The outdated and unsupported technology generate significant concern for the feasibility of system restore if a major issue occurred. It also fails to comply with OCIO Policy EA-04 - Commonly Used Software Product Retirement Policy.

The current implementation of the SAFS system faces a variety of challenges because it was built in silos, without a holistic approach, making the existing technical architecture very difficult to update and support. However, due to regular and ongoing legislative updates, the system requires constant evolution to meet these dynamic requirements. This is further complicated by the reliance of ancillary State and OSPI systems on data collected through the SAFS system.

Taken together with the insufficient operations and maintenance budget, the system has evolved as a fragmented, complex, and inefficient solution to a critical apportionment function for the State of Washington's K-12 education funding.

The current SAFS system operates with three primary components: front-end data collection, back-end calculations and static reporting, and distribution outputs. The front end is comprised of web forms linked to the Educational Data Systems (EDS) and a conglomeration of Excel spreadsheets. The back-end calculation engine has limited access points and is heavily dependent on manual ingest and review of data managed by a handful of tenured SAFS staff and process documentation is limited. Finally, the reporting and distribution component is static with limited usability.

Technology pain points are localized to the back-end calculation tool and static outputs, which have not been updated since 2009. However, Districts report concerns with the timeliness of receiving updated calculations in the front-end data collection tool, primarily due to the complexity of programming legislative updates in the back end. These regular legislative changes in parallel with the manual and custom nature of the system require OSPI to continually invest in costly and time-consuming manual development efforts that undermine appropriate technology maintenance and upgrades to meet the dynamic requirements of the State's K-12 education system more effectively and efficiently.

Evidence of this growing technical debt can be found in the severe lack of modern supports for a system of this size and complexity, which manages critical operations for the State's K-12 education funding, impacting students, teachers, and families throughout the State. Existing IT development and support methodologies and the ticketing system are insufficient and there are no system health reporting metrics. There is a lack of integration between relevant systems, no two-factor authentication, no redundancies, an inability to handle processing workloads and the system is at high risk of failing a security assessment.

3. OBJECTIVES

The purpose of this feasibility study is to identify the best solution forward in the effort to modernize the SAFS systems. This includes detailing the current state and requirements for the system, defining target state changes and capabilities, assessing alternative solutions including the cost-benefit analysis of each consideration, proposing a solution that best fits the aforementioned needs, and providing a road map towards securing such a solution.

Building on the OSPI mission, the SAFS Modernization vision is to "Transform the legacy SAFS system using secure, modern technologies to establish a uniform, streamlined and user-friendly platform for data collection and analysis, funding and enrollment calculation, payment distribution and reporting of approximately 50% of overall statewide General Fund Operating Budget."

The project's Strategic Imperatives and Business Drivers will guide project decisions, formalizing OSPI's posture on a key set of solution architecture principles that consider historic, current state and future state perspectives.

Focus on Customers

- Maintain customer ease of use and minimize change impacts through similar webtool functioning.
- Improve data access and timeliness of calculations.
- Improve Identity Management and Permission Structure.

Increase Operational Efficiency

- Leverage modern technology to automate and streamline business processes.
- Develop transparent calculation engine.
- Improve performance.

Modernize Technical Architecture

- Leverage a modern technical architecture to establish a stable, secure platform with simplified support and maintenance.
- Ensure flexibility for dynamic updates to ensure responsiveness to Legislative changes and requests.
- Foster integrated, cohesive and holistic architecture to improve system performance.

Key Features for Improvement

The OSPI team identified six key features for high-level improvements in the SAFS Modernization.

- **Agility** – Improve responsiveness to frequent, complex Legislative updates.
- **Integrated Architecture** – Leverage modern tools to proactively integrate data collection, calculation and output capabilities.
- **Data Integration** – Automatically connect SAFS to the menagerie of related data sources throughout the OSPI enterprise.
- **Automation** – Reduce manual effort in managing workflows, data, oversight, publishing and projections.
- **Self-Service Upgrades** – Increase accessibility for OSPI Technical and Business staff to update information and upgrade the system, reducing reliance on external contractors and developers.
- **Projections** – Reduce manual effort and enable financial projections for relevant periods such as the 4-year forecast and the final two months of the school year that cross into a separate fiscal year.

4. IMPACTS

The SAFS system is the primary tool to apportion operating revenue across the entirety of the State's public K-12 education system, funding 380 education partner districts that serve more than a million youth. Half of the State's Operating Budget is apportioned through the SAFS data collection, calculation and distribution engine, highlighting the significance of this system's impact for the State of Washington. Considering the breadth of data collected from OSPI's education partners, the system also functions as a critical data repository and brokerage for education information leveraged by educators, administrators and legislators across the State.
Not only is the potential impact of failure significant for this broad stakeholder group, the current state of the system's disrepair and sub-optimal disaster recovery, exacerbated by years of

underfunding, greatly increases the potential of catastrophic failure. The tangible and intangible cost of such a failure would likely be felt by the majority of the State's residents. In contrast, the necessary investment to mitigate this impending risk and improve functionality and access to critical data is expected to be relatively small, compared to its probable impact.

5. ORGANIZATIONAL EFFECTS

SAFS Modernization can be used as a transformational tool, and catalyst to support OSPI's strategic goals. The system interacts with numerous OSPI data sets from at least 12 non-SAFS sources, offering a key opportunity to strategically develop OSPI's Enterprise Data Environment in parallel with the SAFS Modernization.

From a minimum tactical approach, all SAFS data collection and apportionment processes should be evaluated and optimized to best leverage system capabilities to free up human effort for higher order business operations and analytics. Therefore, business operations staff will be involved in the design and development of the new solution and will likely require training and support to maximize success in the new operating environment. It is anticipated business operations staff will require backfill to complete their day-to-day responsibilities while they focus on supporting the project.
As the SAFS operating model matures from one of instability and constant reactive effort, the nature of operations and maintenance is expected to evolve into a strategic, empowering model, aided by effective use of technology and economies of scale driven by a consistent technology approach across OSPI to support the achievement of agency objectives.

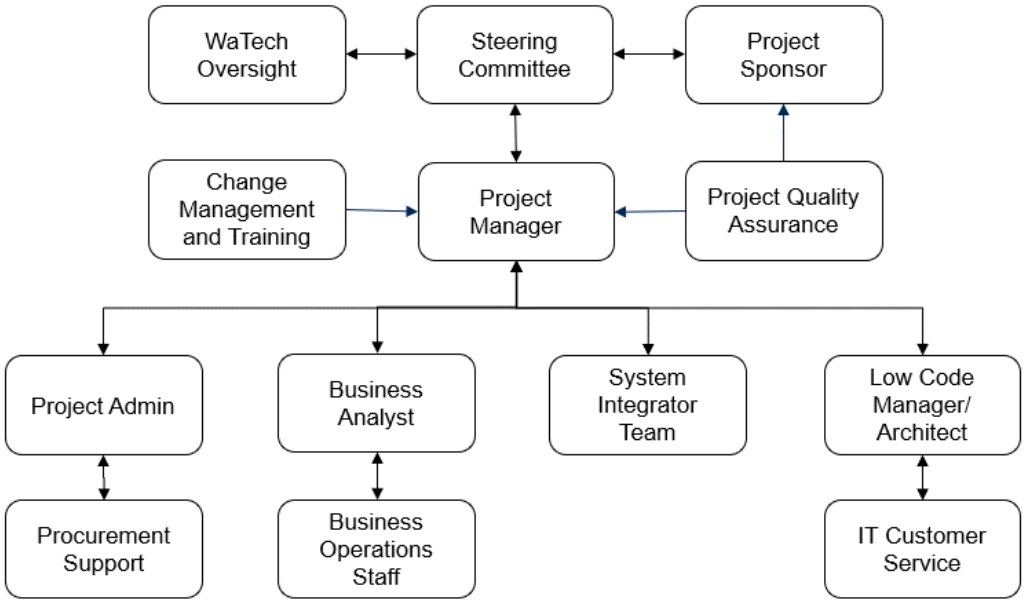
The project structure will be composed of three layers as shown in Figure 4, an Executive Leadership, Core Project Leadership and the Project Delivery Team. While most of the new project resources are anticipated to be external contractors, they are expressed in full time equivalent (FTE) to indicate the expected level of effort.

Executive Leadership will include a Project Steering Committee and the Project Sponsor, as well as a WaTech Consultant reporting to the Steering Committee for oversight.

In Core Project Leadership, the Project Manager (1FTE) will be supported by external Project and Program Management Quality Assurance contracts and Organizational Change Management and Training (2FTE).

The Project Delivery team will include a Project Admin (1FTE) to support the Project Manager with administrative activities of the project, a Procurement Support (.25 FTE) to support the solicitation and contracting process, Business Operations Staff (backfill 2.5 FTE), the selected implementation Partner (System Integrator), a Low Code Manager/Data Architect (1FTE) to begin to establish and develop the required ongoing maintenance program to support low-code citizen developer skills and training, as well as program standards and procedures that will continue to support future OSPI technology portfolio improvements and an expanded IT customer service team (2FTE) to support implementation and district training and service of the new solution.

Figure 4: Potential SAFS Modernization Project Structure



6. PROPOSED SOLUTION

SAFS Modernization Vision

OSPI seeks to transform the legacy SAFS system using secure, modern technologies to establish a uniform, streamlined and user-friendly platform for data collection and analysis, funding and enrollment calculation, payment distribution and reporting of approximately 50% of the overall statewide General Fund Operating Budget.

SAFS Future State Business Capability Model

The SAFS Business Capability Model (BCM) outlines Future State requirements of the SAFS Modernization. The solution is composed of three major components, including front end data collection tool, a data repository and calculation engine and produce a series of data outputs.

Figure 5: SAFS Business Capability Model (BCM)

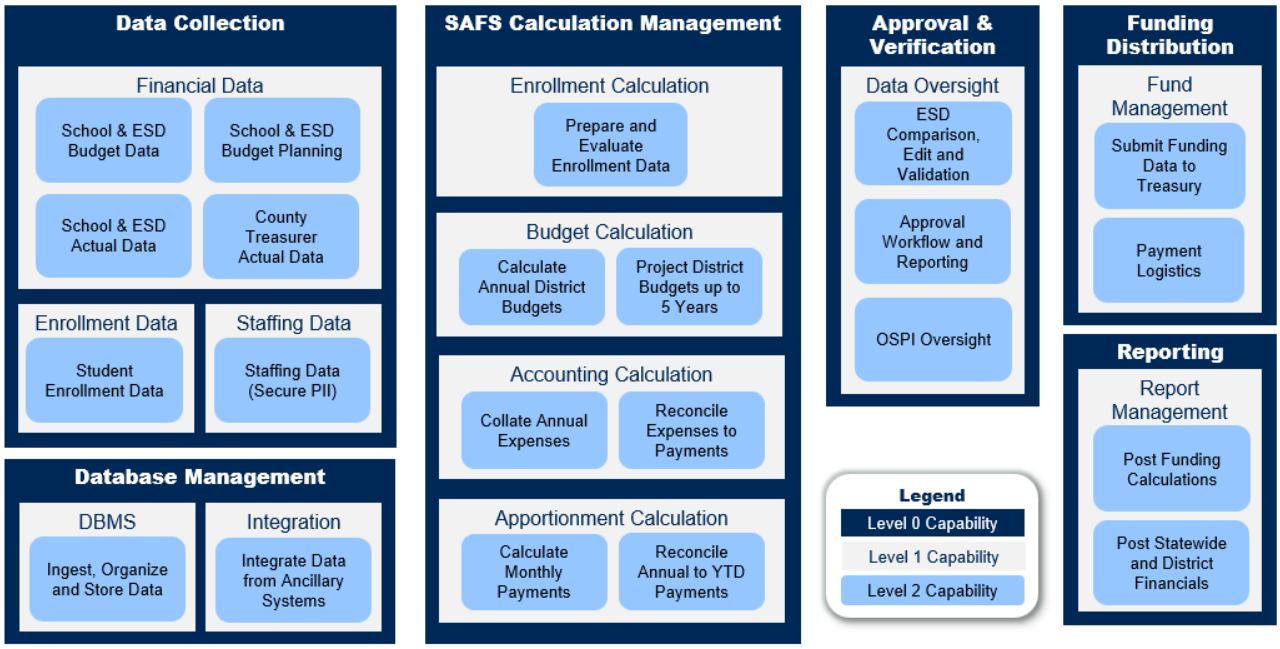
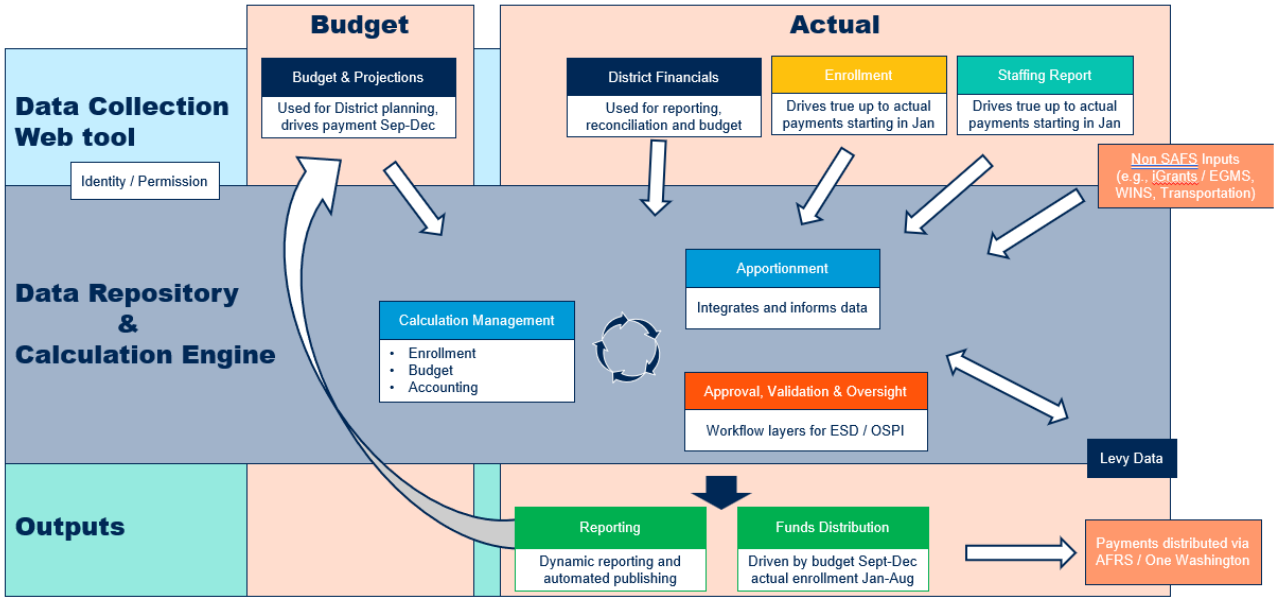


Figure 6: SAFS Future State Workflow



Front End Data Collection

The front-end data collection is primarily used by districts to enter various data including monthly student enrollment data, monthly personnel reporting, annual budget and projections data and actual expenses reports. Data is integrated from other state sources, including at least twelve non-SAFS systems from within and external to OSPI.

Data Repository and Calculation Engine

OSPI currently operates calculation engines housed in three servers that run procedures using metadata and calculation rules in eight data systems, with limited SME and External Users. Various calculations are both mechanized and manual throughout the set of applications, not all of them funnel through all the calculation engines. The calculations themselves are updated annually by each business line manager and coded into the system by a professional contracted developer. Apportionment calculations are communicated via Excel, while other systems, including Enrollment, Personnel and Financial calculations are submitted to the developer as email narrative.

There is desire to integrate the various data storage and calculation systems to enable seamless data collection, calculation and outputs, both reducing administrative effort and operational risk to the sole funding mechanism for the state's K-12 education system.

Data Outputs

System outputs leverage both inputs and calculations to produce the monthly Apportionment Payment File to AFRS/One Washington, monthly SAFS reports for public, legislative and district consumption and raw data for the State Auditor's Office to review. Payment through the SAFS system constitute half of the State's Operating Budget, highlighting the operational significance of the system.

The calculations leverage budget and projection data to generate payments for the months of September through December, while actual monthly reporting from districts is used starting in January through to the end of fiscal year and the first two months of the next fiscal year. Legacy data is only leveraged for calculations one year back, freeing the calculation engine from ongoing data storage and maintenance.

Proposed Future State SAFS Solution

The State of Washington has an imminent need to replace the legacy SAFS system with a modern, integrated platform for data collection and analysis of education funding and utilization and managing payment distribution and reporting of half of the State's overall General Fund expenditures. The risk to the existing legacy solution is extreme, and the ongoing cost and complexity to operate the legacy system is not without operational costs.

OSPI has considered a variety of options to address the extreme system risk, including deferred maintenance or replacement with a modern solution. Alternatives to enable a modern financial revenue apportionment solution for the State's K-12 education system include custom development, off the shelf products, or a configurable, extensible solution built in the cloud.

7. MAJOR ALTERNATIVES CONSIDERED

OSPI considered five permutations of alternatives to address the aging SAFS system, including an analysis of the potential cost and impact of doing nothing as a baseline. The Baseline and Option 1 contemplate continued investment in the legacy platform, while Options 2-4 offer options to replace and modernize the system.

Alternatives Considered

- *Baseline: Sustain the Legacy System*
- *Option 1: Deferred Maintenance*
- *Option 2: Custom Development*
- *Option 3: Commercial Off the Shelf (COTS) Solution*
- *Option 4: Low Code Application Platform (LCAP) with custom apps*

Baseline: Sustain the Legacy System

The Baseline Approach focuses on sustaining the legacy system if OSPI chooses to do nothing, because it includes no intervention to mitigate the substantial risk of catastrophic failure to the legacy SAFS solution. Implications of this option are untenable, including potential failure to distribute funds to the state's 380 education partner districts, inability of districts to meet their financial obligations and disruption to the education system for children and families throughout the state.

This option contemplates continued use of the highly custom set of solutions operating on unsupported software, along with exclusive reliance on the existing developer vendor to keep the system up and running, an approach that is becoming increasingly ineffective. It takes the same reactive approach to solving the issue, fails to move away from legacy code, and increases the risk of dependence on legacy knowledge.

The legacy system is at considerable risk of failure due to dependencies on unsupported software and insufficient infrastructure. It is both difficult to maintain and time consuming to update annually to accommodate legislative changes. Unexpected technical challenges in the January apportionment file have become commonplace due to this complexity, leading to a significant increase in unplanned manual effort. Furthermore, the annual maintenance budget has not been appropriately adjusted to accommodate the increased complexity of year-to-year legislative changes. Therefore, the allocation is needed to address programming these complex annual changes, as opposed to maintaining the system, leading to a significant backlog of deferred maintenance and technical debt.

Option 1: Deferred Maintenance

The Deferred Maintenance Approach envisions an incremental upgrade to the legacy system applications, starting with those at highest risk of failure. The approach centers around bringing the applications onto supported systems, thereby reducing imminent risk of failure, but does not add functionality or improve ease of use. The current developer vendor has proposed a phased approach as follows:

- Phase 1: Resolve legacy SAFS systems dependency on Microsoft legacy software beginning with Apportionment, County Treasury Report, Alternative Learning and Personnel modules.
- Phase 2: Replace moderately stable SAFS 2 systems in the new solution.

Option 2: Custom Development

As the first replacement alternative considered, Option 2 is to fully replace the legacy system with a new solution leveraging traditional custom development. This replacement approach is in line with

the legacy approach, as originally implemented more than 20 years ago. Given the complexity to define, design and implement a custom solution, this approach is expected to be the most time consuming, and is therefore built on the premise that deferred maintenance will be required for short term stabilization to allow time to plan and develop the new solution.

This option envisions a phased approach, beginning with Option 1 to stabilize the highest risk systems and then adds concurrent workstreams to rebuild the new solution, adding target state capabilities in Phase 2. While leveraging custom development would likely offer OSPI the greatest flexibility in defining the new solution, it would also likely come at the highest cost, require technical infrastructure investments and continue reliance on the professional developer skill set to maintain the solution.

- Phase 1: Implement Option 1 (Deferred Maintenance) to stabilize legacy SAFS system.
- Phase 2: two options depending on vendor approach.
    - Option 1: Replace moderate risk systems (Enrollment, Projections and Staffing) in concurrent effort.
    - Option 2: Rebuild entire existing legacy SAFS system using custom development.
- Ongoing maintenance and enhancements

Option 3: Commercial Off the Shelf (COTS) Solution

A second replacement option could leverage a Commercial Off the Shelf (COTS) solution that may be found within the Financial Revenue Apportionment solution market. Apportionment functionality is native for these solutions and would likely meet most of the SAFS Modernization requirements out of the box. However, these solutions are generally more tailored for tax systems as opposed to education and may require up to 40% customization to meet all OSPI's needs. These enterprise focused solutions often stand alone and may offer considerably more capabilities unrelated to SAFS that still need to be licensed, whether or not they are used, further reducing the attractiveness of this option. COTS solutions on the market will require ongoing licensing of the product and may require additional infrastructure investments.

Given the extraordinarily high cost of deferred maintenance, this option would likely be approached without first stabilizing the legacy system, leaving OSPI continuing to operate the legacy system at extremely high risk of failure for a protracted period while the new solution is implemented and deployed.

Approach

- Develop and publish RFP, allowing vendors to propose the best fit solution architecture.
- Evaluate and secure COTS solution and implementation partner.
- Plan and configure the new COTS solution.
- Focus change management and training prior to and concurrent with implementation.
- Ongoing maintenance and enhancements

Option 4: Low Code Application Platform (LCAP) with custom apps

The third replacement alternative considers leveraging a low code environment using cloud-based platform, product and extension layers to customize functionality for the SAFS Modernization. The

LCAP is differentiated from the traditional Custom Development in that it is built on a Platform as a Service (PaaS) in the cloud, reducing the need for technical infrastructure and ongoing professional coding, while requiring ongoing license fees. The low code / no code option focuses on drag and drop functionality to enable required capabilities, empowering citizen developers, such as OSPI business resources to make many updates on their own, without reliance on high-cost, difficult to source professional developers.

With the support of a system integrator (SI) to design, build and deploy the solution, this option is expected to offer the shortest time to benefit, reducing some of the risk associated with continuing to operate the legacy system until it is fully implemented.

Approach

- Develop and publish RFP, allowing vendors to propose the best fit solution architecture.
- Evaluate and secure LCAP solution and implementation partner.
- Plan and configure the new LCAP solution.
- Focus change management and training prior to and concurrent with implementation.
- Ongoing maintenance and enhancements

8. COST BENEFIT ANALYSIS (CBA)

The Cost Benefit Analysis is presented with a medium level of confidence, given the anticipated timeframe before the project is expected to be funded and the extreme level of risk in the current state. Should system failure occur before the project is funded or the system is fully deployed, costs will most likely be significantly higher. Beginning partner selection immediately following the Feasibility Study is recommended to elicit vendor proposals regarding the selected future state architecture and develop a project budget with a higher level of confidence.

All redevelopment alternatives (Options 2-4) include the estimated costs to staff the potential project structure detailed in Figure 4. This accounts for project leadership and delivery across the number of years expected for each solution option, including Project Management, Quality Assurance and Change Management as well as backfill for participating business operations staff and additional IT staff to support planning and implementation.

Baseline: Sustain the Legacy System

It's important to note that there are no zero cost options and doing nothing has cost implications. From a technical perspective, the potential high cost of failure is exacerbated by the lack of redundancy, backups and security, opening OSPI and the State to a variety of potential catastrophic events such as natural disaster, cyberattacks or simple failure of the handful of outdated laptops that are required to run the ancient software on which the system is built.

The estimated total cost to sustain the legacy system over seven years is $5.5 million. This is contrasted to the legacy budget, of approximately $3.3 million over the same period, which is primarily composed of the existing ongoing vendor maintenance budget, the cost to prepare the feasibility study and existing software and WaTech costs. The additional anticipated $2.2 million is

the probable cost of escalating vendor maintenance and OSPI staffing to address the increasing technical challenges and breakage the legacy system is facing, as current efforts have become unsustainable. Both the $3.3 million legacy budget and $5.5 million dollar anticipated cost to do nothing exclude the potential cost of major disruption, which could cost considerably more in both hard and soft costs, depending on the timing and severity of the failure. Notably, the cost of OSPI Technical and Business Resources to troubleshoot common system issues is expected to accelerate over time in order to sustain the legacy system if no intervention is made.

Figure 7: Baseline Estimated 7-Year Total Cost of Ownership

Baseline - Sustain Legacy	current	25-27 biennium budget		27-29 biennium budget		29-31 biennium budget		
	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY30/31	TOTAL
Project Costs (CapEx)								
OSPI Project Team Staffing (internal resources)	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,000
RFP activities (develop, evaluate, secure)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Software Licensing Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Technical Infrastructure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Change Management and Training								
Implemenation Partners (3rd party vendors)	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 300,000
Project Management and Quality Assurance (contr	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000
Total One-time Project Implementation Costs	$ 405,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 405,000
Operational Costs (OpEx)								
OSPI Technical and Business Resources	$ 75,000	$ 80,000	$ 85,600	$ 91,592	$ 98,003	$ 104,864	$ 112,204	$ 647,263
Software Licensing Costs	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 14,000
Technical Infrastructure	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 140,000
Ongoing Vendor Support	$ 360,000	$ 440,000	$ 484,000	$ 532,400	$ 585,640	$ 644,204	$ 708,624	$ 3,754,868
Total Operational Costs	$ 457,000	$ 542,000	$ 591,600	$ 645,992	$ 705,643	$ 771,068	$ 842,829	$ 4,556,132
Total Costs	$ 862,000	$ 542,000	$ 591,600	$ 645,992	$ 705,643	$ 771,068	$ 842,829	$ 4,961,132
Anticipated 10% Buffer								$ 5,457,245

Option 1: Deferred Maintenance

Deferred Maintenance contemplates readdressing the operating system upgrade that was only partially implemented in 2016. The project was intended to bring the system onto supported software and was not completed due to loss of funding. The most complex components of the system were not addressed and remain at extreme risk of failure.

By addressing this deferred maintenance, the level of risk to these components and the system as a whole is expected to be reduced through the removal of dependencies on unsupported software. However, the estimated effort to upgrade these components is expected to take up to two years, with a cost of $14 million, $10 million more than the legacy budget over the next seven years, without improving functionality. The existing development model will be continued and there is not expected to be any notable reduction in the challenges related to increasingly complex annual legislative modifications. This is also expected to continue heavy dependence on the existing development vendor as well as the use of the annual maintenance budget to enable the annual legislative updates, as opposed to proactive system maintenance. The lack of redundancy, system backups and security are not expected to be addressed by this option.

Figure 8: Option 1, Estimated 7-Year Total Cost of Ownership

Option #1 - Deferred Maintenance	current	25-27 biennium budget		27-29 biennium budget		29-31 biennium budget		
	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY30/31	TOTAL
Project Costs (CapEx)								
OSPI Project Team Staffing (internal resources)	$ 30,000	$ 458,936	$ 608,470	$ -	$ -	$ -	$ -	$ 1,097,406
RFP activities (develop, evaluate, secure)	$ -	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ 20,000
Software Licensing Costs	$ -	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ 20,000
Technical Infrastructure	$ -	$ 221,000	$ -	$ -	$ -	$ -	$ -	$ 221,000
Change Management and Training	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Implemenation Partners (3rd party vendors)	$ 300,000	$ 2,000,000	$ 3,050,000	$ -	$ -	$ -	$ -	$ 5,350,000
Project Management and Quality Assurance (c	$ 75,000	$ 600,000	$ 600,000	$ 200,000	$ -	$ -	$ -	$ 1,475,000
Total One-time Project Implementation Cos	$ 405,000	$ 3,319,936	$ 4,258,470	$ 200,000	$ -	$ -	$ -	$ 8,183,406
Operational Costs (OpEx)								
OSPI Technical and Business Resources	$ 75,000	$ 80,000	$ 85,600	$ 91,592	$ 98,003	$ 104,864	$ 112,204	$ 647,263
Software Licensing Costs	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 14,000
Technical Infrastructure	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 140,000
Ongoing Vendor Support	$ 360,000	$ 440,000	$ 484,000	$ 532,400	$ 585,640	$ 644,204	$ 708,624	$ 3,754,868
Total Operational Costs	$ 457,000	$ 542,000	$ 591,600	$ 645,992	$ 705,643	$ 771,068	$ 842,829	$ 4,556,132
Total Costs	$ 862,000	$ 3,861,936	$ 4,850,070	$ 845,992	$ 705,643	$ 771,068	$ 842,829	$ 12,739,538
Anticipated 10% Buffer								$ 14,013,491

Option 2: Custom Development

Following the legacy system approach with custom development, Option 2 has the established advantage of offering a highly customized system to meet SAFS requirements. However, the approach is expected to continue the existing complexity to maintain and update for annual legislative changes and creates dependence on high-cost, difficult to source professional developers.

The approach will require technical infrastructure updates, change management and development costs. While technical infrastructure upgrades may need to be made periodically, the system and related code is expected to be owned by OSPI and will not likely require ongoing licensing costs. The total seven-year total cost of ownership for this approach is estimated at $29 million, nearly $26 million more than the legacy budget. Notably, this approach is expected to have the longest timeline to full benefit, nearly six years, and includes at least two years to address the current risk through implementation of Option 1, then proceeds with full development.

Figure 9: Option 2, Estimated 7-Year Total Cost of Ownership

Option #2 - Custom Development	current	25-27 biennium budget		27-29 biennium budget		29-31 biennium budget		
	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY30/31	TOTAL
Project Costs (CapEx)								
OSPI Project Team Staffing (internal resources)	$ 17,268	$ 851,548	$ 911,156	$ 1,146,122	$ 1,226,350	$ 722,386	$ -	$ 4,874,830
RFP activities (develop, evaluate, secure)	$ -	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ 300,000
Software Licensing Costs	$ -	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ 20,000
Technical Infrastructure	$ -	$ 221,000	$ -	$ -	$ -	$ -	$ -	$ 221,000
Change Management and Training	$ -	$ -	$ -	$ 482,540	$ 353,175	$ 476,587	$ -	$ 1,312,302
Implemenation Partners (3rd party vendors)	$ 300,000	$ 2,000,000	$ 3,050,000	$ 3,660,000	$ 4,392,000	$ 658,800	$ -	$ 14,060,800
Project Management and Quality Assurance (c	$ 75,000	$ 94,395	$ 403,680	$ 431,938	$ 450,556	$ 210,540	$ -	$ 1,666,108
Total One-time Project Implementation Cos	$ 392,268	$ 3,486,943	$ 4,364,836	$ 5,720,599	$ 6,422,081	$ 2,068,313	$ -	$ 22,455,040
Operational Costs (OpEx)								
OSPI Technical and Business Resources	$ 75,000	$ 80,000	$ 85,600	$ 91,592	$ 98,003	$ 104,864	$ 112,204	$ 647,263
Software Licensing Costs	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 14,000
Technical Infrastructure	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 140,000
Ongoing Vendor Support	$ 360,000	$ 440,000	$ 462,000	$ 485,100	$ 509,355	$ 534,823	$ 561,564	$ 3,352,842
Total Operational Costs	$ 457,000	$ 542,000	$ 569,600	$ 598,692	$ 629,358	$ 661,686	$ 695,768	$ 4,154,105
Total Costs	$ 849,268	$ 4,028,943	$ 4,934,436	$ 6,319,291	$ 7,051,439	$ 2,730,000	$ 695,768	$ 26,609,145
Anticiapted 10% Buffer								$ 29,270,060

Option 3: Commercial Off the Shelf (COTS) Solution

The Commercial Off the Shelf (COTS) market for Financial Revenue Apportionment solutions is mature, with a few vendors that offer native apportionment functionality. While there are many benefits to these out of the box solutions, they offer a robust suite of services that will most likely offer more functionality than OSPI needs for the SAFS Modernization, resulting in higher than necessary licensing fees.

The Financial Revenue Apportionment solution market is tailored more specifically to tax environments, such as real estate tax assessment, and would likely require customization to fully meet the needs of an education focused environment such as OSPI's. The need for customization would likely create the same challenges as discussed in Options 1 and 2, leading to dependence on high-cost, difficult to source professional developer skills to maintain the solution.

The total seven-year cost of ownership for this approach is estimated at $29 million, expected to be nearly $26million more than the legacy budget, keeping it in close range to the Custom Development Option 2.

Figure 10: Option 3, Estimated 7-Year Total Cost of Ownership

Option #3 - COTS Solution	current	25-27 biennium budget		27-29 biennium budget		29-31 biennium budget		
	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY30/31	TOTAL
Project Costs (CapEx)								
OSPI Project Team Staffing (internal resources)	$ 30,000	$ 851,548	$ 1,146,122	$ 1,226,350	$ 722,386	$ -	$ -	$ 3,976,406
RFP activities (develop, evaluate, secure)	$ -	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ 300,000
Software Licensing Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Technical Infrastructure	$ -	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ 30,000
Change Management and Training	$ -	$ 464,056	$ 330,070	$ 353,175	$ 677,897	$ -	$ -	$ 1,825,198
Implemenation Partners (3rd party vendors)	$ 300,000	$ -	$ 2,550,000	$ 2,550,000	$ 2,550,000	$ -	$ -	$ 7,950,000
Project Management and Quality Assurance (c	$ 94,395	$ 403,680	$ 421,080	$ 450,556	$ 482,094	$ -	$ -	$ 1,851,805
Total One-time Project Implementation Cos	$ 424,395	$ 2,049,284	$ 4,447,272	$ 4,580,081	$ 4,432,378	$ -	$ -	$ 15,933,409
Operational Costs (OpEx)								
OSPI Technical and Business Resources	$ 75,000	$ 80,000	$ 85,600	$ 91,592	$ 30,000	$ 30,000	$ 30,000	$ 422,192
Software Licensing Costs	$ 2,000	$ 2,000	$ 2,000	$ 1,600,000	$ 1,680,000	$ 1,764,000	$ 1,852,200	$ 6,902,200
Technical Infrastructure	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 140,000
Ongoing Vendor Support	$ 360,000	$ 440,000	$ 484,000	$ 532,400	$ 585,640	$ 360,000	$ 360,000	$ 3,122,040
Total Operational Costs	$ 457,000	$ 542,000	$ 591,600	$ 2,243,992	$ 2,315,640	$ 2,174,000	$ 2,262,200	$ 10,586,432
Total Costs	$ 881,395	$ 2,591,284	$ 5,038,872	$ 6,824,073	$ 6,748,018	$ 2,174,000	$ 2,262,200	$ 26,519,841
Anticipated 10% Buffer								$ 29,171,825

Option 4: Low Code Application Platform (LCAP) with custom apps

Of the three modernization options, the Low Code Application Platform (LCAP) offers the lowest cost, falling roughly in-line with deferred maintenance over the course of seven years, with significantly greater reduction in risk and improvement to functionality. This option has the added benefits of being Cloud-based, aligning with the State's Cloud first strategy and eliminating the need for further technical infrastructure investment or maintenance. Offering the shortest time to benefit, this option is most likely to reduce the cost of short term and interim solutions such as Option 1 Deferred Maintenance, while also reducing ongoing dependence on the high-cost, difficult to source professional coder skills set. The configurable approach's alignment with OSPI's strategic technology direction has the potential to catalyze future modernization and help OSPI obtain economies of scale through more efficient use of skills across its technology platform. This is key to capturing ongoing savings through reduced maintenance effort, risk and costs.

Finally, the LCAP architecture is the option best suited to expand the solution to meet OSPI's broader enterprise scale Data & Analytics aspirations. It's important to note, OSPI has some experience with LCAP for the Grants/EGMS solution that has experienced limits to success, largely due to a siloed implementation approach. Should OSPI select the LCAP option for the SAFS Modernization, the platform and implementation approach should be carefully planned to allow the opportunity to align future modernization efforts and gain maximum benefit across the agency's technology portfolio over time, rather than being enabled in a vacuum, which may reduce ongoing benefits.

The total estimated cost of this approach over seven years is just over $15 million and is expected to require approximately $12 million in project funding.

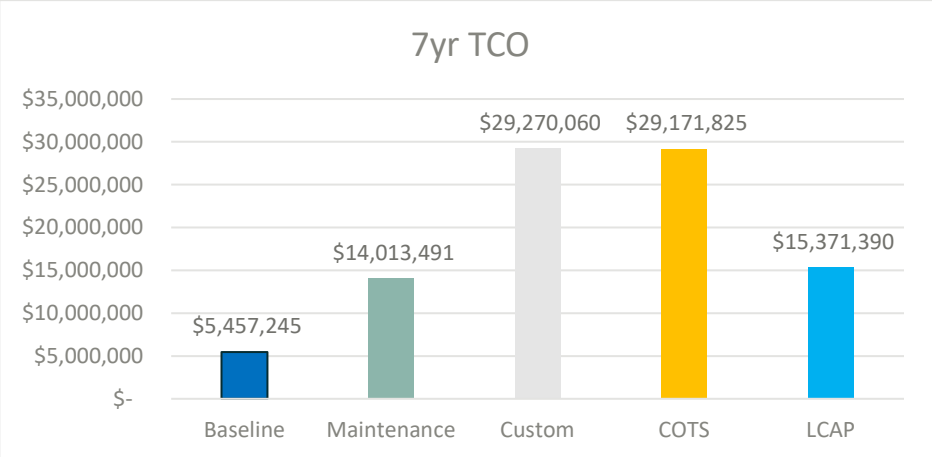
Figure 11: Option 4, Estimated 7-Year Total Cost of Ownership

Option #4 - LCAP Solution	current	25-27 biennium budget		27-29 biennium budget		29-31 biennium budget		
	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY30/31	TOTAL
Project Costs (CapEx)								
OSPI Project Team Staffing (internal resources)	$ 30,000	$ 851,548	$ 1,146,122	$ 722,386	$ -	$ -	$ -	$ 2,750,056
RFP activities (develop, evaluate, secure)	$ 400,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 400,000
Software Licensing Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Technical Infrastructure	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Change Management and Training	$ -	$ 464,056	$ 330,070	$ 465,035	$ -	$ -	$ -	$ 1,259,161
Implemenation Partners (3rd party vendors)	$ 300,000	$ 1,500,000	$ 1,000,000	$ 500,000	$ -	$ -	$ -	$ 3,300,000
Project Management and Quality Assurance (c	$ 94,395	$ 403,680	$ 421,080	$ 210,540	$ -	$ -	$ -	$ 1,129,695
Total One-time Project Implementation Cos	$ 824,395	$ 3,219,284	$ 2,897,272	$ 1,897,961	$ -	$ -	$ -	$ 8,838,912
Operational Costs (OpEx)								
OSPI Technical and Business Resources	$ 75,000	$ 80,000	$ 85,600	$ 91,592	$ 30,000	$ 30,000	$ 30,000	$ 422,192
Software Licensing Costs	$ 2,000	$ 255,000	$ 267,750	$ 281,138	$ 295,194	$ 309,954	$ 325,452	$ 1,736,488
Technical Infrastructure	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ -	$ -	$ -	$ 80,000
Ongoing Vendor Support	$ 360,000	$ 440,000	$ 484,000	$ 532,400	$ 360,000	$ 360,000	$ 360,000	$ 2,896,400
Total Operational Costs	$ 457,000	$ 795,000	$ 857,350	$ 925,130	$ 685,194	$ 699,954	$ 715,452	$ 5,135,080
Total Costs	$ 1,281,395	$ 4,014,284	$ 3,754,622	$ 2,823,091	$ 685,194	$ 699,954	$ 715,452	$ 13,973,991
Anticipated 10% Buffer								$ 15,371,390

Total Cost of Ownership Comparison of Alternatives

A comparison of the Total Cost of Ownership (TCO) of all options side by side. While the Baseline: Sustain Legacy option had the lowest TCO, it is not considered viable given the extreme risk of failure associated with current system limitations which necessitate action. Custom and COTS development are less favorable, given their excessive cost. While the TCO of the Deferred Maintenance option is similar to LCAP, it is less favorable given it is a short-term solution and does not address a majority of the risks or any of the target state capabilities that a modern system will provide and still has a high price tag. Finally, the LCAP architecture option emerges as the most viable solution, given it provides flexibility in cost structure and the ability to tailor the solution to meet future state requirements.

Figure 12: Estimated 7-Year Total Cost of Ownership Comparison of Alternatives



9. RISK ASSESSMENT

All the alternatives considered have some degree of risk, with the highest degree of risk expected if nothing is done and the lowest degree of risk with implementing an LCAP solution.

Baseline: Sustain the Legacy System

In addition to insufficient technical infrastructure and related inferior performance, the current system ensures complete reliance upon an external vendor. The current operation is plagued by a lack of business process documentation and standard IT development/support methodologies, with insufficient maintenance funding to adequately maintain and support the system. The solution is highly prone to manual error with lack of integration capabilities while running on unsupported software in compatibility mode (unable to upgrade). When issues arise, there is a lack of proper support processes and no reporting metrics on system health to proactively address the risks. Taken together, the lack of efficiency and high potential for technical breakage creates a vicious cycle where resources are increasingly occupied with reactive, manual effort to ensure day to day operations function as required, making them unavailable for proactive efforts such as process documentation, optimization or other strategic actions to help mitigate the current system risks.

The current system would likely fail a security assessment, with no two-factor authentication, no redundancies, failure to protect personally identifying information (PII) and inability to handle processing workloads. Overall, the system which calculates and apportions half of the state's overall General Fund expenditures is highly manual, reliant on human effort and is constantly subject to error and breakage.

Option 1: Deferred Maintenance

With continued investment in the legacy system, deferred maintenance would reduce the risk associated with unsupported software running in compatibility mode. However, while this option involves significant development rework and testing to remove the out of support software dependencies, without any new functionality all other the existing risks will remain issues. By building on dated, complex architecture, the system would continue complete reliance upon the external vendor, fail to simplify maintenance or reduce technical debt and remain highly reliant on manual, human effort subject to error and breakage while attempting to meet changing legislative requirements.

Option 2: Custom Development

Replacement with custom development begins to address some of the functionality issues but requires significant Business Resources for testing and would likely continue to require high-touch maintenance and continued reliance upon external vendors, professional developers and an outdated development model. The roll out may be non-intuitive, with focus on highest risk systems first rather than natural process flow and the option fails to simplify maintenance issues.

Option 3: Commercial Off the Shelf (COTS) Solution

A COTS replacement solution may begin to relieve some of the ongoing maintenance issues, but ongoing licensing costs may be high, depending on proposed solution. Change management and stakeholder impact may be significant with the degree of change related to leveraging a vastly

different solution structure than in the past. Given COTS solutions on the market are not tailored for the education environment, initial business process mapping and technical architecture design may be complex, and it may result in a system that needs continual changes performed by the vendor to meet legislative requirements, lengthening the time to benefit and potentially increasing ongoing operational costs.

Option 4: Low Code Application Platform (LCAP) with custom apps

Transition to an LCAP architecture is expected to significantly reduce, yet not eliminate, the reliance on an external vendor by empowering citizen developers within the business in the long-term. However, short-term change management, training business staff to become citizen developers, and stakeholder impacts could be significant. Initial business process mapping and technical architecture design may be complex and require a more complex procurement and contracting approach. Ongoing licensing costs may be high, depending on proposed solution and service agreements.

10. RECOMMENDED ALTERNATIVE

Alternatives Analysis Criteria for Scoring SAFS Replacement Alternatives

An alternatives analysis framework was developed to evaluate the options relatively against each other. Criteria were defined and weighted based on a detailed analysis of OSPI requirements.

Category	Weight	Sub-category	Weight
Strategic Alignment	**10%**	Sustainability	**25%**
		Impact on Stakeholders	**40%**
		Requirements	**20%**
		State Alignment	**15%**
Operational Excellence	**35%**	Performance	**40%**
		Training and Support	**30%**
		Compatibility with OSPI Environment	**30%**
Solution Implementation	**25%**	Transition Risks	**25%**
		Minimize Integration Complexity	**25%**
		Security Risks	**30%**
		External Vendor or Partner Risks	**20%**
Fiscal Impact	**30%**	Solution Implementation Costs (CapEx)	**33%**
		Ongoing Operational Expenses (OpEx)	**33%**
		Cost Benefit Analysis (CBA)	**34%**

SAFS Replacement Alternatives Analysis

Strategic Alignment

	Strengths	Challenges
Baseline: Sustain Legacy	None	Extreme risk of failure if nothing is done and
1. Deferred Maintenance	Known approach, system and vendor	Maintenance items will only stabilize system, without new functionality. Does not align with Cloud initiatives and will likely continue reliance upon existing vendor
2. Custom Development	Known approach, system and vendor	Does not align with Cloud initiatives and will likely continue reliance upon existing vendor
3. COTS	May offer opportunity to use 'out of box' functionality	Fewer options to customize the system to address requirements
4. LCAP	Aligns with market and State best practices while providing numerous options to address future state requirements (people, process and technology)	Potential impact on stakeholders will require a carefully planned and managed implementation.

Option 4 scored the highest given a focus on SaaS solutions and ability to create a sustainable solution to meet future state requirements. Option 2 does not align with State Cloud initiatives, thus the lower score.

Operational Excellence

	Strengths	Challenges
Baseline: Sustain Legacy	None	Extreme risk of failure if nothing is done
1. Deferred Maintenance	Executing deferred maintenance activities should improve legacy system performance and reduce ongoing support issues due to improved stability	Does not align with Cloud initiatives and will likely continue reliance upon existing vendor
2. Custom Development	System performance should improve through required technical infrastructure investments	May not align with broader OSPI technical direction or Cloud initiatives and performance may depend on continued infrastructure updates
3. COTS	System performance should improve, and ongoing support issues should be reduced.	May not align with broader OSPI technical direction or Cloud initiatives and performance may depend on continued infrastructure updates. May require more complex change management and training
4. LCAP	System performance should improve, ongoing support issues should be reduced. LCAP solutions offer OSPI many options for addressing additional technical debt and future strategic enhancements to enterprise data and analytics	Planning, developing and implementing training and support initiatives will be key to future success

Option 4 again scored the highest given a greater alignment with the broader OSPI technical

direction. Options 2 and 3 scored lower due to concerns for alignment with the broader OSPI technical direction.

Risk Management

	Strengths	Challenges
Baseline: Sustain Legacy	None	Extreme risk of failure if nothing is done
1. Deferred Maintenance	Incumbent vendor will drive maintenance activities	Deferred maintenance will not address integration and vendor risks
2. Custom Development	Security risks should be reduced from current state	Transition complexity require extensive testing effort by business stakeholders Vendor risks will likely not be addressed
3. COTS	Security risks should be reduced from current state	Limited customization options would likely require significant process rework
4. LCAP	Security risks will be addressed and Potential to build an internal IT team may reduce vendor dependencies	Identifying the appropriate LCAP solution and partner will be essential to minimizing the potential challenges associated with implementation

All Options are high-risk regarding transition risks and integration complexity. Option 4 scored highest in this category given the potential to build an internal IT team to assist in reducing vendor dependencies.

Fiscal Impact

	Strengths	Challenges
Baseline: Sustain Legacy	Requires no change	Costs to address future system failure may be significant due to potentially sudden and broad stakeholder impact
1. Deferred Maintenance	Current vendor's understanding of project may reduce onboard and transition costs	The previous project in 2016 lost funding and failed to fully implement this maintenance strategy
2. Custom Development	None	Not viable given the high expense. Time to full benefit is 5-7 years. Requires ongoing infrastructure and maintenance investments
3. COTS	None	Not viable given the high expense to license a full tax suite with significantly more functionality than Apportionment requires
4. LCAP	A SaaS solution does not require large initial or ongoing investments in infrastructure or software	Actual project costs may exceed current estimates if the project is not well executed

Options Baseline, 2 and 3 are not viable options given the prohibitive costs associated with potential system failure (Baseline), custom development (2) and COTS licensing (3). Option 1 is a viable short-term approach, however higher than anticipated costs and failure to address future state needs reduce the overall TCO. Option 4 offers the best long term cost structure; however actual costs will depend on implementation effectiveness.

SAFS Replacement Alternative Analysis Scoring

Scoring followed a framework with 0 being the least attractive and 5 being the most attractive. Raw

scores were calculated based on the weights assigned to each category and subcategory.

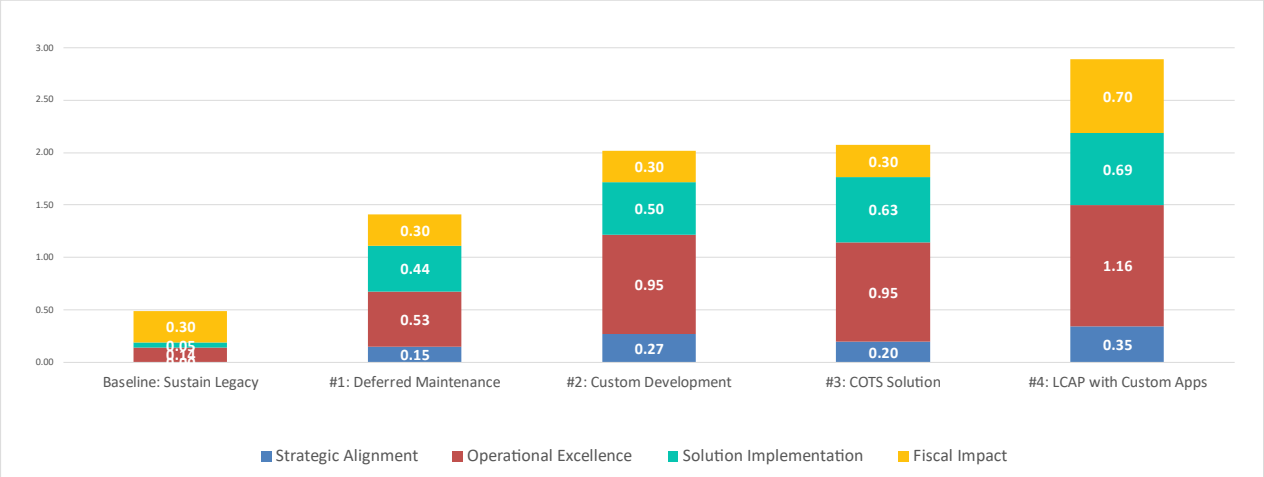
Figure 13: Weighted Alternative Scores with Heatmap

Category	Baseline: Sustain Legacy	#1: Deferred Maintenance	#2: Custom Development	#3: COTS Solution	#4: LCAP with Custom Apps
Strategic Alignment	0.00	0.15	0.27	0.20	0.35
Operational Excellence	0.14	0.53	0.95	0.95	1.16
Solution Implementation	0.05	0.44	0.50	0.63	0.69
Fiscal Impact	0.30	0.30	0.30	0.30	0.70
Overall Score	**0.49**	**1.41**	**2.02**	**2.07**	**2.89**
	$5,457,000	$14,013,000	$29,270,000	$29,172,000	$15,371,000

Rating: Most Favorable … Least Favorable

Weighted scores on the heatmap, reveal a clear preference to modernize the SAFS system, with sustaining the legacy system flashing bright red, indicating the least favorable score in all categories, from strategic alignment to fiscal impact. Option 1 Deferred Maintenance did not fair well in the alternatives analysis, with both red and orange, due to high cost for limited benefit. Options 2 Custom Development and Option 3 COTS show slight improvement but continue to be extremely cost prohibitive. Option 4 LCAP is clearly best aligned to OSPI objectives, as stated through the alternatives scoring, and is shown as the most favorable option in bright green.

Figure 14: Weighted Alternative Scores by Evaluation Criteria



As further clarity to the direction of the heat map, Option 4 LCAP is head and shoulders above the other options, consistently scoring better in each evaluation category.

Begin Procurement to Define the SAFS LCAP Modernization Solution

In partnership with Gartner, OSPI developed the future state vision for SAFS transformation to establish a uniform, streamlined, user friendly solution. The resulting Alternatives Analysis demonstrates that an LCAP strategy is best suited for the State and OSPI's needs, excelling in Strategic Alignment, Operational Excellence, Implementation and Fiscal Impact.

An LCAP provides a foundation, configured in layers to enable SAFS's unique business needs. LCAPs provide visible user experience benefits to the business and enable higher productivity with lower skills by leveraging built-in capabilities to streamline IT teams' development and operation

efforts. The transition from customization to configuration is a major shift for OSPI and highlights the value of taking a well-planned approach to LCAP design to ensure it meets OSPI's dynamic needs and effectively reduces the ongoing skill burden required with traditional custom coding.

OSPI should leverage an RFP to elicit vendor proposals for their best fit LCAP solution architecture, with appropriate Products and Extensions to enable SAFS requirements. Potential System Integration Partners will leverage a uniform technology stack, from vendors such Microsoft or Salesforce on which to develop the SAFS Modernization, with appropriate product and extension layers to enable the required solution. Given the broad variety of emerging options in the LCAP market, and the degree to which these architectures can vary in cost and complexity, Gartner recommends OSPI complete the solicitation in tandem with finalizing this feasibility study to identify an implementation partner and improve the accuracy of the proposed project, including clarity on cost and timeline.

11. CONFORMITY WITH AGENCY IT PORTFOLIO

OSPI is at a critical point in its technological maturity, beginning a shift from legacy systems to modern solutions. Through this transformation, OSPI has strategically prioritized alignment among the variety of modern solutions it will require, with a focus on restacking the tech portfolio to gain efficiencies and economies of scale through shared maintenance and operations and efficient use of skill sets. As such, OSPI has a focus on cloud-based technologies, with integration capabilities to support its aspirations to enable enterprise scale data and analytics.

Given OSPI's critical role in data collection for the State's K-12 education environment, potential new solutions should integrate data and processes throughout the agency to provide a strategic, holistic view of data across the enterprise. Leveraging an LCAP based architecture will help the SAFS Modernization align solutions across the OSPI IT portfolio. As the architecture is planned within the broader OSPI IT portfolio, it should consider future integration and expansion to a more complex architecture, supplemented with separate integration and cloud analytics layers.

12. PROJECT MANAGEMENT AND ORGANIZATION (INCLUDING EXTERNAL RESOURCES)

OSPI's IT organization has inadequate resources to manage the acquisition, implementation and deployment of a new solution of this scale and scope and requires full financial support to ensure successful transformation of the critical statewide education revenue apportionment function.

OSPI will develop a formal project structure, with governance comprised of leadership from OSPI and SAFS teams to ensure effective decision making in alignment with the SAFS Modernization Business Drivers and Strategic Imperatives. The project will contract with partners for program management, quality assurance, procurement support, change management and training resources. Depending on the proposed vendor solutions, resources may be obtained through direct hire, staff augmentation or consultants. Additionally, Project Leadership and Program staff

are expected to support project planning and implementation activities and their ongoing operational tasks will need to be backfilled to some degree.

The procurement for the proposed solution is expected to be complex, especially considering SAFS' key role in meeting the State's immense education funding and data needs. OSPI is advised to approach development and evaluation of the SAFS Modernization procurement carefully and holistically, prior to seeking concrete project funding in the 2025-27 biennium. A solicitation of this size and complexity is expected to cost $300,000-$500,000 and take 4-6 months. This effort should be funded immediately to expedite overall project planning and accuracy of the funding request to commence implementation by July 2025.

13. ESTIMATED TIMEFRAME AND WORK PLAN

Estimated Timeframe

The project is expected to take three to five years to complete if the procurement and funding processes are run concurrently. Given the extreme risk and volatility of the current system, OSPI is best served to begin the partner selection process in fiscal year 2024-25, contingent on project funding approval in the 2025-27 biennium. This will allow the selected partner to begin planning and configuring the solution as soon as possible, thereby reducing the time to go live.

The most viable option, to build the SAFS Modernization with a low-code application platform will require a complex solicitation. OSPI plans to leverage an authoritative RFP to elicit vendor proposals for their best fit LCAP solution architecture with appropriate Products and Extensions to enable SAFS requirements. This approach will support OSPI in developing a more accurate project budget with which to secure funding in the 2025-27 biennium. Given current planning assumptions, implementation activities would likely begin in FY 2025-26.

SAFS Modernization Roadmap

Step 1: Conduct RFP Solicitation (FY2024-25)

- Assign a procurement team to begin the solicitation process.
- Request vendor proposals and demos.
- Identify solution and implementation partner.
- Negotiate contract terms and implementation approach.

Step 2: Secure Funding (FY2024-25)

- Secure legislative support and funding.

Step 3: Establish Project & Program Team (FY2024-25)

- Define project and program governance structure.
- Secure and assign dedicated resources for implementation.

Step 4: Activate System Integrator (FY2025-26)

- Initiate project implementation.

Step 5: Secure Quality Assurance Partners (FY2026-27)

- Perform oversight guidance.

Step 6: Execute Implementation (FY2026-27)

- Plan, develop, test and deploy LCAP solution.

Step 7: Operational Stabilization (FY2027-28)

- Establish and execute operational best practices.
- Decommission legacy solution.

14. APPENDICES

What are Low Code Application Platforms?

Low Code Application Platforms (LCAPs) serve as a foundation configured in layers to enable SAFS's unique business needs. LCAPs are used to rapidly develop and run custom applications by abstracting and minimizing the use of programming languages. Features include support for high performance, availability and scalability of applications, disaster recovery, security, API access to enterprise and third-party cloud services, usage monitoring, service-level agreements, and availability of technical support and training. LCAPs can provide visible user experience benefits to the business and enable higher productivity with lower skills by leveraging built-in capabilities to streamline IT teams' development and operation efforts.

OSPI has a variety of options within an LCAP architecture and must decide how SAFS fits within the agency IT portfolio to determine which layers are appropriate for SAFS and the broader OSPI enterprise. The LCAP architecture leverages three types of layers, depending on the desired scale, scope and complexity of the system requirements.

Platform Layer

Out of the box functionality provides a system foundation on which to add functional building blocks, offering the ability to achieve results similar to custom systems with reduced reliance on the professional developer skill set.

Product Layer

Vendor solutions alone rarely meet all business requirements, leading organizations to fall back on custom, manual and fragmented systems. LCAP vendors offer products to meet a variety of tailored business needs, such as finance or customer service.

Application Layer

LCAP solutions are further configured with out of the box applications available in a platform specific marketplace that are pre-developed for business purposes and ready for purchase. Custom built extensions may offer additional integrated functionality within LCAP.

How will OSPI Approach LCAP Implementation?

An LCAP platform and product alone may satisfy all SAFS data and business processes, but a more strategic approach may provide significantly more enterprise-scale benefits. Gartner recommends OSPI elicit vendor proposals for how their products will best enable the functional and SAFS Modernization technical requirements, as well as identify opportunities to expand and extend functionality to the larger OSPI technology portfolio.

OSPI may take a tactical or strategic approach to the SAFS Modernization to address the project's data requirements.

Tactical

Focus is solely on SAFS data and processes, only a subset of OSPI data, and not its interaction with enterprise data sources across the agency or State. This may require a simpler architecture of solely the LCAP platform and product.

Strategic

Considers and integrates data and processes from throughout the agency to provide a strategic, holistic view of data across the enterprise. This will likely require a more complex architecture, or "stack" with separate integration and cloud analytics layers.

Market Trends

Enterprise adoption is a key trend in the LCAP market, especially for State and Local government entities. This is fueled by the focus on democratization of technology and the empowerment of citizen developers, business technologists within business units. LCAP initiatives are not limited to professional IT developers looking for speedy application delivery.

OSPI should consider and plan for a strategic approach during the SAFS Modernization to reap the greatest long-term benefits across the enterprise. An enterprise strategy may require additional components over time to enable integration, cloud analytics and advanced business intelligence. The RFP for SAFS Modernization should be developed in a way to elicit responses that explain these future expansion capabilities to best inform OSPI's evaluation of the future SAFS solution as a part of the broader OSPI technology portfolio.

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