CalSAWS

MIGRATION PLANNING & ANALYSIS ASSESSMENT: FINAL REPORT

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1 EXECUTIVE SUMMARY

The Statewide Automated Welfare Systems (SAWS) are the county-managed case management systems that support the State of California's public assistance programs by providing eligibility determination and benefit calculation for program recipients. The SAWS provide support for the administration of programs such as Medi-Cal, California Work Opportunity and Responsibility to Kids (CalWORKs), CalFresh/Supplemental Nutrition Assistance Program (SNAP), Cash Assistance Program for Immigrants (CAPI), Foster Care (FC), Refugee Cash Assistance (RCA), Kinship Guardianship Assistance Program (KinGAP), California Food Assistance Program (CFAP), General Assistance/General Relief (GA/GR), and Adoption Assistance (AAP). Currently, there are three separate SAWS, each managed by two separate consortiums of the state's counties:

- Welfare Client Data System (WCDS) supporting the CalWORKs Information Network (CalWIN)
- California Automated Consortium Eligibility System (CalACES)
    - Los Angeles Eligibility, Automated Determination, Evaluation and Reporting (LEADER) Replacement System (LRS)
    - Consortium IV (C-IV)

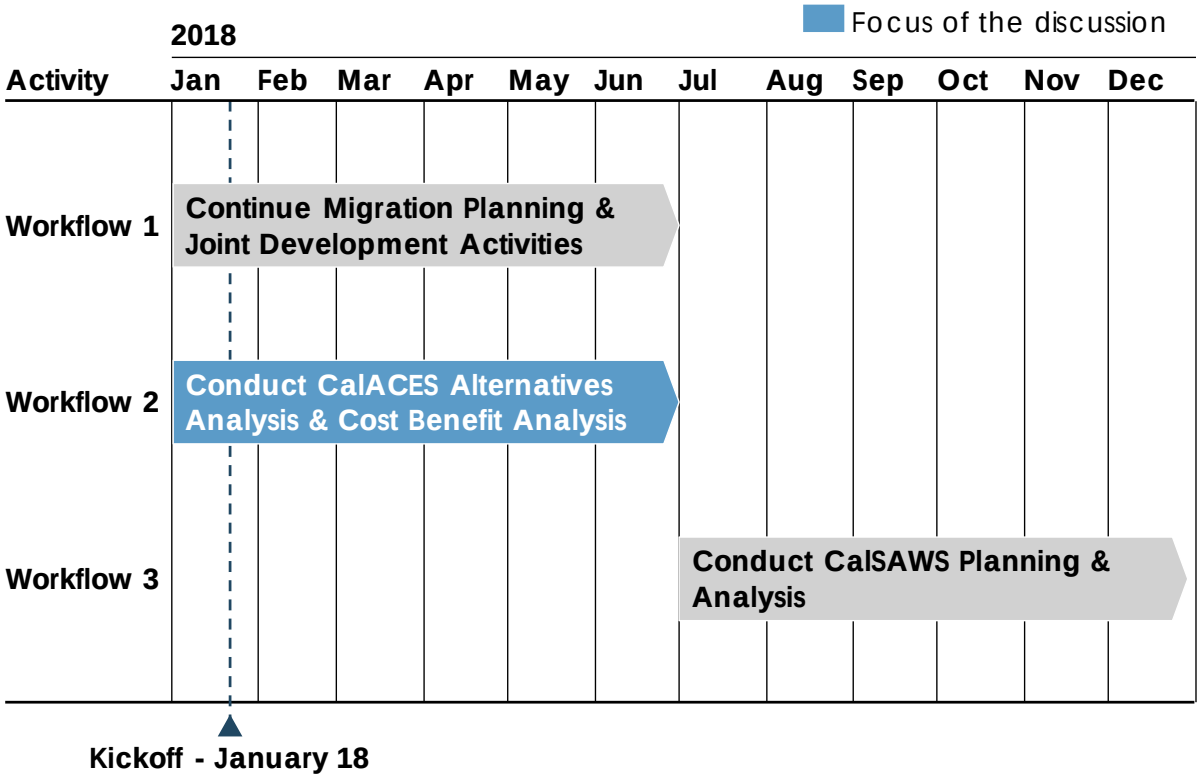
For the state to continue to receive federal financial participation (FFP) for the SAWS and to comply with State and Federal architectures, the Centers for Medicare and Medicaid Services (CMS) and Food & Nutrition Service (FNS) are requiring California to implement a SAWS single system by 2023. The California Automated Consortium Eligibility System (CalACES) Consortium, established in September 2017, supports 40-member counties in the administration of public assistance programs and services. The CalACES Consortium currently has two systems, the LEADER Replacement System (LRS) and Consortium IV (C-IV) and is planning to migrate the counties onto a single system. The enacted Assembly Bill 16 (ABX 16), codified the migration of the 39 C-IV counties to the LRS through migration of the Consortium IV (C-IV) Counties to a system jointly designed by the 39 counties and the County of Los Angeles under the LEADER Replacement System (LRS) contract, to result in a combined 40-county system and single consortium.

The initial LRS/C-IV Migration Implementation Advance Planning Document (IAPD) was submitted by the state on December 9, 2016. In response to federal questions and comments, the state submitted revised versions (IAPD Update, or IAPDU) on March 21 and May 15, 2017 and October 9, 2017. On December 8, 2017 both FNS and CMS requested additional information and analysis surrounding the project scope and approach to support and approve the IAPDU for the Migration Development and Implementation (D&I) Project to proceed. Consequent to this, the state submitted on January 2, 2018, a CalACES Planning Advance Planning Document (PAPD) for additional planning and analysis in response to the additional

requests from FNS and CMS. The PAPD, which was approved by FNS and CMS on January 5 and 9, 2018 respectively, was envisioned to deliver on three separate "workflows" as shown below.

- **Workflow 1:** Continuation of the Migration Planning and LRS/C-IV Joint Development activities in preparation for the future Migration D&I project
- **Workflow 2:** Technical planning and analysis activities related to the LRS and C-IV Migration to the Cloud, transition to a single database, and transition to a single data center.
- **Workflow 3:** CalSAWS migration planning and analysis activities

FIGURE 1: THREE WORKFLOWS WITHIN ORIGINAL PAPD SCOPE.



However, in January, Federal sponsors, both FNS and CMS, requested additional information and analysis surrounding the comprehensive planning for CalSAWS requirements and cost estimates for C-IV migration to CalACES, as well as the CalWIN migration to CalSAWS, which could become the future CalSAWS, to support and approve the IAPD for the CalACES Migration Development and Implementation (D&I) project to proceed. Specifically, the feedback emphasized that a) CalACES decisions be reflective of a statewide system, b) the requirements that originated from the original CalACES gap analysis be reviewed, and that c) CalWIN planning be incorporated into the workflow 2 timeframe, and not wait until July to initiate, so that the full picture of DD&I costs for CalSAWS are known.

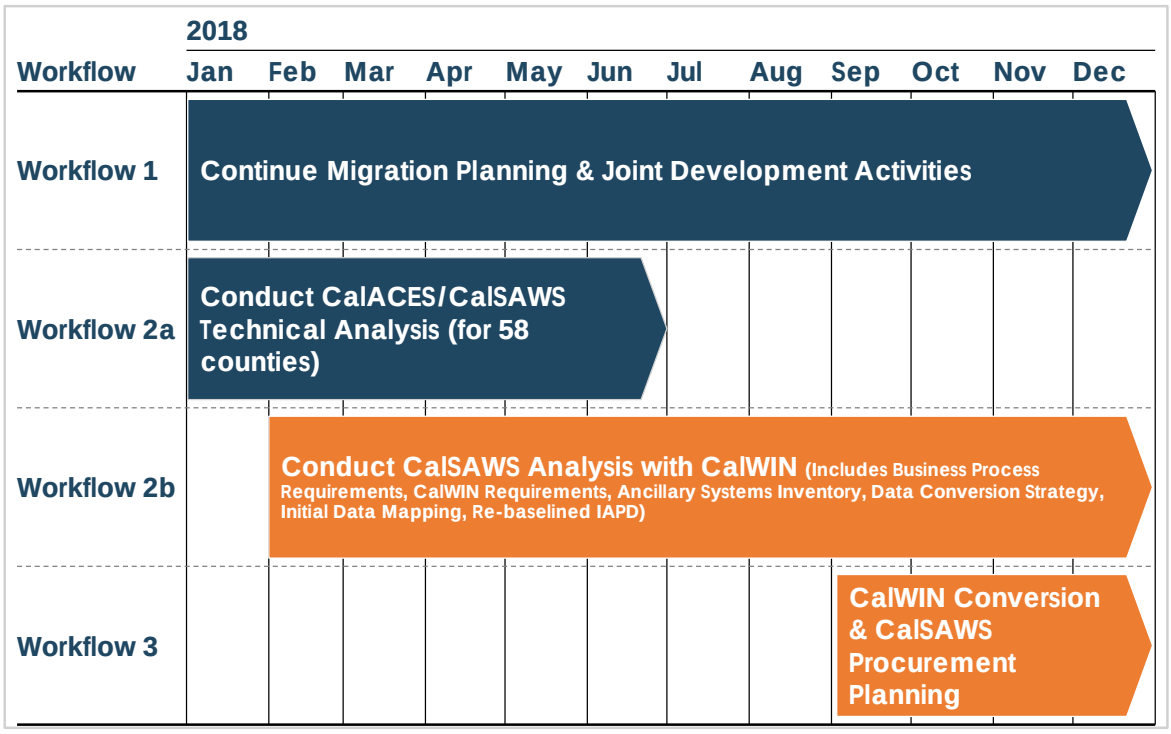
As such, three key updates to the PAPD were made:

- **Consolidation of the Migration Planning and LRS/C-IV Joint Development (Workflow 1):** July through December 2017 costs for the CalACES Migration Planning Team, LRS/C-IV Joint Development Team and Project Management Team were shifted from the Migration D&I IAPD, with no change to the previously approved costs.
- **Acceleration and Expansion of CalACES-CalSAWS Planning (Workflow 1 and 2):** Extended and expanded the CalACES-CalSAWS Planning Team to support a larger overall effort and additional concurrent activities. In addition, the previous schedule has been advanced to begin in March 2018 (instead of July 2018).
- **Conducting CalWIN Conversion and CalSAWS Procurement Planning (Workflow 3):** Extended conversion planning activities as of September 2018, as well as CalSAWS procurement planning activities beginning in January 2019. The activities in Workflow 3 are expected to be completed by June 2019.

As a result, the workflows were adjusted to pull forward and incorporate CalSAWS related planning activities. Consequently, the Planning Advance Planning Document Update (PAPDU) consists of four workstreams as described below.

- **Workflow 1:** Continuation of the Migration Planning and LRS/C-IV Joint Development activities in preparation for the future Migration D&I project.
- **Workflow 2A:** Technical planning and analysis activities related to the LRS and C-IV Migration to the Cloud, transition to a single database, and transition to a single data center, which would specifically include alternatives assessment for a) infrastructure for statewide solution, b) migration path for 40-counties, c) CalSAWS Web Portal & Mobile Assessment, and d) CalACES Ancillary Systems/Supplementary Capabilities Assessment.
- **Workflow 2B:** CalSAWS Analysis with CalWIN, which includes CalACES/CalSAWS Requirement Analysis, CalWIN/CalSAWS Business Process Gap Analysis, CalWIN Ancillary Systems Analysis, CalWIN/CalSAWS Data Conversion Strategy, and CalWIN Initial Data Mapping, CalSAWS Implementation Planning (for 58 counties).
- **Workflow 3:** Extended conversion planning activities as of September 2018, as well as CalSAWS procurement planning activities beginning in January 2019; funding for workflow 3 has not been approved; at federal request, activities in Workflow 3 will be revised based on the results of the current assessment and resubmitted in a PAPDU.

FIGURE 2: WORKSTREAM UPDATE.



2 SCOPE AND OBJECTIVES

2.1 OBJECTIVES OF THIS ASSESSMENT

The purpose of the assessment is to provide the fact base and analysis for multiple workstreams for comprehensively planning the migration to CalSAWS. As part of this, there are five specific objectives for this assessment:

- **Review CalACES requirements:** Conduct onboarding and data gathering sessions to understand the base LRS system, review gaps between C-IV and LRS and requirements identified for CalACES, obtain details on cost estimation and methodology for delivering on existing set of (560) requirements, leverage inputs to create fact base outlining the need/value of the requirements, as well as the cost associated with the requirements, use appropriate cost estimation methodology to triangulate and pressure test prior cost estimates independently, and ensure validity of requirements by capturing clear rationale (e.g., worker need, efficiency need, efficiency effect)
- **Perform requirements consolidation:** Conduct high-level review and provide guidance and feedback on the user labs and facilitated requirements gathering process through a series of interviews and targeted data requests, monitor to ensure that the guidance & feedback on the process are incorporated, collate requirements from all sources (e.g., client managed outputs from user labs/facilitated requirements gathering, business process assessment and ancillary systems assessment), check for overlaps and create a de-duplicated list, present consolidated list of requirements as well as value associated with requirements, categorize requirements in standard (CalSAWS) and deviations, categorize deviations into various types (e.g., customer needs, efficiency, effectiveness) and based on county, create a prioritized list by type and cost/impact, and ensure validity of requirements by capturing clear rationale (e.g., worker need, efficiency need, efficiency effect)
- **Perform alternatives analysis for data migration strategy:** Outline options for data migration and conversion, conduct alternatives assessment for evaluating the relative cost schedule and risk of each option, and determine evaluation criteria for selecting the emerging option and highlight key implications (e.g., timing, sequencing etc.)
- **Estimate costs**: Develop framework for categorizing requirements (e.g., into “low, “medium”, “high” impact), develop estimation methodology for each category of requirements (e.g., parametric, historical, bottom-up etc.), apply estimation methodology to develop high-level cost envelope, and pressure test estimation through triangulation (e.g., comparing with migrations of similar scale within California and outside California), estimate steady-state ongoing costs to maintain, operate, and enhance CalSAWS

- **Conduct implementation planning**: Identify technical and non-technical activities to get to CalSAWS, frame potential sequencing options and tradeoffs, identify the leading option, estimate potential timelines for activities based on known internal and external benchmarks, identify all potential procurement/acquisition "blocks", identify options for procuring these blocks (e.g., non-competitive vs. competitive), identify leading option for each block, identify key risks, and articulate the mitigation plans that should be deployed to minimize impact and probability of occurrence, develop a view of milestones, identify near term action plan (e.g., what should happen immediately to stay on course for CalSAWS timeline), identify potential accelerants and associated tradeoffs, provide key learnings/best practices on end state operating model vendor management and project oversight.

2.2 SCOPE OF THIS ASSESSMENT

The assessment supports the revised CalACES Implementation Advance Planning Document (IAPD). While the IAPD will reflect the entire scope of the migration, this specific assessment is only focused on:

- Validation & Review of CalACES Requirements
- Validation of Consolidated Requirements for CalSAWS
- CalWIN/ CalSAWS Data Migration Strategy
- DD&I costs for CalACES & CalSAWS
- M&O costs for CalACES & CalSAWS
- Implementation Planning (including sequencing)

Additional workstreams that are outside the scope of this assessment include:

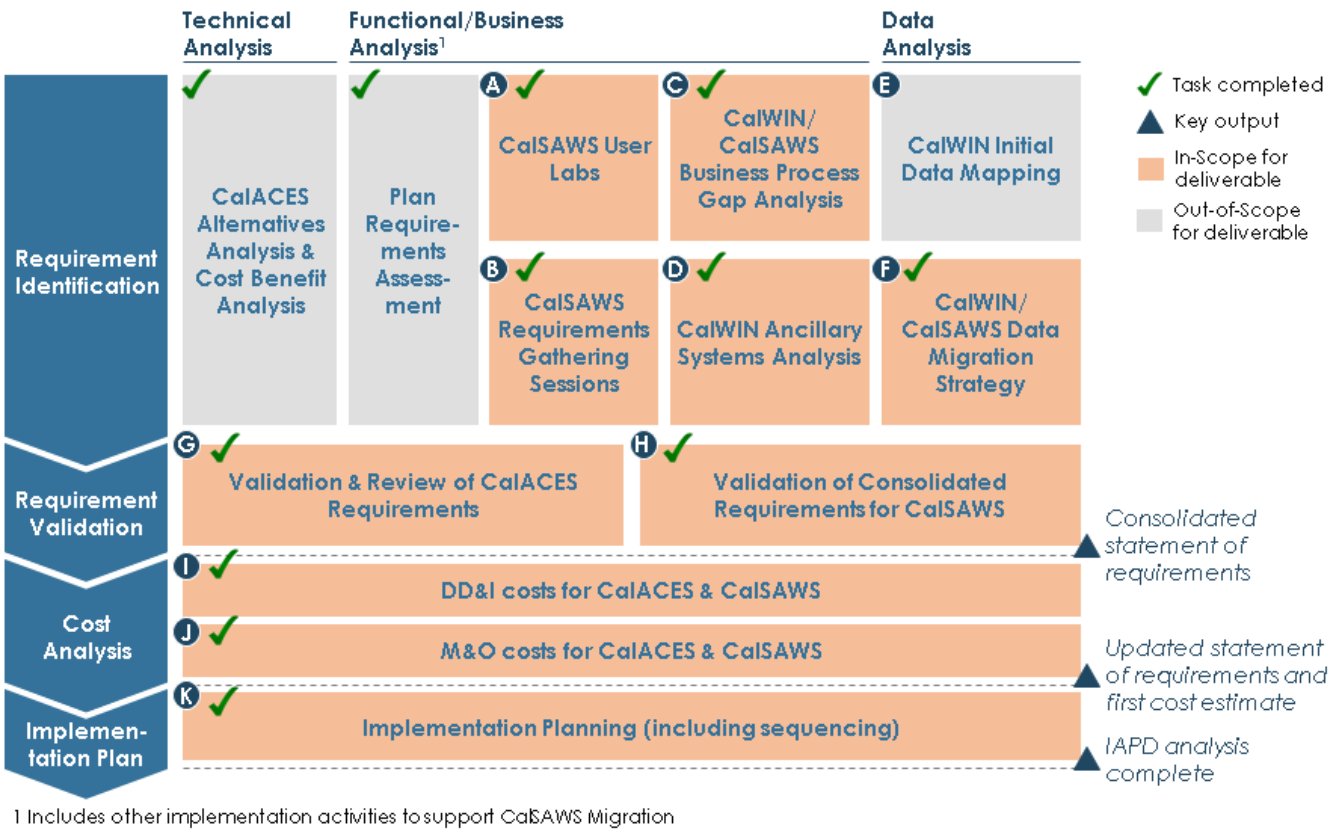
- CalACES Alternatives Analysis & Cost/Benefit Analysis
- Plan Requirements Assessment
- CalSAWS User Labs
- CalSAWS Requirements Gathering Sessions[1]
- CalWIN/ CalSAWS Business Process Gap Analysis
- CalWIN Initial Data Mapping

3 APPROACH AND METHODOLOGY

3.1 OVERVIEW OF THE WORKSTREAMS

As seen in the figure below, there are several workstreams that are within the scope of the assessment.

FIGURE 3: CONCEPTUAL VIEW OF WORKSTREAMS FOR WORKFLOW 2.



High-level details of each of the workstreams include:

- **CalWIN/CalSAWS Data Migration Strategy**: to outline options for data migration and conversion, conduct alternatives assessment, for evaluating the relative cost schedule, and risk of each option, and determine evaluation criteria for selecting the emerging option and highlight key implications (e.g., timing, sequencing etc.)
- **Validation & Review of CalACES Requirements**: to conduct independent 3rd party assessment of CalACES functional requirements, and present an objective articulation of the underlying rationale for each of the requirements
- **Validation of Consolidated Requirements for CalSAWS**: to compile CalSAWS requirements from all sources with validated CalACES requirements, and present an objective articulation of the business need and business rationale for each of the new requirements

- **DD&I Costs for CalACES & CalSAWS:** to develop high-level estimates for one-time migration costs for CalACES, and to extend and expand methodology to estimate costs associated with CalSAWS
- **M&O Costs for CalACES & CalSAWS**: to develop high-level estimates for run rate M&O costs for CalACES, and to extend and expand methodology to estimate M&O costs associated with CalSAWS
- **Implementation planning**: including sequencing, to evolve set of requirements for CalSAWS into a roadmap leading to its implementation and to identify dependencies with procurement options, timeline, and potential risks

3.2 OVERVIEW OF METHODOLOGY

3.2.1 CalWIN/CalSAWS Data Migration & Conversion Strategy

CalWIN/ CalSAWS Data Migration & Conversion Strategy has followed a 3-steps approach: (i) generation of available options for data migration & conversion, (ii) assessment of different options/alternatives, and (iii) identification of implications for leading alternative.

- **Generation of available options for data migration & conversion**: this first step focused on identifying feasible alternatives for the data migration, and articulating entailed characteristics of each alternative (e.g., sequencing of data merge and application changes, Go Live scheduling).
- **Assessment of different options/alternatives**: the second step focused on conducting an analysis of each of the devised alternatives across multiple criteria, such as cost (with the creation of a cost build up based on effort estimate for a granular set of activities), schedule (with the definition of timelines associated with each option), and associated risks (with an evaluation of each option's likelihood and impact). Once the final set of criteria was defined, a weight was defined for each single criterion and the resulting overall score used to determine the leading alternative.
- **Identification of implications for leading alternative**: as a final step, most relevant implications of the leading alternative – such as potential impact to county staff, users, existing contracts – were documented and constitute part of the CalWIN/ CalSAWS Data Migration & Conversion Strategy

3.2.2 Validation & Review of CalACES Requirements

Validation & Review of CalACES Requirements followed a 3-step approach: (i) evaluation of impact from technical assessment, (ii) collection of a detailed fact base, and (iii) development and application of a validation logic.

- **Evaluation of impact from technical assessment**: the first step focused on identifying requirements that were affected by decisions and outcomes of the CalACES technical assessment, together with

requirements that are outdated given elapsed time since the Side-by-Side analysis. For each of the identified requirements a decision has been made on whether to omit, modify, or leave it unchanged.

- **Collection of a detailed fact base**: the second step focused on collecting a detailed fact base for each of the requirements not highlighted/discussed during the first step to understand and document their business rationale/driver. In particular, details such as county business need met by requirement, rationale on how it meets guiding principles, and anticipated system impact (e.g., new reports), was collected.
- **Development and application of a validation logic:** as a final step, a validation logic was developed to pressure test requirements, and was applied to confirm that all requirements that were modified or left unchanged met validation criteria. Note that the validation logic developed for this workstream was then be applied consistently across other workstreams.

3.2.3 Validation of consolidated requirements for CalSAWS

Validation of consolidated requirements for CalSAWS followed a 3-step approach: (i) consolidation of CalSAWS requirements, (ii) application of the validation logic (consistent across workstreams), and (iii) cross-county approval. (Excluding requirements related to CalWIN Ancillaries)

- **Consolidation of CalSAWS requirements**: the first step focused on consolidating CalSAWS requirements from Formal Requirements Gathering, County Visits (including both Business Processes and Ancillary Systems Gap Analysis), and Data Migration & Conversion Strategy. Consolidated requirements then went through an overall consistency check aimed at identifying and resolving overlaps or conflicts between requirements from different sources.
- **Application of validation logic**: the second step focused on applying the validation logic to the new consolidated set of CalSAWS requirements; the emerging result and fact base were presented to all project stakeholders (e.g., federal, state, consortia, county); the validation logic included traceability and comprehensiveness assessment of the requirements.
- **Cross-county approval**: as a final step, the finalized statement of CalSAWS requirements was presented for cross-county approval, as per directions from CalSAWS Leadership, WCDS and CalACES Consortia. (Excluding requirements related to CalWIN Ancillaries)

3.2.4 Implementation Planning (Including Sequencing)

Implementation planning consisted of:

- **Sequencing** of building blocks for implementation of CalSAWS (e.g., planning, procurement, implementation, governance), including potential variant options, evaluation criteria, weighting, and scoring of options.

4 CONTEXT OF CALACES/CALSAWS

Currently, the State of California operates three separate SAWS, each managed by two separate consortia of the state's counties:

- WCDS supporting the CalWORKs Information Network (CalWIN)
- CalACES, supporting
    - Los Angeles Eligibility, Automated Determination, Evaluation and Reporting (LEADER) Replacement System (LRS)
    - Consortium IV (C-IV)

A description of the current state of these three systems follows.

4.1.1 Description of the Current Environment

CalACES – LRS Project: The LRS project developed and implemented a system to replace the existing Los Angeles Eligibility, Automated Determination, Evaluation and Reporting (LEADER) system, an outdated mainframe and client server architecture and a proprietary database that only runs on Unisys servers. The LRS was built on the C-IV code base, includes the following functions: eligibility determination, benefit computation, benefit distribution, case management, and reporting. The LRS automates multiple public assistance programs, including CalWORKs (TANF), CalFresh (SNAP), California Food Assistance Program (CFAP), Medi-Cal, Cash Assistance Program for Immigrants (CAPI), Refugee Cash Assistance, Foster Care, Kinship Guardianship Assistance Payment Program (Kin-GAP), and General Assistance/Relief (GA/GR).

CalACES – C-IV Project: In 1996, C-IV established itself as a Joint Powers Authority (JPA) by agreement with the four original member Counties: Merced, Riverside, San Bernardino, and Stanislaus. In June 2007, as part of the Interim Statewide Automated Welfare System (ISAWS) Migration project, 35 more Counties joined the C-IV JPA. The member Counties referred to as the C-IV Counties are: Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Glenn, Humboldt, Imperial, Inyo, Kern, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Plumas, Riverside, San Benito, San Bernardino, San Joaquin, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, and Yuba.

CalWIN Project: CalWIN supports CalWORKs/TANF, RCA, Food Stamps, Medi-Cal, CMSP, CAPI, IHSS, Foster Care, KinGAP, Cal-Learn and General Assistance/General Relief. CalWIN also supports employment services programs for WTW, Child Care, FSET and County specific employment programs. CalWIN has 18-member counties: Alameda, Contra Costa, Fresno, Orange, Placer, Sacramento, San Diego, San

Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, Tulare, Ventura, and Yolo.

5 GUIDANCE ON USER LABS

Six weeks of User Lab sessions were conducted with participants from CalWIN counties, to familiarize attendees with LRS (and thus the basis for the future CalSAWS system), and to gather initial comments and potential gaps to be used to as a basis for Formal Requirements Gathering. Each of the six weeks reviewed LRS functionality and cases related to particular benefit programs (e.g., CalWORKs), together comprehensively covering all functionality and workflows.

5.1 GUIDANCE THAT WAS PROVIDED

5.1.1 Guidance Post-Attendance

Attendance at User Lab sessions prompted compilation of key recommendations for further User Lab improvements. At a high level, these recommendations were to clarify stated objectives, quantify impact, and qualify feedback.

Clarify Stated Objectives. The team attendees noticed that participants' perception of User Labs seemed to diverge from the stated goals of User Labs. The resulting recommendations encouraged facilitators to clearly state and reiterate the purpose of the User Labs, to explain the methodology for capturing CalWIN feedback, and to define clear next steps.

Quantify Impact. The second prong of recommendations dealt with quantifying the impact of the User Labs. The attendees observed multiple feedback forms circulating throughout the sessions, questions from non-participants about the process, and varying attitudes from participants. This surfaced the recommendations to quantify the number of potential gaps identified each week, administer a survey to measure participant attitudes, and publish these figures to the CalSAWS and CalACES teams for visibility.

Qualify Feedback. The final area of guidance from attendees at the User Labs sessions was to qualify the feedback. The weekly participants varied in terms of role and specialization, affecting the week-to-week feedback from participants. Thus, the recommendation was to include questions in the survey that highlight these differences to gain more context for the feedback received.

5.1.2 Guidance from Survey Results

The survey results, especially including the survey comments, surfaced a few key themes for further improvement of User Labs (and the following Formal Requirements Gathering sessions). These findings can be broadly summarized in 5 categories:

i. Clarify objectives,
ii. Use positive reinforcement,

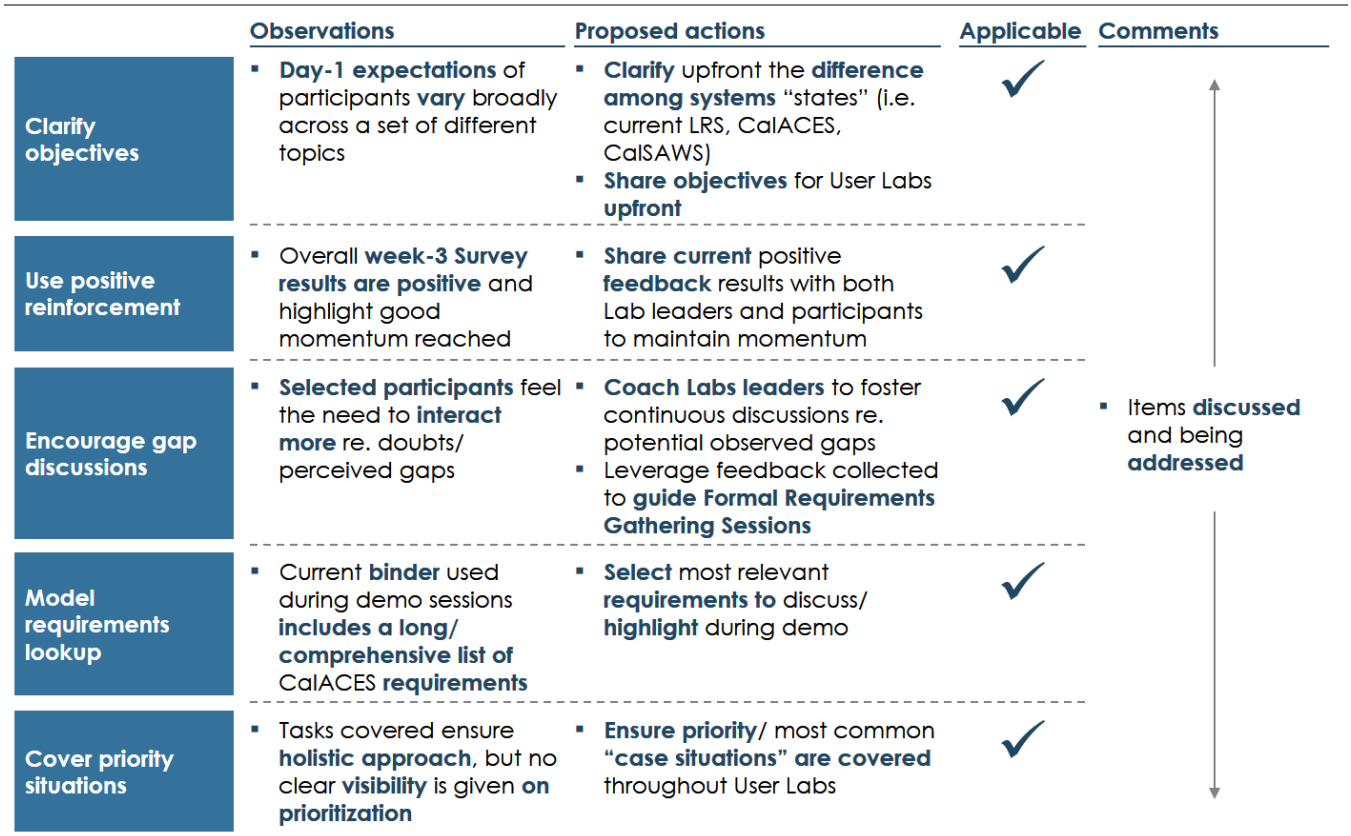
iii. Encourage gap discussions,

iv. Model requirements lookup, and

v. Cover priority situations.

Some of these categories, namely (i)Clarify objectives and (v)Cover priority situations, were in line with recommendations made by the team attendees at User Labs and the federal partners, respectively. Meanwhile, encouraging gap discussion was only able to be surfaced by surveying the participants, who felt in early weeks that not all suggestions on potential gaps were heard. Using positive reinforcement was also uncovered as a potential improvement, encouraging facilitators to highlight the positive momentum being built throughout the process.

FIGURE 4: KEY TAKEAWAYS AND PROPOSED FURTHER IMPROVEMENT ACTIONS.



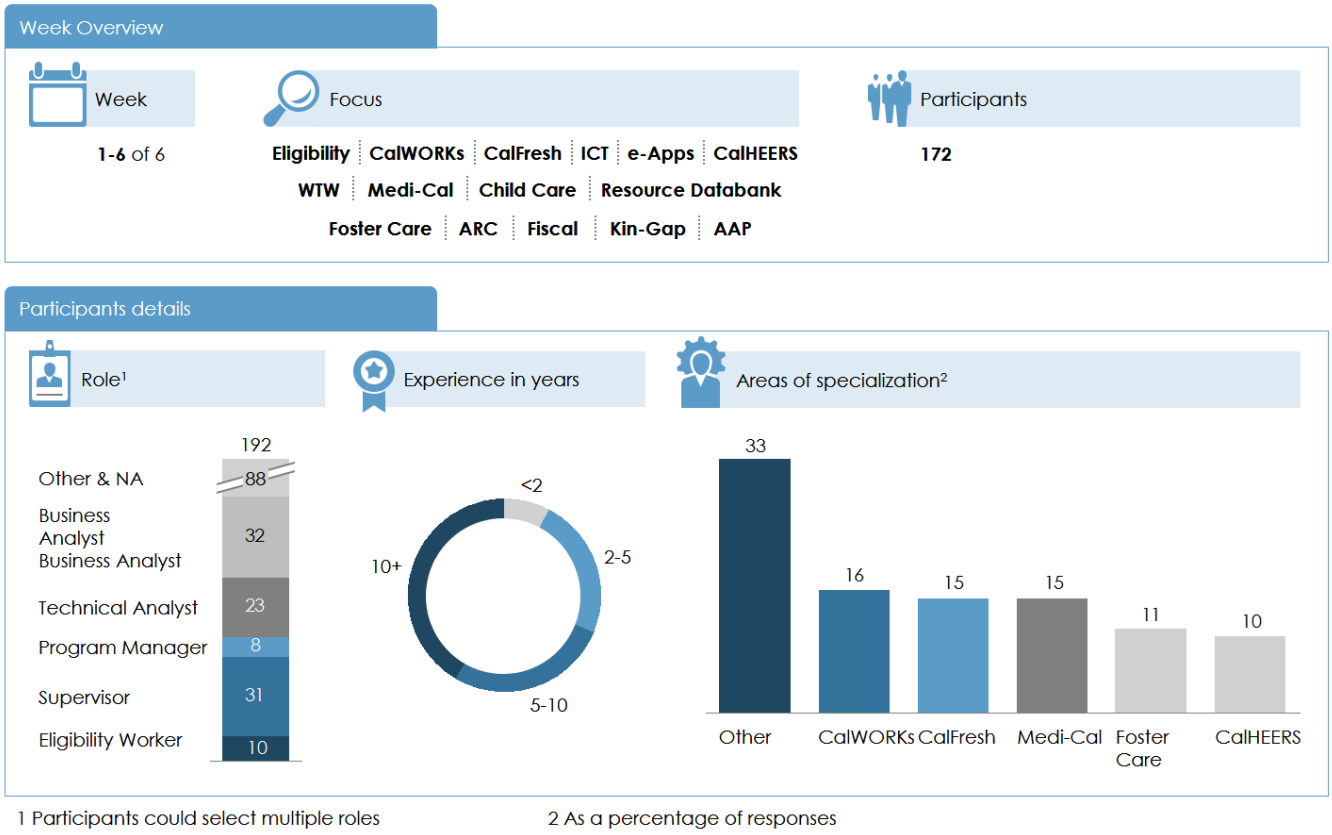
5.2 MONITORING OF GUIDANCE

In addition to driving forward-looking guidance from Week 3 onward, the User Lab surveys enabled tracking against the guidance previously given. Week-by-week data was compiled and compared to track progress toward improvements. Some of the key takeaways are summarized below.

Figure 5 shows the demographics of attendees for Weeks 1-6 collectively. There were 172 participants who filled out the survey, spanning a number of roles and program specialties. Many counties sent

supervisors and other more senior resources, as shown by the relatively high tenure of attendees (less than a third of attendees had a tenure of less than five years). Participants came from a wide variety of program backgrounds, with large areas of specialization in CalWORKs and CalFresh.

FIGURE 5: WEEK 1-6 USER LABS SURVEY DEMOGRAPHICS.

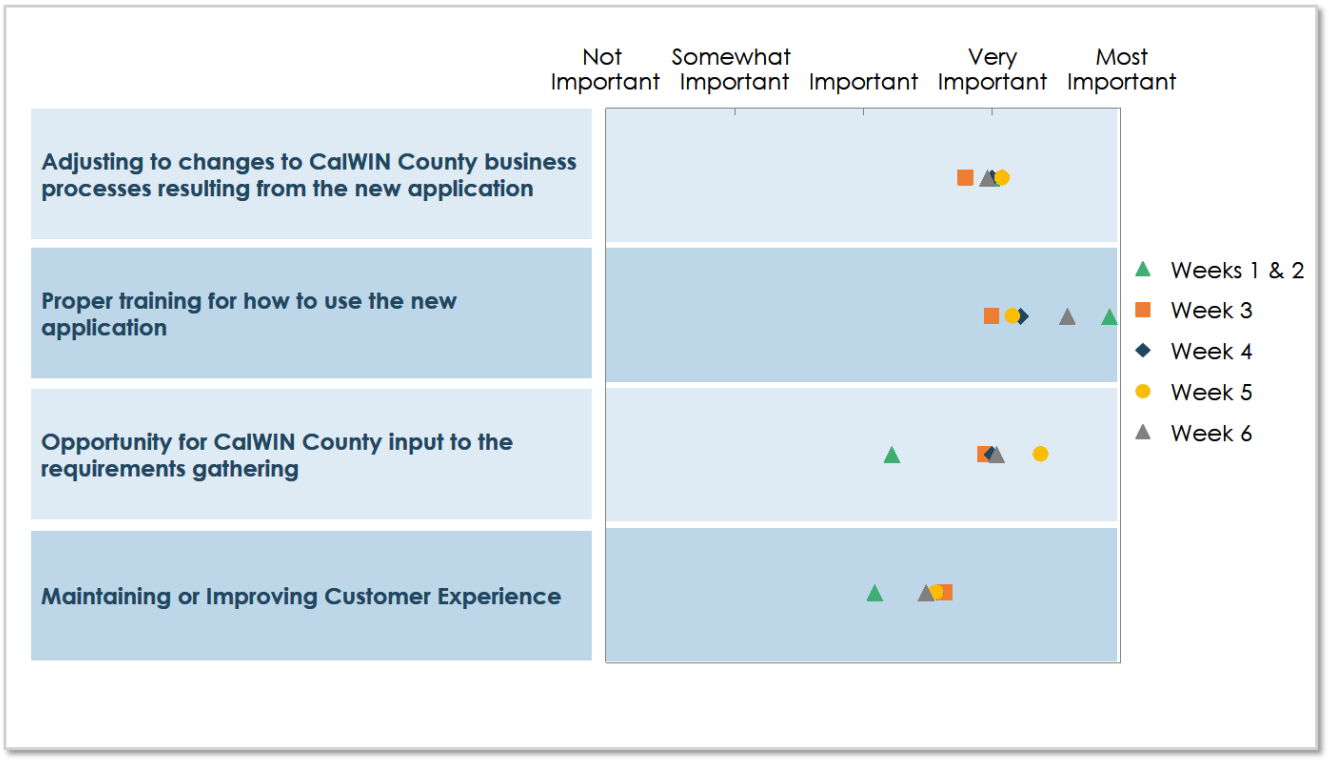


1 Participants could select multiple roles

2 As a percentage of responses

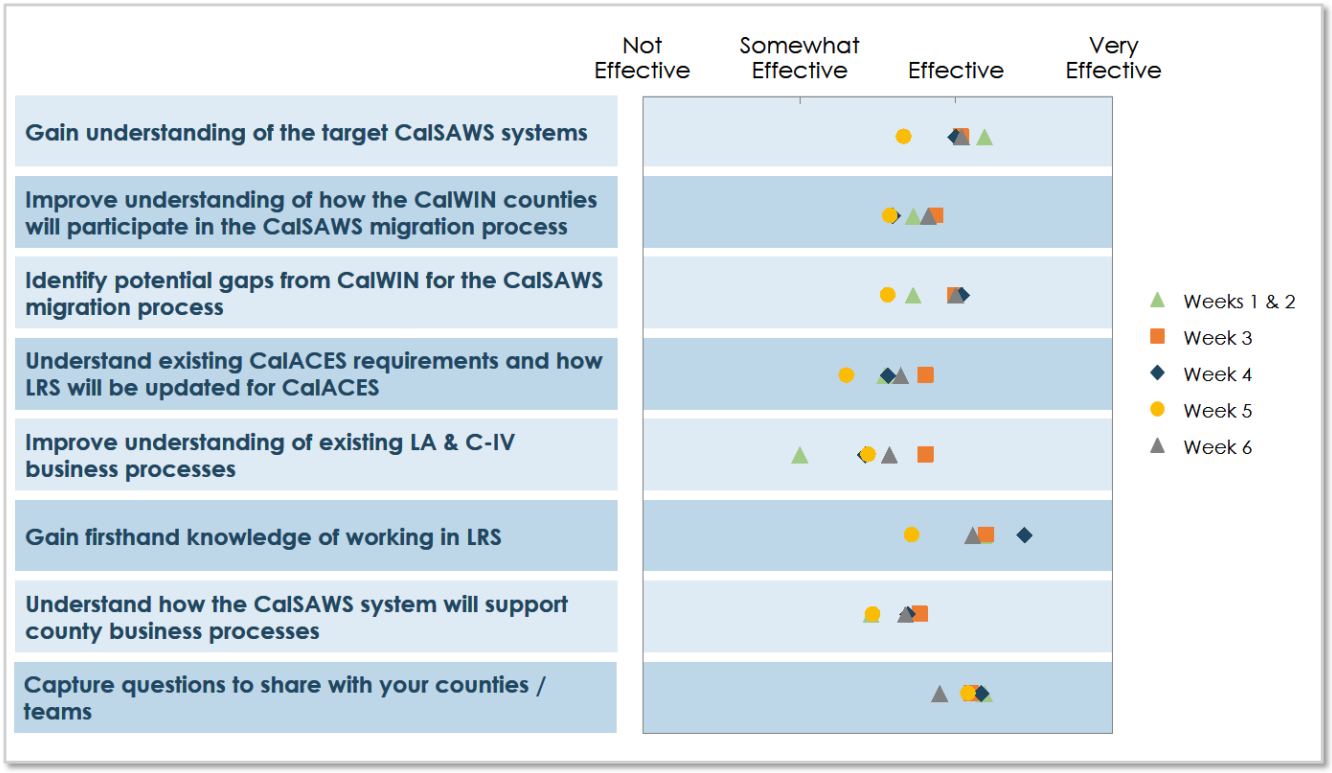
Aside from the demographics, the survey collected information about participants' goals for User Labs and the efficacy in delivery. Figure 6 illustrates how participant views improve overall across weeks. The participants were asked how important several components were to a successful CalSAWS migration. Week 1 & 2 participants thought that proper training was most important a successful migration by a large margin, but in subsequent weeks, proper training was not as much of a concern to participants.

FIGURE 6: DAY 4 QUESTION: HOW IMPORTANT DO YOU FEEL EACH OF THE FOLLOWING ARE TO A SUCCESSFUL CALSAWS MIGRATION?



The participants were also asked about User Lab effectiveness on a variety of topics, as shown in Figure 7. In this case as well, user-rated effectiveness improved throughout the User Labs.

FIGURE 7: DAY 4 QUESTION: HOW EFFECTIVE DID YOU FIND USER LABS FOR EACH OF THE FOLLOWING?



5.3 SUMMARY / KEY TAKEWAYS

Participant feedback (both positive reactions and potential improvements) was compiled and taken forward into Formal Requirements Gathering sessions planning.

- Surveys were shown to provide useful feedback to organizers and outlets for attendee comments. As a result, a new survey was produced (adapted from the User Labs survey) to continue tracking participant experience during the following Formal Requirements Gathering sessions.
- Feedback regarding a "case scenario" framing of LRS demos was also taken forward into Formal Requirements Gathering sessions planning, to ensure that potential requirements would be addressed in the same order in which a case would flow through LRS, and thereby address the Federal need to replicate an end-to-end case scenario to unearth requirements.
- Further improvements, such as the execution of "end-to-end" scenarios and role-based access/ controls, were made in response to this guidance during Formal Requirements Gathering Sessions.

6 GUIDANCE ON REQUIREMENTS GATHERING

This section provides a brief recap of this workstream, and its relevance to the overall CalSAWS migration planning effort.

Six weeks of Requirements Gathering Sessions were completed, with the goal of reviewing a subset of the original 560 CalACES requirements that were previously identified as needing review for applicability to CalSAWS, as well as reviewing the comments generated by participants of User Labs in the previous phase.

This section reviews the methodology used to provide guidance, the content of the guidance, the tracking of progress against the guidance, and Summary / Takeaway for the requirements gathering.

6.1 METHODOLOGY FOR PROVIDING GUIDANCE

The guidance provided was a result of two different sources:

- Participants from the CalSAWS Working Team attended Requirements Gathering Week 1, and compiled feedback based on attendee observations
- A survey of participants was conducted as a pulse check and feedback gathering mechanism for Requirements Gathering

6.2 GUIDANCE THAT WAS PROVIDED

The guidance provided can be summarized as follows:

- **Comprehensiveness of requirements,** to enable review of topics addressed to ensure key requirements are collected in detail
- **County caucuses,** to enable each consortium to align internally on main issues and expectations
- **Process consistency,** to allow sessions to flow smoothly and clarifies process for participants
- **RMs/RPMs deployment,** to leverage experts to provide detailed knowledge on important topics
- **Leadership coverage,** to shape session direction
- **Role & responsibility clarity,** to ensure efficient and smooth sessions
- **Time boxing,** to provide an effective tool for focusing discussions

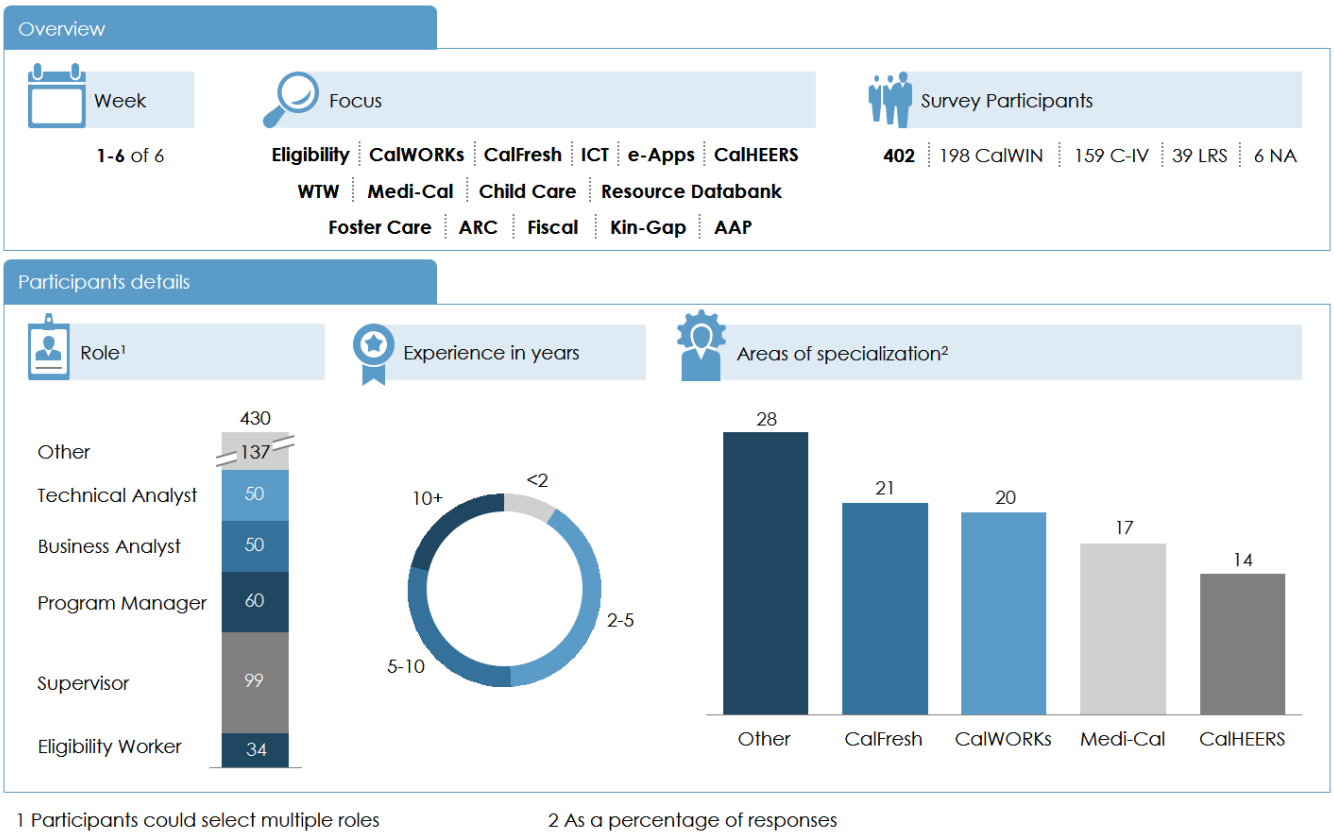
6.3 MONITORING OF GUIDANCE

Monitoring of guidance given was done primarily through the weekly surveys. Aggregated survey results are presented in this section. As detailed in Figure 8, all counties were represented in Requirements Gathering over the six weeks.

FIGURE 8: REQUIREMENTS GATHERING OVERVIEW.

There were 402 survey participants across all weeks, as shown in Figure 9 below.

FIGURE 9: OVERVIEW OF REQUIREMENTS GATHERING SESSION PARTICIPANT DEMOGRAPHICS.

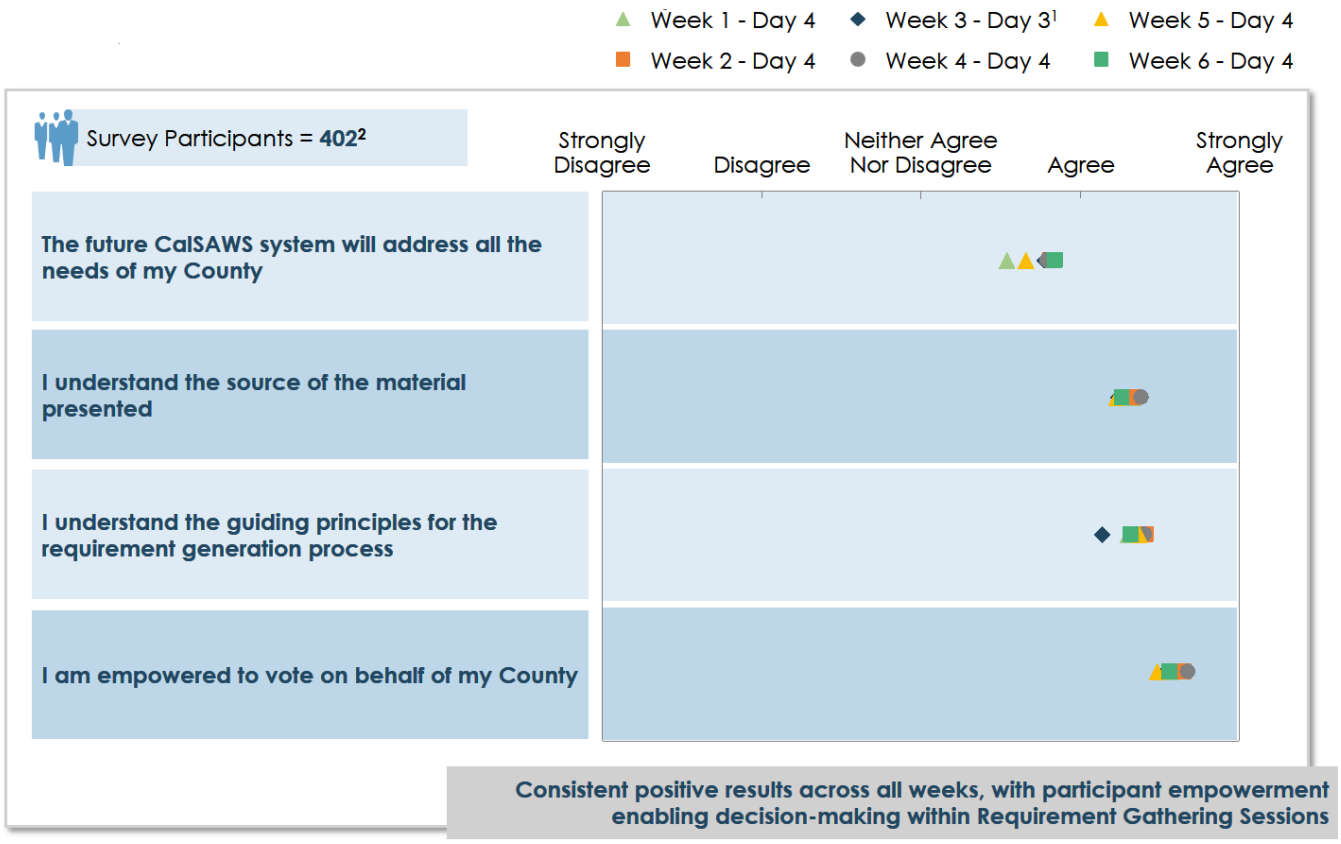


1 Participants could select multiple roles

2 As a percentage of responses

Overall, respondents had positive views of the sessions. Participants were comfortable with the process and knowledgeable about from where comments and requirements discussed arose. Most notably, participants strongly agreed that they were empowered to vote on behalf of their counties; this was a critical check, as participants were expected to represent the needs of their counties during Requirements Gathering.

FIGURE 10: REQUIREMENTS GATHERING SURVEY SNAPSHOT.



1 Week 3 was a 3-day session (because of 5/28 holiday), so final-day results were obtained after Day 3, not Day 4 as in Weeks 1, 2, & 4
2 There were 72 survey participants from Week 1, 65 from Week 2, 60 from Week 3, 66 from Week 4, 70 from Week 5, and 69 from Week 6.

6.4 SUMMARY / KEY TAKEWAYS

Overall, results show that Requirements Gathering Sessions proceeded in a positive manner, with participants having been engaged and well-informed on the process. Key next steps are to:

→ Ensure future change management activities (e.g., that participants responded least positively to "The future CalSAWS system will address all the needs of my county")

7 CALWIN DATA MIGRATION STRATEGY

This section provides a brief recap of this workstream, and its relevance to the overall CalSAWS migration planning effort.

7.1 OVERVIEW

The first step in developing a CalWIN/CalSAWS data migration strategy is defining a set of paths and then assessing potential paths for cost, risk and schedule implications. This strategy was also used to develop the initial LRS and C-IV consolidation strategy and consists of the following steps:

- Generate options
- Develop risk drivers, schedules, and costs for each option
- Apply evaluation criteria and weighting to produce an emerging option

7.2 GENERATE OPTIONS

To ensure the right path forward for the CalWIN to CalSAWS data migration, four broad options for consolidating the CalWIN county data into a consolidated system were considered. These were meant to enumerate and compare viable scenarios for achieving the consolidated CalSAWS end state.

Four options considered here were:

- **Merge from Consolidated System:** Consolidate CalWIN counties data in single system ("CalWIN Prime", CalWIN') and then merge county data by wave to CalACES, in order to obtain CalSAWS database
- **Direct Merge:** Directly merge county data by wave to CalACES, in order to obtain CalSAWS database
- **Merge via 2 Stage ETL:** Consolidate CalWIN data in development environment and then merge CalWIN counties by wave using 2-stage ETL (county->central->CalACES)
- **Consolidate and Create a Service Layer:** Consolidate CalWIN counties data in single system ("CalWIN Prime") and develop Service Layer around CalWIN and CalACES data to support such processes as ICT and other system differences. The counties then consolidate data into end-state in waves

7.3 DEVELOP RISK DRIVERS, SCHEDULES, AND COSTS

Three dimensions were considered to evaluate each path:

- **Schedule:** overall expected duration of migration

→ **Cost:** overall cost associated with migration

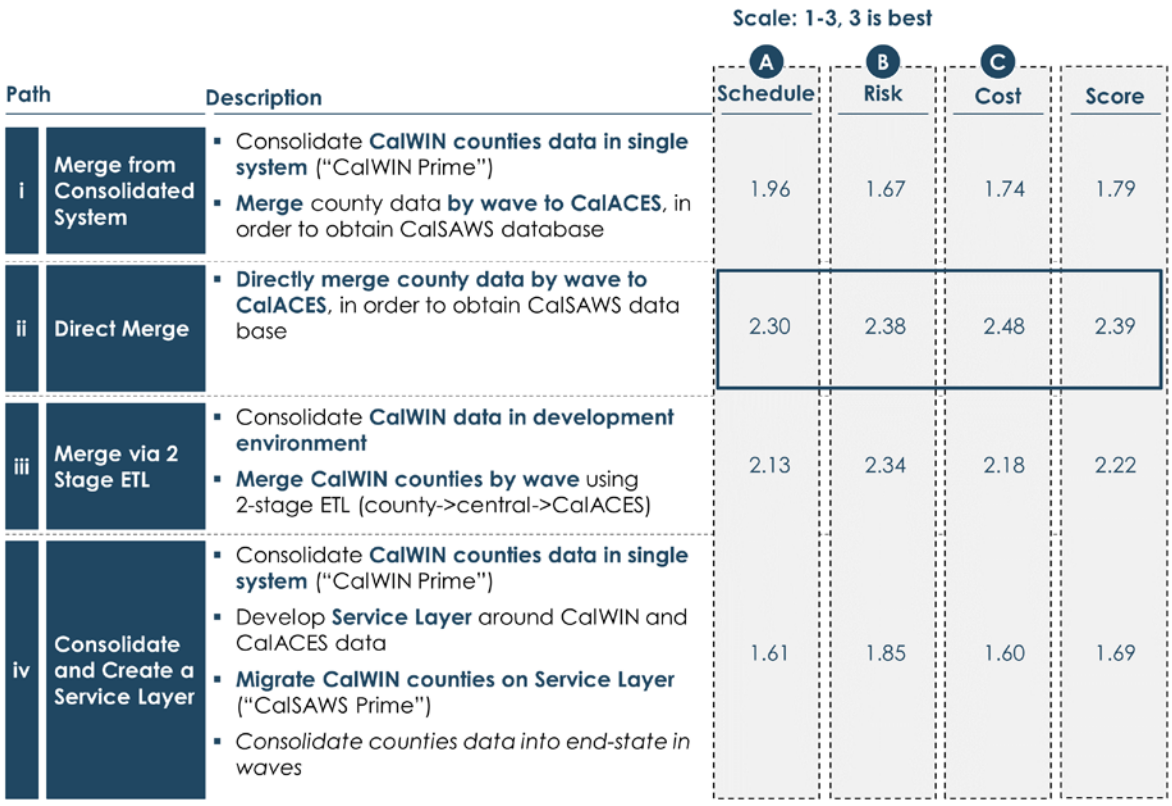
→ **Risk:** overall risk implication

Each possible path has an associated schedule, cost, and risk. High level schedule and cost estimates were developed, and risk drivers evaluated against each path. The results of those calculations were then normalized and weighted. Schedule, cost, and risk were weighted equally, each contributing 1/3 of the total score.

7.4 APPLY EVALUATION CRITERIA AND WEIGHTING

After each path has its scores normalized, weighted, and aggregated, a summary score for each path is developed and shown in Figure11.

FIGURE 11: ASSESSMENT RESULTS.



Path		Description	Scale: 1-3, 3 is best A Schedule	B Risk	C Cost	Score
i	Merge from Consolidated System	▪ Consolidate **CalWIN counties data in single system** ("CalWIN Prime") ▪ **Merge** county data **by wave to CalACES**, in order to obtain CalSAWS database	1.96	1.67	1.74	1.79
ii	Direct Merge	▪ **Directly merge county data by wave to CalACES**, in order to obtain CalSAWS data base	2.30	2.38	2.48	2.39
iii	Merge via 2 Stage ETL	▪ Consolidate **CalWIN data in development environment** ▪ **Merge CalWIN counties by wave** using 2-stage ETL (county->central->CalACES)	2.13	2.34	2.18	2.22
iv	Consolidate and Create a Service Layer	▪ Consolidate **CalWIN counties data in single system** ("CalWIN Prime") ▪ Develop **Service Layer** around CalWIN and CalACES data ▪ **Migrate CalWIN counties on Service Layer** ("CalSAWS Prime") ▪ *Consolidate counties data into end-state in waves*	1.61	1.85	1.60	1.69

Path ii, "Direct Merge" of CalWIN counties data by waves into CalACES, is the emerging answer and should be the basis for further estimation, scheduling and sequencing work.

7.5 SUMMARY / KEY TAKEAWAYS

Based upon the assessment a direct merge into the CalSAWS system by the CalWIN counties is the best balance of schedule, cost, and risk.

8 VALIDATION OF CALACES REQUIREMENTS

The objective of this workstream is to conduct independent 3rd party assessment of CalACES requirements and present an objective articulation of the underlying rationale for each of the requirements. This section will provide a recap of this workstream, and its relevance to the overall CalSAWS migration planning effort, including (i) Methodology for validation, (ii) a description of process validation, (iii) Summary / Takeaways.

8.1 METHODOLOGY FOR VALIDATION OF CALACES REQUIREMENTS

The validation methodology, applied consistently across all workstreams, characterizes requirements with a 2-steps approach: (1) gap identification and (2) gap analysis/ prioritization.

Gap identification addressed 3 questions:

- **Categorization**: what is the type of difference between systems (C-IV vs. LRS, CalACES/LRS+ vs. CalWIN)? Differences are classified based on macro-categories (e.g., business process, UI)
- **Applicability**: Is the difference addressable via the "current system" (e.g., CalACES/ LRS+ in the case of CalWIN analysis)? Based on the guiding principles, if the difference is addressable by the "current system" or other existing requirements, the proposed gap should not be prioritized/ considered a requirement
- **Potential solution**: how might the gap be addressed? Through this question, functional/ technical gaps are separated from non-functional ones

Gap analysis/ prioritization addresses another set of 3 questions:

- **Impact**: what is the breadth and the depth of the observed gap? Gaps are classified as high, medium, or low impact based on the information provided by the former (e.g., number of entities impacted – such as user or counties) or the latter (e.g., policy change vs. potential efficiency loss)
- **Effort**: How easily can the gap be closed? Gaps are classified as high, medium, or low effort based on the complexity and the schedule alignment of closing the gap
- **Criticality**: is it critical to have this gap/ potential requirement implemented before Go Live? Gaps are classified as Yes or No in this category

Following the requirements assessment, the detailed validation follows a 3 step approach considering Validity, Applicability and Criticality.

- **Validity**

- Valid – The requirement as written has a valid business rationale based on its categorization
- No Longer Valid—The requirement was written for/ based on a context no longer applicable with the current Migration Path, thus would no longer be necessary to include in a future IAPD. This includes requirements that have already been implemented since the Side-by-Sides.

→ **Applicability**

- Applicable As Is – The requirement is not affected by Migration Path, thus could be included in a future IAPD 'as-is'
- Update Needed To Reflect Changes Since Side-by-Sides – The requirement needs to be updated to capture changes in assumptions or context since the Side-by-Sides that are unrelated to the Technical Assessment
- Update needed to reflect CalACES Tech Assessment – The requirement was impacted by the CalACES Technical Assessment; thus, the definition of the requirement should be updated to capture the latest details and decisions available

→ **Criticality**

- Go Live Requirements— Requirements are critical for go-live of CalSAWS
- Post-Go Live Requirements—Requirements are not critical for go-live CalSAWS, or describe post-go live support

These filters speak to the different lenses that have been used to analyze and validate the CalSAWS requirements. The filter for criticality applies a different lens to the same set of requirements, and provides clarity and transparency around which of the consolidated CalSAWS requirements are go-live critical.

8.2 SUMMARY / KEY TAKEWAYS

The updated assessment for CalACES has been included and consolidated in the CalSAWS Section.

9 VALIDATION OF CALSAWS REQUIREMENTS

This section provides the details for the validation of CalSAWS requirements and its relevance to the overall CalSAWS migration planning effort.

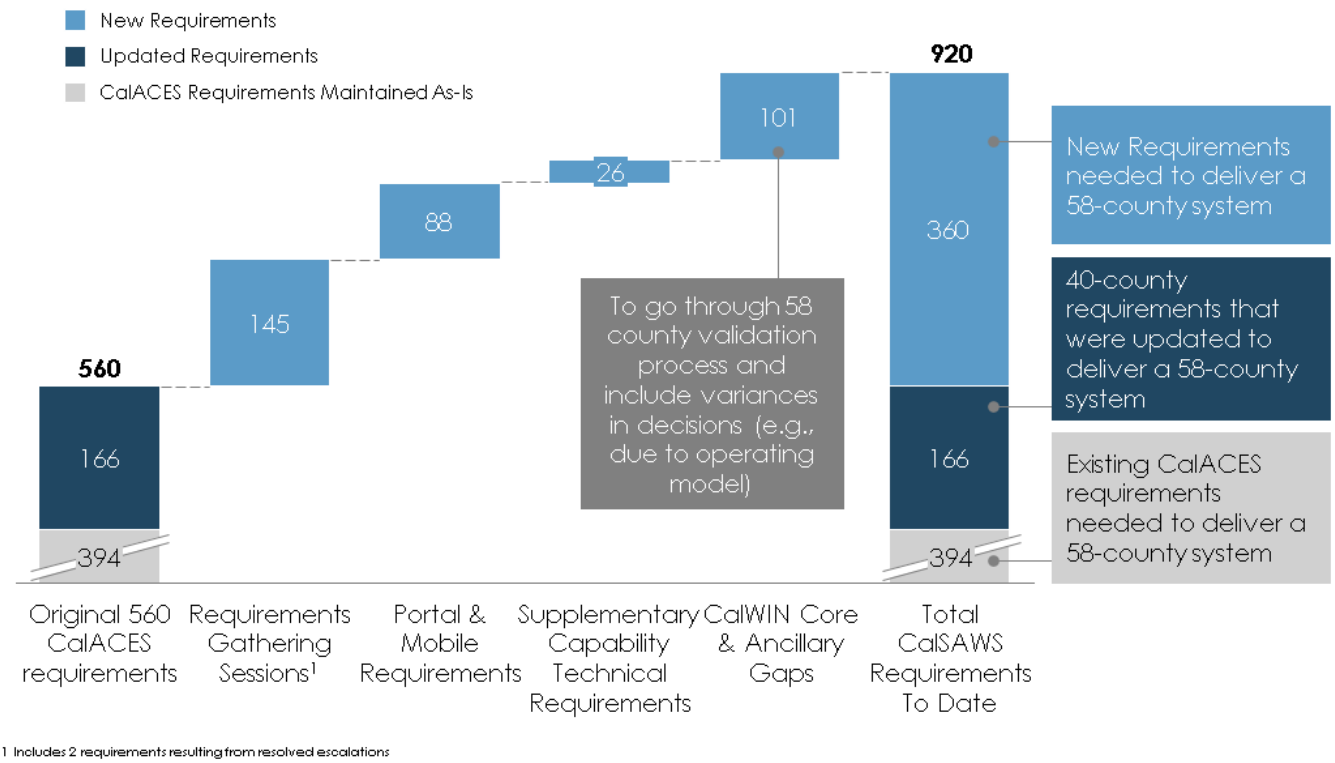
9.1 OVERVIEW OF CONSOLIDATED CALSAWS REQUIREMENTS

CalSAWS requirements are defined as the consolidated set of requirements needed to implement a Statewide Automated Welfare System (SAWS). The comprehensive list pulls together requirements that were captured across multiple sources, including CalACES Side-by-Side sessions, User Labs, Requirements Gathering Sessions (both functional and non-functional), Portal & Mobile Requirements, and CalWIN County Visits. A summary of the current requirements is highlighted below:

920 Requirements to implement a statewide SAWS (as seen in the figure below)

- **394 CalACES requirements that remain as-is** (from the Side-by-Side effort)
- **166 Updated CalACES requirements** to enable a statewide solution
- **360** New Requirements to implement a statewide system (including 127 requirements gathered from CalWN county visits, i.e. 26 for supplementary capability technical requirements and 101 CalWIN core & ancillary gaps)

FIGURE 12: CONSOLIDATED SET OF CALSAWS REQUIREMENTS.



1 Includes 2 requirements resulting from resolved escalations

These 920 requirements emerged from multiple workstreams to implement a 58 county Automated Consortium Eligibility System. They can be summarized as follows:

→ **Original CalACES Requirements:** 560 requirements that were part of CalACES. Of these,

- 394 are CalACES requirements that are maintained as is for CalSAWS
- 166 are CalACES requirements updated to reflect changes needed for a 58-counties solution – CalSAWS; in particular:
  - 28 requirements updated to reflect the new migration path & hosting strategy for the 40-county solution
  - 22 functional requirements updated based on Requirements Gathering Sessions to support a statewide solution
  - 90 non-functional requirements updated to support a statewide migration and deployment
  - 20 requirements needing updates to reflect changes since they were captured during side by sides
  - 6 requirements needing updates to reflect changes due to the CalACES Technical Assessment (i.e., leading to a change in the migration path)

- **Requirement Gathering Sessions:** 145 new "CalSAWS requirements"; in particular:
    - 68 new functional requirements needed to implement a statewide system
    - 77 new non-functional requirements to support a statewide migration and deployment
- **Portal & Mobile:** 88 new functional requirements to implement a statewide web & mobile portal
- **Supplementary Capability**: 26 requirements for the infrastructure setup, data migration, interface development, and other processes to technically enable the emerging answer for a 58 County solution
- **CalWIN gaps:** 101 CalWIN core and Ancillary Gaps which will go through a statewide validation process.

Requirements, including those categorized as post-go live opportunities, have been included in the overall statement of requirements and fully costed (i.e. "as if they were Go Live critical") based on team's assessment. The core 'post Go Live' opportunities core requirements will be implemented before Go Live.

9.2 METHODOLOGY FOR THE VALIDATION OF CALSAWS REQUIREMENTS

The methodology remains the same as that of CalACES requirement validation.

9.3 ASSESSMENT & RESULTS

Results of the CalSAWS Validation are summarized below. In particular:

- Of the 920 requirements,
    - 793 are to build the core CalSAWS system. Of these, the valid requirements are 730 (based on business rationale & current LRS/CalACES functionality); the remaining 63 have already been addressed. These 63 include requirements that have been implemented via maintenance and enhancements (M&O) for LRS and requirements that have been consolidated into other requirements.
    - 127 are requirements for the ancillary systems. These requirements are to go through a statewide validation process and include variances in decisions (e.g., due to operating model)
- Additionally, of the 857 (730+127) valid requirements, 564 apply as is with no update needed, while 140 were modified from their original CalACES language to account for a statewide solution, and 26 are still pending updates.

- Among the 857 valid requirements, 691 could be considered go-live requirements, whereas 166 are post-go live opportunities (i.e. system would still be functional for all counties if these requirements were not implemented at time of go-live. Although additional change management costs would need to be accounted for).

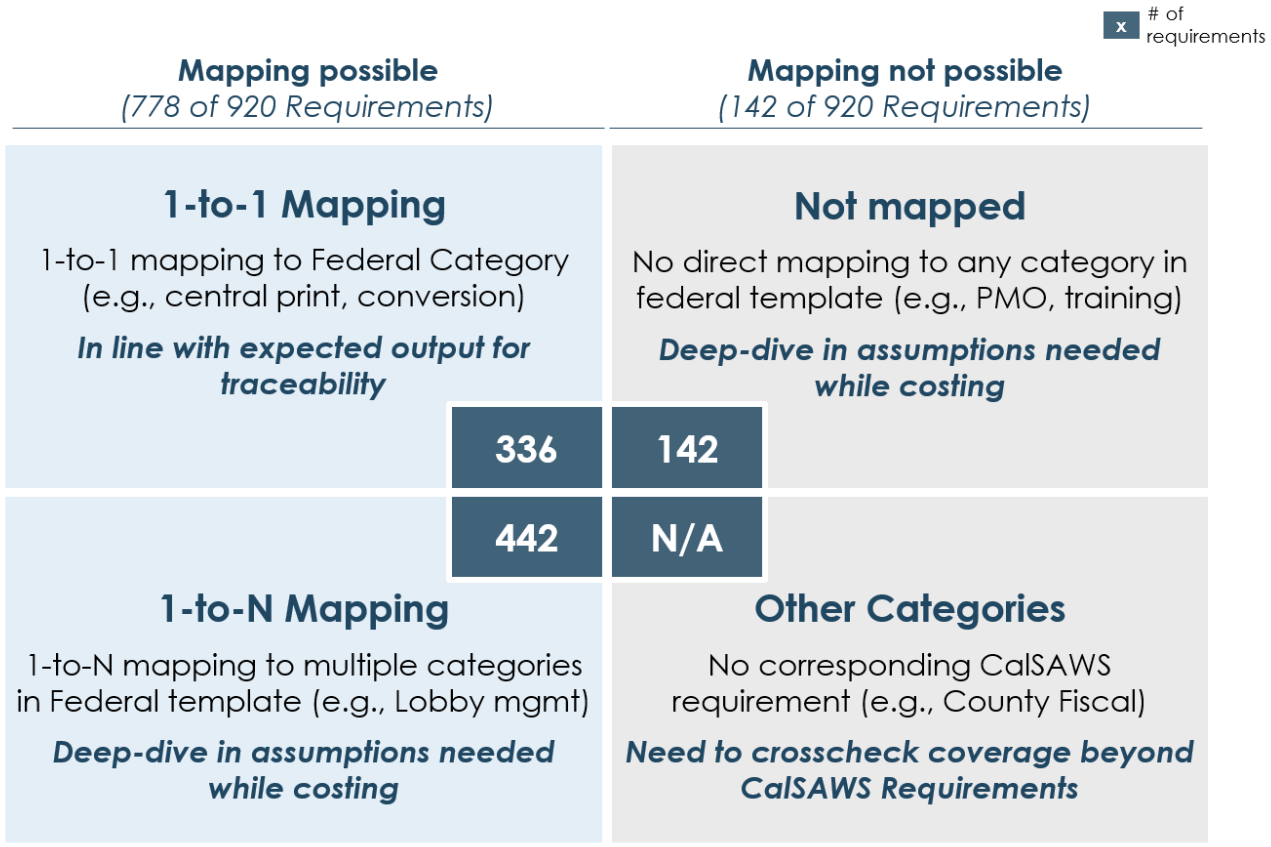
Requirements, including those categorized as post-go live opportunities, have been included in the overall statement of requirements and fully costed (i.e. "as if they were Go Live critical") based on team's assessment. In fact, core requirements marked as 'post Go Live' opportunities should be implemented before the system's Go Live – given the trade-off between their total implementation cost and the additional change management activities/cost that would be required if they were not implemented. Ancillary requirements will go through a 58-county review via a dedicated meeting with representatives across all 58 counties by early 2019. These 58-county reviews will determine which requirements should be implemented prior to go-live vs. post go-live

9.4 TRACEABILITY ANALYSIS

As a first step to ensure full traceability, the CalSAWS requirements have been mapped to the categories provided in the federal partners' template. The mapping effort led to each of the requirements being placed within one of the following groups: (i) requirements with 1 to 1 mapping to federal template, (ii) requirement with 1 to N mapping to federal template, (iii) requirements with no direct mapping to federal template; in addition, (iv) selected categories in the federal template did not have a corresponding requirement within the original CalACES ones.

- **Requirements with 1 to 1 mapping to federal template**: these 336 requirements are part of categories within the original set of CalACES & updated set of CalSAWS requirements (such as central print, conversion) that are possible to map 1 to 1 into categories provided in the federal template; for example, central print category within the original set of CalACES & updated CalSAWS requirements would map to Client Correspondence category within the federal template.
- **Requirements with 1 to N mapping to federal template**: these 442 requirements are part of categories within the original set of CalACES & updated CalSAWS requirements (such as Lobby management) that are only possible to map 1 to N vs. categories provided in the federal template; for example, Lobby management within the original set of CalACES requirements would map to Data services, Intake, Case management, Presentation service, etc. in the federal template
- **Requirements with no direct mapping to federal template:** These 142 requirements are part of the Non-Functional Requirements category within the CalSAWS requirements and their objective is to enable CalACES & CalSAWS migration (through PMO, Training, etc.). There is no corresponding category in the federal template, thus mapping is not possible.

FIGURE 13: TRACEABILITY ANALYSIS RESULTS.



→ **Other categories:** In addition to the above, categories in the federal template that do not map to a corresponding requirement within the list of CalSAWS core requirements have been captured separately. For example, County Fiscal.

9.5 SUMMARY / KEY TAKEAWAYS

Key findings include:

→ **Requirement Gathering sessions:**

- **Functional Requirements Gathering Sessions** (weeks 1 to 6) produced 68 new requirements for CalSAWS and 26 updates to existing CalACES requirements for CalSAWS; the Requirements Gathering Sessions effort will be finalized with a statewide review of CalWIN Core Gaps and Ancillary Gaps.
- **Non-Functional Requirements Gathering Sessions** (weeks 1 to 2) produced 77 new requirements for CalSAWS and 140 modifications to existing CalACES requirements for CalSAWS, to reflect the needs of the CalWIN counties.

- **CalSAWS Requirements Validation** has been completed vs. requirements collected with 857 valid requirements (of which 127 are for CalWIN ancillaries) out of the 920 requirements collected so far. Out of the 857 valid requirements, 691 (of which 33 are for CalWIN ancillaries) were categorized as go live critical; the remaining 166 (of which 94 are for CalWIN ancillaries), were categorized as post-go live opportunities.
- **Traceability:** 778 of 920 requirements have been mapped to the federal template, thereby providing traceability.

10 ANALYSIS OF ANCILLARY SYSTEMS

This section provides the details for the ancillary systems within the SAWS environment. Specifically, it includes:

- Overview of Current State
- Assessment of Emerging Alternatives
- Emerging Alternatives across Ancillaries
- Known Issues and Next Steps

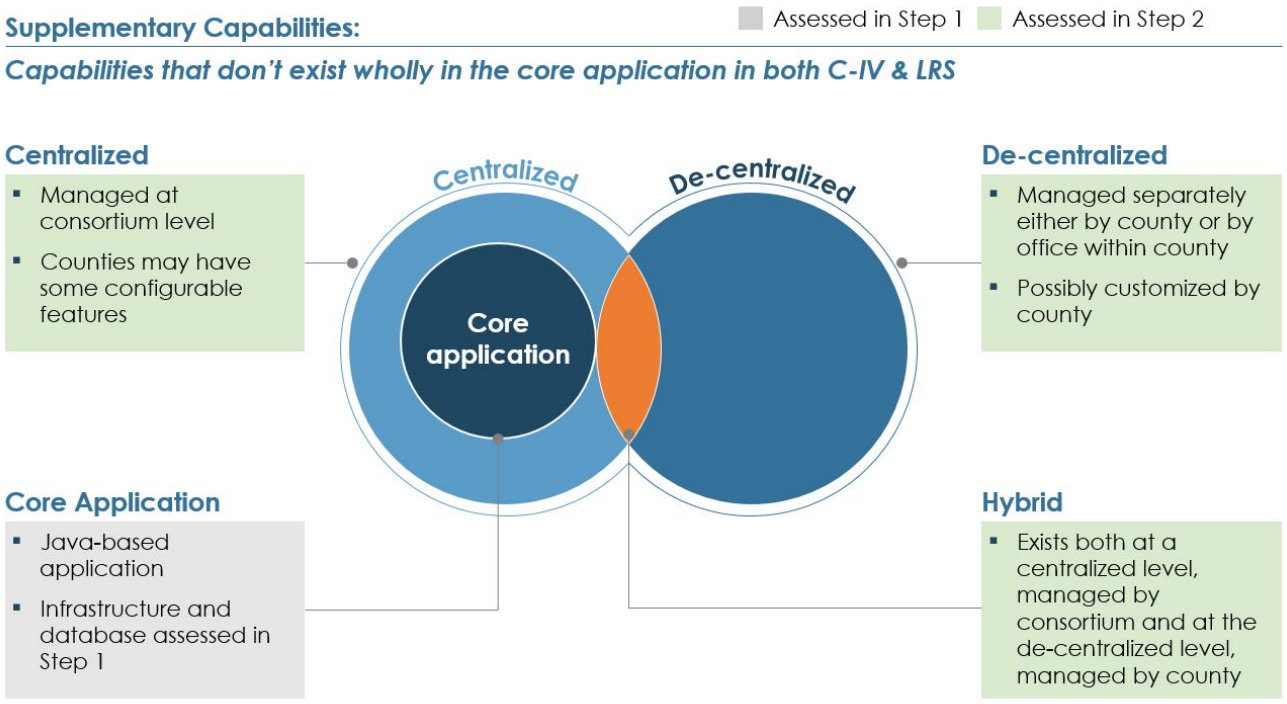
10.1 OVERVIEW OF CURRENT STATE

Capabilities can largely be classified as centralized or de-centralized based on the level it is managed. A centralized capability is managed at consortium level and may offer some configurable features for counties, whereas a de-centralized capability is managed separately either by a county or by an office within the county, and possibly be customized by the county. For this assessment,

- **Core application** is defined as the Java-based application that is centrally provided by the Consortium to all its counties.
- **Supplementary capabilities, or ancillaries,** are defined as the capabilities that do not exist wholly in the Core application in both C-IV and LRS

Figure 14 illustrates the definitions of Core application and Supplementary capabilities.

FIGURE 14: DEFINITION OF SUPPLEMENTARY CAPABILITIES / ANCILLARIES[1]

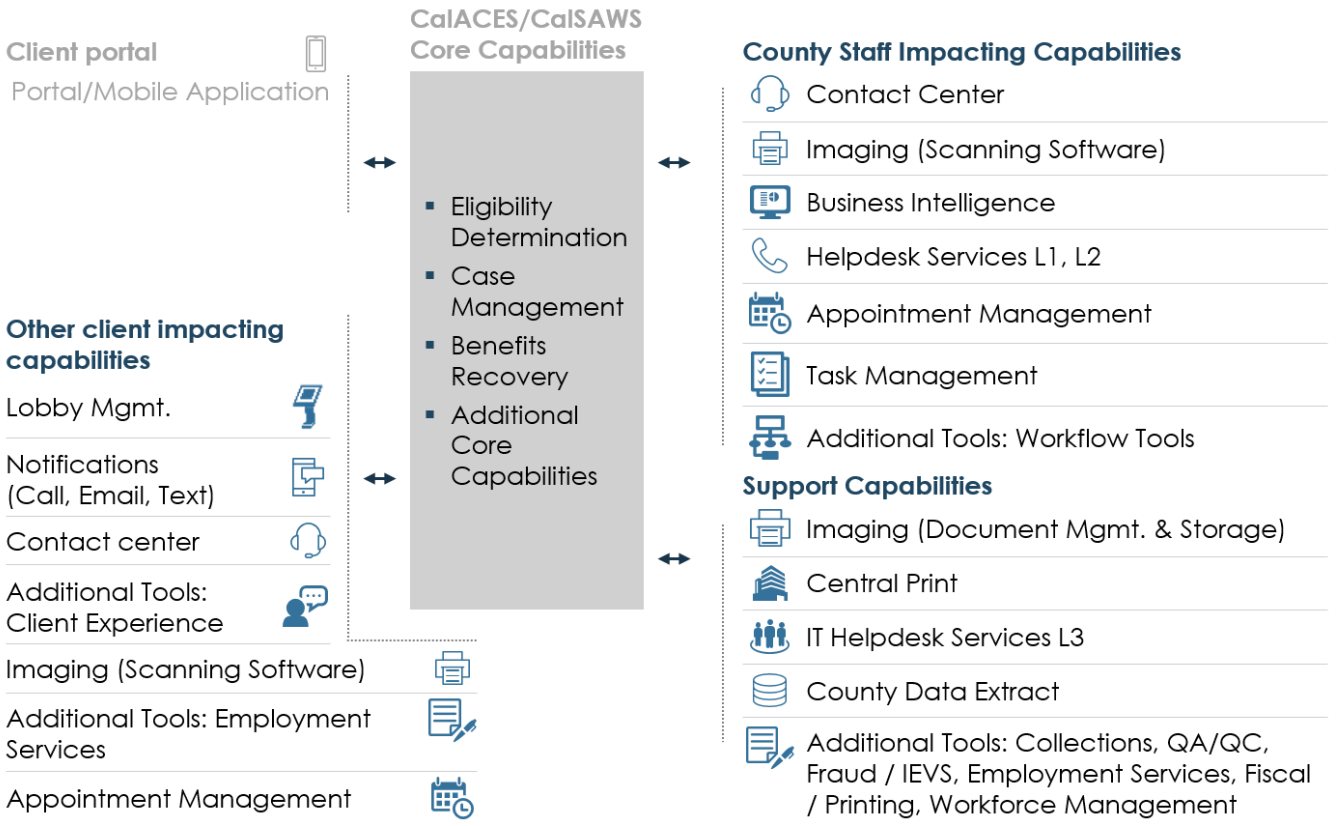


Although de-centralized capabilities are not part of the core, they remain key to the business and operations, and as such the counties have invested significantly in these tools. All 58 counties have a standard set of ancillaries to support their business, including business intelligence, central print, contact center, county data extract, county developed notifications, imaging, helpdesk, and lobby management. These de-centralized capabilities, or ancillaries, have been born to provide management of operations and customer service. For instance, task management is core to the business operations and management of personnel and activities, since workers and staff rely heavily on this ancillary to complete their work via tasks. Similarly, contact center (i.e., IVR) ancillaries serve to improve customer experience by allowing clients to request call backs, leave messages, or request benefit information without talking to an agent. Finally, certain ancillaries provide additional improvement in operational efficiency (e.g., workflow tools to automate certain activities) or client experience (e.g., client experience tools for clients to submit comments and concerns). Ancillaries such as imaging and central print are tightly integrated into the core and are critical to support the business. The following figure depicts the current state of the SAWS ecosystem including ancillaries.

[1] Step 1 refers to the CalACES Technical Assessment that preceded the CalSAWS Migration Planning Assessment

NOTE: Centralized does not always mean that an ancillary capability will be built into the core. This could include a modular approach to use standard solutions (e.g., such as imaging software) that is integrated with the core through an interface.

FIGURE 15: VARIOUS ANCILLARIES USED WITHIN THE COUNTIES.



The approach to de-centralized supplementary capabilities, or ancillaries, vary greatly across the three consortia. LRS and C-IV take a broader view of the core system, incorporating functionality such as task management, appointment management, collections tracking, and more directly into the core. For other supplementary capabilities such as imaging and, in the case of LRS, business intelligence, they leverage off-the-shelf solutions but still integrate them tightly with the core in a standardized way across counties. CalWIN, however, varies greatly from LRS or C-IV approach. CalWIN core was designed to provide flexibility to the counties. Across the 18 CalWIN counties, there are 11 ancillary categories observed.

The 18 CalWIN counties, in addition to the Core application, use Ancillary systems to fulfill the business needs of the counties. These ancillaries mostly pertain to the following categories:

- Appointment Management
- Business Intelligence
- Central Print

- Contact Center
- County Data Extract (CIS / EDR and APIs)
- County-Developed Notifications
- Imaging
- Helpdesk Services L1/L2 and Helpdesk L3
- Lobby Management
- Task Management
- Additional Tools (e.g., Collections, QA / QC, Fraud / IEVS, Employment Services, Fiscal / Printing, Workforce Management, Client Experience Tools, Workflow Tools, Middleware / Integration Tools)

10.2 ASSESSMENT OF EMERGING ALTERNATIVES

10.2.1 Approach to the Assessment of Emerging Alternatives

A two-step process was used to analyze county ancillary systems:

- **Step 1:** Develop holistic set of alternatives (e.g., maintain system as-is, use centralized CalSAWS solution with county innovations incorporated) for each ancillary
- **Step 2**: A comprehensive framework (e.g., capabilities and county innovation, user and client impact, major risks) was used to assess these alternatives and determine emerging alternative

Capabilities, schedule, and risks were collected during working sessions with the counties' SMEs for each ancillary. User and client impact was captured by shadowing case workers, clerical staff, and other staff while they performed their daily tasks and used the ancillary systems, including interview with clients, calls, and app registration. Additionally, capabilities associated with clients interacting with systems (e.g., appointment rescheduling) were also captured.

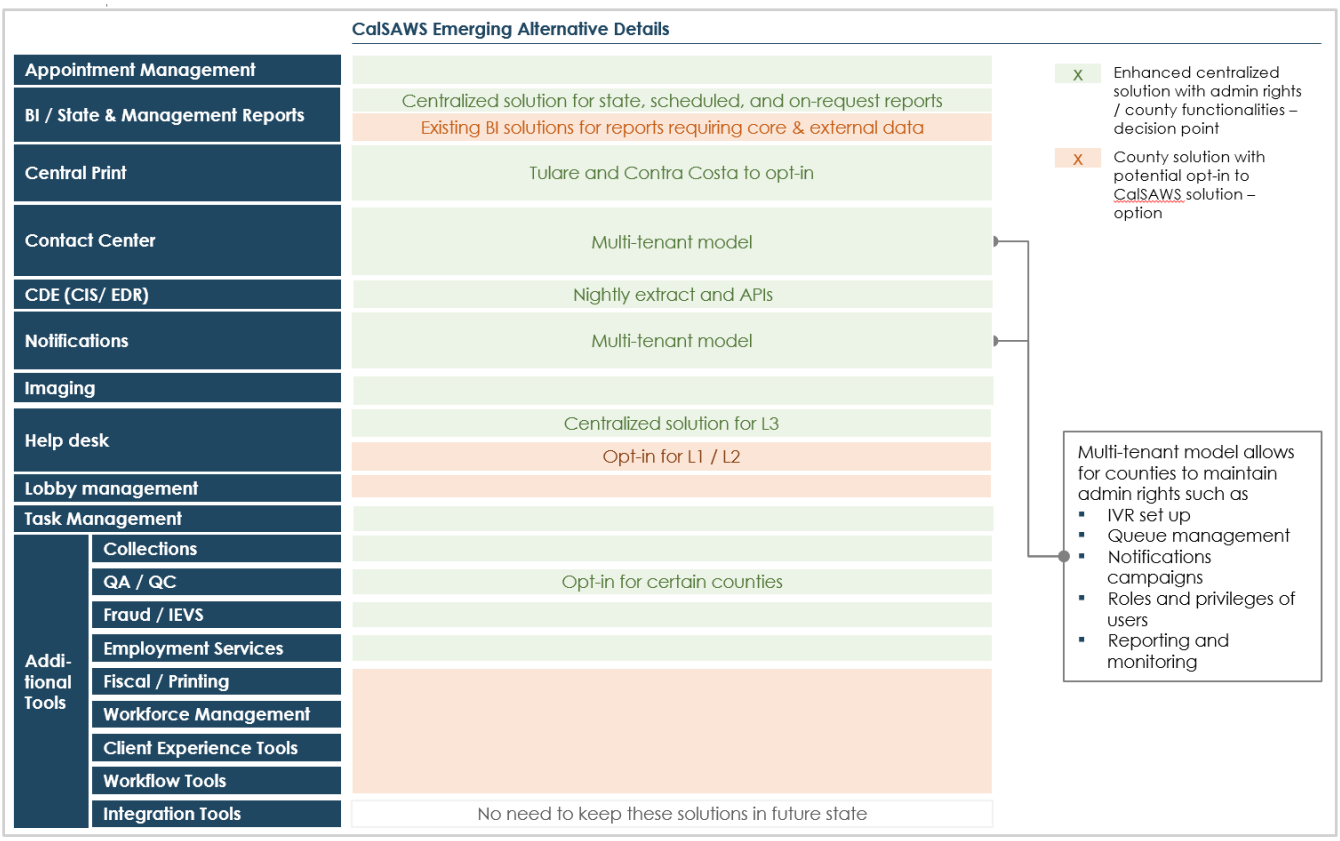
10.3 EMERGING ALTERNATIVES ACROSS ANCILLARIES

County ancillaries were analyzed via a two-step process:

- **Step 1:** Develop holistic set of alternatives (e.g., maintain system as-is, use centralized CalSAWS solution with county innovations incorporated) for each ancillary
- **Step 2:** A comprehensive framework (e.g., capabilities and county innovation, user and client impact, major risks) was used to assess these alternatives and determine emerging alternative

Summary of the emerging alternatives is found in the following figure.

FIGURE 16: OVERVIEW OF EMERGING ALTERNATIVES FOR ANCILLARIES.



For each ancillary, the emerging alternative was analyzed across 3 potential alternatives (with some variations):

- Use centralized CalSAWS solution without any additional enhancements or innovations
- Use centralized CalSAWS solution with enhancements and innovations incorporated to support business needs
- Maintain current system within the county

In determining the centralized CalSAWS solution, best of breed options were taken in account for ancillaries. Examples include ServiceNow for Help Desk (e.g., ServiceNow). In some cases, products had a better feature set then the currently deployed solution but would have introduced significant cost and risk to switch to during the migration. However, this does not preclude tactical changes where merited after the CalSAWS system is live. Additionally, the majority of the ancillary systems are modular products except for a few ancillaries which are already part of the core system (e.g., appointment management, task management, collections, QA/QC).

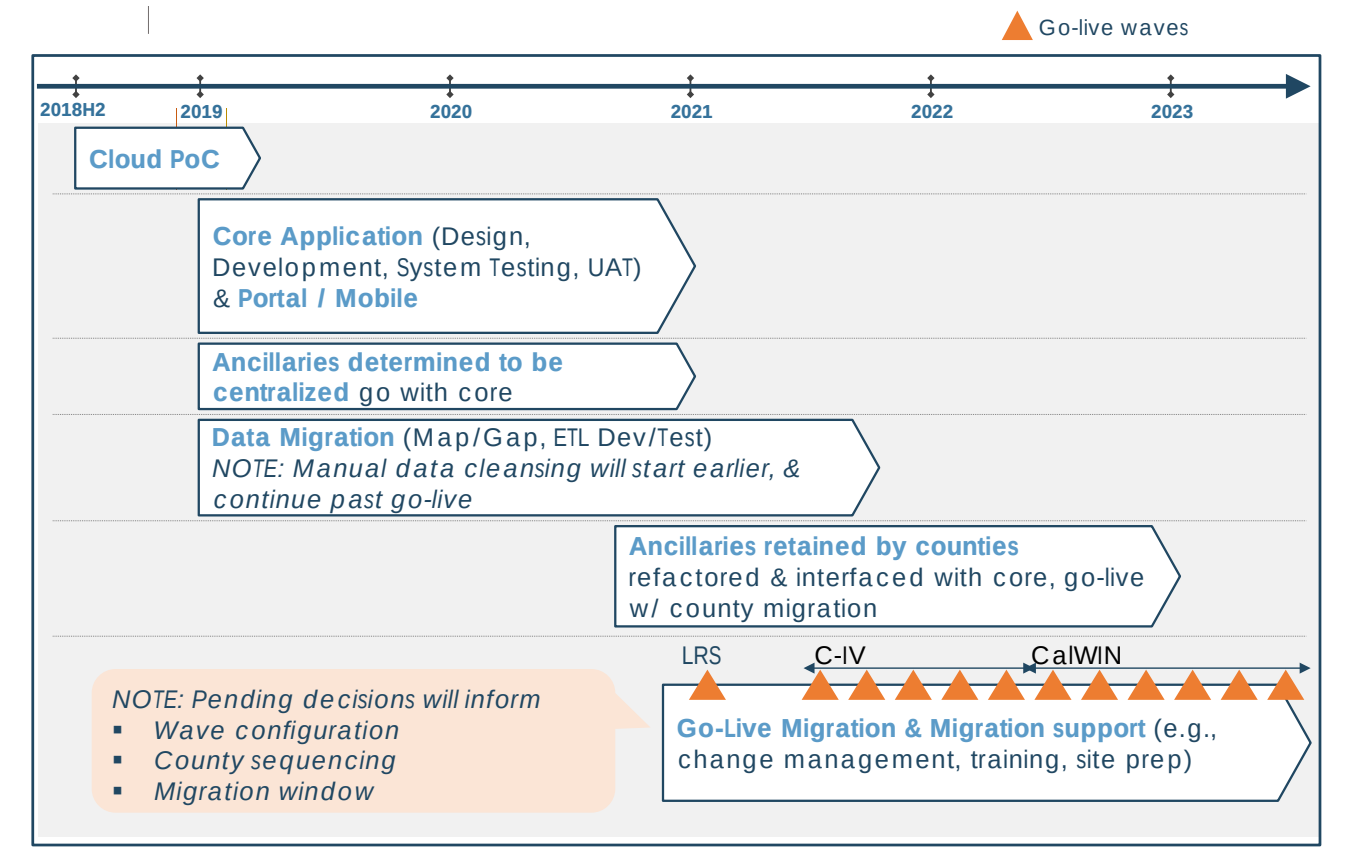
Assessment ensured that in the centralized model, counties will continue to have access to their innovations, and flexibility to manage their operations. Examples include:

- *County innovations:* Centralized solutions will harness innovations from the counties and provide an "uplift" vs. a "lowest common denominator." Innovations are capabilities captured during the county visits that result in a demonstrable operational efficiency or improved customer experience and would potentially be useful to all 58 counties
- *Contact center and notification:* A multi-tenant model will be implemented for contact center and notifications to enable counties to retain their administrative rights (e.g., queue management, IVR setup)
- *Task Management:* Enhanced configuration and customization functionality to enable county management to use the task management solution as per their needs (e.g., case based, task based, program based)
- *Imaging:* Technical alternatives (e.g., "drawers") will allow counties to operate share services with other non- HHS departments in counties
- APIs will be provided for clearly scoped county use cases that need immediate data access (e.g., lobby management, immediate dashboards, employment services tools)

11 IMPLEMENTATION PLANNING

This section is focused on providing a draft fact base for implementation planning, based on the building blocks for implementation of CalSAWS (e.g., planning, procurement, implementation, governance), including a reference case, potential variant options, evaluation criteria, weighting, and scoring of options.

FIGURE 17: HIGH-LEVEL OVERVIEW OF IMPLEMENTATION.



Several implementation scenarios were developed to determine a leading alternative. Given multiple activities and alternatives, numerous scenarios could have been considered. However, due to dependencies and sequencing, there was limited scope to influence timelines for several activities.

For instance, given the high staffing levels (beyond which coordination risk would be untenable), the timeline for application design & development was determined to not be compressible any further. Several activities such as infrastructure setup, core application development & testing, system integration and regression testing, and data map / gap and ETL, were unmovable in any scenarios.

Therefore, the only possibility for implementation scenarios were based on the sequencing of migration of various counties to CalSAWS.

11.1.1 SCENARIOS

Figure 18 shows four overall scenarios for county migration sequencing that were assessed. These scenarios are representative and explain various options, though there are variations on each. The de facto sequencing scenario was assumed to be for (i) LRS (LA County) to migrate first, followed by (ii) C-IV counties and finally (iii) CalWIN counties (as the CalSAWS application would be built off LRS code base).

The four alternatives that were considered have different variations on how the migration sequence transitions from C-IV counties for CalWIN counties.

- Alternative A outlines a wave migration approach, with Los Angeles County migrating as the first wave, then the C-IV counties migrating in five waves, then the CalWIN counties migrating in six waves. The waves are sequential, though there may be some overlap/ staggering between each wave.
- Alternative B proposes moving up the first CalWIN Wave to be run in parallel with one of the later C-IV county waves, with the intent to provide more schedule flexibility and extend the overall migration window for CalWIN counties.
- Alternative C aims to achieve the same (e.g., schedule flexibility and a longer CalWIN migration window) by taking a single-step migration approach for C-IV counties.
- Lastly, Alternative D aims to address some risks inherent in Alternative A through a pre-Migration PoC phase to validate the migration approach for CalWIN counties prior to the CalWIN migration waves.

Each of these was evaluated against a holistic set of evaluation criteria.

FIGURE 18: SCENARIOS FOR COUNTY SEQUENCING.

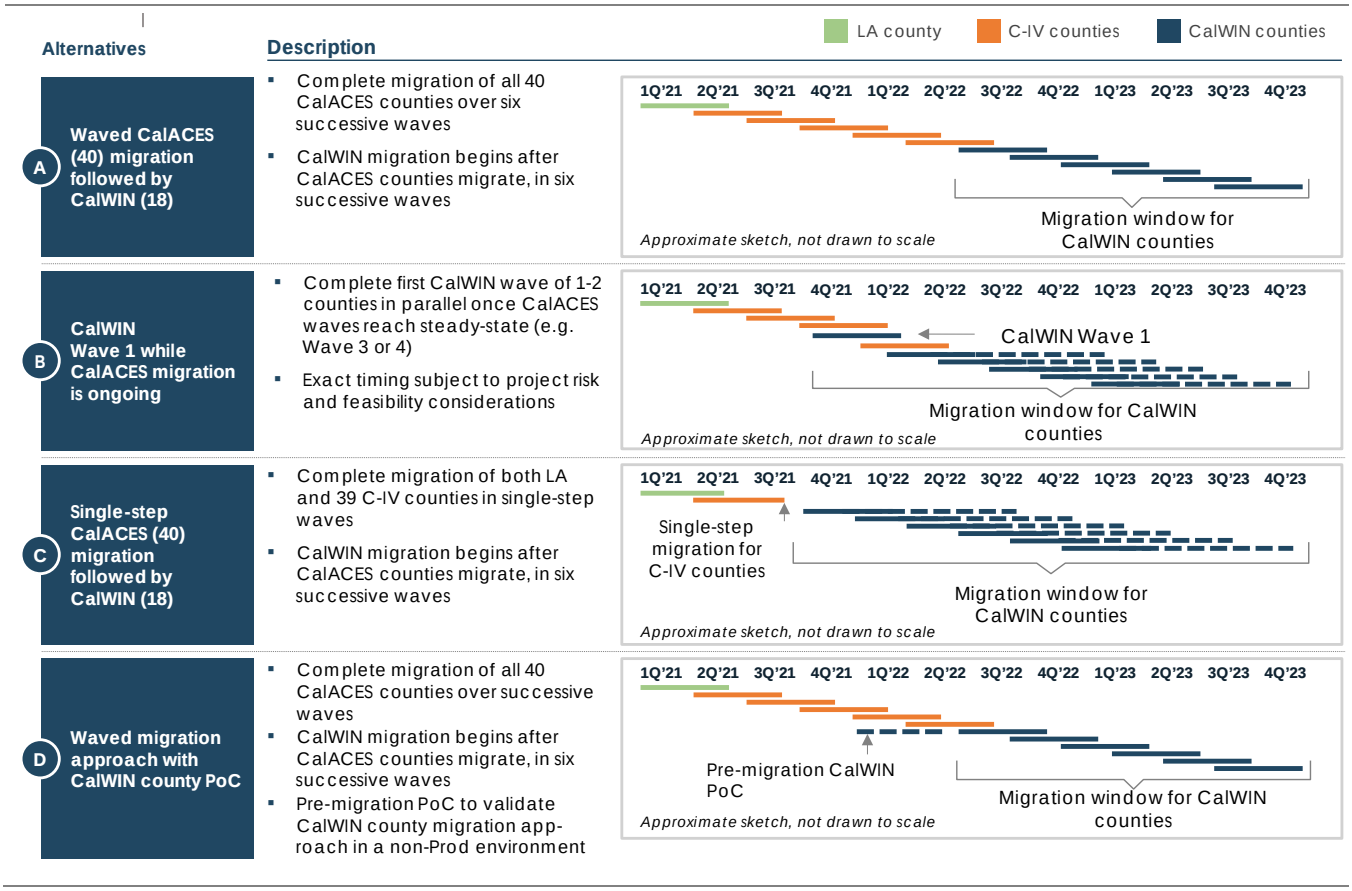
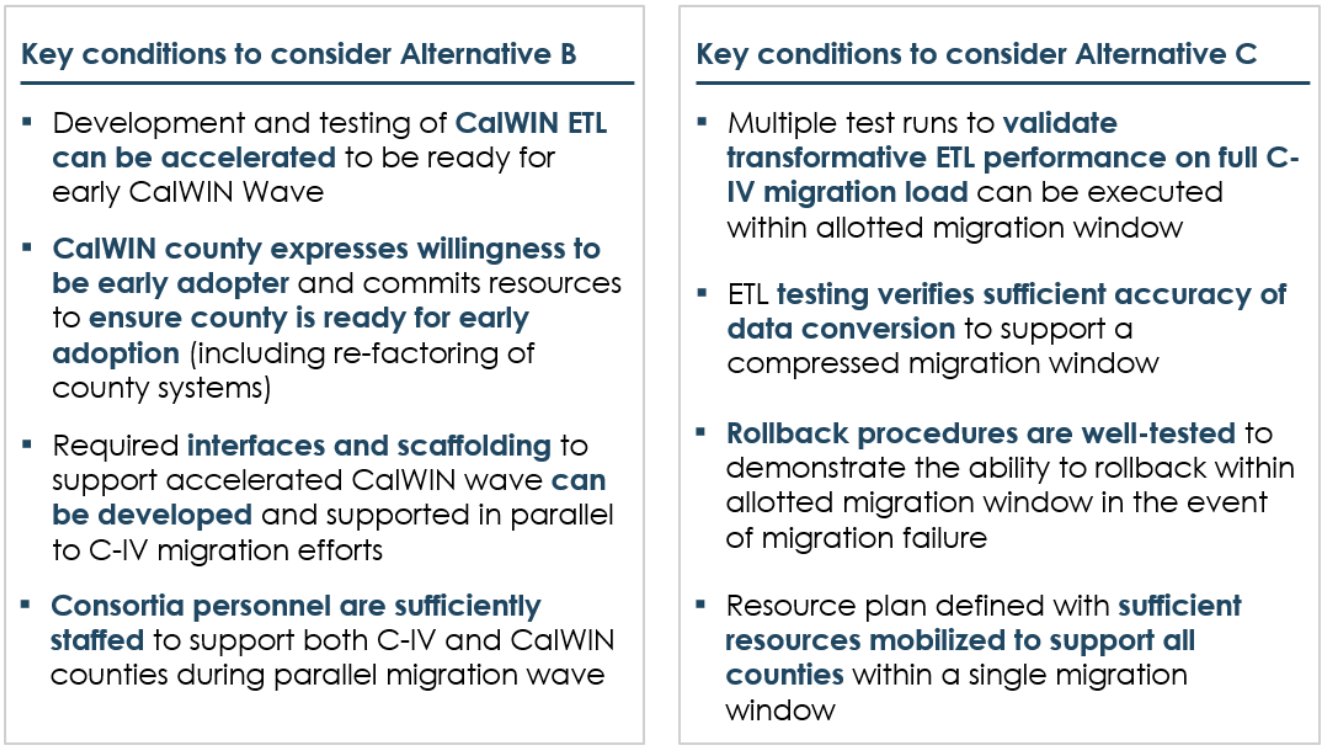


FIGURE 19: WEIGHTED SCORES OF EACH SCENARIO.

Criteria	Alternative A	Alternative B	Alternative C	Alternative D
Risk	2.9	2.6	2.5	2.7
Benefits	2.8	2.9	3.0	2.8
Cost	2.9	2.9	3.0	2.9
Schedule	2.8	2.9	3.0	2.8
Combined score with CalACES weighting	**2.85**	**2.79**	**2.84**	**2.76**
Combined score with risk averse weighting	**2.88**	**2.73**	**2.73**	**2.73**
Combined score with Benefit seeking weighting	**2.83**	**2.82**	**2.89**	**2.77**

As illustrated above, the emerging alternative based on default weighting of evaluation criteria is Alternative A. However, depending on learnings as migration planning, ETL development and mock conversions take place, Alternatives B and C may be considered depending on revised risk scoring based on additional information gathered. If risks currently associated with either Alternative B or Alternative C can be mitigated or resolved, either scenario offers additional benefits in the form of schedule flexibility and incremental cost reductions. Figure 20 outlines the conditions under which Alternatives B or C should be considered. It should be noted that any decisions to change the migration sequencing approach will be a joint decision undertaken through the statewide decision-making process, with full buy-in of the federal and state sponsors.

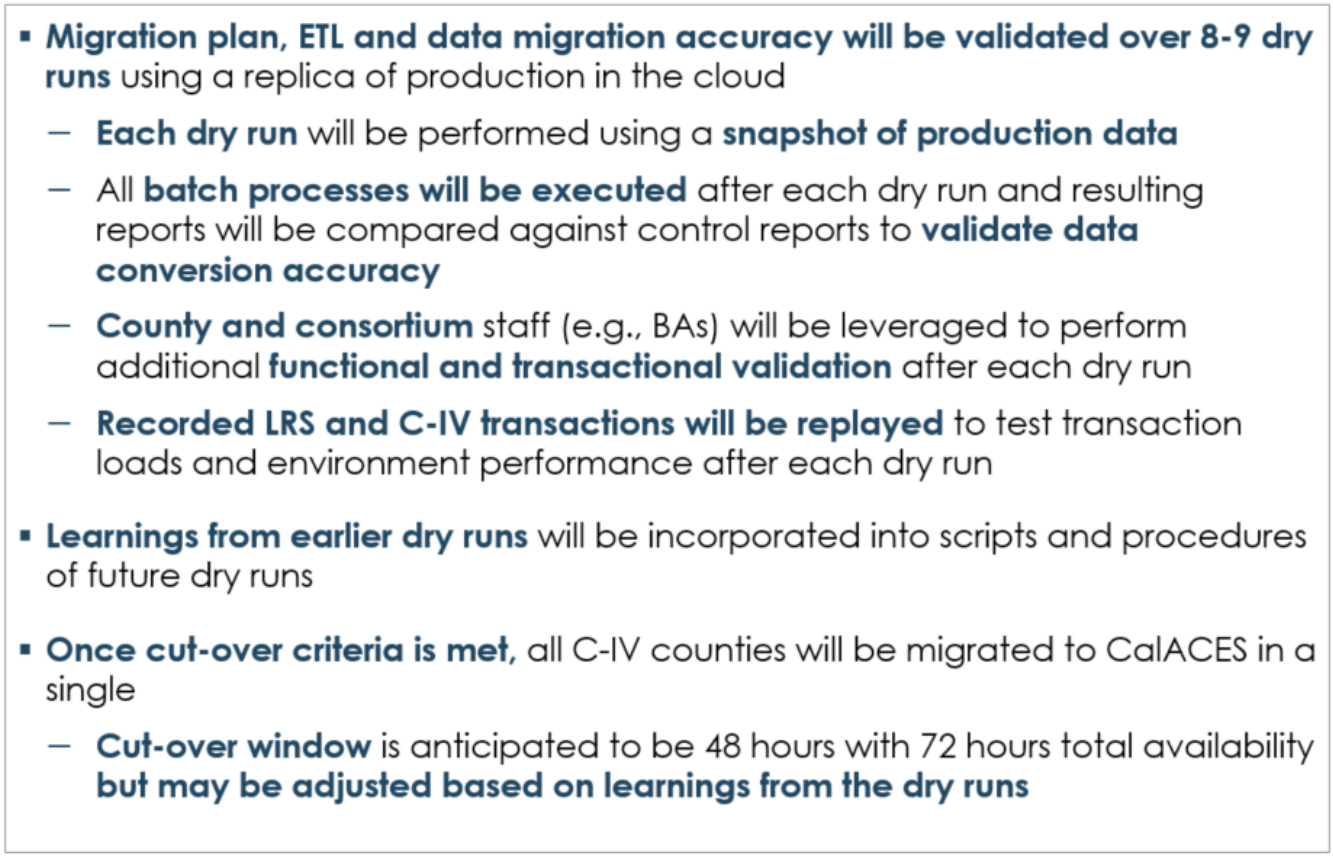
FIGURE 20: CONDITIONS TO CONSIDER ALTERNATIVES B OR C.



11.1.2WAVE AND SINGLE-STEP MIGRATION APPROACHES

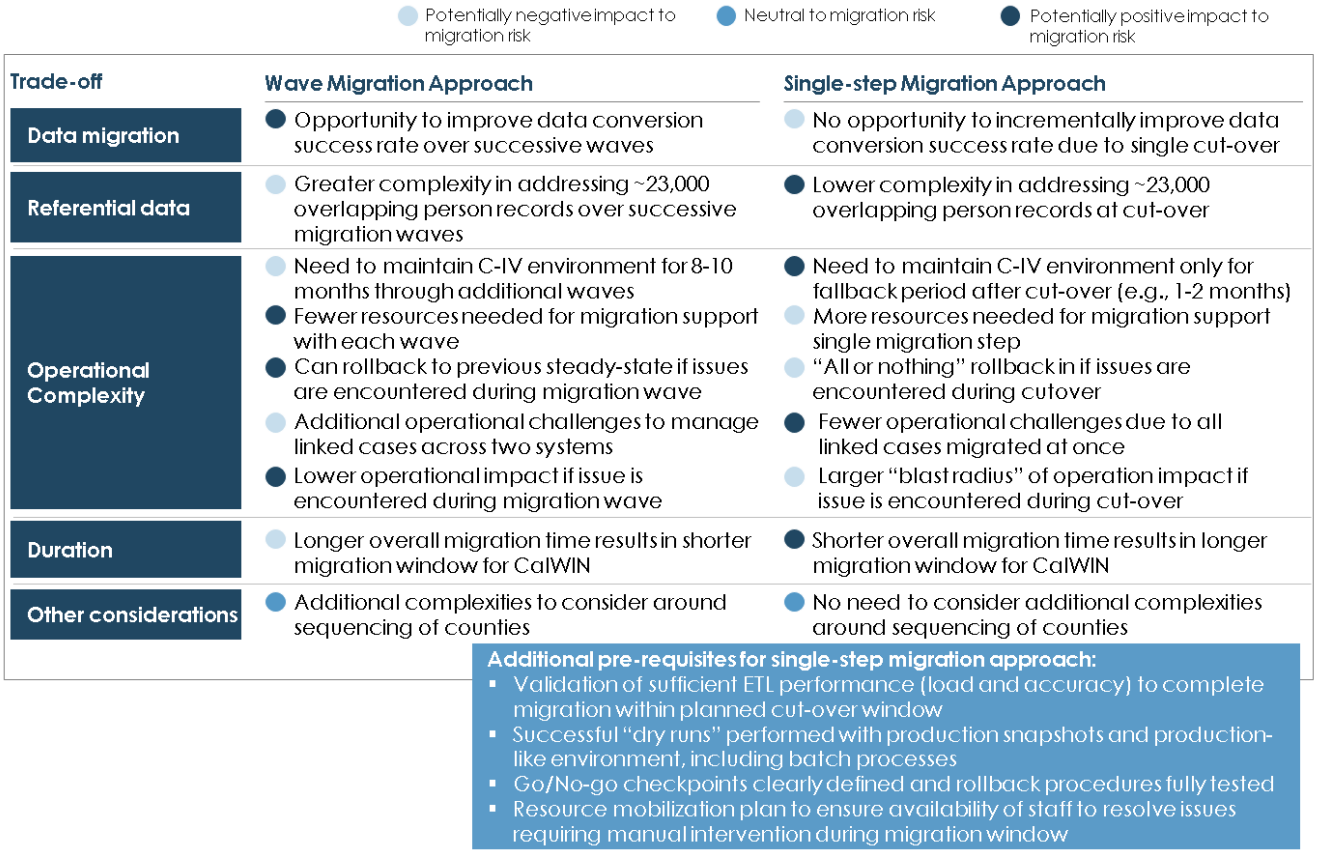
As part of Scenario C analysis, a thorough investigation of trade-offs between Wave approaches (A, B) and Single-Step approaches (C) were conducted. Figure 21 shows a high-level overview of single-step migration for C-IV.

FIGURE 21: HIGH-LEVEL OVERVIEW OF SINGLE-STEP MIGRATION FOR C-IV.



The next figure highlights the trade-offs to be considered when evaluating between a Wave migration approach (e.g., Alternatives A, B, D) or a single-step migration approach for C-IV.

FIGURE 22: TRADE-OFFS TO CONSIDER BETWEEN WAVE & SINGLE-STEP MIGRATION APPROACHES.



There are four specific pre-requisites that have to be demonstrated before Scenario C be selected as a path forward. These include:

- Validation of sufficient ETL performance (load and accuracy) to complete migration within planned cut-over window (i.e., 48 hours); If this cannot be demonstrated in a production-like environment, then Scenario C is a no-go
- Successful "dry runs" performed with production snapshots and production-like environment, including batch processes
- Go/No-go checkpoints clearly defined, and rollback procedures fully tested
- Resource mobilization plan to ensure availability of staff to resolve issues requiring manual intervention during migration window

Furthermore, Figure 23 provides additional detailed pre-conditions that must be met before a cut-over can occur in a single-step migration scenario. As with the general pre-requisites highlighted in Figure 23, the intent of these pre-conditions is to serve as a "checklist" to ensure key activities are completed ahead of cut-over to minimize operational and executional risks.

FIGURE 23: PRE-CONDITIONS FOR CUT-OVER IN SINGLE-STEP C-IV MIGRATION ALTERNATIVE.

	Area	Key pre-conditions
Migration readiness	▪ Plan validation	▪ Multiple dry runs have been completed to demonstrate feasibility of migration plan using production snapshots and production-like environments
	▪ Performance validation	▪ Performance tests demonstrates that a transformative ETL on full migration load can be executed within the migration window allotted ▪ Transaction load tests completed for all scenarios with results that are within expected performance envelope
	▪ Data validation	▪ ETL tests demonstrate a success rate across a comprehensive data set that support a timely and achievable corrective action plan
	▪ Functional validation	▪ Functional tests performed during dry runs completed with target success rate achieved (e.g., threshold level accuracy achieved with respect of benefit amount, eligibility and reporting)
	▪ Risk mitigation	▪ Rollback procedures tested and demonstrate ability to rollback within allotted migration window across successive dry runs
Organizational readiness	▪ Training/ Change management	▪ Training plan defined and aligned to C-IV migration window ▪ Resources scaled and mobilized to train all counties in within single window
Vendor readiness	▪ Vendor capabilities	▪ Vendor has demonstrated track record of executing single-step migration for systems of comparable complexity (e.g., large state-wide systems consolidation and migration to the cloud)
Stakeholder readiness	▪ Governance	▪ Detail migration/cut-over plan communicated and approved by all stakeholders (e.g., County Director, State and Federal partners) ▪ Stage gates are well defined with clear go/no-go criteria ▪ Escalation path and decision rights are defined and communicated with all stakeholders
Operational readiness	▪ Environment readiness	▪ Target environment ready (incl. provisioning and network)
	▪ Cut-over readiness	▪ Cut-over window identified and communicated; key tasks and roles identified and assigned ▪ Cut-over war-room operationalized; roles defined and assigned

11.1.3 OVERALL FINDINGS

The below figure synthesizes the overall findings from this analysis.

FIGURE 24: SCENARIO ANALYSIS – KEY FINDINGS.

- **Alternatives Analysis indicates Leading Alternative is Alternative A (CalACES wave migration with CalWIN Wave 1 in parallel),** followed by Alternative C
  - Alternative A scores higher based on current weighting of evaluation criteria that weighs Risks and Benefits equally, as it offers the best balance between risk and benefits
  - Alternative B scores higher than Alternative C in all cases where Risk is the leading (most heavily weighted criterion)
- **Various factors drove the result of Alternative A followed by Alternative C, then Alternative B**
  - Alternative A has marginally lower risk than Alternative B:
    - Alternative B has marginally higher risk in terms of peak staffing needs (coordination and capacity risk), effort to be completed prior to LA and C-IV migration (scope & complexity risks) and systems to maintain during CalWIN migration (operational risk)
  - Alternative C scores better across benefits, cost and schedule dimensions due to shorter C-IV migration period and resulting schedule flexibility and opportunity to sunset the legacy C-IV system earlier,
    - However, Alternative C scores poorer in risk due to increased risks along Data Migration and Operational Impact dimensions
  - This produces an advantage for Alternative A when Risk and Benefits are equally weighted
  - Higher weights to Risk will produce an advance for Alternative A, while higher weights to Benefits, Costs or Schedule will lead to an advantage for Alternative C
- **Implications of Alternatives Analysis**
  - Scenario A as the Leading Alternative for implementation sequencing balances considerations between risk and potential benefits
  - Emerging learnings from migration planning and ETL development and testing efforts may indicate lower risk for Alternatives B or C. In such cases, a future decision may be made to change the migration approach to one outlined in Alternative B or Alternative C. However, any such decisions will need to be made as part of the 58-county decision-making framework.

12 NEXT STEPS

This document presents the results of the technical assessment of Migration Planning and Analysis including approach, requirements and associated costs, emerging alternative for ancillaries, upfront costs of migration, and ongoing cost post-migration. Next steps for the overall CalSAWS initiative include

- Continue Planning and Budgeting
  - Leverage the cost assessments to prepare an IAPD in support of the critical initiatives
  - Work with key system SMEs and consortia resources to further refine timelines, options and dependencies
  - Develop timelines, key milestones and gates for migration activities
  - Hold demo sessions for pending statewide validation of requirements from CalWIN visits
  - Write white papers on the options for funding for certain items (e.g., helpdesk personnel)
- Initiate Procurements
  - Initiate source discussions to determine sole and competitive procurements
  - Updated IAPD based on negotiation for DD&I including refinement of requirements cost and certain vendor choices (e.g., central print)
  - Develop long term competitive sourced timeline
- Begin Implementation
  - Finalize cloud PoC and determine critical modifications
  - Establish cloud development environments and operating procedures
  - Initiate data mapping and gap analysis
  - Hold design sessions to further detail technical solutions
- Establish CalSAWS Governance
  - Formalize multi-vendor management model and responsibilities
  - Begin staffing technical CoE for CalSAWS architectural guidance
  - Establish application roadmap governance team and processes
  - Establish method of escalation of changes on the IAPD (e.g., additional requirements)
  - Establish approach and governance for exception-based conversations

- Establish approach to funding sources for exceptions and county specific costs
- Finalize documentation on official governance and communicate with consortia