California Department of Social Services

Child Welfare Services-California Automated Response and Engagement System (CWS-CARES)

Special Project Report 3

December 2019

Version 2.1

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1.0 Executive Project Approval Submittal

Information Technology Project Request

Special Project Report 3

Executive Approval Transmittal

Agency/State Entity Name
California Health and Human Services Agency/California Department of Social Services

Project Title (maximum of 75 characters)	Project Acronym
Child Welfare Services - California Automated Response and Engagement System	CWS - CARES

FSR Project ID	FSR Approval Date	State Entity Priority	Agency Priority
0530-211	January 10, 2013	1	1

I am submitting the attached Special Project Report (SPR) in support of our request for the California Department of Technology's approval to continue development and/or implementation of this project.

I certify that the SPR was prepared in accordance with the State Administrative Manual Sections 4945-4945.2, my Agency/state entity has considered the cost benefits analysis associated with the proposed project changes and the changes are consistent with our information management strategy as expressed in our current Agency Information Management Strategy (AIMS).

I have reviewed and agree with the information in the attached Special Project Report.

I also certify that the acquisition of the applicable information technology (IT) product(s) or service(s) required by my department that are subject to Government Code section 7405 applying Section 508 of the Rehabilitation Act of 1973 as amended meets the requirements or qualifies for one or more exceptions (see following page).

APPROVAL SIGNATURES					
CDSS Chief Information Officer		**Date Signed**	**OSI Chief Technology Officer**		**Date Signed**
Printed name:	Brian Wong		**Printed name:**	David Patch	
CDSS Budget Officer		**Date Signed**	**OSI Budget Officer**		**Date Signed**
Printed name:	Kira Younger		**Printed name:**	Mike French	
CDSS Program Director		**Date Signed**	**OSI State Entity Deputy Director**		**Date Signed**
Printed name:	Kevin Gaines		**Printed name:**	Rebecca Stilling	
CDSS Deputy Director		**Date Signed**	**OSI Chief Deputy Director**		**Date Signed**
Printed name:	Greg Rose		**Printed name:**	Matt Schueller	
CDSS Chief Deputy Director		**Date Signed**	**OSI Director**		**Date Signed**
Printed name:	Pete Cervinka		**Printed name:**	Dan Kalamaras	
CDSS Chief Deputy Director		**Date Signed**	**Agency Chief Information Officer**		**Date Signed**
Printed name:	Pat Leary		**Printed name:**	Adam Dondro	
CDSS Department Director		**Date Signed**	**Agency Secretary**		**Date Signed**
Printed name:	Kim Johnson	**Date Signed**	**Printed name:**	Mark Ghaly	

Executive Approval Transmittal

IT Accessibility Certification

Yes or No

Yes	**The Proposed Project Meets Government Code Section 7405 / Section 508 Requirements and no exceptions apply.**

Exceptions Not Requiring Alternative Means of Access

Yes or No	Accessibility Exception of Justification
No	The IT project meets the definition of a national security system.
No	The IT project will be located in spaces frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment (i.e., “Back Office Exception”).
No	The IT acquisition is acquired by a contractor incidental to a contract.

Exceptions Requiring Alternative Means of Access for Persons with Disabilities

Yes or No	Accessibility Exception of Justification
No	Meeting the accessibility requirements would constitute an “undue burden” (i.e., a significant difficulty or expense considering all agency resources).
No	No commercial solution is available to meet the requirements for the IT project that provides for accessibility.
No	No solution is available to meet the requirements for the IT project that does not require a fundamental alteration in the nature of the product or its components.

2.0 Information Technology: Project Summary Package

2.1 Section A: Executive Summary

1.	**Submittal Date**	**December 09, 2019**

		SPR	**PSP Only**	**Other:**
2.	**Type of Document**	**X**		
	Project Number	**0530-211**		

			Estimated Project Dates	
3.	**Project Title**	**CWS-California Automated Response and Engagement System Project**	**Start**	**End**
	Project Acronym	**CWS-CARES**	**07/2013**	**12/31/2024**

4.	**Submitting Agency/state entity**	**California Department of Social Services**
5.	**Reporting Agency/state entity**	**California Health and Human Services Agency**

2.1 SECTION A: EXECUTIVE SUMMARY

6.	Project Objectives
	The CWS-CARES Project is focused on meeting technical and business objectives that will: • Improve service delivery and outcomes; • Allow more timely system enhancements to support changes in CWS practice; • Achieve Comprehensive Child Welfare Information System (CCWIS) requirements required to maintain Federal Financial Participation (FFP) funding and avoid federal non-compliance penalties; and • Reduce ongoing maintenance and operations costs. **Technical Objectives:** • Replace proprietary CWS/CMS software system with a Platform as a Service (PaaS) solution that meets current business practice needs; • Develop Application Programming Interfaces (APIs) utilizing a new state-managed infrastructure to facilitate data conversion from CWS/CMS, to provide a data exchange gateway and to house a database and analytics software to track and measure child welfare outcomes. • Use Agile software development techniques to iteratively deliver modules over time which meets CWS and children's residential licensing requirements; • Establish a CARES Data Infrastructure (CDI) to maximize state independence and control of vital assets and provide more complete, timely, accurate and consistent data. **Business objectives:** • CCWIS Compliance: To ensure retention of FFP at current or improved participation levels; • Resource Utilization: Through elimination of redundant data entry, increased availability of information and documentation, and timely business practice execution; • System Access: Improved CWS worker, Service Provider and Service Organization access to system information through portal and mobility technologies;

8.	Major Milestones	Est Complete Date
	Releases:	
	Identity Management (IDM) 1.0 - Login Snapshot 1.2 Facility Search 1.0	Completed 06/08/2018
	IDM 1.1 - Admin	Completed 07/11/2018
	CARES 1.0 IDM 1.2 Snapshot 1.3 Facility Search 1.1	Completed 09/19/2018
	CARES 2.0 Case Management – Child Adolescents Needs and Strengths (CANS 1.0	Completed 10/31/2018
	CARES 2.1 IDM 1.3	Completed 12/12/2018
	CARES 2.2 CANS 1.1 Snapshot 1.5	Completed 02/9/2019
	Legacy Integration and Synchronization Strategy	Completed 04/15/2019
	CARES 2.3 IDM 1.4	Completed 04/27/2019
	Product Blueprint/Domain Model (High Level)	Completed 05/01/2019
	Final Acceleration Strategy Decision	Completed 05/17/2019
	CARES 2.4 CANS 2.0	Completed 06/01/2019
	Planning Advanced Planning Document (PAPD) Submission to ACYF	Completed 06/26/2019

	• Information Exchange Interfaces: Improved access, accuracy and completeness of data resident in external State/County and business partner repositories; • Business Collaboration: Improved communication/collaboration and information management between CWS workers, community organizations, service providers and multi-disciplinary teams; and • Outcome-Driven Planning, Management and Assessment: Improved case management outcome/process planning, management, and assessment/ reporting.

CARES 2.5 Release Snapshot 1.6 (core constituents)	Completed 07/20/2019
Product Roadmap (First iteration)	Completed 07/20/2019
CARES Service Delivery Life Cycle Playbook Charter	Completed 08/19/2019
PAPD Approved by ACYF	Completed 08/20/2019
CARES 2.6 Release Snapshot 1.7 (Statewide release)	Completed 09/06/2019
PaaS Integration Services Limited to Brand Approval	Completed 09/17/2019
Quarterly Product Roadmap Update (FY 2019/20 Q2)	Completed 09/26/2019
CWS-CARES Service Delivery Playbook Complete	Completed 10/15/2019
PaaS Integration Services Solicitation Release	Completed 11/07/2019
CARES 2.7 Release	Completed 11/16/2019
Quarterly Updates to Roadmaps (FY 2019/20 Q3)	01/02/2020
Continued Support of Existing CARES-Live Decision	01/30/2020
Data Conversion Plan Drafted	Q3 FY 2019/20
Product Value Services (PVS) Solicitation Release	03/17/2020
CDI Solicitation Release	03/27/2020

PaaS Licenses Subscription Solicitation Release	03/302020
Governance Plan Update Complete	04/01/2020
Implementation Advance Planning Document (IAPD) Submission to ACYF	04/01/2020
Quarterly Updates to Roadmaps (FY 2019/20 Q4)	04/02/2020
IAPD Approved by ACYF	05/30/2020
PaaS Licenses Subscription Contract Award	06/02/2020
PVS Contract Award	07/20/2020
PaaS Integration Services Contract Award	08/11/2020
Quarterly Updates to Roadmaps (FY 2020/21 Q1)	Q1 FY 2020/21
SPR 4 Submission	Q1 FY 2020/21
FY 2021/22 BCP Submission	Q1 FY 2020/21
CDI Contract Award	10/02/2020
Quarterly Updates to Roadmaps (FY 2020/21 Q2)	Q2 FY 2020/21
Quarterly Updates to Roadmaps (FY 2020/21 Q3)	Q3 FY 2020/21
Quarterly Updates to Roadmaps (FY 2020/21 Q4)	Q4 FY 2020/21

2.1 SECTION A: EXECUTIVE SUMMARY

7.	**Proposed Solution**
	The Child Welfare Services-California Automated Response and Engagement System (CWS-CARES) Project will implement a modern web-based computing infrastructure that is flexible, scalable and based on industry enterprise architecture framework concepts. The CWS-CARES will consolidate functionalities that are in various systems into a single system and include multiple interfaces with other applications thus providing CWS workers with critical case information more efficiently. The CWS-CARES will use a CRM-based Platform as a Service (PaaS) solution and will be designed and developed using Agile techniques adopted by the Project. CWS-CARES functionality will be released to production upon readiness of users to adopt based on general agreement.

2.2 SECTION B: PROJECT CONTACTS

Executive Contacts					
	First Name	**Last Name**	**Area Code**	**Phone**	**E-mail**
Agency Secretary	Mark	Ghaly	916	654-3454	Mark.Ghaly@chss.ca.gov
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Project Sponsor	Greg	Rose	916	657-2614	Greg.Rose@dss.ca.gov

DIRECT CONTACTS					
	First Name	**Last Name**	**Area Code**	**Phone**	**E-mail**
Doc. Prepared by	Samantha	Sullivan	916	891-3102	Samantha.Sullivan@osi.ca.gov
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Project Administration Director	Kelly	Hassenplug	916	407-9171	Kelly.Hassenplug@osi.ca.gov

INFORMATION TECHNOLOGY PROJECT SUMMARY

2.3 SECTION C: PROJECT RELEVANCE TO STATE AND/OR DEPARTMENT/AGENCY PLANS

1.	**What is the date of your current Technology Recovery Plan (TRP)?**	**Date**	7/2018
2.	**What is the date of your current Agency Information Management Strategy (AIMS)?**	**Date**	12/2017
3.	**For the proposed project, provide the page reference in your current AIMS and/or strategic business plan.**	**Doc.**	AIMS
		Page	45

Project	0530-211
Doc. Type	SPR 3

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

If YES, CHECK all that apply:

X	**a) The project involves a budget action.**
	b) A new system development or acquisition that is specifically required by legislative mandate or is subject to special legislative review as specified in budget control language or other legislation.
X	**c) The estimated total development and acquisition costs exceed the Department of Technology's established Agency/state entity delegated cost threshold and the project does not meet the criteria of a desktop and mobile computing commodity expenditure (see SAM 4989-4989.3)**
	d) The project meets a condition previously imposed by the Technology Agency.

INFORMATION TECHNOLOGY PROJECT SUMMARY PACKAGE

2.5 SECTION E: VENDOR PROJECT BUDGET

Project	0530-211
Doc. Type	SPR 3

Budget Augmentation Required?			
	No		
	Yes	**X**	**SFY 2019/20**

						FY 2019/20	**FY 2020/21**	**FY 2021/22**	
						43,600,000	54,400,000	TBD	

PROJECT COSTS

Fiscal Year	**FY 2013/14**	**FY 2014/15**	**FY 2015/16**	**FY 2016/17**	**FY 2017/18**	**FY 2018/19**	**FY 2019/20**	**FY 2020/21**	**FY 2021/22**	**TOTAL**
One-Time Cost	5,711,858	10,194,001	9,497,000	29,049,441	48,551,348	52,327,516	43,600,000	54,400,000	TBD	253,331,164
Continuing Costs	0	0	0	0	0	0	0	0	TBD	0
TOTAL PROJECT BUDGET	5,711,858	10,194,001	9,497,000	29,049,441	48,551,348	52,327,516	43,600,000	54,400,000	TBD	253,331,164

PROJECT FINANCIAL BENEFITS

	FY 2013/14	**FY 2014/15**	**FY 2015/16**	**FY 2016/17**	**FY 2017/18**	**FY 2018/19**	**FY 2019/20**	**FY 2020/21**	**FY 2021/22**	**TOTAL***
Cost Savings/ Avoidances	(5,711,858)	(10,194,001)	(9,497,000)	(29,049,441)	(48,551,348)	(52,327,516)	(43,600,000)	(54,400,000)	TBD	(253,331,164)
Revenue Increase	0	0	0	0	0	0	0	0	0	0

*Figures obtained from the *Net (cost) or Benefit* line in the EAW SUM worksheet

INFORMATION TECHNOLOGY PROJECT SUMMARY PACKAGE

2.5 SECTION E: VENDOR PROJECT BUDGET

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

Project	0530-211
Doc. Type	SPR 3

VENDOR PROJECT BUDGET

Fiscal Year	FY 2013/14	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	2018/19	FY 2019/20	FY 2020/21	TOTAL
Prime Vendor Budget	-	-	-	5,625,472	22,701,387	16,844,241	0	8,750,200	53,921,301
Project Management Budget	21,649	443,375	711,940	777,395	1,071,827	1,904,847	364,329	289,513	5,584,874
Independent Oversight Budget	153,600	112,560	141,214	225,120	225,120	501,315	337,680	337,680	2,034,289
IV&V Budget	208,253	306,185	302,072	350,357	104,105	337,680	1,154,100	1,154,100	3,916,852
Other Budget	1,477,046	3,711,863	1,134,768	6,296,661	8,417,566	9,691,798	12,520,087	8,505,277	51,755,067
TOTAL VENDOR BUDGET	**1,860,548**	**4,573,983**	**2,289,994**	**13,275,005**	**32,520,005**	**29,279,882**	**14,376,196**	**19,036,770**	**117,212,383**

Note: Project will not have a traditional “Prime Vendor”. The “Prime Vendor” will include the PaaS Integration Services, CDI and PVS.

PRIMARY VENDOR HISTORY SPECIFIC TO THIS PROJECT

Primary Vendor	**N/A**
Contract Start Date	**N/A**
Contract End Date (projected)	**N/A**
Amount	**N/A**

2.6 SECTION F: RISK ASSESSMENT INFORMATION

Project	0530-211
Doc. Type	SPR 3

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

General Comment(s)

The CWS-CARES Project Risks and Issues Management Plan was completed and approved. All Plan changes will utilize the documented change management process described in **Section 6.7 Change Management**.

CWS-CARES Risk Assessment/Management is utilizing the California Project Management Framework (CA-PMF) guidelines and OSI Best Practices via Jira and includes five processes: Identify, Analyze, Response Plan Execution, Monitoring and Controlling. These processes are defined in the Risks and Issues Management Plan.

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3.0 Project Background/ Summary

The Child Welfare Services (CWS) program is the primary prevention and intervention resource for child abuse and neglect in California. California provides a continuum of programs and services aimed at safeguarding the well-being of children and families in ways that strengthen and preserve families, encourage personal responsibility, and foster independence. The overall objective of the CWS program is that every child in California lives in a safe, stable, permanent home, nurtured by healthy families and strong communities. The mission work of CWS does not occur in an office at a desk, but rather in the community, homes, schools, hospitals, foster homes, and community centers.

To effectively protect California's at-risk children and preserve families, the State requires a multi-agency, collaborative service approach supported by a comprehensive case management system. The current case management system, the Child Welfare Services/Case Management System (CWS/CMS), is a legislatively mandated Statewide application implemented in 1997 based on the CWS business needs and practices at that time. Today, the CWS/CMS does not fully support child welfare practice and is no longer an economical, efficient, or effective automated tool to support the delivery of effective child welfare services. In addition, CWS/CMS does not have all the functionalities that would collect the comprehensive data required by Administration for Children, Youth and Families (ACYF), Comprehensive Child Welfare Information System (CCWIS) (formally Statewide Automated Child Welfare Information System [SACWIS]) CCWIS functional requirements required by federal regulations, which may jeopardize the State's ability to retain enhanced Federal Financial Participation (FFP).

In 2003, California initiated the Child Welfare Services/Web (CWS/Web) Project to plan and implement a replacement system for the current CWS/CMS. The goal was to implement modern technologies and new functionality to effectively meet CWS business needs and CCWIS requirements. In 2011, the CWS/Web Project was indefinitely suspended due to the economic downturn in the State. However, the 2011 State Budget Act (Assembly Bill [AB] 106, Chapter 32, Statutes of 2011) included Trailer Bill language which requested a report to the Legislature from the California Department of Social Services (CDSS) in partnership with the Office of Systems Integration (OSI), legislative staff, the County Welfare Directors Association (CWDA), and county stakeholders. The CDSS submitted this report, entitled *The Report to the Legislature: Child Welfare Services Automation Study* (hereinafter referred to as the Automation Study), to the Legislature in April 2012.

The Automation Study contained an assessment of the CWS business needs, an assessment of the existing system, an analysis of viable automated system options to meet the critical business needs, communication from the federal government regarding SACWIS redesign requirements, and a recommendation on next steps including a timeline and implementation approach.

The Automation Study concluded that a buy/build approach was the best technical alternative to meet CWS business needs and SACWIS requirements at the lowest cost and quickest delivery time. This approach involved buying an application that is already developed, tested, and operational (e.g., commercial off-the-shelf [COTS] software or a transfer system from another state) and building custom software services (i.e.,

customized application code) to meet CWS business functional needs and CCWIS requirements not already provided by the COTS or transfer solution.

As a result of the Automation Study, the 2012 Budget Act and Trailer Bill (SB1041, Chapter 47, Statutes of 2012, Section 52 [a]), directed CDSS and OSI to work with CWDA and county stakeholders to continue utilizing the $2.4 million base funding and position authority to complete a Feasibility Study Report (FSR) and a federal Advance Planning Document (APD), and conduct other planning activities.

In October 2012, we submitted the FSR to the California Department of Technology (CDT) for review and approval. Consistent with the Automation Study, the FSR recommended a buy/build approach. The CDT approved the FSR in January 2013 for an official project launch of July 1, 2013. We then submitted the APD in November 2012, which was approved by ACYF in February 2013. Consistent with the approved FSR, the 2013 Budget Act appropriated additional funding, for a total of $10.3 million, and authorized an additional 17 positions (resulting in a total of 18 for OSI and 13 for CDSS) to begin the Planning and Procurement Phase.

In January 2014, a SPR 1 was developed, which updated project costs, resources, schedule, expanded the licensing functionality to include children's residential, and updated the implementation approach from a two phase to single phase. The CDT approved SPR 1 in April 2014 along with a formal Spring Finance Letter (SFL) to request the associated funding for Fiscal Year (FY) 2014-15. The 2014 Budget Act appropriated additional funding, for a total of $12.8 million, and authorized an additional nine (9) State staff (total of 20 for OSI and 20 for CDSS) to continue with the Planning and Procurement Phase.

In November 2015, we modified our procurement, design, development, and implementation approach after discussions with State and federal control agencies, the California of Health and Human Services Agency (CHHSA), the California Government Operations (GovOps) Agency, CDT, ACYF, the Federal General Services Administration's (GSA) 18F team (18F), and Code for America. Rather than releasing a monolithic multi-year Request for Proposal (RFP) estimated to cost several hundred million dollars and take five to seven years to implement, it was decided to instead use a modular procurement approach coupled with Agile design and development techniques to deliver the CWS-New System (CWS-NS) incrementally over time. This approach consisted of iteratively implementing business functionality in the form of "digital services" as they are developed. The scope of the CWS-NS remains as previously approved in the FSR and SPR 1.

In March 2016, we developed and submitted SPR 2, which updated the procurement approach, design and delivery approach (Agile) and a change in the implementation responsibilities. Also included was the change from M&O team to a development of operations teams, adding additional project staff and updating existing project resources. SPR focused on the adoption of the Agile methodologies in the development of CWS-NS, which was new for the state and recognized that this would be a demonstration project. We also requested changes to our procurement approach to a more modular or agile approach which consists of sub-dividing the single System

Integrator RFP into several different procurements. The procurements, whether they are RFPs or another type of procurement vehicle, will only define high-level requirements and then work with the vendors to continuously refine business functionality through an iterative process that includes user-centered design, development and testing.

The digital services approach was a new opportunity for us to procure and implement the CWS-NS in a manner which delivered business value early and often which was expressed as a top priority for the CHHS Agency, CDSS and county end users. This new approach has received support from many State and federal government stakeholders. To execute this revised approach, we have partnered with 18F which had successful experience at the federal level iteratively delivering digital services using Agile principles. With the continued support from executive management within the CDSS and OSI, State and federal control agencies, we strongly believed this practice could be replicated in the State environment with the same level of success.

In September 2017, an Annual APD was submitted to ACYF. The APD was approved with the following conditions:

1. Develop and begin to implement a plan to reduce the vacancy rate/increase hiring timeliness
2. Successfully implement Intake Snapshot functionality Statewide
3. Incorporate and standardize measure of user value into Minimum Viable Product (MVP) Definition
4. Implement standardized project management tool to support Agile project work across teams
5. Improve organizational change capacity
6. Establish an effective and efficient software delivery process
7. Provide budget baseline estimates
8. Finalize plans to implement one Statewide eligibility solution;
9. Provide an automated function checklist, data quality plan, define the state's single data exchange standard and develop Child Welfare Contributing Agencies plans to comply with CCWIS requirements
10. Implement methods to assess effectiveness of communication strategies
11. Improve project oversight coordination and communication

In December 2017, working with the California Welfare Directors Association (CWDA), the project formerly referred to as CWS-New System was renamed the Child Welfare Services-California Automated Response and Engagement System, or CWS-CARES. The process to name the new system included a collaborative effort with child welfare directors and staff. The new name is intended to convey what the new system will deliver to users across the State.

On May 15, 2018, the Project provided a response to ACYF that addressed the first five of the eleven conditions for federal approval mentioned above. Subsequently, we submitted an As-Needed APDU to ACYF on October 5, 2018. This As-Needed APDU covered the period of October 1, 2018 through April 30, 2019, as we reevaluated our digital service delivery method. In this APDU, a choice was made, with the approval of ACYF, to focus on delivering one feature set at a time: Child and Adolescent Needs and

Strengths (CANS) Assessment tool. The decision to focus on one product feature set at a time also enabled us to assign dedicated resources, with essential skill sets, to critical foundational technical tasks and researching an Acceleration Strategy. The Acceleration Strategy looked at three primary work streams: Product Blueprinting and Domain Modeling to significantly enhance our clarity of the “to be” business requirements; Legacy Integration/Synchronization research to evaluate the extent and limits of CARES integration capabilities with CWS/CMS; and evaluating Platform as a Service (PaaS) Proof of Concept (POCs) and PaaS Market Research as a possible alternative to custom development.

On April 1, 2019, the Project submitted a request for a two-month funding extension to ACYF. The extension also addressed the outstanding conditions and provided current project status. Below are the following 10 conditions that were addressed:

1. Develop a Contract Management Plan
2. Develop a detailed Project Test Plan and test process
3. Report monthly on Bug/Defects
4. Describe methods, resource needs and success rate of application/production support
5. Remove legacy system costs in the CARES budget
6. Provide a detailed Implementation Plan
7. Provide a detail plan describing the legacy system integration/synchronization strategy
8. Describe the methods and process for decreasing the vacancy rate for the Project
9. Assess, manage and mitigate all “high risks” identified in IV&V and CDT oversight reports
10. Respond to outstanding conditions from the 2017 APDU:
    - Establish an effective and efficient software delivery process
    - Provide budget baseline estimates
    - Finalize plans to implement one Statewide eligibility solution;
    - Provide an automated function checklist, data quality plan, define the state’s single data exchange standard and develop Child Welfare Contributing Agencies plans to comply with CCWIS requirements
    - Implement methods to assess effectiveness of communication strategies
    - Improve project oversight coordination and communication

On April 29, 2019, the Project received approval from ACYF for federal funding through June 30, 2019. ACYF also advised that the Project submit a Planning APD that reflects the PaaS project planning activities and deliverables.

The Planning APD was submitted to ACYF on June 27, 2019, requesting planning funding and approval from July 1, 2019 through June 30, 2020. This request was approved on August 20, 2019 with the following conditions:

1. The state must update the CCWIS Automated Function Checklist in the forthcoming Implementation APD.

2. The state must commit to one Statewide IV-E eligibility solution in the forthcoming Implementation APD and coordinate the approach and work with the applicable SAWS APD if the state chooses to build the functionality in an external system.
3. The forthcoming Implementation APD project budget should show all costs associated with the CDI and include all actual expenditures for the project to date.
4. The state may not move costs from the legacy system M&O budget to the CARES budget and vice versa. All staffing positions and vendor costs should be budgeted and claimed according to applicable APD budgets.
5. All outstanding conditions in Attachment A remain in effect. The state must address all conditions in the forthcoming Implementation APD.
6. The state reviews the project cost allocation, as well as the Public Assistance Cost Allocation Plan, and modifies it as needed to ensure project costs are claimed in accordance with the approved APD.

These conditions will be addressed in the upcoming Implementation Advanced Planning Document (IAPD), that we plan to submit in April 2020.

In August 2019, as the Project began planning for transition to a CRM-based PaaS solution, a Project wide decision was made and logged in the Decision-Making Framework (DMF) to use the title CARES-Live when speaking about CARES tools in production (Snapshot, Facility Search, CANS). The title of CARES-Live allows the Project to provide clear and concise communication with Core Constituents to reduce confusion about products in production versus future development.

This SPR requests approval of project costs through State Fiscal Year (SFY) 2020/21 with the stipulation that CWS-CARES submit a SPR each year thereafter to provide prior year actuals as well as estimated project costs for each subsequent year following SFY 2020/21. The following is a schedule for annual SPRs that will be submitted to CDT in alignment with the Federal Funding Advanced Planning Documents (APD).

Schedule of Annual SPRs

SPR 4: July 2020 – For SFY 2021/22
SPR 5: July 2021 – For SFY 2022/23
SPR 6: July 2022 – For SFY 2023/24
SPR 7: July 2023 – For SFY 2024/25

4.0 Project Status

This section provides project status between the period of SPR 2 submission in March 2016, through SPR 3 being submitted in October 2019. The reported project status consists of several key project activities that include the following:

- Product Delivery - Top Customer Value Functions
- Planned Versus Delivered

- Project Staffing/Vacancy Rate
- Procurements and Approach
- Benefits Achieved to Date
- Expenditures to Date

In October 2018, we reassessed the CWDS 2018/19 Product Release Roadmap that covered an 18-month window from January 2018 through June 2019, and we decided that focusing development efforts on one product feature set at a time was prudent. As a result, we chose to focus our efforts on the automated Child Adolescent Needs and Strengths (CANS) assessment tool, a component within the Case Management Digital Service, and to redirect other resources on foundational technical work, including:

- Strengthen Security Infrastructure
- Improve the Pipeline and Factory
- Improve Code Quality
- Prove approach to Legacy Integration and Synchronization

During this past fiscal year, we also developed a product and platform strategy in effort to accelerate the delivery of a CCWIS-compliant system to replace CWS/CMS.

4.1 Product Delivery - Top Customer Value Functions

Since approval of SPR 2 in March 2016, we released multiple product features to county child welfare workers. The following sub-sections describe the functionality released to production.

4.1.1 Intake Digital Service Status

The Intake front-end development team started in September 2016 and was tasked with developing the Snapshot, Hotline, Assessments and Investigations in collaboration with State and County stakeholders.

Collaboration with County Stakeholders - The Intake feature was prioritized as the first customer facing digital service to be developed. As such, this team was responsible for establishing the Child Welfare Digital Services (CWDS) digital service framework, standards used, software development methods and guidelines, and system administration practices. Additionally, this team identified important lessons learned to be leveraged by other teams. Specifically, the team identified discomfort expressed by core constituents regarding their role and participation on the team. It became evident that we needed to lay a foundation by which the State and Counties could work collaboratively. In conjunction with Child Welfare Directors Association (CWDA) we were able to establish a *Core County Subject Matter Expert (SME) Role and Responsibilities* document.

Onsite meetings were held at the CWDS facility to discuss these issues and ensure all participants understood their role and were working toward a united goal. These efforts were successful and resulted in open and fluid communication among the team members. The Intake team established weekly conference calls with core constituents to discuss the limitations of the legacy system, inform the State service manager of user-centric priorities for the new system, and to process feedback regarding new

functionality as it is being built. The core constituents also participate in bi-weekly product planning sessions where collaborative conversations take place and the new system design work is prioritized. Finally, the core constituents come to Sacramento for hands-on working sessions every other month. In addition to these planned meetings, there are other informal meetings and design sessions where subject matter expertise is utilized so that user centered design is always at the forefront.

Intake Milestones and Activities Achieved - To date, the Intake team's milestones and achievements include:

- Created a person search that returns predictive results and enables an additional set of features for a selected result.
- Developed and delivered the Snapshot function to generate a concise collection of child welfare data to assist and facilitate various child welfare tasks, including screening reports made to the child welfare hotline. This is a tool which will allow a social worker to search for an individual and retrieve all of their interactions with the child welfare system in a concise "at-a-glance" view, with the ability to copy and paste the information into other documents – screener narrative, investigation reports, court documents, etc.
- Delivered Snapshot 1.0 on February 7, 2018, to a cross section of approximately 25 county representatives. This was the state's first full exercise of the development to production pipeline. Significant infrastructure work was required in order to pave the way for State resources to communicate securely with Amazon Web Service (AWS) cloud services. Communication with the counties was maintained before and after the deployment. Following the Snapshot 1.0 deployment, there was a meeting held with county representatives where feedback was collected and incorporated into our strategy.
- Delivered Snapshot 1.1 on May 2, 2018, which consisted of enhanced features. Subsequently, Snapshot 1.2 went into production four weeks later, on June 8, 2018, to the county representatives, approximately 46 users.
- Released Snapshot 1.3 on September 5, 2018, which was a part of the CARES 1.0 release.
- Released Snapshot 1.4, Statewide, on October 31, 2018 as a part of CARES 2.0. Subsequent to the release of Snapshot 1.4, access granted to this feature was reduced to Core Constituents only while work commenced to address data latency and search result accuracy.
- Released Snapshot 1.5 on February 9, 2019 and implemented on February 25, 2019 to the Core Constituents for use. This release improved the search feature of showing the "next 10 results." This release still limited access to the Snapshot feature to only the Core Constituents.
- Released Snapshot 1.6 on July 20, 2019, as a part of CARES 2.5 to Core Constituents. This release addressed the search latency and accuracy.
- On September 9th, we began the phased Statewide rollout of Snapshot 1.7, with the final wave rollout taking place in October 2019.

Table 4-1 – Snapshot Milestones

Milestones for Snapshot	Target Date	Completion Date
Snapshot 1.0 Core Constituents Release	February 2018	February 7, 2018
Snapshot 1.1 Core Constituents Release	May 2018	May 2, 2018
Snapshot 1.2 Core Constituents Release	June 2018	June 8, 2018
Snapshot 1.3 Statewide Release	September 2018	September 5, 2018
Snapshot 1.4 Statewide Release	October 2018	October 31, 2018
Snapshot 1.5 Core Constituents Release	February 25, 2019	February 25, 2019
Snapshot 1.6 Core Constituents Release	July 20, 2019	July 20, 2019
Snapshot 1.7 Statewide Release	September 2019	September 7, 2019

4.1.2 Certification, Approval and Licensing (CALS) Digital Service Status

The CALS front end development team started in January 2017 and was tasked with developing the following high-level features in collaboration with State and county stakeholders:

- Resource family and other children's residential facilities application processing, including background clearance, tracking of applicant orientation and training;
- Fieldwork support for initial and periodic evaluations, inspections and/or investigations;
- Complaint and incident report receipt and processing;
- Issuing corrective remedies or administrative actions;
- Federal and state reporting and dashboards reflecting business and workload analytics in aggregate as well as individual worker's caseloads.

The CALS scope involves not only replacing the CWS/CMS features used by counties to record and review information about county-approved and state-licensed foster care providers and their availability, but also replacing the features of two additional legacy systems used by the State to approve and monitor the ongoing compliance of licensed children's residential facilities: Field Automation System (FAS) and Licensing Information System (LIS). The replacement of these features in CWS-CARES will necessitate the conversion of data from these systems. CWDS will include this scope in the conversion plan.

Following extensive user research, involving observation in the county and State offices where this work is performed, interviews, and ongoing weekly calls to confirm users' business needs, the CALS team identified the following sets of features as its first software deliverable goals:

- Facility and resource family search and profiles, returning in one screen, the key information workers currently use, but must retrieve from three (3) different systems to make decisions about risk to children in placement and/or availability of beds for placement;
- Automation of the Resource Family Application (RFA) forms and application status tracking from submission to decision; and

- Ability to create a new facility or home record, available to all system users (access rights permitting).

In June 2018, the CALS team was able to provide users a preview of the working version of the facility search and profile. In October 2018, the Project shifted its development focus to one feature set at a time, thus temporarily pausing the development of other high priority CALS product feature sets, including an automated version of the RFA application (RFA 1A). In January 2019, the we initiated a deep-dive effort into the RFA application and created a Product Blueprint. This blueprinting effort lead to the decision to form a full-size Scrum team to complete a 45-day further analysis and dive into the complexities of the child abuse reporter, determining not only the policy, laws and regulations surrounding the individual, but ways in which all of this information can be captured by child welfare staff more in a more efficient and correct manner. This team also completed a Resource Family Approval Proof of Concept (POC) to determine the extent to which the Product Blueprint-based requirements specification support rapid PaaS configuration. A demonstration of the POC was held for the Executive Leadership Team (ELT) on March 27, 2019 and subsequently to other project staff.

CALS Milestones and Activities Achieved - To date, the CALS' team milestones and achievements include:

- Conducted multi-day site visits for user research purposes in Los Angeles, Orange, San Francisco, and San Mateo Counties as well as with Community Care Licensing's Children's Residential Program regional offices, involving ride-alongs, office observations, and extensive interviews.
- Established the data schema for the three (3) legacy systems that CALS will replace (CWS/CMS, FAS, and LIS) to guide development.
- Established connectivity between CWDS and California Department of Social Services (CDSS) for purposes of accessing the LIS and FAS in both Staging and Production environments.
- Confirmed the ability to create facility information through Application Program Interface (API) to CWS/CMS for recording a new facility.
- Completed an iteration of RFA application form design prototypes for constituent feedback (including RFA 01A [Resource Family Application], RFA 01B [Resource Family Criminal Records Statement], RFA 01C [Resource Family Application – Confidential]).
- Completed usability testing of RFA 01A with core constituents.
- Released Facility Search and Profile 1.0 to Production on August 8, 2018 giving core constituents access right to the new functionality.
- Implemented Facility Search 1.1 for Statewide use on September 9, 2018.
- Implemented Facility Search 1.2 for Statewide use on April 27, 2019.
    - On May 2, due to an issue with displaying accurate complaints information in Facility Search results, the Project made the decision to disable access to Facility Search. For homes and facilities with multiple complaints in the CDSS FAS database, CARES displayed only one complaint. Although the Project is still assessing the root cause, which may include processing in FAS, we restored access without the complaints feature in early June

because user feedback indicated that Facility Search provides valuable information even without the list of complaints.

- Released CARES 2.4 on June 1, including Facility Search 1.2.2, which restored the Facility Search functionality without showing complaint information for homes/facilities.
- Facility Search 1.3 was released on July 20, 2019, as a part of CARES 2.5.

Table 4-2 – Facility Search Milestones

Milestones for Facility Search	Target Date	Completion Date
Facility Search 1.0 Release to Core Constituents	August 2018	August 8, 2018
Facility Search 1.1 Statewide Release	September 5, 2018	September 9, 2018
Facility Search 1.2 Statewide Release	April 27, 2019	April 27, 2019
Facility Search 1.3 Statewide Release	July 20, 2019	July 20, 2019

4.1.3 Case Management Digital Service Status

The Case Management front end development teams started in July 2017 and were tasked with developing the following high-level features in collaboration with State and county stakeholders:

- Assessments and Case Planning
- Case Management Services which includes capturing the provisions of services and goods made on behalf of children and families
- Case Management Placement
- Court Communication
- Case Management Health
- Case Management Education
- Case Management Adoptions
- Search for a child, effectively matching a child to an approved resource family home and creating a robust feature to place the child into the home. (First feature to release)

Case Management Milestones and Activities Achieved - To date, the Case Management team milestones and achievements include:

- Identified data elements for client profile, to be connected with the family finding and emergency placement design concept and legacy database.
- Built initial version of the landing page in order to provide high-level case data related to a social worker's caseload. Landing page was promoted to the staging environment and core constituents completed testing and were successfully able to retrieve their own caseloads in the CWS-CARES application.
- Case Management researchers and designers met with Sacramento, LA, Merced, and Lassen Counties for a co-design workshop that allowed the team to gain valuable feedback on the most recent design concepts. The feedback received from Counties was incorporated into designs that were developed.

- Developed a geo map to display proximity of related family members, this was developed based on county feedback. This feature will allow users to see where viable placement options are located.
- Developed a child client profile that includes business rules that will allow users in the future to update the child client profile data in CWS-CARES.
- Developed child/youth relationships, which is a feature within the child client profile. The relationship card in the child client profile allows users to view child/youth relationships and are more user friendly. The enterprise development strategy enables the Intake Digital Service team to leverage the Case Management relationship feature to further promote the functionality of their Hotline product.
- Continued to implement business rules that will allow users to update child client profile data, added new legislative Sexual Orientation, Gender Identity and Expression (SOGIE) requirement.
- Finalized Child and Adolescent Needs and Strengths (CANS) version 1.0 scope; development efforts began May 2018 and subsequent details regarding the development are listed below.

Child and Adolescent Needs and Strengths Assessment (CANS)

CANS is an assessment tool that is used as part of the Child and Family Team (CFT) process to identify the needs and strengths of the child or youth and family and caregivers which informs development of the case plan. The CANS is also used to monitor outcomes throughout the case. The CDSS elected CANS as the functional assessment tool to be used pursuant to the Continuum Care Reform (CCR).

As stated previously, CANS was chosen as the one product feature set to focus development efforts. CANS 1.0 development was completed October 3, 2018, and it was ready for Statewide implementation on October 31, 2018. Since CARES 1.0 was in the process of Statewide implementation in a phased approach during that time, CANS had to be incorporated into the implementation approach and was officially released, Statewide, in December 2018. User research, design and development of CANS 1.1 was completed January 23, 2019.

Below is a description of the high-level functionality included in the first three versions of CANS:

CANS 1.0

- County Client List:
    - Displays a list of children entered in the CANS application
    - Ability to search the list of children in the CANS application
    - Users can select a child and access their CANS record
    - Ability to add a new child to the CANS application
- Child/Youth Profile:
    - Child/Youth Information:
        - View of the child's name, DOB, county, client ID #, and case number if applicable
        - User can edit the child's information

        - Privileged users can restrict access to a child's record by marking the child's record as sealed or sensitive
    - Assessment History:
        - Displays a historical list of CANS assessments for the child
        - User can access any of the assessments listed
        - Ability to start a new assessment for the child
- CANS Assessment page:
    - User can select 1 of 2 CANS templates based on age (age 0-5 and age 6-21)
    - User can edit and save an assessment
    - User can print the assessment

CANS 1.1

CANS 1.1 included improvements in user experience and system interaction by:

- Populating child client information with CWS/CMS legacy data to eliminate data entry
- Improving usability:
    - Radio buttons used to select item ratings, rather than using a drop down
    - User can add comments to the assessment at the domain and item level
    - User is prompted to select the age appropriate CANS template
    - User can delete an assessment
    - Ratings for each assessment are summarized and presented in a table to provide information at a glance
- Displaying CANS dashboards based on user:
    - Users identified as supervisors will be presented with a dashboard that includes information about their staff's CANS caseload
    - Supervisors can drill down to assessment specifics after selecting a worker's caseload
    - Users identified as case carrying workers will be presented with a dashboard that includes their active caseload
    - User can select a client from their caseload
    - Users without a caseload assignment or staff assigned will be presented with a dashboard that includes a search bar
    - User can search CWS/CMS legacy for clients
- Capturing county CANS application usage metrics:
    - The number of CANS assessments completed monthly
    - The number of CANS assessments in progress monthly
    - Number of users accessing a CANS assessment monthly
    - The number of sessions it took to complete a CANS assessment
    - CANS Change Log allows users to see the status history of when and who made changes to an assessment

CANS 2.0

Improvements in CANS 2.0 included:

Improve usability

- User can add ratings
- Require delete reason

- Add DOB & age to assessment form
- Collapse option at bottom of expanded items
- Page automatically scrolls when domain is expanded
- CANS status in client history
- AKAs on search results
- Saving data on page

Refine CANS Assessments

- CANS reassessment is populated with ratings from previously completed assessment. This will eliminate duplicate data entry and to reduce the amount of time spent entering assessment data.

Capture county CANS application metrics

- Create reports in New Relic to capture metrics that identify how users interact with the CANS application including:
    - Length of time a user takes to complete an assessment
    - Number of deleted records and the delete reason.

Table 4-3 – CANS Milestones

Milestones for CANS	Target Date	Completion Date
CANS 1.0 Statewide Release	October 31, 2018	October 31, 2018
CANS 1.1 Core Constituents Production Release	February 2019	February 9, 2019
CANS 1.1 Statewide Release	February 2019	February 25, 2019
CANS 2.0 Statewide Release	June 2019	June 1, 2019

4.1.4 Identity Management (IDM)

The Identity Management Service [Amazon Web Services (AWS) Cognito], provides State and County user administrators a tool to facilitate in identifying, authenticating and authorizing individuals, groups of people or office access to CWS-CARES.

Identity Management Milestones and Activities Achieved

- Released version 1.1 of Identity Management to Production Environment for Core Constituent users.
- Released version 1.2 of Identity Management Statewide on September 5, 2018.
- Released version 1.3 of Identity Management Statewide on December 8, 2018. IDM 1.3 included:
    - User administration portal
    - Administrator roles for State, County, and office
    - Legacy privilege integration
    - Policy and security compliance (failed log on, password resets etc.)
- Released minor improvements of Identity Management including IDM 1.3.1 and IDM 1.3.2 in early 2019.
- Released version of IDM 1.4 Statewide on April 27, 2019. IDM 1.4 included:

- New workflows to add and support users who do not have a CWS/CMS login
- User role and privilege management for local administrators
- User data set to assist with user creation and validation processes
- Further refinement of Global, State, County and Office administrator's roles/permissions
- User/Role access restrictions

The Project released IDM 1.5 on July 20, 2019, as a part of CARES 2.5.

4.2 Planned Versus Delivered

SPR 2 presented a concept for the development and delivery of digital services, or "modules" (e.g., Intake, Case Management, CALS, etc.), with deployments occurring in a phased approach (Discovery, Alpha, Beta, Live). As the work started, there was a realization that the individual digital services were too large in terms of functional scope and needed to be decomposed further and delivered as useful end to end functions, (e.g., Snapshot, Hotline, Facility Search). In addition, there was no consideration for product strategy nor historical metrics to evaluate and refine the Agile process as we continued to move forward. Furthermore, we had not developed a strategy for how data will migrate from CWS/CMS to CWS-CARES as functionality was to replace the new system. The use of a Continuous Integration/Continuous Development (CI/CD) pipeline was merely a concept at the time the SPR 2 was approved. None of the planned application modules defined in SPR 2 were fully completed.

The table below depicts milestones planned in SPR 2 and what was delivered.

Table 4-4 – SPR 2 Major Milestone Status

SPR 2 Milestones planned*	Est. Completion Date	Delivered Function / component	Date
Intake Alpha Complete Intake Beta Complete Intake v1 Release Intake v2 Release Intake v2.1 Release	11/2016 06/2017 07/2017 10/2017 01/2018	Snapshot 1.0** Snapshot 1.1 Snapshot 1.2 Snapshot 1.3 Snapshot 1.4 Snapshot 1.5 Snapshot 1.6 Snapshot 1.7	02/2018 05/2018 06/2018 09/2018 10/2018 02/2019 07/2019 09/2019
Licensing Alpha Complete Licensing Beta Complete Licensing v2 Release Licensing v2.1 Release Licensing v3 Release Licensing v3.1 Release	02/2017 09/2017 10/2017 01/2018 04/2018 07/2018	Facility Search 1.0** Facility Search 1.1 Facility Search 1.2	06/2018 09/2018 04/2019
Case Management Alpha Complete Case Management Beta Complete Case Management v3 Release Case Management v3.1 Release	09/2017 03/2018 04/2018 07/2018	CANS 1.0 CANS 1.1 CANS 2.0	10/2018 02/2019 06/2019
Courts Discovery Complete Courts Alpha Complete	12/2017 03/2018	Blueprint & Data Modeling	11/2018
Resource Mgmt Discovery Complete Resource Mgmt Alpha Complete	12/2017 03/2018	Blueprint & Data Modeling	02/2019

Financial Mgmt Discovery Complete	6/2018	Blueprint & Data Modeling	04/2019

* Note: For the SPR 2 milestones, the Alpha and Beta releases were intended to go to small groups of users, the version releases (e.g., Intake v1 Release) were planned as Statewide releases.
** Available to Core Constituents only.

4.3 Project Staffing/Vacancy Rate

In the FY 2017/18 BCP, 58 positions were authorized through June 2017 and we received State approval for an additional 48 positions effective July 2017. In the Annual APDU submitted in September 2017, we requested approval of the additional 48 positions and ACYF granted conditional approval.

Since the establishment of the new positions, the Project experienced challenges with filling these positions. We made attempts to mitigate the staffing issue by participating in recruitment events to attract qualified staff. Efforts since approval of SPR 2 include:

- On April 28, 2016, the OSI participated in the Honor a Hero Hire a Vet Career Fair where OSI explained their role in the California Health and Human Services Agency (CHHSA) and accepted resumes from interested individuals.
- On May 11, 2016, the OSI participated in the Sacramento Area Human Resource Association (SAHRA) and Sacramento Region Higher Education Coalition (SRHEC) Career and Education Fair held at the UC Davis Extension-Sacramento Campus. The OSI explained their role in IT projects, gave out OSI pamphlets on how to get a State job, and provided hard copy job announcements.
- On June 10, 2016, the OSI participated in the IT Career Fair for displaced workers from Intel and Hewlett Packard. The OSI Director at that time gave a presentation on OSI's vision and mission and the impact to the people of California. The OSI explained their role in IT projects, gave out OSI pamphlets on how to get a State job, and provided hard copy job announcements.
- On August 18, 2016, the OSI participated in the Tri-County Job Fair at William Jessup University. This is for job seekers in Placer, El Dorado, and Sacramento Counties. The OSI explained their role in IT projects, gave out OSI pamphlets on how to get a State job, and provided hard copy job announcements.
- On March 23, 2017, the OSI participated in the Camp Pendleton Career Expo. The OSI explained their role in managing IT projects to help those living in California with various benefit programs; how to maneuver the State application process; and how to transition military skill sets to State civil service. The OSI explained their role in information technology projects, gave out OSI pamphlets on how to get a State job, and provided hard copy job announcements.
- On August 17, 2017, the OSI participated in the Tri County Job Fair held in El Dorado Hills. The OSI explained their role in IT projects, gave out OSI pamphlets on how to get a State job, and provided hard copy job announcements.
- Development of an OSI staff recruitment video to educate prospective staff on OSI's mission and employment opportunities.
- In 2018, OSI Human Resources has begun a new service by searching LinkedIn for targeted recruiting. This will help to expand the candidate pool for CWS-CARES.

In January 2018, the State Personnel Board (SPB) approved the CalHR Information Technology Classification Consolidation project in an effort to improve the State's recruitment and hiring process and better align State IT classifications to current

technology, including such areas as project management and security, while allowing for flexibility as new technologies emerge. The CalHR project consolidated 36 IT classifications into nine new classification by reallocation, with several movements. The reallocations were effective January 31, 2018, the beginning of the February pay period.

The OSI employees and vacant positions in IT classifications were converted into the new IT classifications, effective January 31, 2018. This consolidation required CWDS to assess the current organizational structure and determine necessary changes to supervisory/subordinate relationships in projects. The duty statements for all positions had to be revised to meet the specifications for the new classifications. In addition, recruitment efforts were put on hold until the release of the exams for the new IT classifications in February 2018. This activity delayed progress of reducing our vacancy rate.

On July 23, 2018, an internal position audit was completed that reconciled both vacant and filled positions to the California State Accounting & Reporting System, (CALSTARs), the State Controller's Office Management Information Retrieval System Report, and the CWDS Human Resources and Functional Organizational Charts. The reconciliation determined that the total approved positions associated to this project is 104 versus 127. This number is comprised of 86 OSI CWS-CARES positions and 18 CDSS CWS-CARES positions. At the time of the internal position audit, our vacancy rate was 29 percent.

Our hiring strategy during FY 2018/19 consisted of a goal to reach a 14 percent vacancy rate with emphasis on filling several critical positions: Director of Product Development, Engineering and Operations Chief, Information Security Chief, and Product Owners. The overall vacancy rate is 20%, and the OSI vacancy rate is 15%, with 21 vacant positions (16 CWDS, 5 CDSS) out of 104. See Figure 1 and 2.

Note: Some percentages remain the same from month to month due to the offset of new hires vs departures (e.g., September and October 2019).

We have also developed a Recruitment and Retention Plan with emphasis on our mission and technology. Along with this plan, we have formed a partnership with OSI Human Resources Division (HRD) that has proven to be beneficial in the ability to streamline the internal hiring process. Reference the attached Recruitment and Retention Plan, Attachment 1.

Figure 1 – CWS-CARES Project Vacancy Rate & Staff Hired Trends

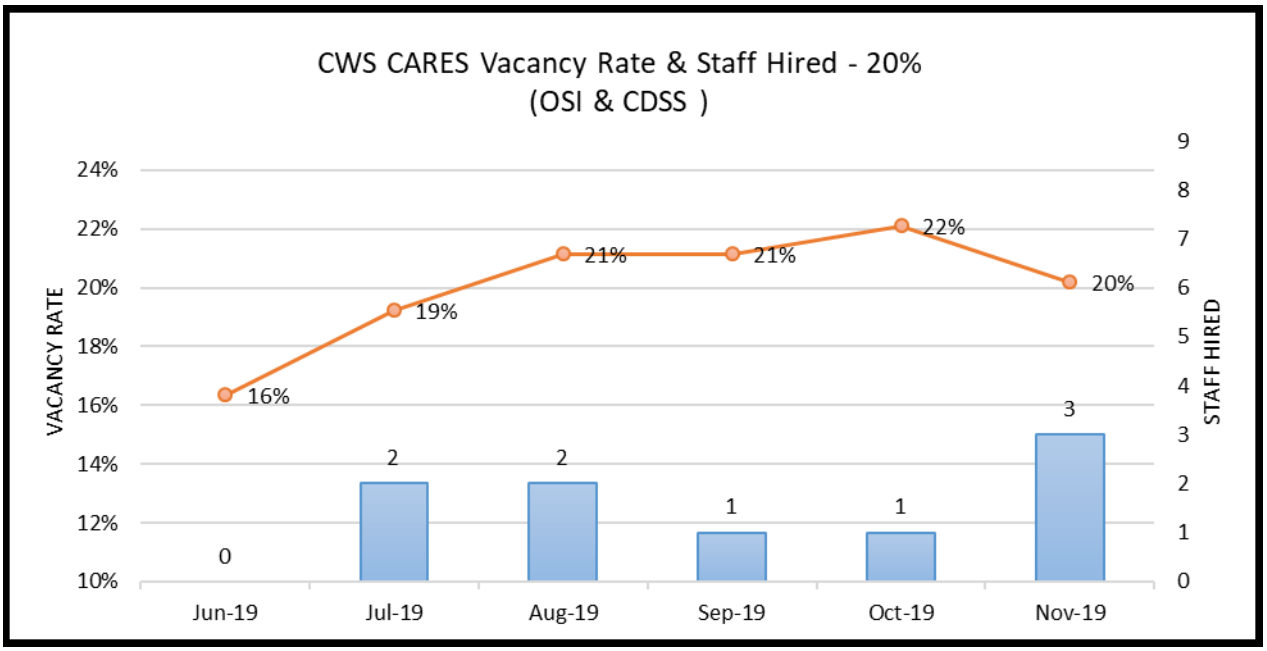
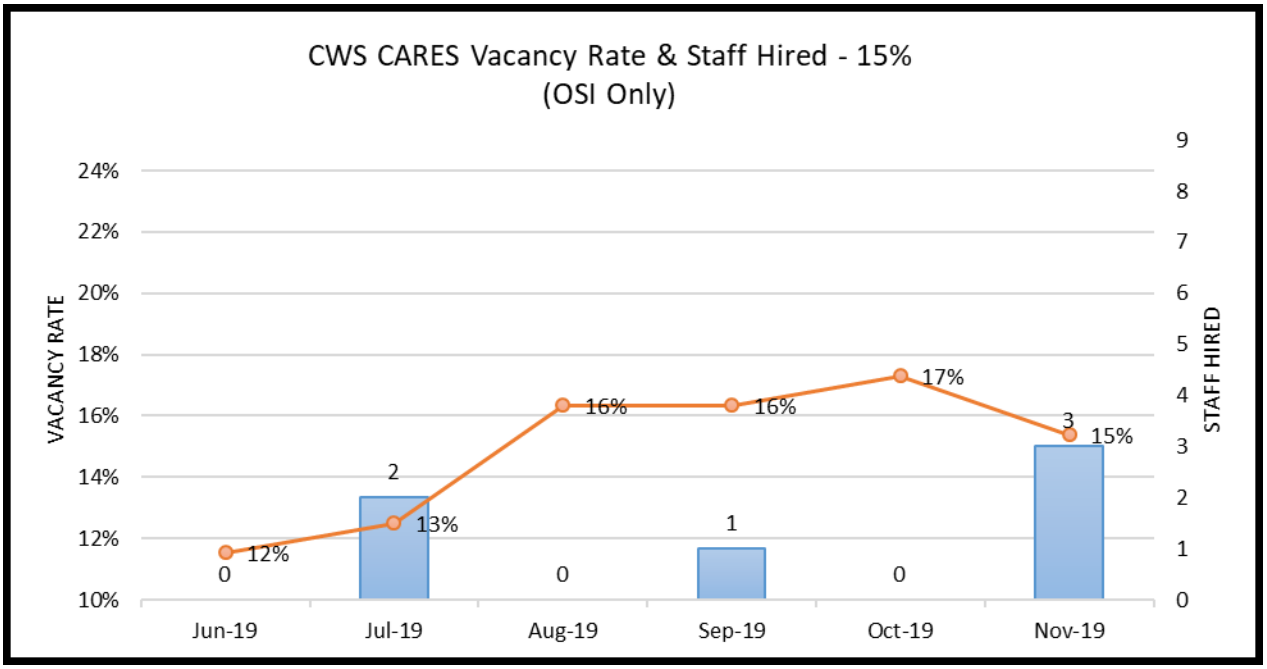


Figure 2 – CWS-CARES OSI Internal Vacancy Rate



As the Project enters the transition phase of moving to a CRM-based PaaS, we are taking the time to reflect on the overall OSI staffing and resource needs. Of the 86 OSI CWS-CARES positions, 71 are physically located within the actual Project, and 15 are directed to OSI Administrative Services to provide project support in the areas of Human Resources, Acquisition Contract Services Division, Business Services, Legal and the Information Technology Office. The resource staffing plan, in terms of volume,

will not change in FY 2019/20, nor FY 2020/21. What will change, to some degree, are the IT Classification domains for which certain vacancies are filled.

Of the 71 OSI Project positions, 55 are filled and 16 are vacant as of November 14, 2019. Although the OSI positions were established based on a custom development approach, the number of positions and the classifications are still appropriate as we transition to a PaaS. What will change, however, is the domain of the IT classification in which these positions are filled. For instance, the IT Specialist I (ITS I) classification has six domains: Business Technology Management, Client Services, Information Security Engineering, IT Project Management, Software Engineering and System Engineering.

Examples of what will change include:

- Of the four ITS I vacancies that were allocated for developers under the Software Engineering domain, these will now be filled as either Business Analysts under the Business Technology Management domain, or as Configurators still under the Software Engineering domain.
- The only other two vacancies that may be reassessed are those for the Application Architect positions (since one has already been filled on the Project) to possibly a Data Architect to help support the CARES Data Infrastructure (CDI); or a Solution Architect to help the support the PaaS work. The IT classifications (ITS I and ITS II) are still appropriate as these roles would fall under the Software or System Engineer domain(s).

The vacancies in other areas of the Project (i.e., Implementation, Security, IT Operations, Project Management Office [PMO] and Product) are still appropriate to backfill as these roles have not changed. The Project is also identifying key leadership positions who are responsible for vendor management.

- Security has two ITS I vacancies and a ITS II vacancy, Information Security Engineering domain, which are needed to support the various security efforts underway with the Project (e.g., the Identity Access Management sub-project).
- IT Operations only has two State staff, and with a new Operations Chief, this team will be staffed up by filling the three vacancies of the ITS II and IT Supervisor II, who will both play significant roles in the CDI work.
- Most importantly, the IT Manager I vacancy to support the Product Director is appropriately classed and needs to be filled. This is a key role to manage State staff and the overall Product Blueprint work, from discovery work to the deep dive analysis that will result in PaaS configuration. This role will also assist with contract management to ensure vendors are held accountable for the work outlined in the Work Order Authorizations (WOAs.)

Section 4.3.1 Project Teams and Responsibilities, outlines what each area throughout the Project is responsible for, which substantiates the need for the current volume of positions. Refer to Attachment 2, the CWDS Project Organization Chart for a current display of our organizational structure by functional area.

4.3.1 Project Teams and Responsibilities

Project Unit	Description of Work
Project Management (PMO)	The Project Management Office is responsible for a range of project activities: o Prepare and submit all state and federal reports/documents to meet project reporting requirements; o Manage the CWS-CARES Risk and Issue Register; o Monitor the CDT Oversight and Independent Verification and Validation (IV&V) findings; o Document, monitor, support and train on the Agile standards adopted by the Project, following Project Management Best Practices; o Monitor Project scope, which includes developing a Project Roadmap that tracks to the Product Roadmap; o Develop, monitor and maintain the Master Project schedule and provide general Project Management for sub-projects. Such work will continue as we transition to a PaaS, and the PMO will also work on reconfiguring Jira to accommodate requirements and work based on the Product Blueprint. It is also anticipated that assessment and configuration of schemes and workflows for the PaaS vendor(s) work will also be needed.
Communication Management and Organizational Change Management (OCM)	Communication Management is a section within the PMO who is responsible for providing consistent and accurate messaging regarding the Project to stakeholders and customers. This unit also supports OCM within the project during this time of change.
Budget and Administrative Services • Budget	This unit performs all activities related to budget planning, monitoring, expenditure approval, tracking, monthly expenditure reconciliations and fiscal projections. This unit maintains supporting documentation and substantiates the figures for the development of state and federal reporting and budget documents such as Special Project Reports, Budget Change Proposals, Spring Finance letters, Legislative Updates, and federal Advance Planning Documents. The Budget Manager collaborates with executive management, CDSS, and CWDA on strategic and allowable uses of state and federal project funds.
Budget and Administrative Services • Administrative Services	The Administrative Services is responsible for project support in the following areas: o Liaison to OSI Human Resources Division (HRD)- works directly with CWDS hiring managers to prepare recruitment packages, interviews and hiring activities to fill vacancies; facilitate on and offboarding of State and contractor staff; monitor adherence of OSI attendance/timekeeping rules. This unit tracks vacancies, monitors position control, and conducts analysis, as requested by CWDS management, to ascertain recruitment and hiring challenges. As such, this unit collaborates with OSI HRD in the development and maintenance of the Recruitment and Hiring Plan and will take part in the Succession Planning effort within OSI. o Liaison to OSI Business Services Office (BSO) – handles urgent facility requests in the CWDS building, coordinate operational facility requests with OSI BSO, and monitors adherence to OSI

Project Unit	Description of Work
	business services policies and procedures. Manages all staff movement within the CWDS building. o Responsible for travel booking and reimbursement, ordering and monitoring project supplies, records retention, mail delivery and distribution. o Track training and travel expenditures; prepares projections. o Assists with project coding to ensure proper billing between CARES-Live and CARES. o Coordinates Project-wide initiatives related to project staff (e.g., New Employee Orientation) o Provides administrative support to the CWDS Project Director.
Procurement and Contract Management (PCM)	The PCM team is responsible for the following: o Facilitate and manage the preparation of solicitation documents; o Manage procurements through contract execution; o Ensure all procurements and contracts adhere to applicable state and federal procurement rules, policies, and regulations; o Develop and maintain the Contract Management Plan; o Plays key role in the contract management of existing contracts as State Contract Manager and Contract Analyst, responsible for coordinating Work Order Authorizations, analyzing and monitoring expenditures, onboarding/offboarding resources, and monitoring compliance with contract terms and conditions. The PCM team will be conducting new procurements that align with the Acceleration Strategy associated to the PaaS and CARES Data Infrastructure (CDI).
Product Development	The Product team will develop and maintain, in collaboration with Service Managers, Subject Matter Experts and Product Delivery Leads (formally Product Owners), the following CARES planning/design artifacts: o Product Blueprint, both top-level workflows and Level 2 Discovery (to map policy/program rules to decision points o Domain Model o Product Roadmap o Service Delivery Playbook o Enterprise Architecture, covering both PaaS capabilities and the CDI The Product Director assigns and guides Service Managers, Product Delivery Leads and Architects in preparing for PaaS and CDI implementation. Product guidance on the prioritization of bug fixes to product already deployed to Production may also be required. Application Architects will develop the CARES Enterprise Architecture, including integration between PaaS and the CDI. They will focus on the data topology and tooling for the CDI, with emphasis on designing the data conversion pipeline. Application Architects will also support troubleshooting and resolving bugs for products already deployed to Production.

Project Unit	Description of Work
	The Data Architect will focus on the CHHS Data Hub initiative, with emphasis on consistency and integration with the CDI. Product Delivery Leads will coordinate the planning/design work supporting refinement of the top-level (Level 1) Blueprint and Domain Model for: o Case Management (to add Adoption) o Resource Management (updated resource model to reflect new state policies/programs and Family First) o Eligibility (to add the exchange of operational data with caseworkers and supervisors) o Financial Management (to add building blocks related to child- and program- level cost accounting, analysis and evaluation) Product Delivery Leads will also coordinate the planning/design work for Level 2 Discovery for the first building blocks on the Product Roadmap, likely for Screening, Resource Management and Placement. Such coordination entails planning and guiding the work of Subject Matter Experts, Business Analysts, Researchers and Experience Designers. One Product Delivery Lead will coordinate the design of the new statewide organizational hierarchy supporting Identity Management (IDM) on PaaS.
Quality Assurance Engineering/ Testing	The Quality Assurance (QA) Engineering Team provides specialized technical quality assurance support to CWS-CARES throughout the Project's development life cycle to 121 Orgs (3 CDSS Divisions, 58 counties and their probation counterparts, and two tribes) in support of CARES development, design, and implementation activities. The team will focus on four key areas: participate in the future vision of CARES, continue to provide technical quality assurance support, participate in the planning for the Sandbox environment, and develop new and maintain existing tools and materials. Future Vision: Understand and participate in the development of the overall acceleration strategy vision and how the team integrates into this vision. Participate in evaluation of the acceleration strategy to determine how to leverage existing Quality Assurance (QA) Engineering Team strategies. Support the acceleration strategy for building the best product for child welfare workers to successfully do their jobs. Continued CARES-Live Support: Provide continuous support to existing CARES-Live users by ensure a heightened level of manual testing was provided together with automated testing to ensure a thorough vetting of delivered sprint functionality verification and validation/ Testing as well as other specialized technical quality assurance support. Maintain and foster relationships with the Orgs and evaluate the existing Quality Assurance approach as the acceleration strategy progresses. Identify test management and training tools: The Quality Assurance Team will continue researching test management tools team would like to evaluate and is working with Security and Legal to get

Project Unit	Description of Work
	authorization to evaluate and eventually adopt a tool into our suite of tools and process. Team will also develop new and maintain existing Quality Assurance Artifacts and tools to support the Orgs. Support Sandbox Environment Planning: The Quality Assurance Team will collaborate on the approach, development, and implementation of a Sandbox Environment
Web Team	The Web Team works in close collaboration with Customer Relations, Communications, and other areas of the Project to determine the future of the CWDS website, in terms of both platform and content.
IT Operations	The IT Operations team provides a variety of resources to the project. This team supports existing CARES-Live production and non-production environments and related infrastructure and network to ensure reliable uptime. They also work with developers to resolve production issues and deploy new approved CARES product code and security requirements to Production in a timely manner. The team also decommissions and removes no longer needed and non-essential infrastructure and environments to prepare for smooth transition to new PaaS environments and at the same time reduce current IT operation expenses and cost. The IT operations staff will help set up and support both the CDI as well as provide operations support for the PaaS
Customer Relations	Provide Customer Support for CARES-Live users, including external communication needs relative to any CARES production or project updates: o Respond and/or facilitate, in coordination with other CWDS staff, email or phone inquiries directed to Customer Relations. o Resolve general questions about CWS-CARES Project support tools available to stakeholders (i.e., CWDS website information, Implementation Portal etc.). o Facilitate county issue resolution or escalation, share out county feedback on the CWS-CARES Project. o Maintain and foster relationships, in partnership with the Implementation Team, with CARES stakeholders. o Facilitate county requests for onsite visits. o Manage and maintain a repository of useful data such as 'county profiles, visit summaries for CWDS project consumption. o Support project staff stakeholder outreach need, in collaboration with the Implementation and PMO Communications team (e.g., surveys, stakeholder input, follow up action items). Communications: The Customer Relations Team collaborates with the PMO Communications team to manage external communication relative to CARES-Live production related messaging (Bulletins, Release Notes for Hot Fixes, CARES maintenance activities. Customer Relations also participate in monthly CWS Regional User Group meeting to provide updates on the CWS-CARES Project.
Implementation and Training	The Implementation team is responsible for planning all activities in support of stakeholder engagement relative to the deployment and facilitation of the Sandbox environment. This includes outlining how CARES stakeholders will engage with the Sandbox environment and the process of facilitating stakeholder feedback. This effort will include

Project Unit	Description of Work
	the development of instructional processes and user training on how to use the Sandbox environment. In order to evaluate current and future CARES implementation strategy approaches that may be impacted by the PaaS development approach, the Implementation team will be involved in all PaaS planning meetings.
Service Desk	The Service Desk participates in business process development to assist in the development of an integrated approach for development, maintenance and support of the transition to PaaS, including business processes, workflows, and continuous service improvement. The Service Desk will explore and discover tools and skillsets to determine what technologies and training the Service Desk staff will need to meet the needs of the transition to PaaS. In the interim, the Service Desk continues to serve as front line customer support to existing CARES users, monitor CARES usage with the New Relic tool, and manage open tickets to closure by working closely with IT Operations and the Product Maintenance and Operation teams. The Service Desk is responsible for the establishment and ongoing maintenance of Service Now, a critical tool in ITIL established processes for incident, problem and change management.
Information Security	The Information Security team will continue work on the Identity Access Management (IdAM) sub-project. This includes developing the governance, policy, procedure, ServiceNow integration to support account/access management based on role and job function. The team will also work on the Security Information and Event Management (SIEM) activities required for implementation. Along with these sub-projects the team will continue work on: Incident Response – governance, policy, procedures, plans, Vulnerability Management – scanning and remediation, Penetration testing – perimeter (infrastructure) and application, Application testing and remediation, Info Sec Program metrics and measurements, Engineering/ Architecture on PaaS and cloud solutions, Configuring and testing End-point protection (cloud infrastructure) and Policy development to meet state and federal policy and regulations.
OSI Administrative Services	OSI Administrative Services consists of five distinct areas that provide critical project support: 1) Acquisition and Contracting Services (ACSD) This project has a number of procurements, amendments and Interagency Agreements/Memorandum of Understanding with interface partners that all require ACSD assistance. Additionally, with the ADPQ, procurements that would otherwise be under STPD authority are within OSI's delegated authority, thus requiring additional resources. Without sufficient procurement resources, the CWDS procurement schedule would be at risk, thus potentially compromising the entire project. The current ACSD resource levels ensure that an adequate level of support is provided, and schedule delays avoided.

	Additionally, ACSD resources are responsible for processing incoming CWDS procurement packages, coordinating the approval and review of procurement documents from OSI Directorate and CDT STP when appropriate, scheduling meetings and reserving locations on behalf of the ACSD CWDS resources. This additional support is critical to efficient operations within the ACSD supporting CWDS procurement efforts. The Business Services Office provides guidance to CWDS on business operations and non-IT purchasing. Business Services oversees business operations support such as: badge access, facility requests, space planning, moving services, records retention, surplus, and interagency mail. 2) Fiscal and Legislative Services The Fiscal and Legislative Services Division of OSI supports the CWDS project in the areas of budget preparation and maintenance, accounting support including invoice payment and processing, and serves as the budget liaison for the project and OSI with regard to information and documentation requests from Agency, the Department of Finance, the Department of Technology, the Legislative Analyst's Office and the Legislature. 3) Human Resources Support for CWDS from the OSI Human Resources Division (HRD) includes the areas of classification, payroll, benefits, time reporting, recruitment and health and wellness for state resources. Additionally, HRD provides workforce and organizational development services. Although vendors are not directly employed by OSI, the HRD is also responsible for direct filing of Conflict of Interest documents with the Fair Political Practices Commission for both employees and vendors. 4) Information Technology Office (ITO) OSI has the responsibility to provide help desk and network support services to the entire CWDS organization. The ITO positions are necessary to provide these services and meet contractual obligations. Network support resources are responsible for installing new software/hardware; setting up user accounts, permissions and passwords; network maintenance; planning future improvements; etc. Having dedicated network support is critical to the daily operations of the CWDS organization. The ITO help desk support resources provide technical and troubleshooting assistance related to computer hardware and software, mobile devices, Microsoft SharePoint and web services, as well as other tools and products that the CWDS uses and are critical to the daily operations of the CWDS organization. Legal Ensuring sufficient legal assistance is critical to protect the state's interests and ensure procurements are conducted and developed in

Project Unit	Description of Work
	accordance with state and federal regulations. Additionally, support is needed for the large number of CWDS procurements that OSI legal is responsible for processing and assisting the project with. The Legal Division also provides quality counsel relative to business matters of the CWS-CARES project in the following areas: a. Security and Privacy b. Conflicts of Interest c. Human Resources d. Public Records Act

CDSS Roles and Activities

The CDSS provides oversight and collaboration with ACYF, counties, and other state agencies and stakeholders for the CWS-CARES to meet legislative and operational needs of California's CWS. The CDSS staff facilitate product development and user-centered design focused on an outcomes-based approach. This information is used to guide the design of services and tools that help workers and others achieve safety, permanency, and well-being outcomes for children, youth, and families.

While the CDSS and counties provide regular input via their policy and practice experts overseeing the programs, the application of program and practice knowledge to a software configuration/development context is a full time, ongoing concern performed by the CDSS staff on the project.

CDSS staff are essential members to the Project team but are budgeted separately from the CWS-CARES project budget. Below is a list of CDSS Teams and a description of work that those teams will be participating in during the transition phase of the CWS-CARES Project.

Project Team/Unit	Description of Work during Planning Phase
Service Managers	Create and maintain a vision that embraces outcomes-focused iterative product development across policy and practice. This vision will be represented via the overall CWS-CARES product blueprint, which will inform the CWS-CARES product roadmap. The Service Manager will use the product blueprint to facilitate deeper levels of workflow analysis. This includes the identification of practice and policy research, pain points, system opportunities and metrics to measure the key performance measures of safety, permanency, and well-being of children and youth. In order to execute on this strategy, the Service Manager must ensure that voices of potential end users are present in planning, development (initial & iterative), and implementation of the CWS-CARES. Regular collaboration with current end users, which includes exploring and identifying additional potential user communities that are involved with child welfare and licensing practices and efforts. The gathering and integration of the needs of these entities is crucial to build a compliant CCWIS. Building a pool of collaborative resources

Project Team/Unit	Description of Work during Planning Phase
	will enable the project's ability to test developed features and incorporate feedback in an efficient manner. The Service Manager will facilitate the deeper level of analysis and incorporate the findings of this work within detailed design documents. Ensuring that the content of these documents aligns with the product vision. Collaboration with team members is critical for the following activities: 1. Update changes to the Product Blueprint 2. Oversee level 2 and level 3 analysis of building blocks within the blueprint 3. Ensure program, policy and outcomes information is present in development artifacts
Program Policy/ Administration	Lead efforts to engage and integrate the CDSS program leadership and the stakeholder community in discussions about Child Welfare Contributing Agencies (CWCAs). These initial stakeholder discussions will be geared toward educating the community about the federal definition for the CWCAs and discussing how automation can better facilitate the collection and exchange of relevant child welfare data from the CWCAs. Analysis of existing and developing statute and regulation for system impacts, as well as new service improvement opportunities. Prepare legislative analyses and proposals affecting the CWS-CARES. Facilitate resolution of Statewide program policy questions initiated by internal and external stakeholders. Continue developing a working knowledge of and relationships with other CDSS program and policy units to ensure that appropriate staff are involved in making critical decisions. Provide resources and be the point of contact for state and county CWS staff, other state departments, and other stakeholders on program policy and operational issues pertaining to the CWS-CARES. Prepare reports relating to variety of the complex CWS-CARES program issues and policy determinations. Provide input on user research techniques, such as business process mapping, and use case development. Collaborate with internal and external partners to capture the CWS data and lead in the development of strategies to improve data integrity/quality for the CWS-CARES. Achieve better data outcomes and reporting, agency interface connection and interoperability. Address data exchange requirements, opportunities and obstacles Identify continuous quality improvement process in the incorporation of the CWCAs' data into the CWS-CARES.

Project Team/Unit	Description of Work during Planning Phase
	Apply current case management practices to ensure user compliance with confidentiality of case management data. Provide analytical support to Project teams on CWS policy to ensure technology developments meet/support the build out of Key Performance Indicators (KPIs). Develop methodology for outlining KPIs in defining outcomes and, performing preliminary gap analysis for system data. Collaborate with project teams to determine business requirements as it pertains to KPIs. Participate in the planning discussions of the mapping and designing of a complete financial management business process, to automate recordkeeping of all IV-B and IV-E expenditures from the service delivery level (county) to aggregate county invoicing, including allocation of costs among benefiting state and federal programs (a critical task for FY 20-21); and manage the CDSS and OSI interagency agreement for the Project. Provide oversight and review on financial project documents (Budget Change Proposals, Feasibility Study Reports, Special Project Reports, Planning Documents and Alternative Analyses). Prepare and/or review reports and briefing material for the CDSS, ACF, Health and Human Services Agency, and control agencies regarding fiscal impacts on the Project. Conduct research/analysis on the interpretation and application of child welfare related federal and state laws, regulations, and guidelines related to fiscal responsibilities, reconciliation, reporting and county costs. Provide day-to-day planning support to the CDSS team on the Project. Maintain automated correspondence control, coordinated administrative activities with other organizations. Provide administrative support for Human Resources, Business Services, travel and reimbursements, staff training and development. Oversee and collaborate with the CDSS to ensure that documents created meet the State mandated accessibility guidelines. Stakeholder management and communications to meet regularly with state and county staff to identify system gaps and needs within the within the planned functionality changes. Stakeholder meetings include the Oversight Committee, Regional User Group meetings, and other program and technology advisory committees. • Provide advance research and make recommendations to the CDSS Project managers with resolutions for statewide program policy questions that arise from these stakeholder meetings

Project Team/Unit	Description of Work during Planning Phase
	and ensure contradictory or competitive needs are brought to resolution.

County Consultants

The County Consultant Contracts (See section 4.4.2) are essential partners that perform further deep dives to the Blueprint-based Delivery Methodology and CARES Product Roadmap. These consultants will collaborate with the Product Development Team, to validate, based on the Resource Family Approval (RFA) proof of concept and subsequent deep dives, our Product Blueprint-based Delivery Methodology across the service delivery lifecycle. They will also work with the Product Director to maintain the CARES Product Roadmap and companion Blueprint Status View in accordance with approved CARES Product Development Guiding Principles.

The County Consultants are also crucial team members in the communication model of the CWS-CARES Project. They assist with county outreach presentations, meeting facilitation, and user centered design. They will collaborate with project team and county constituents to help assess the counties level of preparedness for upcoming OCM by soliciting their input regarding upcoming OCM activities, bringing information back to the CARES OCM team, and assisting as needed.

The County Consultants will also participate in the planning efforts for Sandbox which will be a multidisciplinary approach to determining the extent and scope of not only what should be contained in a sandbox environment, but also who should see it and the level of personal information that it might contain.

Project Team/Unit	Description of Work during Planning Phase
County Consultants	Analyze policy needs, research county practices, assist with the development of processes, and participate in design sessions to ensure that existing and new policy is considered for system impact and future development Collaborate with Service Desk team to ensure county needs are met Research and evaluate technical proposals and/or solutions to assist with assessing the overall impact to the Counties and Tribes Research the possibility of using Active Directory Federation Services with the current or any proposed identity management solutions for the purpose of leveraging existing County processes for Authenticating users, including impact to other user groups Research document management solutions for Child Welfare Assist with State research efforts for PaaS selection to include cloud options, customization versus configuration best practices and reporting options that satisfy county reporting requirements and the ability to extract their data. Provide subject matter expertise during the development of Request for Proposals.

County Participation

CWS-CARES will improve the efficiency and effectiveness of the day-to-day processes of over 25,000 users and will introduce significant changes to current business practices within each county. To manage the successful development and adoption of the new system, CWDS also requires direct county involvement in two critical planning areas – organizational planning and product planning.

Organizational planning involves communications and consultation with each county for purposes of understanding each county's operational drivers and dependencies. This includes the approach each county takes to assigning and overseeing work, auxiliary systems that a county is using, unique or emerging local priorities, etc. These factors all contribute in some fashion to the development of CARES. Having insight and understanding about these factors is also important to organizational change planning and organizational readiness for CARES implementation.

At this stage of the project, CWDS needs a dedicated county resource to assist us in polling, researching and/or consulting with counties concerning organizational change factors. For the current year, CWDS is creating a County implementation participation plan which will serve as a baseline for estimating County participation budget for future years. The anticipated activities that the Core Constituents and County resources will be performing include:

- Project Management: Identify and anticipate activities associated with County specific processes defined as vital within each product team
- Data Conversion: Understand, envision and document the best course of action regarding future data conversion activities

- Help Desk: Conduct a focused research effort with the Counties to identify the needs and measures required in a fully functional, comprehensive Help Desk that will address incident management, support for resolving events, problems, and end user requests
- Assisting with planning and change management for PaaS access as CWDS begins to establish the new CARES including research identity management and CARES user access questions

CWDS also requires the involvement of counties in **product planning**. This activity focuses on the question of how CARES will function to meet county business and program needs. These functions include consideration of appropriate workflow management, escalation alerting, outcome tracking, document retention and retrieval, etc.

While participation from all County users is critical to the success of building a new child welfare system, the Core Constituents represent the interests of all counties for their assigned feature set, as we plan for the development of the new Child Welfare system. With the assistance of the Child Welfare Directors Association, Core Constituents from designated counties have been selected as representative subject matter experts within each CWDS development team. Each Core Constituent is embedded in the project team and actively participates as a subject matter expert in policy, and program requirements, key state and federal outcome measures and practice drivers such as decision points and event definitions. CWDS has planned for the availability of these resources by budgeting the cost of the resources identified below. Counties will be reimbursed for these resources based on claims to be submitted as frequently as monthly to the Department of Social Services.

Input from the County Constituents is taken as one, albeit valuable, piece of a puzzle that includes information from project county consultants, CWDA sub-committees, CDSS Program and Policy staff and research and design professionals. The focus is to ensure a broad and comprehensive understanding of user and stakeholder needs so that CARES becomes the best solution possible for CA Child Welfare

Project Team/Unit	Description of Work during Planning Phase
Core Constituents	Act as the “voice of the user” by providing timely, accurate written or verbal response to information requests from the Product Manager; gather communication as a liaison to other users. By engaging in this effort, both the constituent and the Service Manager maintain a consistent flow of feedback during the planning phase that will result in a well-informed product Support research efforts for user needs or preferences by hosting, preparing, and coordinating visits, “ride-alongs”, interviews for business analysts and identified researchers Communicate with County staff, managers and executives as necessary, to obtain facilitated access to the most knowledgeable staff, regardless of organizational position Perform further deep dives including researching the business process understanding within the Blueprint-based Delivery Methodology and CARES Product Roadmap County Constituents will assist in planning the functionality to be built through research, mapping business processes and by identification of county specific needs and requirements

Who are the Core Counties and Identified Constituents?

County	Intake	Case Management	CALS
Butte	2		
El Dorado		1	
Fresno	2		
Lassen		1	
Los Angeles	2	2	2
Merced		3	
Orange	1		2
Sacramento		2	
San Francisco			1
San Joaquin			2
Ventura	1		
Yolo	1		
Total	**9**	**9**	**7**

4.4 Procurements and Approach

The procurement approach for the CWS-CARES Project resulted in many lessons learned. As described in SPR 2, our methodology was to procure several vendors to develop the scope of the CWS-CARES, including separate vendors for the customer facing and back end components. In addition to these vendors, assistance of project support services to provide specialized subject matter expertise (e.g., Agile Coaching) were also required. To this end, the Agile Development Pre-Qualified (ADPQ) vendor pool was utilized when appropriate. This vendor pool was initiated by OSI and is now maintained by the California Department (CDT) of Statewide Technology Procurement (STP).

SPR 2 also described how we explored alternative procurement processes or vehicles to procure consulting services. In collaboration with the California Department of General Services (DGS), the federal General Services Administration (GSA) 18F team, and the CDT STP team, we released a Request for Information (RFI) in May 2016 to solicit interested vendors in establishing a pre-qualified pool of vendors who can provide user-centered design and Agile software development services. This model had already been tested with success in the federal space with the GSA Blanket Purchasing Agreement (BPA) model. The benefits of establishing the ADPQ vendor pool included the following:

- Reduction in development and solicitation procurement time;

- Ability to review vendors' user-centered design and Agile software development competencies prior to soliciting bids; and
- Reduction in administrative costs to the State and bidders.

The process used to leverage the ADPQ is as follows:

- Participating vendors must have a valid CMAS agreement using a GSA Federal Supply Schedule 70 base agreement prior to responding to ADPQs Request for Offers (RFO);
- Project develops an RFO specifying type and quantity of ADPQ labor categories and solicits current ADPQ vendors;
- Project assesses responses in accordance with the evaluation methodology identified in the RFO which considers technical responses/approaches and cost; and
- ADPQ vendor receiving the highest score (best value) is selected.

The ADPQ (renamed in 2018 to Pre-Qualified Vendor Pool for Agile Development—Digital Services [PQVP AD-DS, or PQVP]) was established in July 2016 with 11 qualified vendors. An additional 13 vendors were added during the first refresh cycle in April 2017. A second refresh cycle was conducted in August 2018, resulting in a total of 30 vendors on the PQVP. The PQVP is managed by the CDT, who anticipates refreshing the vendor pool at regular intervals to ensure continued competition and inclusion of high-quality vendors.

While this procurement approach presented many benefits in terms of timeliness on the frontend of the procurement process, there are several lessons learned from the experience. Certainly, the period between SPR 2 and SPR 3 allowed us time to recognize the critical need for a step beyond just the procurement approach alone.

One of our priorities going forward is to execute more rigorous contract management and reduce the number of contracts managed concurrently. In early 2019, an updated Contract Management Plan was developed that identifies the resources, roles, and responsibilities for ensuring contract deliverables are defined, monitored, and that expected services are satisfactorily delivered to meet scheduled milestones and project goals. This plan also addresses other contractual issues, such as transition planning in the case of contract termination, contract disputes, invoice processing, and replacement of contractor staff. In addition, the escalation process outlined in the plan will be used to ensure critical issues are resolved timely to prevent negative impacts to the CWDS organization and its stakeholders.

The Contract Management Plan is a living document, and it is part of the CWS-CARES Project Management Plan. As such, overall contract management efforts are overseen by the CWDS Project Management Office as a check and balance to contract decision making, processes and procedures. Reference the Contract Management Plan, Attachment 3.

4.4.1 SPR 2 Procurement Milestone Status

SPR 2 Section 2.1.7 Major Milestones identified key planned procurements. Table 4-5 - SPR 2 Major Procurement Milestones, below, provides status of the previously approved procurement milestones. As noted in this table, five scheduled procurements

were deferred and re-purposed to align with the needs of the Agile development teams at that point in time, in Spring 2018.

Table 4-5 – SPR 2 Major Procurement Milestones Status

SPR 2 Procurement Milestone	Estimated Completion Date	Actual Execution Date	Change/Reason for Variance From SPR 2
Agile Coach Procurement Complete	2/2016	2/2016	No change. This contract has since expired.
User Research and Design Procurement Complete	4/2016	10/2016	Development of solicitation documents took longer than previously estimated. This contract has since expired.
Procurement Support Consultant	4/2016	7/2016	Development of solicitation documents took longer than previously estimated. This contract has since expired.
Technical Architect Engineer Procurement Complete	4/2016	7/2016	Development of solicitation documents took longer than previously estimated. Renamed to CWDS Solution Architect. This contract has since expired.
API Procurement Complete	5/2016	6/2016	Project entered into Public Contract Code (PCC) 6611 to negotiate terms of contract. Team renamed to Technology Platform Team (TPT) 1. This contract has since expired.
Intake Digital Service Procurement Complete	6/2016	8/2016	Project entered into PCC 6611 to negotiate terms of contract. This contract has since expired.
Agile Coach/PM Procurement Complete	6/2016	10/2017	Repurposed to only provide Agile Coaching services. Contract work will discontinue effective June 30, 2019.
ACYF Advisor Procurement	7/2016	NA	Resource no longer required.
Intake Implementation Procurement Complete	9/2016	1/2017	Project entered PCC 6611 and negotiated with bidders to provide broader implementation support services. This contract expired.
Licensing Digital Service Procurement Complete	9/2016	12/2016	Team renamed to Certification, Licensing and Approval Services (CALS). First solicitation under ADPQ and process was not yet refined. This contract expired.

SPR 2 Procurement Milestone	Estimated Completion Date	Actual Execution Date	Change/Reason for Variance From SPR 2
Platform Procurement Complete	3/2017	3/2017, 10/2017 & 12/2017	Effort decomposed into three TPT teams (TPT2, TPT3, and TPT4) and awarded to three (3) ADPQ vendors. Contract for TPT 2 expired. Contract for TPT 3 expires 7/17/2019 and will continue to support the applications and services in production to resolve any production issues. The contract for TPT 4 is still active and is used to advise and plan for the transition from the existing UX Component Library to a PaaS-based library in a way that preserves and enhances the State's ability to deliver a research-based, user-centered experience that directly supports the value hypothesis for each Product building block/module. Three resources from this contract will support the applications in production to resolve production issues in a timely manner.
DevOps Procurement Complete	3/2017	6/2017 and 10/2017	These services were further decomposed into two (2) separate solicitations: one for general DevOps services leveraging Information Technology Infrastructure Library (ITIL) best practices and Service Desk Support services. The DevOps 2 contract has expired. The Service Desk contract was terminated early effective June 30, 2019.
Security Consultant	3/2017	N/A	Project leveraged existing State resource to provide these services.
Case Management Digital Service Procurement Complete	4/2017	6/2017	Solicitation awarded to two (2) separate vendors. Both contracts are still active. This contract will be used during the planning phase to advise and plan for the transition from the existing UX Component Library to a PaaS-based library in a way that preserves and enhances the State's ability to deliver a research-based, user-centered

SPR 2 Procurement Milestone	Estimated Completion Date	Actual Execution Date	Change/Reason for Variance From SPR 2
			experience that directly supports the value hypothesis for each Product building block/module. This contract will also be leveraged to advise and lead efforts in determining the Research, Analysis and Design roles in delivering data services on the CDI. One resource will be dedicated to support the applications and resolve any issues for the services in production.
NCCD		8/2017	These services extended the current Structure Decision Making (SDM) platform and the business rules currently implemented in the CWS/CMS to the CWS-CARES. Contract expired; no renewal.
Implementation Procurement	7/2017	Deferred	Implementation procurement delayed due to extension of existing Implementation contract. Digital Service procurements were delayed due to lack of technical and infrastructure maturity.
Resource Management Digital Service Procurement	10/2017	Deferred	
Courts Processing Digital Service Procurement	10/2017	Deferred	
Eligibility Digital Service Procurement	4/2018	Deferred	
Financial Management Digital Service Procurement	4/2018	Deferred	

4.4.2 Other Procurements

In addition to the procurements identified above, SPR 2 identified other procurements that were related primarily to County Consultants to serve as subject matter experts, as well as other supporting contracts. Table 4-6 - Other Procurements Completed, below, provides status on those procurements. Additional procured resources that are within

scope of CWS-CARES, but not reported in SPR 2, are shown in Table 4-7 - Unplanned Completed Procurements.

The County Consultant resources were difficult to procure due to the requirement that these consultants be physically embedded within the CWDS work teams. To mitigate this difficulty, CWDS offered different travel options to provide flexibility and ensure the consultants received adequate support. Such flexibility and support included telecommuting and/or traveling to Sacramento on specific days. Additionally, we explored the viability of procuring the services of retired County staff who may have more flexibility in terms of relocating, if required.

The services that the County Consultants have provided in the past two years is integral to the Project's success, and the collaboration with the County stakeholders will continue to ensure adequate representation for each aspect of the Product Blueprint. As we plan for transition to a PaaS development approach, the County Consultants' roles within the teams were reevaluated, as well as the quantity of consultants needed. This reassessment resulted in fewer County Consultant contracts in FY 2019/20.

Table 4-6 – Other Procurements Completed

Procurement Name	Estimated Completion Date	Actual Execution Date	Change/Reason for Variance From SPR 2
County Consultant (CC15) Intake	7/2016	7/2016	No change.
County Consultant (CC16) Licensing	9/2016	11/2017	County procurement process took much longer than anticipated.
County Consultant (CC17) Public Health Nurse	4/2017	No longer procuring	Resource was never found for this contract; after reassessment of the business need, Project is no longer procuring this County Consultant.
County Consultant (CC18) Intake	1/2017	7/2016	Project able to identify and procure resource more quickly than estimated.
County Consultant (CC19) Case Management	1/2017	11/2016	Project able to identify and procure resource more quickly than estimated.
County Consultant (CC20) Case Management	4/2017	3/2018	Project was not able to recruit a county resource to provide these services as quickly as estimated.
County Consultant (CC21) Case Management	4/2017	3/2018	Project was not able to recruit a county resource to provide these services as quickly as estimated.
County Consultant (CC22) – Case Management	4/2017	No longer procuring	Project was not able to recruit a county resource to provide these services as quickly as estimated. After reassessment of the business need, Project is no longer procuring this County Consultant.

Procurement Name	Estimated Completion Date	Actual Execution Date	Change/Reason for Variance From SPR 2
County Consultant (CC23) Case Management	4/2017	No longer procuring	Project was not able to recruit a county resource to provide these services as quickly as estimated. After reassessment of the business need, Project is no longer procuring this County Consultant.
County Consultant (CC24) Case Management	4/2017	1/2019	Project was not able to recruit a county resource to provide these services as quickly as estimated.
County Consultant (CC25) Platform	3/2017	7/2018	Project was not able to recruit a county resource to provide these services as quickly as estimated.
County Consultant (CC26) Resource Management	10/2017	No longer procuring	After reassessment of the business need, Project is no longer procuring this County Consultant and will leverage an existing County Consultant.
County Consultant (CC27) Court Processing	10/2017	No longer procuring	After reassessment of the business need, Project is no longer procuring this County Consultant and will leverage an existing County Consultant.
County Consultant (CC28) Court Processing	10/2017	No longer procuring	After reassessment of the business need, Project is no longer procuring this County Consultant, and will leverage an existing County Consultant.
County Consultant (CC29) – Eligibility	4/2018	1/2019	Project was not able to recruit a county resource to provide these services as quickly as estimated.
County Consultant (CC30) – Eligibility	4/2018	No longer procuring	After reassessment of the business need, Project is no longer procuring this County Consultant, and will leverage an existing County Consultant.
County Consultant (CC31) – Financial Management	4/2018	No longer procuring	After reassessment of the business need, Project is no longer procuring this County Consultant, and will leverage an existing County Consultant.
County Consultant (CC32) – Financial Management	4/2018	No longer procuring	After reassessment of the business need, Project is no longer procuring this County Consultant, and will leverage an existing County Consultant.
County Consultant (CC33) – Implementation/Training	7/2017	9/2017	No change.

Procurement Name	Estimated Completion Date	Actual Execution Date	Change/Reason for Variance From SPR 2
County Consultant (CC34) – Implementation/Training	7/2017	No longer procuring	After reassessment of the business need, Project is no longer procuring this County Consultant.
FAS Interface Consultant	9/2016	1/2017	These services were further decomposed into five (5) separate solicitations: one for Lotus/Domino expertise services, one for C/VB.Net expertise services, one for Natural/ADABAS expertise services, one for Business Rules Extraction expertise services, and one to act as a Scrum Master for this effort. The Business Rules Extraction and Scrum Master contracts have expired. The remaining contracts were terminated early effective June 30, 2019.

Table 4-7 – Unplanned Completed Procurements

Procurement Name	Actual Execution Date/ Term Date	Change/Justification
Agile Acquisition Consulting	9/20/2016-6/30/2020	Contract was terminated effective June 30, 2019.
Agile Coach	1/16/2018 - 1/15/2019	Expired.
Data Conversion PM	2/13/2017-3/3/2018	Change since SPR 2: Skill/resource gap identified. Justification: A large amount of data will need to be transferred to the new system from a variety of existing systems. Other large California projects have struggled with data conversion given the size and complexity of California's data. Having a resource to develop the plan for how the data will be converted seamlessly will help mitigate future risks.
Data Conversion PM	3/4/2018-3/3/2020	Change since SPR 2: Skill/resource gap identified. Justification: A large amount of data will need to be transferred to the new system from a variety of existing systems. Other large California projects have struggled with data conversion given the size and complexity of California's data. Having a resource to develop the plan for how the data will be converted seamlessly will help mitigate future risks. Contract will be extended for time only through 10/2020.
ITSM Services (Service Desk)	11/9/2017-6/22/2018	Change since SPR 2: Skill/resource gap identified. Justification: This resource will provide expert-level services to ensure the project implements ITIL/Information Technology Service Management (ITSM) best practices to meet project objectives. This resource will coach and mentor existing staff to develop these skills within the State resource pool. Contract was terminated early effective June 30, 2019.
Product Management Services	12/1/2017-12/31/2018	Change since SPR 2: Skill/resource gap identified. Justification: This resource will provide expert-level services to coach, advise, and assist the CWDS product management team. Additionally, this resource will foster relationships with end users to understand their challenges and assist in articulating requirements to designers and developers. Contract expired; new procurement for Product Strategist was issued.

Product Advisor Services	12/18/2017-8/30/2018	Change since SPR 2: Skill/resource gap identified. Justification: This resource will provide expert-level services to coach, advise, and assist the CWDS DesignOps team to build a set of reusable components and styles to be used throughout the CWS-CARES. Contract expired; New contract awarded for Lead Product Advisor for Research and Design.
Front End Development	2/13/2018 - 9/24/2019	Change since SPR 2: additional resources needed for Front End Development Justification: Provide Agile Software Development services in collaboration with the CWDS for the front-end design and development of the CWS-CARES Digital Services. Contract was terminated early effective June 30, 2019.
Jira Configuration/ Training	2/13/2018-6/30/2019	Change since SPR 2: Skill/resource gap identified. Justification: Provide Jira software configuration and training services. This contract has expired.
Site Reliability Engineer	3/7/2018-8/31/2018	Change since SPR 2: Skill/resource gap identified. Justification: Provide highly complex and specialized expertise for the software development practice of site reliability engineering, combining software and systems engineering to build and run large-scale, massively distributed, fault-tolerant systems. This contract has expired.
Cloud Architect	11/16/2018 – 11/15/2019	Change since SPR 2: Skill/resource gap identified. Justification: Provide highly complex and specialized expertise for cloud architecture. This contract has expired.
Scheduler	5/17/2018-10/18/2018	Change since SPR 2: Skill/resource gap identified. Justification: Provide expert scheduling services. This contract has expired.
Business Architecture/ Platform Alternative Analysis	10/5/2018-4/14/2019	Change since SPR 2: Skill/resource gap identified. Justification: Provide expertise and resources needed to assist the State in conducting research and analysis on software suitable for integrating with the CWS-CARES Technical Platform. This contract has expired.
Organizational Change Management (OCM)	10/23/2018-10/14/2020	Change since SPR 2: Skill/resource gap identified Justification: Provide a high-aptitude team with OCM subject matter expertise.

		Contract work discontinued effective July 1, 2019 that resulted in four contractor resources offboarding. The contract will remain open in the event the services may be leveraged after the planning phase. In the interim, this function will be covered by state staff.
Product Modularity Contract	11/26/2018-8/31/2019	Change since SPR 2: Skill/resource gap identified. Justification: Provide expertise in the development and execution of the CWS-CARES product strategy regarding modularity and data exchange. Provide experienced subject matter expert to advise the project in analyzing the data exchange and configuration/extension capabilities of PaaS options, as well as scoping specific modules to be developed or acquired and integrated into the CWS-CARES. Planning Phase: This contract supported the Product Blueprint effort. Contract has expired.
Research and Design Leadership Advisor	10/5/2018-10/14/2020	Change since SPR 2: Skill/resource gap identified. Justification: Provide highly complex and specialized expertise in the disciplines of user research and design, including setting direction and driving major strategic and product initiatives. Planning Phase: Advise and plan the transition from the existing UX Component Library to a PaaS-based library in a way that preserves and enhances the State's ability to deliver a research-based, user-centered experience that directly supports the value hypothesis for each Product building block/module. Advise and lead effort to determine the Research, Analysis and Design role in delivering data services on the State-managed data infrastructure.
Cloud Architect	11/16/2018 – 11/15/2019	Change since SPR 2: Skill/resource gap identified. Justification: Provide highly complex and specialized expertise for cloud architecture used for hosting the CWS-CARES' production, staging, and development environments. Provide expertise regarding recommended direction and implementation of available services and technologies. Planning Phase: Conduct discovery, with Service Managers and Researchers, to define requirements for the Identity Management shared service in a PaaS context. Specify a

		to-be organizational hierarchy, independent of legacy structures, as the foundation for assigning permissions. Support development of the access management model for the State-managed Data Infrastructure, including data services and associated APIs. This contract will be extended for time only through 2/15/2020.
Product Strategist	11/21/2018-5/19/2019	Change since SPR 2: Skill/resource gap identified. Justification: Provide expertise in the development and execution of its product strategy. Advise the project with the deployment of a structured decision-making framework to identify what and how modules are developed or acquired and integrated into CWS-CARES. Planning Phase: Provide subject matter expertise, review and feedback to: Acquisition and procurement strategy changes. Assist CWS-CARES leadership and product management team on potential resource changes and approaches. Guidance in defining State goals for acquisition vehicles, management of vendor relationship, alignment of incentives and interests. Collaborate with State and vendor leaders to define feasible technical architectures and culture of collaborative design and delivery. This contract will be extended for time and cost through 5/19/2020
Release Management	12/17/2018-12/16/2020	Change since SPR 2: Skill/resource gap identified. Justification: Facilitate transition from Program Increment planning to new State-approved incremental planning and delivery methodology Planning Phase: Assist in Planning the CI/CD Pipeline design for PaaS Participate in defining the configuration and support of the development pipeline on PaaS, including Staging, Sandbox and Demo environments Develop common strategies for Release Governance, including the Staging, Sandbox and Demo environments Lead the development of State-approved Release and Deployment Management Plan Participate in the development of a State-approved Change Management Plan

		Provide ongoing knowledge transfer to State staff on Release Management Processes and Best Practices Manage and Deliver Software Production Releases for existing digital services (e.g., CANS)
Independent Verification & Validation (IV&V) Consultants	12/21/2018 - 12/12/2021	Change since SPR 2: Skill/resource gap identified. Justification: Provide IV&V services for the CWS-CARES Project. IV&V is the set of verification and validation activities performed by an agency not under the control of the organization developing the software. IV&V services must be provided and managed by an organization technically and managerially independent of the software development project. Planning Phase: IV&V will assess the Project planning activities in terms of Standards and Best Practices, as well as Quality, for such project processes and documents as: Review and assess the transition from Program Increment planning to new State-approved incremental planning and delivery methodology Review and evaluate CI/CD Pipeline Plan and design for PaaS Review and evaluate Release Governance Plan, including the Staging, Sandbox and Demo environments Review and evaluate the State-approved Release and Deployment Management Plan Review and evaluate the State-approved Change Management Plan
Site Reliability	1/10/2019-12/16/2020 (5 Months with three 6 Month options)	Change since SPR 2: Skill/resource gap identified. Justification: Provide site reliability expertise and services in support of a development and operations (DevOps) or “continuous delivery” model for system development and system management for the CWS-CARES Project using information technology infrastructure library (ITIL) best practices. Provide a high-aptitude team with DevOps subject matter expertise. Responsible for the availability, latency, performance, efficiency, change management, monitoring, emergency response, and capacity planning of CWS-CARES. OSI’s goal for this engagement is for the Contractor to automate processes and reduce required effort. Planning Phase: This contract is dedicated to production maintenance activity. Non-planning contracts will support Snapshot and bug fixes.

		Note: Contract will be terminated early if decision is made to discontinue support of CARES-Live.
JIRA Scheduler	4/15/2019-4/14/2021	Change since SPR 2: Skill/resource gap identified. Justification: Provide highly complex and specialized expertise in project scheduling, planning, and timelines, including portfolio level progress for software development in an Agile environment. Provide subject matter expertise using the State's Atlassian Jira, EazyBI, and Portfolio for Jira software for the purposes of monitoring team performance metrics, project scheduling, tracking, reporting, and training services. Planning Phase: This function will continue during the planning phase as the Project assesses JIRA and Confluence usage.
Engineering and Technology Management	10/3/2017 – 10/2/2020	Change since SPR 2: Skill/resource gap identified. Justification: Provide technical management and direction to support the successful implementation of the CWS-CARES Project. Review deliverables, technical infrastructure, and application software produced and advise the State whether those deliverables, technical infrastructure, and application software meet acceptable industry quality standards and best practices to enable long term support and maintenance of the Project by the State. Ensure that all engineering and technology teams function seamlessly and meet the objectives of the Project. Planning Phase: This contract is dedicated to production maintenance activity. Non-planning contracts will support Snapshot and bug fixes for other products in production. Note: Contract will be terminated early if decision is made to discontinue support of CARES-Live.
Solution Architect	3/4/2018 – 3/3/2020	Change since SPR 2: Skill/resource gap identified. Justification: Support the planning, development, and implementation of the CWS-CARES Project. Assist the Project in ensuring that a modern and robust technical architecture is developed for the CWS-CARES solution. Planning Phase: This contract will be assisting the project during the planning phase to develop a PaaS-based Enterprise Architecture, including the State-managed Data Infrastructure, and then determine the most efficient and flexible way to organize and track building out CARES data services in tandem with PaaS configuration.

Enterprise Application Architect	8/12/2019-2/11/2020	Change since SPR 2: Skill/resource gap identified. Justification: Provide hands-on technical leadership in the best practices of planning for the development, and systems operation within a Platform as a Service development model by working with teams to break technical requirements down into well-scoped stories. Guide planning activities for the design and implementation of APIs and underlying services implementing the CARES domain model. Evaluate, select and guide the implementation of cloud-native platforms and services, such as API gateways, service fabrics, search engines and platforms supporting content and business process/rules management.
Service Now Services	10/01/2019 – 9/30/2020	Change since SPR 2: Skill/resource gap identified. • 240 Service Hours – OSI/CWDS Instance Separation from OSI operations
Sparx EA Services	10/21/2019-1/18/2020	The Contractor shall provide training and mentoring sessions to CWS-CARES staff, who support the Project's Architecture, Research, Analysis, and Design groups, that cover best practices and techniques using the Sparx Enterprise Architecture (EA) software. The training and mentoring sessions will provide Project teams with an increased competency to develop architecture and business analysis artifacts that will be used to effectively deliver working software. This enhanced capability will provide better management and increased collaboration among the Project groups during the design and build phases of the new system.

4.4.3 Upcoming FY 2019/20 Procurements

As we transition to a CRM-based PaaS, there will be three primary vendors we plan to procure: Platform Integration Services, Product Value Services (PVS), and CARES Data Infrastructure (CDI) contract resources. Please see the Contract Roadmap for the major procurements related to PaaS and CARES-Live, Attachment 4.

Contract Title	Scope of Contract	Estimated Cost*	Estimated Term/Duration
Procurements that have Exemption from Prior Approval			
Identity and Access Management Business Analyst	Provide services to assist the information security team to plan for and establish identity access management within the Project prior to onboarding project resources. This includes account/access management based on role and job functions. Capture and document the data sources for identity management and the workflow of the identity management lifecycle. Engage stakeholders to validate the documentation and determine the authoritative source of identity management throughout the lifecycle. Identify where there are gaps in people, process, or technology.	$105,600 (1 Resource)	1/07/2020-4/6/2020 (3 Months)
Service Now Maintenance Services	Provide services to assist with maintenance and operations of Services Now as follows: • Repair any bugs or damage caused by upgrades, workflow malfunctions, etc. • Fix issues and workflows for IT Service Management, Change Control, Infrastructure, Knowledge Base, Customer Landing Page • Test and verify configurations, settings, online forms, workflows, tables, scripts, etc. • Upgrade and installation of patches • Securing the application • User administration • Subject matter expertise to optimize performance, reliability and system automation • CSM Portal for PaaS • Automate Role Based Access by cataloging software, auto-creating accounts in other systems, and managing access in a single location	$95,000	03/12/20-3/11/21 (12 months)
Procurements that the requires ACYF Approval prior to release and execution			

Contract Title	Scope of Contract	Estimated Cost*	Estimated Term/Duration
CARES-Live Production Support Services	Provide CARES-Live maintenance and operation services within a cloud hosting infrastructure, including continuous integration and continuous delivery (CI/CD) services. The Contractor will also help plan and support the migration of CARES-Live capabilities and data to a new PaaS. This Contractor team includes a Lead Web Developer and five Web Developers providing both front end and back end development service and will be part of a multi-functional team consisting of state, county, and other vendor resources and shall collaborate with these resources as required. If decision is made to discontinue support of existing CARES, scope and cost of contract services will be reduced.	$6,220,800 (6 Resources)	05/14/2020-05/13/2023 (12 Months with two 12-Month Options)
CARES Data Infrastructure (CDI) Services	The vendor will provide the CARES Data Infrastructure (CDI) solution for the Child Welfare Digital Services (CWDS). The CDI solution will include the planning, design, development, and implementation of the CDI as a key aspect of the CWS-CARES Enterprise Architecture and an integral component of California's Comprehensive Child Welfare Information System (CCWIS), pursuant to the federal requirements in 45 CFR section 1355.50 et seq. Essential data services provided by the CDI shall include: • Data conversion support capabilities (e.g., workspace environments, tools, and development of logic for mapping, cleansing, and transformation of data from contributing systems to CWS-CARES); • Data quality monitoring capabilities (e.g., automation that supports continuous data quality monitoring and CWS-CARES user experience analytics); • CWS-CARES data exchange; • CWS-CARES business rules enforcement; • CWS-CARES master data registry (index) maintenance; and • CWS-CARES data stores as the system of record for longitudinal historical, aggregated, and derived data.	$53,328,000 (Begin with 6 resources the first six months; increase to 10 resources for the next three months; peak at 30 resources for 27 months; decrease down to 26 resources for six months; decrease down to 20 resources for 6 months; then reduce to 15 resources for the remaining 24* months)	10/02/2020-10/01/2026 (48 months with two 12-month options)

Contract Title	Scope of Contract	Estimated Cost*	Estimated Term/Duration
Platform as a Service (PaaS) Integration Services	Provide PaaS integration services. Child Welfare Digital Services (CWDS) seeks a qualified integrator to provide expertise and services in platform architecture, configuration, development, and integration of a Statewide enterprise solution using a PaaS cloud solution for the Child Welfare Services-California Automated Response and Engagement System (CWS-CARES).	$76,838,400 Begin the initial product team with 9.5 resources the ten months; add additional resources to support two product teams for a total of 34 resources for the next four years; decrease down to 28.5 resources for ten months; then down to one team of 19 resources for the remaining contract term	08/11/2020-08/10/2026 (48 months with two 12-month options)
Limited Term Salesforce Licenses Subscription	Project is leveraging Salesforce Service, Health and Community Cloud subscription services for the underlying CWS-CARES platform. These limited term Salesforce license subscription services will be used by the project for discovery and training purposes prior to development activities.	$1,032,658	01/31/2020 – 07/30/2020
Full Term Salesforce Licenses Subscription	Project is leveraging Salesforce Service, Health and Community Cloud subscription services for the underlying CWS-CARES platform. These full-term Salesforce license subscription services will be used by the project for configuration and development activities. Salesforce coupled with the CARES Data Infrastructure (CDI) will comprise the entirety of the CWS-CARES solution.	$61,615,752	07/31/2020 – 07/30/2120 (12 months with five 12-month options)

Product Value Services (PVS)	The Contractor that will work closely with the CWS-CARES Project Team, including various vendors involved in the Project, to provide business, technical and project advisory services. This includes services to manage risk, make data-informed trade-offs and guide the project team to successfully deliver CWS-CARES. The Contractor shall provide a highly-technical team of Consultants to work, under the direction of CWS-CARES Project Team to implement requirements and ensure the goals referenced below are successfully accomplished and implemented: • Apply user-centered service design and experience design to fundamentally improve California's Child Welfare processes across the full case lifecycle. Such improvements will reflect clear value hypotheses that tie product features to opportunities to streamline workflows, resolve user pain points, meet program goals and reinforce the elements of California's Integrated Core Practice Model (ICPM). • Enable fact-based and transparent product decision making grounded in policy/program research, user research and product (user behavior) analytics. • Maintain a Product Roadmap that reflects CARES Product Development Principles, including efficient PaaS configuration/development and incremental delivery of coherent Product Building Blocks that make sense and are readily testable by users. • Provide as contributing members of CARES Delivery Central, a complete, timely, and accurate view of the progress along with the Product Roadmap and the phases of the CARES Service Delivery Lifecycle. This view will include not only the delivery of configured workflows on PaaS, but also the underlying shared services and supporting of the CDI capabilities. • Provide specialized expertise of Service Delivery Lifecycle Advisors to develop, maintain, and enhance the CWS-CARES Service Delivery Lifecycle methodology.	$36,064,000 (Begin with 7.5 resources for one year; ramp up to 17 resources for the remaining contract term.)	07/20/2020-07/19/2026 (48 months with two 12-month options)

Contract Title	Scope of Contract	Estimated Cost*	Estimated Term/Duration
CARES-Live Site Reliability	The Contractor will provide site reliability expertise and services in support of a development and operations (DevOps) or "continuous delivery" model for system management for the CARES-Live using information technology infrastructure library (ITIL) best practices. The Contractor will provide a high-aptitude team with subject matter expertise and a drive for action and innovation in supporting a public Information Technology (IT) project. The Contractor will be part of a multi-functional team consisting of State, county and other vendor resources and shall collaborate with other Project teams as required to support the CWDS organization. The Contractor is responsible for the availability, latency, performance, efficiency, change management, monitoring, emergency response, and capacity planning of CWS-CARES. OSI's goal for this engagement is for the Contractor to automate processes and eliminate toil.	$1,932,787 (3 Resources)	10/28/2020-10/27/2022 (12 months with one 12-month option)
Splunk Software and Services	Purchase Splunk Enterprise software, Educational Units, and sixty days of professional services.	$261,000	2/5/2020-1/4/2021
Placer County Consultant	Provide county subject matter expertise	$748,786	1/1/2020-12/31/2022
San Bernardino County Consultant	Provide county subject matter expertise	$356,807	4/1/2020-3/31/2022
San Francisco County Consultant	Provide county subject matter expertise	$409,143	4/1/2020-3/31/2022
Los Angeles County Consultant	Provide county subject matter expertise	$676,684	7/1/2020-6/30/2023
Los Angeles County Consultant	Provide county subject matter expertise	$754,408	7/1/2020-6/30/2024
San Francisco County Consultant	Provide county subject matter expertise	$620,181	7/1/2020-6/30/2023
San Mateo County Consultant	Provide county subject matter expertise	$914,908	8/1/2020-7/31/2024
Riverside County Consultant	Provide county subject matter expertise	$293,573	1/1/2021-12/31/2022
County Welfare Directors Association	Provide county subject matter expertise	$997,500	4/13/2021-4/12/2024

4.5 Benefits Achieved to Date

Since the submission of SPR 2, we have learned many lessons in this project; all of which have caused us to pause and reassess our overall strategy and the most efficient way to successfully accelerate in a manner that fulfills the needs of our end users. We are now ready and able to apply those lessons learned, and the benefits achieved in the past two years will enable us to achieve even greater benefits for our users in the future.

Since 2017, we received various project improvement recommendations from several invested stakeholders; including 18F, Administration on Children, Youth and Families (ACYF), California Department of Technology (CDT), Leading Agile, and others. In May 2018, Leading Agile returned to assist the Project in prioritizing the recommendations and established a goal for us to define the tasks to address the prioritized recommendations. This effort resulted in an actionable list of activities that helped the Project resolve key impediments to achieve its goal to deliver valuable working code in September 2018. This work consisted of the following:

Operational Improvement	• Improve the stability, scalability and reliability of the Development Pipeline • Enhance and standardize the Release Management process to ensure full understanding of the state and stage of all readiness criteria for the release of working code into the production environment • Establish End-to-End Decision Framework to facilitate timely and appropriate decision making • Re-establish Agile fundamentals to ensure that teams are performing at optimum levels • Create an Executive Dashboard (using Jira) to help ELT to effectively lead and manage the project • Design and implement a Change Management Plan that will provide the necessary opportunity for planning and communications essential to healthy transitions • Plan for and ensure leadership and coverage for all work necessary for both product development and maintenance and operation of the CWS-CARES production system. (aka System Integration maturity) • Update and refine the Internal and External Communication Strategies
Product Delivery	• Legacy Strategy – continue to evaluate and then select and implement the appropriate strategy for ensuring the continuity of maintenance and use of legacy systems while CWS-CARES is being developed

- Product Strategy – develop a “whole system” artifact – aka “Blueprint” to expose all necessary business function components. Leverage this to consider and plan for the most efficient approach to building the new system.
- Ensure all stories are prioritized, pointed and assigned to teams to ensure the successful release of Cognito/Snapshot into Statewide use by September 2018.

There were both short-term and long-term benefits achieved because of these efforts. In the short-term, we gained momentum in our development and implementation practices and started meeting our delivery commitments as stated in the Product Roadmap. We soon learned, however, that the more frequently we delivered new functionality to the counties, the more disruption we were causing to our end users. The counties found it difficult to keep up with both the quarterly releases of CWS/CMS, as well as the delivery of incremental releases for CWS-CARES as each required that some staff be pulled off the line to attend training when new functionality was delivered. Applying this lesson learned to the development of an Implementation Strategy that allows the Project to continue agile software development while concurrently enabling county and State end users to test and become acclimated with the new features and functionality in a Sandbox environment prior to it being promoted to production will provide a long-term benefit.

In September 2018, the Project as we initiated an Acceleration Strategy, which resulted in a decision to use a Customer Relationship Management (CRM) based Platform as a Service (PaaS) to increase the efficiency and effectiveness of delivering CARES to County, State, and other pertinent users. Also, many of the results and artifacts from this effort will benefit the Project significantly going forward, for example, work on the Product Blueprint and Domain Model produced essential Project artifacts that will contribute to the transition plan as it is further defined. See Section 5.1 for more information.

4.6 Expenditures to Date

Table 4.8 provides a display of total Project expenditures including actuals from Fi$CAL Reports, CDSS and CalSTARS reports through March 2019, and processed invoices through December 9, 2019:

Table 4-8 – CWS-CARES Project Expenditures to Date as of October 2019

SPR Approved Amount	Actual Expenditures	Remaining Budget
$420,774,069	$155,331,165	$269,658,364

4.7 Strengthen Security Infrastructure

In the As-Needed APDU that was submitted to ACYF in October 2018, we had set goals for incorporating security scans in improved build automation. This would be accomplished by:

- Automating security patch management
- On-going scanning for security vulnerabilities and conducting penetration testing

In the time since submitting the As-Needed APDU, the security team-initiated Postgres database auditing which ensured that all audit logs are saved and archived.

The Security team was able to automate the login for Rapid7 (a third-party application that enables automated static security code testing) against the CARES application in the pre-integration environment, including scans in the CI/CD.

The team also focused on VPN hardening and security improvements which included ensuring user passwords conform to OSI password complexity and expiry rules, implementing audit changes in Spider VPN and implementing a user validation report. For Static Code Analysis we are using SonarQube.

4.8 Improve the Pipeline and Factory Improvement Team (FIT)

The As-Needed APDU also discussed the need for build automation improvements and the need to stabilize the environments in the delivery pipeline. The goal of this work was to develop and factor the improvements into a tested disaster recovery process. Focus was also placed on automating the promotion of code through the delivery pipeline to prevent failed deployments and enable continuous delivery. This will significantly increase predictability for Release Managers and Product Owners.

In the time since submitting the As-Needed APDU, the FIT team was able to standardize the delivery process across all development teams and digital services. Tool standardization and code repository standardization also took place. This team established a repeatable delivery process with a mix of automation and manual quality code reviews. The FIT team also:

- Added/enhanced pull requests and master builds for all active projects
- Updated all master builds to automatically apply SemVer tags to GitHub repository and docker images
- Enhanced the delivery pipeline to include automated smoke tests for the Pre-int and Integration environments and for updating the CWS-CARES manifest file
- Established the preliminary foundation for CWDS code standards by implementing, configuring and integrating Code Climate and SonarQube into the automated delivery process
- Enhanced New Relic Synthetic Monitors to check all projects through system-information endpoints
- Built a system generated code checkpoint (gem) to support system health checks on all front-end projects

- Pinpointed additional opportunities to improve code quality processes
- Built an authorization gem to support standardized authentication for all front-end projects
- Added several shared libraries for Jenkins jobs to standardize pipeline steps including:
  - Automatic creation of open source license reports
  - Scanning containers
  - Automatically configuring webhooks from GitHub
  - Linting/Static Analysis
  - Smoke testing
  - Slack notification
  - Created and implemented a process of versioning in pipeline
- Enhanced development pipelines to the integration environment with a standardized process

Although the team delivered many key items, disaster recovery, high availability, and monitoring tasks were not completed. Throughout the work period, the FIT team's area of focus was re-prioritized and added value to improving the custom development environment.

4.9 Improve Code Quality

As described in the As-Needed APDU, it was decided that a team would be dedicated to measurably improve code quality by:

- Enforcing test-driven development (TDD) and measuring unit test coverage
- Standardizing the use of code quality tools, including SonarQube and Code Climate
- Establishing a test suite of automated functional and scenario tests to complement manual QA. These tests will include scenario-based test data in all environments that do not have production data
- Finishing the UX component library and ensuring that all components are tested to the same standard and work in combination

The code quality team first focused on identifying and implementing developer testing standards, shared code standards, and user story standards. Once these standards were in place, the team focused on code analysis that included fully implementing and configuring SonarQube and Code Climate. These two tools ensure that all code checked into the delivery pipeline is scanned and meets the newly developed code standards.

Work was also performed to build and maintain a component library. This library includes front-end product components that are used throughout the CARES application. This ensures a standard look-and-feel and functionality throughout the CARES system.

4.10 Prove Legacy Integration and Synchronization

The As-Needed APDU submitted to ACYF also described the dedicated team that was formed to test a range of technologies, including application programming interfaces (APIs), and data transformation engines, to determine the technical feasibility and cost-effectiveness of legacy integration and synchronization. The goal was to use specific, realistic Hotline scenarios to demonstrate if it is possible to map CARES concepts, including those that do not conform exactly to old legacy structures and business rules, to the legacy system without introducing downstream editing errors or data quality problems. This investigation answered the question: Can CARES co-exist with legacy in a technically feasible, predictable, repeatable and cost-effective way.

CWS-CARES developed a Legacy Strategy and Integration team that developed and analyzed the potential of four options to meet the following goal:

> Ensure that the functional capabilities of CWS/CMS are adequately maintained during the time that CWS-CARES digital services are being deployed for Statewide use on an incremental basis without limiting the extent of innovation and modernization needed to achieve CCWIS compliance.

The four options, which present different types and levels of both technical and business risk, are:

A. Smaller (thin sliced) releases to production, with full synchronization. Following this approach, we would build CARES, with a new domain model on a greenfield database, in small increments. While this option promises regular delivery of new capabilities to Production, with high opt-in flexibility, it presents high data transformation and synchronization complexity - to enable downstream legacy transactions - and may be disruptive to county operations.

B. Larger (chunked) releases to production, with bundled synchronization. Option B is like Option A, except that we would attempt to scope releases in considerably larger chunks, along “clean” business process boundaries that minimize data transformation and synchronization complexity. The idea is to deliver larger units of work that allow CARES to bundle transactions in ways that reduce the likelihood of breaking legacy downstream. While this option would reduce disruption to county operations, it would require all counties to opt in as the project decommissions legacy functionality along the way.

C. Smaller or larger releases to production, on a single shared database. This option significantly reduces synchronization - and attendant exception handling - complexity by maintaining CARES and legacy functionality on a single database instance. It does not, however, eliminate the need to map between old and new domain models, if that transformation is required to achieve CCWIS compliance. Minimizing such transformation complexity will likely require making changes to legacy code, at all levels of the

legacy stack, to enable the cost-effective delivery of improved CARES functionality.

D. Single scheduled cutover to production, with continuous, smaller releases - along with incremental trial data conversions - to staging for user testing. While this option would maximize the project's ability to deliver a fundamentally improved system and minimize disruption to county operations along the way, it would rely on intensive testing and validation in a staging environment and would require all counties to opt in at the point of cutover. It might also require manual methods for keeping legacy available as a "safety net"

The Legacy Task Force decided to analyze a single shared database (Option C), in greater depth because of the extent to which it would reduce the technical and practice (child safety) risk associated with data synchronization without requiring a single scheduled ("big bang") cutover.

Synchronizing data in two different data models is a high-risk proposition. Additionally, exception handling – performed when the data does not successfully transform back and forth – is largely custom-built, with few data integration points available, further increased the risk. Our investigation concluded that data synchronization between different data models is not feasible. This determination resulted in other efforts in progress on data synchronization (i.e. exception handling and the assessment of the MuleSoft data integration platform) to be stopped.

Accordingly, we collaborated with IBM to test the feasibility of sharing a single database, adding in new data model changes as needed to support CARES, but ensuring these changes would work with the existing CWS/CMS software. We also worked with IBM to research the level of effort and risks involved with this option.

The scope of our test included the following:

- Add location to address table
- Adding "Online" option to feedback drop down
- Simulate (no development) a large change:
    - Change how Reporters are captured on Referrals
    - Add the concept of a Household
- Conduct a POC on a more complex scenario - Identify Reporter as a Person

We learned that, while the single shared database approach is technically feasible, it is not economically or operationally viable. The single shared database approach would:

- Seriously constrain our ability to deliver fundamentally new CCWIS-compliant features
- Potentially destabilize the legacy system
- Require counties to adjust to changes to both (CARES and Legacy) applications along the way
- Add years (compared with a PaaS approach) to project delivery
- Require a risky database migration and data conversion once CARES is in place

- Require us to implement costly new infrastructure for managing the two development environments as one

5.0 Proposed Project Change

In accordance with the State Administrative Manual (SAM) Section 4819.36, this SPR is being submitted to the CDT as a result of changes in the CWS-CARES Project approach, schedule and costs as compared to SPR 2 approved in March 2016.

In August of 2018, it became clear that we needed to reconsider some of the SPR 2 approaches that were initially thought to be promising for effective and efficient software development for CARES. Through experience and further research, we now appreciate that some of the originally planned approaches should change. This is in keeping with the spirit of the agile software development methodology. The chart below shows the comparison of the SPR 2 plan to the SPR 3 plan outlined in this document.

CARES Development Plan in SPR 2	Priority	SPR 3 Plan
Direct Involvement of County and State Partners	1	Y
User Centered Design	2	Y
Agile, Iterative Development	3	Y
Modular Development	3	Y
Modular Procurement	4	Y - (modified)
State Staff Assuming Development and Operational Capability	5	Y - (modified)
State as the System Integrator	6	Y - (modified)
State Ownership of the System	7	Y - (modified)
Open Source Technology	8	Y - (modified)
Iterative Delivery to Production	9	N - (Iterative Delivery to Test)
Integration with the Legacy System (necessary for Iterative Delivery)	10	N

Modifications to the CARES Development Plan

Modular Procurement

Following SPR 2, the Project's approach was to conduct modular procurements and break up CWS-CARES development work into small, tightly-scoped digital services, utilizing the Agile Development Pre-Qualified (ADPQ) vendor pool. Nine contracts were awarded to vendors to undertake the development on each of the identified digital services (e.g., Intake) that would comprise the complete system. The problem with this approach, however, was that each digital service team worked in their own silo, without a holistic understanding of system needs. We learned a valuable lesson that is now

being applied, which is to prepare and maintain a Product Blueprint and Roadmap that conveys the totality of CARES scope, dependencies, shared features/services, and the order in which to build features. These artifacts, along with our CWS-CARES Product Development Guiding Principles document, will provide guidance to the development/configuration teams as we proceed with a PaaS. Please reference the CWS-CARES Product Development Guiding Principles document for more information, Attachment 5.

We will still conduct modular procurements; however, they will be based on skill sets for the work to be completed, versus by digital service. For instance, we plan to procure an integration services vendor with expertise in platform architecture, configuration, development, and integration of a statewide enterprise solution using the selected PaaS. We also plan on procuring a Product Value Service contract that will work closely with the CWS-CARES Project Team, including various vendors involved in the Project, to provide business, technical and project advisory services. This includes services to manage risk, make data-informed trade-offs and guide the project team to successfully deliver CWS-CARES.

State Staff Assuming Development and Operational Capability

Recruiting State staff with the necessary experience and skills in custom development proved to be virtually impossible over the past three years. However, the Project still plans for State staff to assume responsibility for CARES, in terms of system enhancements and operational capability; but this transfer of responsibility will not happen until later in the project's life cycle. Due to the change in the development approach (PaaS versus custom development), different skill sets are required. State staff will require training. Through our market research, we have confirmed that PaaS training is readily available for IT professionals seeking to learn about how to develop, maintain and operate these platforms. A platform integration services vendor will be on the project for a minimum of four years to allow State staff will have on-the-job training allowing them time to learn how to develop in and how to support CARES in the PaaS solution.

State as the System Integrator

OSI will continue to be responsible both for project management as well as system integration; however, we recognize the need for a more mature system integration capability. The original premise of the project was that by using modular procurement and fielding six or more development teams to tackle each of the identified digital services that would constitute the complete system, the role of the State would be to act as the System Integrator to coordinate and facilitate efforts across the wide variety of project activity and functions. Our experience, however, has demonstrated that the State lacks both the expertise and capacity to perform this function effectively. With the addition of a vendor to provide support for integration services, we will be able to leverage outside expertise to learn and become more knowledgeable about system integration. Together, the integration services vendor and the State team will ensure that the different modules and components of the CARES system work effectively as a comprehensive whole.

For more information on the System Integrator role, please refer to 5.2 Product Delivery Strategy.

State Ownership of the System

One of the contributing factors to the decision to use Open Source Technology and essentially custom develop CARES was that it would ensure that the State owned the new system. This ownership was thought to be a driver of continuous improvement for the system such that the system's business functions and technical architecture would never become obsolete. This desired outcome would prevent the future need for a complex and costly future system replacement effort. However, as it became apparent that custom development was far costlier and time consuming than originally envisioned, the project team evaluated the PaaS in the context of the above stated goals. We found in our evaluation and market research that ownership was of lesser importance than the capability to modify and improve the system on a continuous basis. We evaluated the market leaders in PaaS with CRM applications and confirmed that their business models and market share provided a solid assurance of both the company's future longevity as well as their own on-going investments to enhance the capabilities of their platforms. Platform as a Service is essentially leasing hardware and software from a platform vendor. This development model simplifies and expedites our capability to develop CARES. We concluded that this was an acceptable trade-off for full state ownership. We also confirmed that in using the platforms, we will always have rights to and control over our data, our business rules and other system and program artifacts should there ever be a need in the future to move from one platform to another. We also confirmed that, in developing the CDI in tandem with building on PaaS, we can maintain data models, process models, and business rules in standard, portable formats that support State ownership of these key assets.

Open Source Technology

Following SPR 2 approval, CWS-CARES embarked upon an innovative new approach for California State government, using DevOps tools and processes, free/open source software (FOSS) and user-centered design. There were many risks associated with the FOSS approach, however. The software licensing for Open Source Technology was not well understood by the project team when the first development contracts began. FOSS required more technical and legal expertise to effectively manage the myriad of licensing requirements than the project team initially appreciated. OSI Legal has been, and continues to be, significantly involved with the Project to help resolve conflicts and ensure the licensing compatibility of open source components. As we transition to a PaaS based solution, the use of FOSS will greatly decrease. FOSS may be utilized, to a lesser degree, when building new application functionality on the platform that is not otherwise available in the CRM, and when architecting the CDI. Please see section 5.6 for further description of the CDI.

Iterative Delivery to Production

In November of 2015, the Project moved from a waterfall development approach to an agile approach, emphasizing user-centered design, with iterative and incremental development and production delivery to the counties. But in considering this approach, the project team lacked sufficient experience to recognize the overall complexity of the system, the dynamic realities of children's changing needs and circumstances, and the county's capacity to adapt to incremental changes while continuing to use the legacy system (CWS/CMS) at the same time. During our evaluation of alternatives for CARES

development, the counties made it clear to the project leadership that they had concerns that incremental delivery of new CARES capabilities presented a risk to child safety. Agile methodologies ascribe to an approach that puts new capabilities into the hands of users as quickly as possible and then obtaining user feedback and improving those capabilities iteratively. We concluded that we should not expose users to incomplete or insufficiently verified working code for the modest benefit of incrementally implementing CARES.

As a result of listening to our users, project leadership decided that the system development approach will remain agile, but the iterative delivery will instead be to a production-like testing (Sandbox) environment. This environment will allow the users to experience, validate, and provide feedback on new functions and features without the risk of disrupting operations or compromising child safety. Deployments to production will only occur when enough has been developed to add business value as a whole end-to-end process, and we have concurrence from the counties that there will be no compromise to child safety as a result of the implementation.

Integration with the Legacy System (necessary for Iterative Delivery)

The necessity to establish a viable approach to sharing data between CWS/CMS and CARES was informed by the goal of iterative deployment of CARES capabilities to users while CARES was being developed. As stated above, CWDS received feedback from the counties that iterative deployment of CARES was disruptive to their operations and working in two systems simultaneously introduced complexity, risk and workload impacts to their workers. More information on Legacy Integration and Synchronization can be found in Section 5.1.3.

Evaluation of acceleration alternatives for CARES

Along with reconsidering the approaches outlined in SPR 2, we wanted to take a thoughtful and evidence-based approach to understanding what it would take to improve our efficiency and effectiveness in delivering CARES.

In August 2018, acting on the advice of CDT, CWDS undertook research to identify ways to accelerate progress, including PaaS solutions. We called this effort our “Acceleration Strategy”.

PaaS refers to cloud-computing environments that enable rapid configuration and/or development of applications, provide a secure and scalable infrastructure maintained by the PaaS vendor, and allow the PaaS customer to focus on business needs and application features, instead of also having to develop and maintain the physical and software components of the computing capabilities.

Over the past six months, the Acceleration Strategy work progressed in three primary work streams:

a) Product Blueprinting and Domain Modeling to significantly enhance our clarity of the “to be” business requirements
b) Legacy Integration/Synchronization research to evaluate the extent and limits of CARES integration capabilities with CWS/CMS

c) Evaluating PaaS Proof of Concept (POC) and PaaS Market Research as a possible alternative to custom development

As a result of this research as well as our lessons learned to date, we have concluded that utilizing a PaaS for the core CARES application is not only feasible but would be far more efficient and effective than custom development. We are confident that our modified agile development and delivery approach, to include publishing a CARES Product Blueprint and Product Roadmap (see Attachment 6 and 7) and leveraging a PaaS, in tandem with an integration services vendor, will remove the major impediments to progress. This more focused approach will help us to deliver a complete and effective CCWIS-compliant system in the most expedient manner possible. The publication of the CARES Product Blueprint and Product Roadmap will inform all stakeholders of our plans for development and will be referential for evaluating our progress.

The Project is reporting proposed changes to SPR 2 approved in April 2016 with respect to:

Applying Product Strategy and Project Lessons Learned:

Product Delivery Strategy:

The assumption in SPR 2 was that each digital service team would undertake development of applications to replace the CWS/CMS. This approach has been reconsidered as it resulted in each digital service being developed in a silo without consideration for interrelated functions and features. Furthermore, this approach did not focus on top enterprise priorities for innovation, improved program outcomes, and efficiencies for the CWS system users.

Moving forward, we will determine product development priorities by utilizing the following three Project artifacts: The Product Blueprint, Product Roadmap and CWS-CARES Product Development Guiding Principles.

Duration and Timing:

We are estimating that the project will require an additional three years to complete the development efforts, with an additional year of stabilization with the anticipated completion date of December 31, 2024. Going forward, we will report quarterly the forecasted project completion date. After the onboarding of all vendors for the PaaS solution, we will have a clearer understanding and can report this information on a quarterly basis, beginning July 2020.

See Section 5.3 further explanation.

Overall Project Status:

Going forward, we will report quarterly the overall percentage done for the Project. After the onboarding of all vendors for the PaaS solution, we will have a clearer understanding and can report this information on a quarterly basis, beginning July 2020.

Overall Project Costs:

We are reporting a significant underspend in Project expenditures since SPR 2. Going forward, we will report quarterly the forecasted overall project costs. After the onboarding of all vendors for the PaaS solution, we will have a clearer understanding and can report this information on a quarterly basis, beginning July 2020.

5.1 Applying Product Strategy and Project Lessons Learned

5.1.1 Develop one product at a time

Following the approach described in SPR 2, until September 2018 we were developing multiple product features concurrently for several digital services. This resulted in lack of focus, lack of consistency in the look-and-feel of the product and impediments to delivering working code. In October 2018, with advisement from ACYF, we decided to focus on developing one product feature set at a time. The Child and Adolescent Needs Assessment (CANS) was chosen as the one feature set we would focus on.

Delivering one product feature set at a time helped us understand what it means to tightly scope and prioritize product features, communicate with stakeholders about those priorities, including how they support practice improvement, and focus on work completion. This process was tested with the CANS development and release to production. This allowed for better understanding of how we can develop and enhance a new feature iteratively, and because CANS is entirely new and not currently represented within the CWS/CMS system, our development effort could focus exclusively on design results which afforded the most efficient and effective user tool possible.

Over the past three years, the project struggled with the “legacy problem”. The question was how to effectively develop a new system while the users still depend on and must use the legacy system. The challenge was that a new system could not be entirely new or creatively developed with new design objectives if it also had to compliment and/or not contradict the design limitations of the legacy system. Ultimately, we concluded that iterative deployment was ill advised for the reasons described above, and in consideration thereof project leadership affirmed that CARES should be developed with a clear focus on improving child welfare outcomes and on improving user efficiency and effectiveness. The constraints presented by developing CARES with a dependency on legacy data sharing, were determined to be too costly.

For all these reasons, CWDS has determined that deployments to production will only occur when enough has been developed that there is no continuing dependency on functional use of CWS/CMS or on FAS and LIS as applicable. We will only deploy end to end processes which fully replace any data or capability needs of CWS/CMS or on FAS and LIS. To accomplish this, CWDS will develop a detailed data conversion plan that includes data mapping, transformation and migration as a companion activity to system development.

5.1.1.1 Establish a Product Blueprint and Domain Model

Based on the lessons learned from fielding six discrete digital services teams working in silos, we gained a full appreciation for the importance of having a holistic view of the

complete product including logical workflows, sequencing of events, and shared services. In October 2018, we started creating a user-centered Product Blueprint. This work has identified a “building-block” view of the product that encompasses the Product Blueprint and the new CARES Domain Model.

SPR 2 did not discuss the need to create a “to be” business requirements baseline for software development. There was an assumption that these would emerge from use of the agile software development methodology. This is another lesson learned for other state projects in the future. While agile provides an excellent approach for soliciting and validating details about how the service or feature will function, projects of the size and complexity of statewide systems like CARES require a clear and complete reference artifact to ensure that nothing is overlooked and that the project teams are able to verify progress toward completion. The Product Blueprint and Domain Model has provided this clarity in terms of a holistic view of CARES and the components and requirements that need to be built. A copy of the most recent Product Blueprint can be found here: CARES Product Blueprint[1].

5.1.2 Choose PaaS vs custom development

As work of the Acceleration Task Force progressed, the opportunity to conduct the PaaS Proof of Concept (POC) was approved and an RFO was issued. The purpose of the POC was to determine if it would be feasible to develop CARES using the tools and capabilities of a PaaS. Four vendors were selected for the Phase 1 POC that delivered solutions using the platform they individually chose to use in December 2018. Of those four, three vendors were selected to proceed to Phase 2 where complex scenarios for synchronization with CWS/CMS were delivered at the beginning of March 2019.

Along the way, we considered two viable options to accelerate our application development progress

1) Continue the current approach of customized development with significant modifications. This approach would likely entail:
    - Moving technical architecture to Infrastructure as a Service (IaaS)
    - Obtaining a System Integrator
    - Reducing the number of development vendors with current contracts

2) Change to a PaaS approach. This approach would likely entail:
    - Select the most appropriate PaaS for CARES
    - Procure PaaS licenses and services
    - Procure Integration Services
    - Reduce the number of development vendors on the project
    - Build State managed analytics and separate data stores

[1] Full link to Product Blueprint: https://miro.com/app/board/o9J_kyDKtdM=/. If you need further assistance accessing the Product Blueprint, please contact CWDSPMO@osi.ca.gov.

- Plan for transition from the current approach model to the PaaS approach

Based on the evaluation of the two options, we concluded that a PaaS solution is more likely to ensure both accelerated development and quality outcomes for the CARES system.

5.1.3 Determine Legacy Integration and Synchronization Feasibility

The Legacy Task Force was chartered to investigate options for building a new CARES application that includes features needed to support CCWIS compliance. The team initially focused on an approach using data synchronization technology in which two separate systems would operate independently. Separately, changes to data shared between the two systems would be synchronized in nearly real-time. The team worked on the following tasks:

- Demonstrate updating a child record: CARES to CWS/CMS
- Simulate synchronization between old and new domain models using complex scenarios
- Investigate how to handle data synchronization exceptions ("exception handling")

The team evaluated several integration tools with the goal to potentially reduce the amount of custom code needed to enable synchronization. Software evaluated included Kafka and Confluent's tools, Dell's Boomi platform, and Talend.

The first two tasks were completed. The third was started, but not completed because it was clear that exception handling would inevitably require manual user reconciliation activity. We understood that this would put an undue workload burden on users and possibly corrupt results in one or both systems. Instead, we shifted to conducting a POC to test the single shared database approach.

The Shared Database Approach meant that CWS/CMS and CARES would share the CWS/CMS database while CARES was being developed. Incrementally and eventually CARES would replace the functions and features of CWS/CMS and as that happened, CWS/CMS would be disabled incrementally and ultimately de-commissioned. The advantage of the Single Database approach was that it readily allows us to concurrently operate the legacy system and incrementally release new CARES applications without resorting to external and/or complex synchronization. Because both applications use the same database, the single database approach removes any concomitant error and correction requirements when users update the same record while using different applications.

The main challenge with the approach is that CARES may request or require changes that are not feasible for immediate CWS/CMS implementation, which would require CARES to wait on the implementation of a beneficial feature until CWS/CMS was retired. A secondary related challenge is that Technical Debt will accrue when the changes to the shared database need to be made in a "workaround" fashion, leaving

the shared database more complex than it otherwise would be and likely requiring rework later after CWS/CMS is retired.

Finally, there were several challenges associated with the development process of CARES teams working with IBM on CWS/CMS modifications that necessitated close coordination and communication between the teams. While these challenges (e.g. 3-week sprints for IBM, lack of CARES tools knowledge, time-consuming design documentation) were not significant individually, the sum of all activity required of both teams clearly resulted in added complexity and time to the development process for CARES.

As described in more detail in the CWDS Legacy Summary document (Attachment 8), our investigation into the feasibility of using a shared database approach resulted in a conclusion that while it was technically feasible to do so, it was not economically viable from a cost, time and risk perspective.

5.1.4 Improve Contract/Vendor Management

We have gathered several lessons learned regarding the State's ability to serve as a system integrator while utilizing agile software development and the ADPQ vendor pool for development and service contracts. By using modular procurements and fielding several vendors to undertake each of the identified digital services that would comprise the new system, the role of the State would be to act as the system integrator to coordinate and facilitate efforts across the wide variety of project activities and functions. Not only did our experience demonstrate that the State currently lacks both the expertise and capacity to perform comprehensive management of system integration effectively, but effective contract and vendor management is equally important. We recognized the need for improved and more rigorous contract management.

A key component of successful contract management is managing a contractor's performance. The most important lesson learned was that diligent performance oversight of numerous vendors and over 100 contract staff was unrealistic without the existence of a structured contract/vendor management framework and trained State Functional Managers and Contract Managers/Analysts. We learned that roles and responsibilities must be clearly defined and understood by team member(s) responsible for the management of each contract activity (from post-award to contract closeout). Additionally, each role should be educated in contract management and understand the importance of close collaboration, communication and coordination with one another to successfully manage, monitor and track contract deliverables and contractor performance.

In July 2018, we partnered with both the CDT and OSI Legal to develop a Work Order Authorization (WOA) template, along with WOA contract language, to hold contractors accountable for the defined deliverables with considerable payment implications if not accepted by the State. The WOA is a contract instrument used to define a specific, measurable, and actionable workload that the contractor will undertake within a defined time frame, as well as the acceptance criteria for completion of the work described. If it is determined that any acceptance criteria for a WOA are not satisfied, we inform the contractor in writing of the specific acceptance criterion that was not satisfied and

provide the contractor with a timeframe to correct the deficiencies. Costs incurred by the contractor in connection with responding to and/or correcting deficiencies to meet WOA acceptance criteria will not be paid by CWDS. If the acceptance criteria are still not satisfied, as determined by CWDS, within the period provided to correct the deficiencies, the contractor permanently forfeits the payment withhold to CWDS.

As the Project transitions to the new PaaS solution, the WOA strategy was updated to reflect a more structured deliverable-based approach. Attachment 9, WOA Language and Template, includes a sample WOA document and the language included in upcoming CARES procurements.

In order to successfully implement the WOA process, however, we applied our lesson learned that a structured Contract Management Framework with trained staff is a necessity. In early 2019, a revised Contract Management Plan was developed that defines this Framework by identifying State resources, roles, and responsibilities to ensure that contract deliverables are defined, monitored and satisfactorily accepted by the State to meet scheduled milestones and project goals. The CWDS Contract Management Framework leverages three roles: The State Contract Manager, the State Functional Manager (SFM), and the Contract Analyst. The State Contract Manager manages all CWDS contracts to ensure compliance with State contracting requirements. The SFM is responsible for the day to day direction, approval of contract staff activities, and acceptance of deliverables. The Contract Analyst partners with the SFM to ensure services are performed as specified within the contract. The collaboration and synergy between these three roles, and other critical partners within the Project and OSI, is allowing us to more proactively manage our contracts. In conjunction with this framework, the validation of deliverables and decision authority is shared with the CWS-CARES Delivery Central team members. See Section 5.2 for detailed information regarding Delivery Central.

The PaaS strategy consists of three primary vendors (PaaS Integration Services, CDI and PVS). The State is the final decision maker and ultimately owns the responsibility to uphold the CARES Product Development Principles while building the capacity to maintain and extend CARES as vendor involvement recedes. To support this concept, the CARES Service Delivery Life Cycle Governance Model, Attachment 10, was developed to demonstrate how the vendors will be managed, via the WOA process, at each phase of the Service Delivery Life Cycle. In addition, a WOA workgroup will be formed to ensure that the WOAs are planned and developed, for each Testable Increment of the Product Roadmap, in a group approach that is transparent amongst the three primary vendors. The WOA workgroup will include, at a minimum, the three primary vendors, the State Functional Manager(s), the Contract Analyst(s), the State Contract Manager, the Product Delivery Lead(s), and the Services Manager(s). This workgroup will ensure that the WOAs identify who is responsible, dependencies, gaps and risks in an iterative manner in order to limit the number of concerns. Reference the Primary Vendors' Key Responsibilities Chart, Attachment 11.

Overall improvement in contract/vendor management also includes training and practical application. The OSI Acquisition Contracts and Services Division (ACSD) developed a unit that is dedicated to contract/vendor management improvement for the projects in the OSI portfolio. The CWDS Procurement and Contracts Unit is leveraging this opportunity to obtain training from OSI ACSD and also partnered with them in the development of the Contract Management Plan.

Now that the foundation to improve contract management is established, we continue to evolve and mature our processes and procedures on an on-going basis to adapt and address changes that impact contract management. We currently have two contracts on the project that use the WOA, and every new contract moving forward will include this contract instrument as a performance management and assessment tool to hold the contractors accountable for the completeness and quality of work.

5.2 Product Delivery Strategy

As a result of our Lessons Learned and experience in utilizing the Agile Scrum methodology, CWDS is refining and enhancing our iterative development approach. The CARES Service Delivery Lifecycle, depicted in Figure 3, comprises seven lifecycle phases, all of which flow from the CARES Product Blueprint. This pragmatic Agile delivery methodology reflects that CARES is a highly regulated, safety-critical and data-intensive system. It demonstrates that delivery can be iterative, user-centered and outcomes-driven without sacrificing rigor. Through all lifecycle phases, the to-be-delivered CARES Service Delivery Playbook and Product Roadmap will help multi-functional teams work in concert. CARES Delivery Central will manage dependencies and keep an active eye on cross-cutting (shared) services and architectural concerns, including PaaS limits and trade-offs. Please see the attached CARES Service Delivery Playbook, Attachment 12, and the CARES Delivery Central Charter, Attachment 13, for further information on key State roles and governance within Product Management. For each stage of the Service Delivery Lifecycle, a Tactical Guide will provide detailed instructions to delivery team members on how to produce the required artifacts, see Discovery Level 2 Tactical Guide, Attachment 14, as an example.

Each lifecycle phase generates a distinct set of results:

1) **Context-Setting** (Maintain the top-level Product Blueprint and Domain Model) Through the context-setting phase, Service Managers serve as stewards of the CARES Product Blueprint. They collaborate with County and State subject matter experts (SMEs) to paint a top-level picture that shows the breadth of the work CARES must support. The Blueprint maps out to-be administrative workflows, with emphasis on activities and decision points. These workflows anchor child and worker pain points (along with related opportunities), integration (data exchange) points and key business events. These events may relate to workflow (e.g. submission of a form), program/practice (e.g. completion of a Child and Family Team meeting) or the lives of children and families (e.g. diagnosis of a medical condition). Blueprinting workshops focus on surfacing underlying program and user goals, not replicating the flow of screens in the legacy (CWS/CMS) system. Blueprint activities, moreover, are not always steps in linear

workflows; they may include recurring monitoring, assessment and sensemaking tasks. These recurring tasks are often event-driven, triggered, for example, by learning new information about the well-being of a child.

The top-level Blueprint also identifies Shared Services, both cross-cutting domain concepts (e.g. Person, Household, Provider, Service) and shared application services (common capabilities, such as Search, Matching, Notifications and Content Management).

Most importantly, the top-level Blueprint defines rough-cut Product Building Blocks. Each Building Block is a coherent and testable unit of work, with a clear start event and end event, that results in measurable value. Examples include "Determine Investigation Disposition" or "Make Emergency Placement." Building Blocks, along with supporting Shared Services, provide the raw material for the Product Roadmap.

Service Managers continuously update the Blueprint to reflect user feedback in the Staging and Sandbox environments, along with evolving policy/program goals and Integrated Core Practice Model (ICPM) elements. As blueprinting proceeds, Business Analysts, Data Architects/Engineers and Data Scientists iteratively specify the corresponding Domain Model, which describes the child welfare/human services concepts that underpin operational workflows and organize the data required for reporting and analytics. The Domain Model, in other words, establishes a shared vocabulary for CARES, including both context-(process area-) specific terminology and cross-cutting (CARES-wide) concepts. Examples of cross-cutting domain concepts include "Person," "Relationship," "Household," "Provider" and "Service."

2) **Prioritization** (Maintain the CARES Product Roadmap)
Blueprint Building Blocks provide the raw material for the Product Roadmap, which sequences and combines Building Blocks into distinct *Testable Increments*. Each Testable Increment spans one or more 3-week sprints and may bundle together Building Blocks from multiple process/subject areas (e.g. Investigations, Case Management, Courts, Eligibility and Resource Management).

A given Testable Increment (or series of Testable Increments) may deliver a specific scenario corresponding to a distinct *child/family pathway* through one or more Building Blocks. In other words, a given Building Block may take shape through multiple versions delivered across multiple Testable Increments. For example, the first 'leg' of the Roadmap might comprise a series of Testable Increments focused on system involvement with and the removal of a child who has no previous child welfare history. This pathway would entail the configuration of removals, placements, locations and placement history; subsequent pathways could then use those configured capabilities to efficiently build system re-entry scenarios.

The Product Director, in consultation with Service Managers and Product Delivery Leads, maintains the Roadmap, which prioritizes Building Blocks and sequences scenarios in accordance with CARES Product Development Principles. The Roadmap also shows the shared services, data services (e.g. data extracts and metrics), integration (data exchange) points and converted datasets that must be in place to adequately test the Increment in the Staging environment. The Roadmap communicates logical sequencing and dependencies across Building Blocks and Testable Increments, *not* estimated release dates. A companion *Release Management Plan* communicates release dates as warranted by delivery estimates and other factors, including implementation and support readiness.

3) Discovery (Set Policy/Program/Practice Guideposts for Prioritized Building Blocks)

The Product Roadmap sets priorities for more in-depth Level 2 Discovery. During Level 2 Discovery Service Managers, with the support of Product Delivery Leads and Business Analysts, guide SMEs, Researchers, Service/Experience Designers, Policy Analysts, Data Scientists and Quality Assurance (QA) Testers in detailing Level 2 workflows. Level 2 flows show finer-grained decision points, with supporting policy/program rules and Integrated Core Practice Model (ICPM) elements. The goals of Discovery are to:

- Cover all child, family and resource (e.g. program/service, provider) pathways through the system,
- Set the policy/program/practice guideposts for exploring and prototyping, in the next lifecycle phase (Deep Dives), the most promising ideas, and
- Further explore and extend the pain points and opportunities identified in the Blueprint.
- Include the experiences of all the actors, including families, community partners and data consumers (e.g. program analysts), with a stake in the process. This may entail adding “lanes” to Level 2 process flows.

Most importantly, the Discovery team will develop a working *Value Hypothesis* for each Building Block. The Value Hypothesis is a logic model that links process, program and practice variables to child and family outcomes. Such logic models are indispensable design tools; they identify opportunities to introduce specific product features - as points of leverage - with potential to streamline processes, support specific program goals and reinforce the elements of the Integrated Core Practice Model (ICPM).

In the course of Discovery workshops Architects/Engineers and Data Scientists extend the Domain Model to make sure that all data elements required for Federal/State reporting and longitudinal data analytics, including Value Hypothesis metrics, find a home in the specified concepts.

In tandem Research, Analysis and Design (RAD) team members conduct longer-lead-time research and distill research findings into cross-cutting (CARES-wide)

design artifacts. Such longer-lead-time research iteratively creates a library of validated pain points, concept sketches and re-usable user interaction patterns (e.g. Organize Task List, Manage Alerts, Manage Assessments, Match Needs and Services) that can speed PaaS configuration and establish a consistent user experience across Testable Increments.

Discovery sets the stage for iterative service design and prototyping. It equips the delivery team to explore opportunities with the efficiency, insight and confidence afforded by a nuanced understanding of the policy/program and practice context for the work.

4) **Deep Dives** (Get Ready to Build)
Deep Dives use rapid prototyping - through PaaS configuration and complementary methods - in conjunction with service design thinking to explore the opportunities identified during Discovery. PaaS Platform/Program Architects and PaaS Engineers/Configurators directly support the prototyping and contribute to the resulting artifacts:
    a. Level 3 workflows sliced into scenarios, for either a single activity or multiple activities within the Building Block. A scenario typically corresponds to a child/family pathway (track) through the child welfare system.
    b. For each scenario
        - Operations, with pre- and post-conditions
        - Decision points
        - Business (policy/program) rules specifications
        - Event (workflow, practice and “life”) specifications
        - Metric specifications, including populations (denominators)
    c. An extended Domain Model, highlighting domain aggregates (coherent groups of concepts bound by rule sets) and how in-context domain concepts tie to shared services
    d. Data conversion mappings required to iteratively test conversion in the Staging
    e. Data transformations required to map events streamed from the PaaS to the CARES Data Infrastructure (CDI) into CDI data zones/stores and analytic data structures
    f. Mocks/wireframes and other experience/interaction design guides, as needed, to augment the prototype to inform the next (Iterative Build) stage

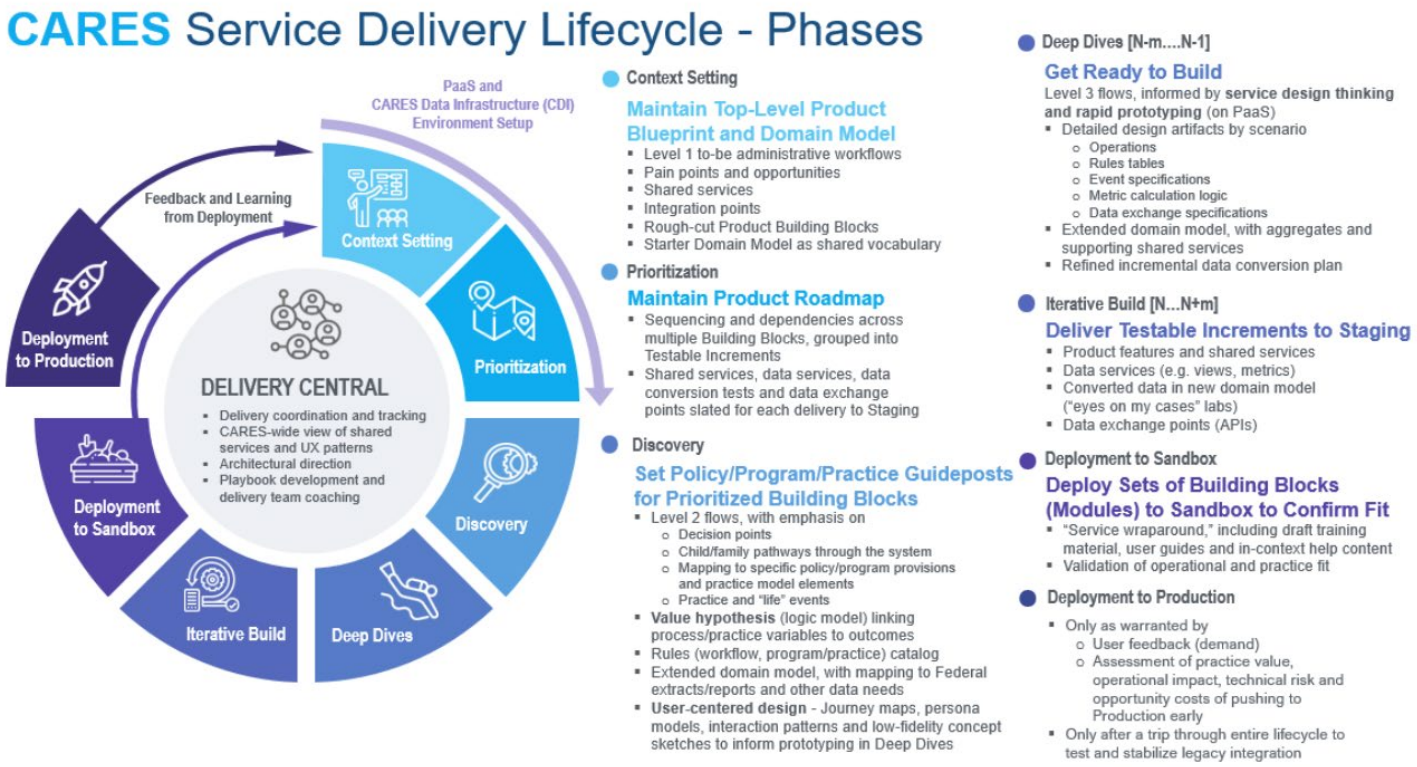
The Service Manager, Business Analyst(s) and Product Delivery Lead co-facilitate Agile Inception ceremonies, engaging the extended delivery team (including SMEs and other constituents) in Deep Dive activities. The *Ready to Prototype Inception* orients the team to the Discovery guideposts (for the building blocks in play); the *Ready to Build Inception* grounds the team in a delivery commitment, that is, an agreement to deliver a scoped set of features, embodied in one or more Building Blocks, matched to Value Hypothesis outcomes, to Staging.

5) **Iterative Build** (Deliver Testable Increments to Staging)
Deep Dive artifacts inform configuration and development, over multiple sprints, on both the PaaS and in the CDI. The team translates the artifacts into the epics and stories needed to deliver Testable Increments to the Staging environment. In Staging, selected users can interact with and provide feedback on product features and test data conversion by looking at their work and, most importantly, their children and families, through the lens of the new application. Service Managers and Product Delivery Leads, in consultation with core constituents and the CWDS Implementation Team, determine when one or more Testable Increments is ready to advance to the Sandbox Environment.

6) **Deployment to Sandbox** (Deploy Sets of Building Blocks to Sandbox)
In the Sandbox environment County and State constituents can assess, based on operational and practice fit, whether or not a given module is a candidate to advance to the production environment. Based on this feedback CWDS may choose to investigate the complexity and risk of required legacy integration/synchronization, as well as the impact of such integration on ongoing data conversion. This investigation would help determine whether or not early (incremental) deployment to production would be technically, operationally and economically feasible.

7) **Deployment to Production**
Cutover to production would proceed when all Building Blocks, including companion CDI capabilities, converted data and integration points are deemed ready by County and State leadership, and required Implementation, Operations and Product support are in place. Product support includes:
   - Adequate monitoring (instrumentation and analytics) to track user behavior in Production and, in turn, use data to enhance and extend CARES capabilities.
   - Continuous data quality monitoring, to ensure that use of CARES generates a high-quality data asset.

Figure 3 – CARES Service Delivery Lifecycle



Moving forward, product prioritization will be based off the Blueprint and prioritization factors. Although we are still defining the specific prioritization factors, currently these include:

Prioritization Factors

- Value: The module must link measurable program outcomes with specific process improvements and practice elements. Some modules may also present the opportunity, with minimal legacy integration risk, to deploy high-impact capabilities to Production sooner.
- Transparency: The prioritization must make practice sense to users by:
    - Enabling testing in a Sandbox environment
    - Starting with natural system entry points, and
    - Providing a view of progress towards replacement of CWS/CMS, LIS, FAS and other systems.

The introduction of features for use in Production will depend on the sufficiency of planning and the readiness of users to adopt based on general agreement.

- Efficiency: The prioritization must enable disciplined and efficient development, including the re-use of shared (cross-cutting) items, such as Person, and shared product features, such as Search.

The output of the prioritization will be an updated Product Roadmap. More information found on the Projects Prioritization Factors can be found in the attached CWS-CARES Product Development Guiding Principles.

Integration Services

We have recognized the need for a more mature system integration capability. The original premise of the Project was that by using a modular procurement approach to have multiple development teams tackle each of the identified digital services that would comprise the complete system, the role of the State would be to act as the system integrator to coordinate and facilitate efforts across the wide variety of project activity and functions. Our experience, however, has demonstrated that the State currently lacks both the expertise and capacity to perform this function effectively. Even when we changed to focusing on a very limited amount of development work, it became clear that experience as a system integrator is extremely important. Experience with system integration brings planning and oversight capabilities that help to ensure that the right thing is done in the right way at the right time. We believe our project needs this support regardless of the development approach we decide to take going forward.

With the addition of a vendor to provide support for system integration, we will be able to leverage outside expertise to learn and become more knowledgeable about system integration. Together, this vendor and the State team will ensure that the different modules and components of the CARES system work effectively as a comprehensive whole.

The Product Roadmap and Blueprint will be valuable reference points for the Integration Services vendor(s) to develop the plan in keeping with their approach and the work they plan to accomplish. Working closely with CDT State Technology Procurement officials, we expect that negotiations will take place with qualified vendors throughout the selection process. Once the vendor is selected and awarded the contract, the State will collaborate with the vendor to validate the Project's planning assumptions. The Integration Services vendor will be a significant contributing advisor, by providing technical feedback and input to the logical order in the building of CARES. The Project Leadership Team will take into account such feedback and the State is the final decision maker.

Traditionally in State projects, a system integrator takes on full responsibility and manages the project work on behalf of the State. In this model, the State manages the system integrator through the contractual relationship, using the WOA process, to ensure project delivery. Instead, we intend to partner with a consultant with experience in multi-vendor integration management. The vendor will provide consultation and assistance to the State to augment our capacity and capability. By working together in this role, the State project team will develop valuable experience for future development and management of the CARES system.

We anticipate asking the consultant to assist with our oversight and coordination of highly technical areas, such as:

- Enhancing IT Operations, including technical infrastructure management, build automation and production environment management
- Improving test automation and more effectively deploying QA resources

- Evaluate application and data architecture with emphasis on API design and management and service design and management and data integration
- Assist with coordination of security, governance and operations
- Assist with coordination and oversight of development; provide additional methods and tools to evaluate progress and quality
- Contribute to decision making about when a work effort is sufficiently complete to achieve its purpose
- Contribute to decision making about what needs to be in place for next activities to commence

Sandbox Environment

User feedback is an essential part of the agile software development methodology. The project has long promised the availability of an environment for counties that will allow them to see and experience the new functionality of CARES prior to release of the software into production. Recognizing that providing this environment is essential to the ultimate success of CARES, we are taking steps to develop a Sandbox environment for end user learning and feedback. Designating and provisioning this environment will not present a significant new workload to the CWDS IT Operations team, but it will impact processes for release management and will necessitate the development of new processes to convert data from our legacy systems (CWS/CMS and FAS & LIS). The development of these processes will involve contributions from various project areas: IT Operations, Product Development, Stakeholder Relations, Release Management and the PMO.

We have decided to place responsibility for the “Sandbox/User Feedback Program” in the hands of our Implementation Team within Stakeholder Relations. This team will be focused on ensuring that counties utilize the Sandbox and by doing so, provide meaningful feedback to CWDS when they do. Implementation team responsibilities will include:

- Planning for the version of software that will be migrated to the Sandbox;
- Preparing release notes and training materials in draft form;
- Overseeing processes for provisioning the Sandbox with relevant data;
- Working with counties to schedule their engagement with the Sandbox;
- Developing processes for feedback collection and processing; and
- Developing or modifying user communication processes related to Sandbox use or user feedback information for county awareness.

The feedback loop from counties will include processes like those followed for reporting production related feedback. The Implementation team will be responsible for ensuring that the responsible CARES support teams provide the needed information or remediation. Because data integrity will be an important component of the Sandbox, the feedback about the data and the conversion programs will also be expected from the users. Ultimately, the feedback loop will be essential to determining whether the new software can and when it should be released into production.

Dependencies for provisioning and supporting the Sandbox include:

- Establishment of a User Feedback Program charter & project plan;
- Identification of roles and responsibilities for development, maintenance and operation of the Sandbox/User Feedback program;
- Adding resources in key support areas such as data analysts; and
- Developing the approach with roles and responsibilities for data conversation from CWS/CMS to the CDI to CARES.

Data Conversion

Recognizing that data conversion is a critical aspect of the CWS-CARES product delivery strategy, CWDS has determined that the approach to conversion should be master planned and mapped, and then incrementally converted to meet the data needs of each module. To ensure that data from legacy systems (CWS-CARES and FAS & LIS) is correctly converted and is available for county/state learning and user feedback, CWDS will include the necessary conversion activities within the scope of each module prior to the start of the discovery process. This iterative approach to developing, testing and confirming the data conversion processes will facilitate the development process by:

- Bringing focus on the legacy data model early to inform the development process and to provide the opportunity to shape the CWS-CARES data model to preserve the value of the facts, status and history of each legacy record
- Surfacing the need for data clean-up on a priority basis
- Providing a realistic view to users of the new features in the context of the person and history information they are familiar with

Successful data conversion will require dedicated resources, processes and tools. As described above, the iterative process should begin with the development of the first functional module and continue throughout the development process. CWDS is proposing to add a CARES Data Infrastructure (CDI) to the project's technical objectives and to the overall technical architecture of CWS-CARES. The priority purpose of this CDI will be to facilitate and support the conversion process. CWDS is working on the development of a detailed Data Conversion Plan to assist with the identification of necessary activities, schedule and resources. Completion of the working draft of this plan is scheduled for Q3 2019/20.

Continued Support for CARES-Live

While the Project transitions to a PaaS solution, the existing CARES-Live application will remain in production through the end of calendar year, 2019, at which time continued support will be reassessed. This decision was made based on the unanimous support of the County Directors because of the value they believe CARES-Live is providing. User value will continue to be the primary driver as we revisit this decision in January 2020. We will also continue to evaluate and report user adoption, particularly as we reinstated Snapshot and more proactively promote CWS-CARES.

Currently, we measure value by gathering production usage metrics. The two tools used to gather these metrics are IDM, which is part of the CARES-Live application, and New Relic. From IDM, we can gather the number of users added and registered in CARES-Live. From New Relic, we gather production metrics, like the number of users accessing each initiative (i.e., CANS). Further metrics currently being obtained are the number of pending and completed CANS assessments. These metrics will help us demonstrate and or understand the impact of released functionality and user adoption. To truly understand the business value to the users, we will validate such metrics through surveys, polling, and open discussions at our county outreach meetings.

We will refer to the current CARES-Live usage statistics from New Relic, as of November 7, 2019, as a baseline:

Registered CARES Users	5,154
Registered CANS Users	2,285
Completed CANS Assessments	3,533

The Project also tracks trends of monthly utilization metrics for completed CANS assessments, Facility Search, and Snapshot, see Figure 4 and 5. These metrics will be included in our monthly Project Status Report.

Figure 4 - Completed CANS Assessments by Month

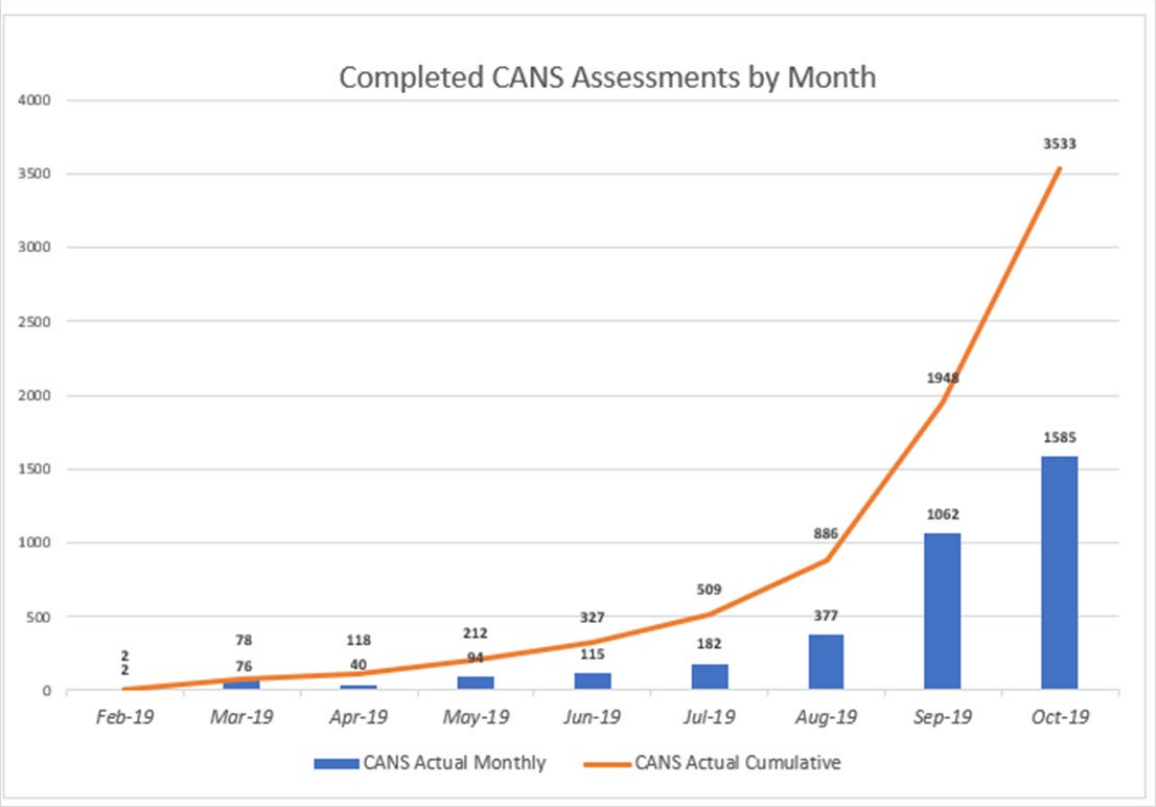


Figure 5 - CARES-Live Metrics (Facility Search and Snapshot)

FACILITY SEARCH	May	June	July	August	September	October	Thru - Nov 6th
# of Sessions	97	232	210	264	235	326	54
SNAPSHOT	**May**	**June**	**July**	**August**	**September**	**October**	**Thru - Nov 6th**
# of Users	12	12	21	22	74	487	101

In December, we will prepare cost and benefit projections for the Board of Directors meeting in January. If the Board determines that the existing CARES-Live system should continue to be made available to counties, the on-going costs will be included in the project budget for the next and future fiscal years. Ultimately, the software and technical environments for CARES-Live will be retired when comparable capabilities can be made available to users of the CARES CRM-based PaaS solution.

5.3 Duration and Timing

We are estimating that the project will require an additional three years to complete the development efforts, with an additional year of stabilization with the anticipated completion date of December 31, 2024. This is based on accumulated lessons learned, the Product Blueprint, decisions concerning Legacy Integration and Synchronization feasibility, and the decision to develop CARES using a PaaS. This estimate will need to be updated when we have the assistance of our PaaS integration vendor. The date will be further updated accordingly in subsequent SPRs as more information is available. The Product Roadmap will guide the order in which CARES features will be developed. This Product Roadmap will be updated quarterly, which provides the opportunity for iterative adjustments as we learn more and/or if priorities change.

At the time the SPR 2 was submitted our plan for the delivery schedule assumed that we would develop and deliver an entire digital service (i.e., Intake, Case Management, CALS, etc.) in a sequential and staggered basis. As the work started, we realized these digital services were too big and complex. Instead we began to focus on breaking down the digital service further into what we believed could be delivered as useful business functionalities or processes (i.e., Snapshot, Hotline, Facility Search, etc.). In SPR 3 we endeavor to address the planning for total system development in a more realistic and holistic way. We now appreciate that even with a PaaS, there is a great deal of development work to do. The Product Delivery Strategy (described in 5.2) provides additional insight about the level of effort needed.

Now that the Project has more clarity on its vision and development approach, an updated project schedule has been created to reflect major milestones. See the attached CWS-CARES Project Schedule, Attachment 15. A schedule that is inclusive of specific development activities will be developed upon the selected vendor on-boarding.

It is important that the schedule is closely monitored as the plan to retire the CWS/CMS is dependent on the rate in which CWS-CARES is developed and fully implemented, statewide. Due to the overall schedule delay of CWS-CARES, the Project is preparing a plan for the re-procurement of CWS/CMS per a condition placed on the Project by ACYF. During the re-procurement, the Project will exercise the option to extend the first of three one-year periods. Due to the complexity and duration of a procurement of this

magnitude, the solicitation will most likely begin during the second-year option period and will be awarded in year three. The third option year will be needed to support the transition between vendors.

5.4 Overall Project Cost

The Project is reporting a significant underspend from SPR 2 due to various reasons. The most notable reasons are: the development and approval of procurements took longer than estimated; the project experienced difficulties in procuring county consultants timely; and a vacancy rate that averaged 25% for almost a two-year period. Also included in the underspend is the county participation funding was not claimed at the anticipated rate.

The Rough Order of Magnitude (ROM) for the CWS-CARES budget is displayed below. Budget bill language (Budget Act of 2017 Section 5180-491, Provision 1) allows for the Project to re-appropriate funds upon approval from Department of Finance. To the extent that additional resources are identified to better align with Project needs, an updated SPR will need to be provided.

ROM (SPR 3)		FY 19-20		FY 20-21
County Participation	$	3,200,000	$	3,200,000
State Personal Services	$	11,865,615	$	11,865,615
Professional Services	$	10,229,101	$	6,121,305
Other State Goods and Services	$	9,125,532	$	10,157,615
County Consultants	$	4,147,095	$	4,165,264
PaaS Licenses	$	1,032,658	$	2,500,000
Integration Services	$	-	$	3,758,200
Product Value Services	$	-	$	2,880,000
Cares Data Infrastructure	$	-	$	2,112,000
CDI Software	$	-	$	3,000,000
Data Center Services	$	4,000,000	$	4,640,000
Total	$	43,600,000	$	54,400,000

5.5 Preventing Future Recurrence

We are taking several steps to ensure the reasons for the requested changes in this SPR do not occur again. These steps include:

- Simplifying our development approach by using a PaaS
- Leveraging lessons learned from the legacy integration research
- Improving Contract Management, including the roles and responsibilities of the State Functional Manager, Contract Analyst and State Contract Manager;
- Implementing a Project Roadmap that will guide the entire team in establishing and meeting the CWS-CARES Project's priorities;
- Utilizing the Product Blueprint and Roadmap to sequence the build of CARES;
- Reporting quarterly, starting in July 2020: forecasted project completion date, overall percentage done, and forecasted overall project costs;
- Planning for regular release and deployment to the Sandbox environment;

- Empowering the PMO to provide comprehensive oversight and engagement to apply more project management discipline and ensure that OSI and industry best practices are consistently used;
- Utilizing consultant services for specialized skillsets to augment State staff for specific knowledge and expertise;
- Focusing on continuous improvement by capturing lessons learned at the completion of major milestones and applying improvements when and where necessary;

5.6 Technology and Architecture Changes

SPR 2 described an architecture including use of cloud infrastructure and custom development using Open Source software and tools. With SPR 3, the project is changing these plans to include a vendor managed platform service with that vendor's CRM-based application and development tools. These are still cloud infrastructure but will be managed by the vendor instead of CWDS.

With SPR 3, the Project is also planning to develop the CDI to house the CARES business rules engine and to facilitate a repeatable process of conversion and to assist with longitudinal data analysis and with data exchange. The CDI is an essential companion technical architecture that may be hosted in a separate State managed cloud infrastructure. Together the CARES application (developed in the CRM based PaaS) and the CDI comprise the complete solution architecture of CARES. See Figure 4 below. The CDI will not only maximize State independence and control of vital assets, but also provide more complete, timely, accurate and consistent data through:

Improve Data Quality

Planning activities include the development of requirements for the role of the CDI in ensuring that the project and the State meet CCWIS requirements. The CDI will provide more complete, timely, accurate and consistent data through:

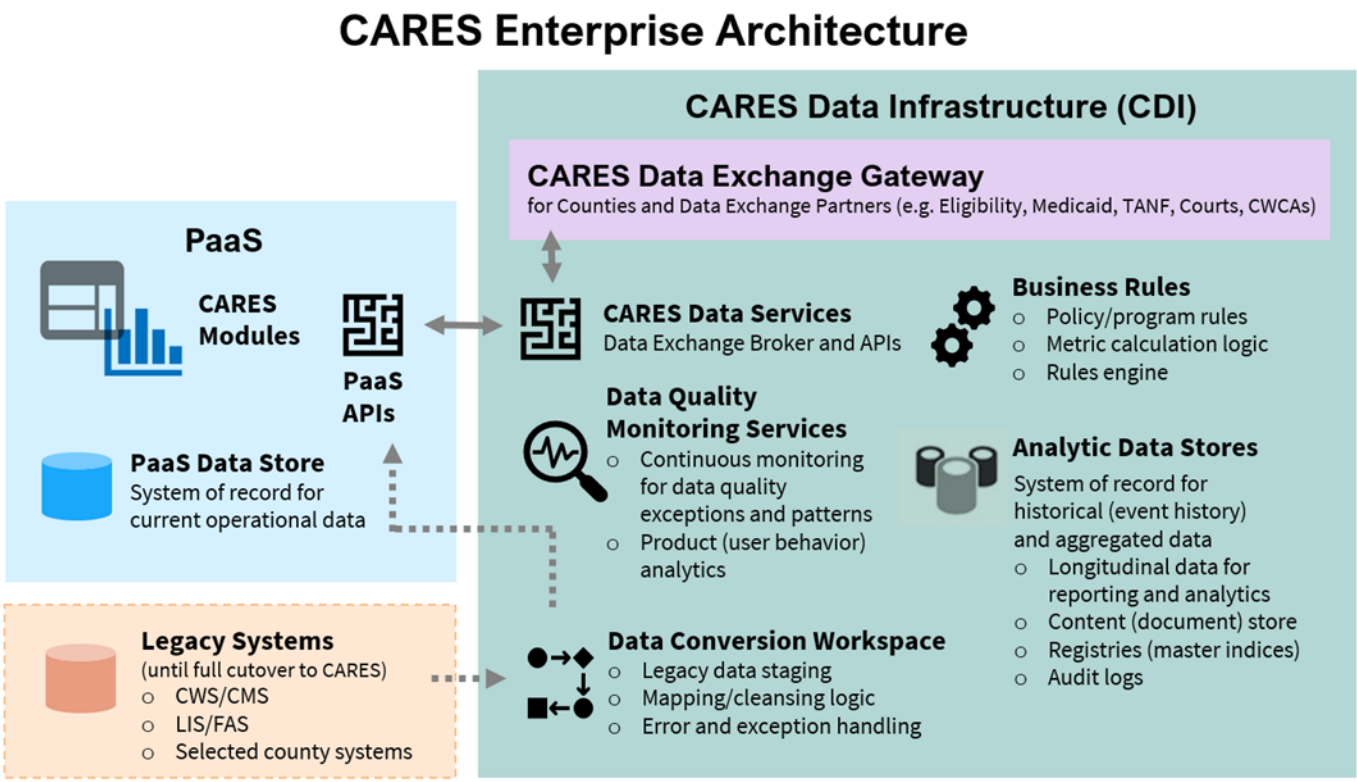
- Continuous, automated data quality monitoring
    - The CDI will include automated functions that detect emerging data quality problems (duplicates and data entry lag, for example) and provide corrective alerts and other messaging to PaaS users.
- Person-centered longitudinal data
    - The CDI will organize PaaS data longitudinally to enable:
        - The generation of required Federal data extracts, statewide indicators and other entry cohort-based performance metrics
        - Continuous quality improvement (CQI) and program evaluation, such that:
        - Caseworkers and supervisors can see how children and families are doing over time and better understand the pathways they take through the system.
        - Policymakers and managers can make sense of what programs/services work and don't work for which populations.

During planning the CDI team will evaluate those various software tools needed as components of:

- The CARES Data Conversion infrastructure, from CWS/CMS through staging and transformation zones on the CDI to the PaaS (through PaaS APIs and bulk loading utilities).
- The Data Streaming pipeline, from the PaaS to a series of data zones on the CDI. These CDI zones will progress from raw data (including logs) to a conformed and immutable event store to specialized stores. These specialized stores will support CCWIS data quality monitoring, reporting (including Federal reporting), analytics (including CQI) and data exchange with community partners.
- CARES business rules management. The State will maintain policy and program rules, in a standard and portable format, in the CDI. These rules will include calculation logic for pulling populations (e.g. entry cohorts) and deriving metrics.

These evaluations are essential to architecting the CDI and the pipeline between the PaaS and the CDI and, in turn, developing implementation plans and budgets. This work must be accomplished to make sure that the CDI is ready, as a component of the CCWIS, to support CARES development/configuration and testing once the project secures PaaS licenses.

Figure 6 - Enterprise Architecture Components



The CDI will further support modularity by providing a State-managed BRE, with a repository of policy/program business rules, including metric calculation logic, expressed using industry-standard notation. This will facilitate exchange of information with data exchange partners through the use of Application Programming Interfaces (APIs). It will also ensure that business rules used in the PaaS are available for State validation, as well as transfer to other systems should the need arise.

We are also planning to leverage the assistance of IBM to facilitate a repeatable process of data conversion, which is within the scope of the existing contract. The project is also planning on sharing converted data to users with the features and capabilities that are developed and staged for later deployment in a “sandbox” environment. This will provide a validation and feedback mechanism for supplying the necessary data originating in CWS/CMS which will be necessary to users as they begin to “practice” using CARES.

Bi-directional data exchange

For each Building Block/Module, the project has identified multiple integration points at which CWS-CARES will exchange data with partners, including Child Welfare Contributing Agencies (CWCAs). The Project will implement integration points through APIs managed on the CDI.

5.7 Accessibility

No change from approved SPR 2.

5.8 Impact of Proposed Change on Project

The expected improvement outcomes of the planned changes to the CWS-CARES Project and development approach have been described as each of these areas were covered above. Together, these changes will be necessary to allow CARES to overcome the risks and issues encountered to date and to allow CARES to accelerate development and ultimately the delivery of the system.

5.9 Implementation

Production Implementation Support will be reassessed during transition planning. Considerations include facilitation of the Sandbox environment and how user feedback is an essential part of the agile software development methodology.

With the decision to procure a PaaS vendor, implementation efforts will be minimized after the CARES 2.5 release in July 2019. Therefore, the decision was made to defer the implementation contract for at least one year. During transition planning, State staff will cover implementation activities and will focus on the following:

- Conduct organizational planning meetings with counties
- Prepare and support for CARES 2.5 Release
- Prepare and support for CARES 2.6 Release, which includes the release of Snapshot 1.7 Statewide
- Maintain materials on the Implementation Portal
- Maintain OCM and Training materials
- Maintain Dashboards (Release Readiness and Opt-In)

6.0 Updated Project Management Plan

The following sub-sections present new information that was not included in SPR 2.

6.1 Value Management Measurements

In 2017, we identified Minimal Viable Product (MVP) as the concept to define when a feature or functionality is released and ready for stakeholders to use. In Agile, MVP is used to gain an understanding about stakeholders' interest in the product without fully developing the product. The purpose of MVP is to find out sooner whether the product will appeal to the stakeholders.

However, the complicating factor of following a typical Agile practice of releasing and iterating improvements on an MVP is that child welfare workers cannot be expected to incorporate incomplete or insufficient features into their daily work. So, our team has given more consideration to releasing either complete (though potentially improvable) features or end-to-end workflows.

This compromises the goal of frequent and regular code releases into statewide production, but it appears to be a necessary accommodation to a typical Agile methodology. That said, it would be possible to release working code into a non-production environment (i.e., “Sandbox) for user learning and feedback. This would allow us to get the benefits of the MVP concept in system development without imposing changes on users that may result in unintended consequences.

While the Project understands the need for an identified MVP, an approach to release only fully developed applications will be refined during the transition phase. This new release cycle is based on the refined CWS-CARES Product Development Guiding Principles that focus on the Value and Transparency of each developed product. This analysis will be important to prioritizing and sequencing Building Blocks on our Product Roadmap.

The Value principle focuses on:

- Delivering value hypotheses (‘logic models’ linking process/practice variables to program goals and child/family outcomes), not just lock-step replacement of legacy workflows.
- There is value in joint learning and prototyping. We may prioritize, and sequence Building Blocks/Modules based on opportunities to catalyze - and bring service design thinking to - policy/program conversations.
- If there is an opportunity to push potentially high-impact capabilities to Production, we will explore those opportunities, including associated technical and operational risks, as we get user feedback in the Sandbox environment delivering.

The Transparency Principle focuses on:

- Starting with and then branch out from ‘natural’ system entry points, where key entities first become known to the system. (Re-entries typically require the ability to represent deeper system involvement with more complex histories.)
- Ensuring delivered features have a clear process reference/anchor point. Avoid introducing general-purpose features ‘mid-stream,’ poorly integrated with the work context.
- Delivering coherent units of work that make program sense to workers and supervisors and are, accordingly, ‘testable’ by counties in Staging

Regarding measuring user value, we have come to appreciate that the expected value should be identified when a feature or process is planned in research and design. We are incorporating an expectation that a measurable value statement be included in the artifacts that are used to create the user stories and that a process is developed for monitoring the results of the value assumption when the code is in production.

6.1.1 Measuring Continued Support for CARES-Live

Currently, we measure value by gathering production usage metrics. The two tools used to gather these metrics are Identity Management (IDM), which is part of the CARES-Live application, and New Relic. From IDM, we can gather the number of users added

and registered in CARES. From New Relic, we gather production metrics, like the number of users accessing each initiative (i.e., CANS). Further metrics currently being obtained are the number of pending and completed CANS assessments. These metrics will help us demonstrate and or understand the impact of released functionality and user adoption. To truly understand the business value to the users, we will validate such metrics through surveys, polling, and open discussions at our county outreach meetings.

6.2 Approach to Security

The CWS-CARES Information Security Program is based on State Administrative Manual (SAM) 5305 and Statewide Information Management Manual (SIMM) 5305C policies and standards.

CWDS supports both operational security of the current CWS-CARES system, development activities for enhancements and future releases of CWS-CARES, and a planned migration to a PaaS as part of a Rapid Application Development strategy.

6.2.1 Operational Security

Operational Security is managed in accordance with section 5300 of the SAM, and related SIMM 5300 standards. The ITILv3 Framework for Request, Change, Configuration and Incident Management is used to perform the task.

As CWS-CARES migrates to a PaaS solution, the existing Amazon Web Services (AWS) cloud environment will be scaled back, with some components remaining to support bug-fixes to existing the CWS-CARES application. The descriptions below describe the security approach for both the PaaS and CDI environments.

6.2.1.1 CARES Data Infrastructure (CDI)

CWDS has deployed multiple tools to address SAM 5300 security requirements that will be transitioned into the CDI environment once it is established. For detailed information regarding upcoming deployments, please reference the Project Schedule. These are described below

- Tenable is deployed and runs daily Vulnerability and Configuration scans of the AWS environments.
    - Nessus Enterprise is deployed for manual testing of cloud environments.
- Trend Micro End Point Security has been deployed to address End Point, Anti-Virus / Anti-Malware, and Intrusion Detection in the cloud environment.
- Palo Alto Firewalls have been deployed for perimeter security. The Anti-Virus / Anti-Malware and Intrusion Detection System (IDS) modules will be implemented on Palo Alto Firewalls.
- Splunk will be deployed to fulfill the Audit and Non-repudiation requirements. Splunk is the Security Information and Event Management (SIEM) tool that will be configured and deployed to meet FISMA and WIC compliant log retention requirements.

- NewRelic is deployed to monitor system and application health and availability of servers in the AWS environment.
- Amazon Workspaces (Desktop as a Service, or DaaS) is deployed with configurations that control access to USB, disk, network and internet shares to control data exfiltration and malware propagation.
- JFrog Xray will be deployed to analyze artifacts in the Continuous Integration / Continuous Delivery (CI/CD) pipeline.
- Manual penetration tests are done using a customized Kali Offensive build.
- Burp Suite is used for manual Dynamic Application Security scanning.

6.2.1.2 Platform as a Service (PaaS) Environment

CWDS is in the process of selecting a PaaS vendor for migration of the CWS-CARES development. The selected PaaS solution will be aligned with Federal Risk and Authorization Management Program (FedRAMP) Moderate controls. The PaaS provider supports a myriad of controls, described below. When deficiencies are identified, CWS-CARES will acquire additional or use an existing capability to ensure minimum state and federal requirements are met.

- For data audit, event histories are archived to Splunk, the SIEM system managed by CWDS. This solution will be configured and deployed to meet FISMA and WIC compliant log retention requirements for the PaaS elements.
- Secure baseline configuration settings will be implemented and maintained by the PaaS solution provider, with oversight by CWDS.
- Remote access will be controlled by a CDT managed VPN service.
- Multi-factor authentication is required for privileged access to the PaaS environment.
- Application control for APIs will be managed by CWDS.
- PaaS application development security is managed in accordance with the PaaS provider’s access and authorization rules, compliant with state and federal policies.

6.2.2 Security Integration into Development

Development activities are managed under the requirements SAM 5315 aligned to a Black Hat Agile Project Management methodology and the Open Web Application Security Project (OWASP) testing methodology.

6.2.2.1 CARES Data Infrastructure (CDI) Development

JFrog Enterprise with XRay enables continuous vulnerability scanning of the code binaries used to build the CWS-CARES application. The scanning includes dependencies such as Docker layers and RubyGems EPM modules. In addition, JFrog will identify unlicensed and/or unauthorized software. JFrog will be integrated into the Continuous Integration/Continuous Delivery (CI/CD) pipeline.

The CWDS Information Security Agile Process incorporates security stories into every sprint and has security testing built-in to the CI/CD pipeline.

- Dynamic Code Analysis is conducted manually using Burp Suite, and automated testing is conducted using Rapid7 AppSpider at each stage of the application development CI/CD pipeline.
- Static Code Analysis is done using SonarQube.
- Attack Surface Analysis is conducted at the start of the development activity, and on major architecture changes to the application. Risks are addressed as they are identified.
- Architecture reviews are done at the start of the development activity, and on major changes to the application.
- Privacy Assessments are conducted annually. The 2018 Privacy Assessment was completed in July 2018.
- Security Assessments are done at three levels:
    - Each incremental software release has a manual Penetration and Vulnerability test done using the CWDS security tools, and Kali Offense (Metasploit) with additional testing to address vulnerabilities such as data leakage in GitHub.
    - Application binaries are scanned in the CI/CD pipeline as part of the build process (static code).
    - IV&V team monitors and conduct third-party assurance reviews for key stakeholders.
- Jira stories are updated as needed during the sprints to maintain process and policy, such as Security Incident Management and Configuration Management are scheduled.
- Ad-hoc requests for support of specific security needs are addressed by the CWDS Security Team using Jira stories.

6.2.2.2 Platform as a Service (PaaS) Environment Development

The selected CWDS PaaS solution vendor will be accredited to meet FedRamp high standards and all other security related compliances throughout the platform. This will also be validated through CDT. The PaaS cloud infrastructure is kept in safe data centers to ensure a top level of security. Data is backed up and can easily be recovered. Security capabilities are built-in to the PaaS environment, with data being exported to the CWDS SIEM tool called Splunk.

The security of the infrastructure supporting the PaaS environment is managed by the cloud service provider. Oversight will be carried out by CWDS. Monitoring of the cloud platform will be conducted using CWDS Splunk SIEM engine, to collect and correlate events.

Most PaaS providers restrict access for security penetration testing. CWDS will rely largely on event and configuration data supplied by the PaaS provider to validate the security of internal PaaS components.

The Project's security team, in collaboration with the selected PaaS vendor, will conduct a security assessment to ensure compliance with State SIMM policy. The Project will provide security assessment results to CDT, OIS and CDSS as requested.

6.3 Project Management Methodology

CWS-CARES uses the Agile methodology in conjunction with a project management methodology based on project requirements outlined in the Department of Technology's California Project Management Framework (CA-PMF), Project Management Body of Knowledge (PMBOK) and key aspects of California Agile Framework (CA-Agile) that have been adopted by the Project.

6.4 Project Plan

6.4.1 Project Scope

There are no changes in the scope of the project. Potential legislative impacts to the scope are routinely and closely monitored by the project's policy team.

With regard to traceability to the original waterfall requirements prepared for RFP 7.5, when the Project migrated to agile software development methodology, in 2016, the requirements were being refined in the iterative cycles as each of the digital services were developed. The Project used Jira to refine the requirements via initiatives, epics, and stories. At the end of 2018, CWS-CARES, County SMEs, and CDSS performed a traceability exercise that reviewed the requirements in RFP 7.5. This resulted in the decision to preserve the waterfall requirements and upload those into Jira for use as a reference during Blueprinting process. These are housed in a dedicated project Jira board titled "RFP 7.5 requirements."

Once the Project begins development of CWS-CARES in PaaS, the Project will be utilizing the Blueprints and Domain Modeling as a starting point for prioritization of product development and subsequent refinement into epics and stories. During the process of detailed refinement, or "deep dives", the state and service managers may use the original "RFP 7.5 requirements" as a reference point and any future traceability mapping or reporting will be done at an epic level.

6.4.2 Project Assumptions and Constraints

The following project assumptions and constraints are used to record the rationale used in planning and conducting project activities. Only changes/additions to assumptions and constraints noted in the FSR are included below.

The assumptions and constraints for this SPR include the following:

Budget

- The Administration and Legislature will approve OSI and CDSS annual budget requests for the resources proposed in this SPR

Schedule

Meeting the revised schedule's major milestones is contingent upon:

- Roadmap priorities for SFY 2019/20 are not impacted by unanticipated issues such as Legislative mandates;

- External entities' ability to meet their project responsibilities in a quality and timely manner;
- Effective execution of rolling informal reviews and formal concurrent reviews of project documents by CDSS, OSI, state control agencies, and ACYF;
- Budget approval for State and consultant resources and obtaining them in accordance with project schedule; and that
- Stakeholder priorities remain the same.

Resources and Stakeholders

- CDSS and OSI can recruit and hire State staff at a satisfactory level of knowledge and experience.
- Stakeholder engagements, especially project document reviews research, design and development sessions, are completed in a timely manner.

Procurement Schedule

The PaaS Integration Services procurement schedule was developed with the following assumptions:

- This procurement is a top priority to OSI CWDS Leadership as this is one of the three primary vendors, and project resources will be dedicated as such.
- The solicitation is developed in collaboration with CDT STP and final review of the solicitation package is 5-10 business days, prior to submission to Administration on Children, Youth and Families (ACYF) Federal oversight.
- The firm mandatory qualifications were developed to ensure that the most qualified vendors responded to the solicitation.
- There are four phases in this procurement process with ongoing discussions and negotiations through each phase.
- The demonstration concept is an option; not required.
- There will be no more than three vendors during the Best and Final Offer (BAFO), Phase 4.
- It is unlikely that second and third round BAFO is needed.
- Federal oversight approval is required in order to release the solicitation, and the contract may not be awarded without the review and approval of the Implementation Advance Planning Document (IAPD).

The schedule to procure PaaS Licenses was developed with the following assumptions:

- The decision of the PaaS would be approved by the Board of Directors and by CDT via the Limited to Brand Justification.
- The Project will utilize the Software License Program (SLP) leveraged procurement vehicle.
- The solicitation is developed in collaboration with CDT STP and final review of the solicitation package is 5 -10 business days, prior to submission to Administration on Children, Youth and Families (ACYF) Federal oversight.

- The timing of the procurement will align with the PaaS Integration Services procurements in terms of discussion (to gather input) and vendor onboarding.
- Federal oversight approval is required in order to release the solicitation, and the contract may not be awarded without the review and approval of the Implementation Advance Planning Document (IAPD)

The Product Value Services (PVS) procurement schedule was developed with the following assumptions:

- This procurement is a top priority to OSI CWDS Leadership as this is one of the three primary vendors, and project resources will be dedicated as such
- The procurement vehicle is a Request for Offer (as opposed to the 6611 Solicitation) due to the nature of the resource augmentation.
- The solicitation is developed in collaboration with CDT STP and final review of the solicitation package is 5 - 10 business days, prior to submission to Administration on Children, Youth and Families (ACYF) Federal oversight.
- An As-Needed APD is required due to the change in the procurement strategy from the Planning APD submission.
- Federal oversight approval is required for the As-Needed APD in order to release the solicitation.

The CARES Data Infrastructure (CDI) schedule was developed with the following assumptions:

- This procurement is a top priority to OSI CWDS Leadership as this is one of the three primary vendors, and project resources will be dedicated as such.
- This procurement will follow the PaaS Integration Services procurement due to resource constraints.
- The solicitation is developed in collaboration with CDT STP and final review of the solicitation package is 5 -10 business days, prior to submission to Administration on Children, Youth and Families (ACYF) Federal oversight.
- Based on guidelines from CWDS, the CDI vendor will propose a technical architecture for CDI which will include recommendations for software. CWDS will evaluate these recommendations based on the extent to which they address our technical needs, the level of effort for maintenance of the recommended components and the cost.
- There are four phases in this procurement process with ongoing discussions and negotiations through each phase.
- There is time built into the schedule to accommodate a demonstration, if needed.
- There will be no more than three vendors during the Best and Final Offer (BAFO), Phase 4.
- It is unlikely that second and third round BAFO is needed.
- Federal oversight approval is required in order to release the solicitation.

- The Project will request exemption from prior approval for the award of this contract.

The CARES-Live Production Services procurement schedule was developed with the following assumptions:

- Due to the existing CARES-Live resources schedule to offboard the project in January 2020, this procurement is top priority in order to mitigate CARES-Live production risks.
- Federal oversight review and approval of the solicitation and contract award will be expedited due to the CARES-Live resource risk.
- The solicitation is developed in collaboration with CDT STP and final review of the solicitation package is 5 -10 business days, prior to submission to Administration on Children, Youth and Families (ACYF) Federal oversight.
- A decision will be made to keep CARES-Live.

6.4.3 Project Roles and Responsibilities

There are several roles that were referenced in the SPR 2 that either were never established, have been revisited and/or deemed no longer needed.

One such role was the performance analyst. At the time the project pivoted to Agile, the thought was this position was needed to conduct analysis before, during and post implementation to make certain that the digital service meets performance requirements. This role would collect and present the key performance data and analysis to their service stakeholders. Because digital services were not fully implemented into production, this position was never truly established by the project. With the transition to PaaS, this “role” is being re-established as a Business Analyst.

Other positions that were revisited were two communications positions, Public Information Officer and Media and Brand Management Consultant. In Summer 2018, the Project evaluated the impact of the social media channel for communication and decided that it was not prudent. Instead, we chose to focus our efforts on internal communications, organizational change management and external communications to our immediate stakeholders and concurred that these activities could be managed by State employees. The PIO position was downgraded from an Information Technology Manager I to a Staff Services Manager I classification.

Another key change was the Service Manager role. The project originally established this role as the Scrum team role of “Product Owner,” but changed the title to Service Manager in an attempt to adopt the UK’s version of Service Owner. However, this caused confusion and quickly became evident one person could not manage external stakeholder communications and feedback, as well as manage digital service teams’ work (backlog) and prioritization of the backlog. The Project split these into two roles as Service Manager (external – to manage external communications/stakeholder expectations, feedback, etc.) and Product Owner (internal – to manage digital service teams’ work and prioritization of that work). Moving forward, the Product Owner role will

become the Product Delivery Lead. In collaboration with the Service Manager, they will lead the team in mapping out Level 2 Blueprint workflows.

With the transition to a PaaS solution, the Agile Coach role will no longer be needed to support the development teams in further training and coaching in agile and scrum methodology because the vendor will be required to have these skills/knowledges, and the Project will monitor for adherence to agile techniques adopted by the Project.

Currently the Project intends for the team supporting and maintaining products currently in CARES to retain the “old” Scrum model (Scrum Master and Product Owner roles), however, they may switch to Kanban. This team is called the “Green team”. The rest of the organization will switch to the new delivery process described in section 5.2). During the transition period, the Project will further identify and define each role in the new delivery lifecycle.

The Project has also updated the CWS-CARES Governance Plan, see Attachment 16.

6.4.4 Project Schedule

The PMO has re-established a project schedule that tracks all project work, known as the CWDS Master Schedule. This schedule is currently updated weekly and stored in PMO SharePoint repository, that has been made available to all Project team members. It is comprised of tasks for all project teams as outline in the CWDS Organization Chart. The Schedule manager identifies major upcoming work from the project’s prioritization and executive planning processes and adds new work sections to the schedule.

One important component of the Master Schedule is all the work that is related to Product development, as summarized in Section 6.5.1 below, which is tracked in the Jira tool and a dedicated board titled Master Project. This Master Project allows for visibility of the Project in its totality and larger themes at the epic level in Jira. The schedule incorporates development activities (tracked in Jira) along with milestones in all key non-development activities, such as, Acceleration Strategy, Blueprinting & Domain Modeling, Implementation Services, Service Desk support readiness, Project reporting, Communication outreach, APD/BCP/SPR submittal, contract procurements, vendor contracts, etc.

The PMO also developed schedule reports for managers such as upcoming milestones, late tasks, expiring contracts and for Executives reports such as high-level overview of major tasks/milestones. PMO is in the process of developing reports to facilitate proactive management of project inter-dependencies such as expiring contracts impacting development work.

During the transition planning, the PMO will reassess each Project Management Plan, including the Schedule Management Plan, for validity, and will update each plan and related processes as necessary.

In addition, a Project Roadmap was developed to provide high-level view of project activities (see Attachment 7).

6.5 Project Monitoring and Oversight

We have made significant progress in improving coordination and communication with the Checks and Balances team, which is comprised of California Department of Technology (CDT) Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V). Overall project oversight is provided by CDT IPO, which focuses on project management processes and deliverables (i.e. plans, schedules, risks & issues). IV&V is used to supplement IPO and focuses on the technical assessment of the system's development and deliverables to determine if the user requirements, product quality, and specifications are met.

The PMO team and IPO/IV&V work collaboratively to review identified risks and issues documented in the monthly oversight report. The Risk and Issue log that is maintained by the PMO (in Jira) is linked to the IPO findings log (in SharePoint) to ensure tighter coordination. In addition, a monthly cadence has been established for IPO/IV&V to share findings with the PMO, who assigns the appropriate project team member as owners to the findings. Any Risks and Issues that are identified by IPO/IV&V are evaluated by the project team and then added to the formal Risk and Issue log for mitigation and monitoring

6.5.1 Tracking

Project milestones will be identified within the schedule to track the start or completion of specific product building blocks (coherent units of work with defined start to end events and clear measurable results) and key non-development deliverables or tasks. New milestones are identified in the schedule as new tasks or deliverables and are added to the schedule.

CWS-CARES implemented Jira in January 2018 as the monitoring tool to support, track and report Agile project work across development teams. It is also used to track project risks and issues. As part of the implementation effort, standards were developed and a common framework for execution, as well as processes, reporting metrics, and operationalization of Agile concepts (i.e., managing backlog and standard definitions for work status and outputs).

The PMO continues to improve its utilization of Jira to track teams' progress in code development and assess the status of project delivery and performance. The tool also exposes areas where the product teams require coaching in terms of the Agile discipline and consistency of updating their stories in the tool. The PMO partners with the State Product leadership to reestablish and help ensure such discipline in order to achieve up-to-date status in reportable metrics (e.g., sprint burn down charts, the executive dashboard report and version reports). The PMO utilizes Jira data, metrics and reports to identify "anti-patterns" and offers suggestions to the teams to improve upon their discipline and/or stop these anti-patterns. During the transition period to PaaS, the PMO will assess how the work from the Blueprint will be organized and tracked in Jira.

The PMO will utilize both MS-Project and Jira to determine the project's overall progress. Jira is currently being reconfigured to better represent and track product progress and will collectively track and report the progress not only at the team level,

but also at a strategic level (i.e., Blueprint and Product Roadmap). Additionally, when we move to PaaS, the teams will be expected to estimate their work in Jira as time (hours). Teams will be expected to enter, at minimum, a high-level work estimation at the time the story is created, and continually assess and refine during backlog refinement sessions. Also, percentage done and estimated end dates for high-level Jira issues (e.g., releases, initiative and themes) will be regularly updated in MS-Project to support the forecasting cost and duration based upon empirical results.

As the PMO improves and evolves the scheduling process, the goal is to reach a maturity level that will enable quarterly reporting for the entire project, including:

- Overall percentage done for total project
- Forecasted project completion date

An update on the scheduling process and the work towards quarterly reporting will be provided in the schedule management plan in July 2020, SPR 4.

Regarding tracking and traceability to the original requirements (RFP 7.5) and CCWIS compliance, the Project completed a migration of the RFP 7.5 requirements into Jira as its own “Project”. At the time the requirements were developed, they were based on SACWIS compliance requirements (now CCWIS). As the Blueprint is reviewed and updated regularly by the Service Managers, they have the responsibility to review and make certain the RFP 7.5 requirements and CCWIS requirements are considered and are also cross-referenced in the Jira “epic(s)” as they are created. The requirements (stories) in Jira will be exported and posted quarterly on the CWDS website. The project will also work in collaboration with CDSS Policy/Program staff on the project, to verify tracking and status of CCWIS compliance.

6.5.2 Reporting

Trailer Bill Language was passed as part of AB 1603. The following link to Section 26 which updates Section 16501.9 of the Welfare and Institutions Code describes our reporting responsibilities.

http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB1603

In association with Jira, the PMO team utilizes two software add-on tools to Jira: 1) Portfolio Management, and 2) Easy-BI. The PMO successfully implemented these tools and relies heavily on the shared-key metrics for the executive dashboard that is prepared monthly for the Executive Leadership Team (ELT) and monthly for the Board of Directors (BoD). Easy-BI is another tool that enables the PMO to produce team dashboards, such as the following:

- Percent Completed vs Planned
- Average days in transition status
- Average Team Velocity
- Bug tracking
- Issues committed vs Added
- Issues completed vs Not Completed

- Open Technical Debt
- CWDS monthly Tech Debt

Easy-BI also allows for the creation of a project portfolio that maps the dates that are provided in the CWS-CARES Roadmap to that of the dates and metrics used in Jira. This feature has permitted PMO to track dates in Jira and raise any necessary risks as they occur, allowing for early mitigation of any potential schedule slippage.

6.6 Project Quality

6.6.1 Project Oversight

The following organizational entities are to provide oversight on both the project and program organizations during the execution of this Project.

Table 4.1 - Project Oversight Entities

Role	Organizational Entity	Responsibilities
IPOC	California Department of Technology	In conformance with Statewide Information Management Manual (SIMM) 17 (the California Project Management Methodology and SIMM 45 (the Information Technology Project Oversight Framework), the Independent Project Oversight Consultant (IPOC) is responsible for formal oversight of the CWS-CARES Project management processes and documentation. The IPOC is responsible for monthly submission to the California Department of Technology of the mandated Independent Project Oversight Report (IPOR) which provides a structured vehicle for reporting on the reportable project oversight categories.
IV&V	Contractor	The IV&V Analysts are responsible for verifying and validating that project and contractor (particularly the prime vendors) products adhere to industry standards, and that all delivered products meet defined requirements and/or specifications. IV&V reviews are conducted in all phases of the project from initiation through implementation. Federal oversight, ACYF, relies heavily on the observations by the IV&V contractor.

6.6.2 Project Quality Management Plan

CWS-CARES has completed a Project Quality Management Plan which defines the quality policies, objectives and responsibilities associated with the quality planning, assurance, control, and continuous process improvement. It also addresses our management needs and the product through the application of quality measures and techniques such as peer reviews, walkthroughs, and IV&V oversight. The Quality Management Plan work has been completed and there is no change in the underlying methodology from the SPR 2.

6.7 Change Management

The CWS-CARES Project employs three types of change management:

1. CWS-CARES Organizational Change Management (OCM) is focused externally on County, State, Probation and Tribe staff to help prepare CARES users to transition to the new system. Key aspects of this OCM is frequent communication, various types of training and thoughtful preparation for the users to understand the new features and functionality in the new system.
2. Technical change management, based on Agile/ITIL methodologies, is used by the Project internally to ensure that standard methods and processes are used for all changes to the IT infrastructure, including hardware and software. The Change Management Plan is a component of the technical change management framework. Reference the Change Workflow process, Attachment 17.
3. CWDS, as an organization, also applies an OCM framework to help guide and support individuals, project teams, and CWDS initiatives through organizational change.

In July 2018, an OCM strategy was implemented to provide a tactical framework to guide individuals, project teams, and CWDS through organizational change. The strategy utilizes the Prosci® Change Management Framework, which includes a structured process and set of tools to conduct OCM activities.

In October 2018, a new contract was awarded to an OCM vendor to help the PMO manage the Enterprise Change Roadmap, prioritize change initiatives with Executive Leadership guidance, and monitor the effectiveness of the CWDS OCM framework. In addition, a performance measurement strategy, with dashboard reporting and metrics that include key performance indicators, was implemented by the OCM team within in the PMO. As this contract comes to an end in June 2019, the CWS-CARES Communications team has received training and a full knowledge transfer of the activities that were being undertaken by the contractor to continue the efforts.

In December 2018, an internal Change Champion Network (CCN) was established to support organizational changes across the Project. The CCN consists of project staff who are knowledgeable of change management theory, tools and structure, and familiar with the inner workings of CWDS business areas. The OCM team will work directly with the CCN team members to guide and mentor them in structuring and implementing actual project change initiatives. Over time, the CCN will help to strengthen the change management culture here at CWDS.

Below are two of the organizational change initiatives that are currently in progress since launching the OCM Strategy:

1. Change from the current Technical Change Management Plan to the new Agile/ITIL CM Plans

CWDS is implementing the Agile/ITIL methodologies into the existing IT change management process. New Agile/ITIL Change Management Plans were developed, and the team is currently implementing the new processes and tools. Here are the highlights:

1. There are 5 levels of changes: Major, Significant, Normal or Emergency, Minor and Standard.

2. There are 3 new roles: Change Management Process Owner, Change Manager, and Change Coordinator. These key roles are filled by State staff.
3. A Change Board has been formed with representatives from Stakeholder Relations, Service Desk, PMO, Security, Chief of Development, Communications, and Product Delivery Leads. The Change Board meets regularly to review change requests; they must approve all change requests except those in the Minor or Standard Preapproved category. There will also be an ELT Change Board for input on major changes, and an Emergency Change Board for emergencies.
4. Team members contact their Service Manager or Product Owner to initiate change requests. This fosters better communication within teams.
5. The benefits of the new Agile/ITIL processes include more formalized roles and responsibilities, better tracking of requests, standardized procedures and methods, and minimizing risks due to changes. The scope of items going through change management are CARES releases (major, minor, and hot fixes), AWS production infrastructure, network changes, tool changes, and security patches, but this scope will expand over time.

OCM communication and training took place in Spring 2019 to support the transition to the new Agile/ITIL Change Management process so that project staff understand their roles/responsibilities in the processes.

2. Refine the PMO Decision Making Framework

In October 2018, a new Decision-Making Framework (DMF) was implemented to capture major project decisions, their impacts, and decision implementation and communication. The intent of the DMF is to document and track the decision-making process for an item that is not yet captured in existing project management plans and processes. It also provides traceability and accountability to decisions made that may introduce required changes to existing project plans and processes. The DMF is not intended to create duplicative or redundant processes for project team members.

Since implementation of the DMF, we have identified opportunities to improve and further mature the process. Clearer direction of processes, decision-making criteria, and roles and responsibilities are being identified and updated in the DMF. Key DMF components include, but are not limited to, the following:

1. Decisions entered in the DMF impact project scope, schedule and/or cost; or, deviate from baseline decisions or processes captured in formal CWDS Project Management Plans (i.e. Risk Management, Stakeholder Management, etc.).
2. There are five levels of Decision Making at CWDS: Level 1 – Team Members; Level 2 – Leadership; Level 3 – Senior Leadership; Level 4 – Executive Leadership Team; Level 5 – Board of Directors
3. There are three primary roles in the DMF process: PMO Analyst, Decision Requestor, Decision Approver, and Owner. These roles are filled by State staff.

4. A current state process map was created and new steps in the workflow have been defined. These new steps will be incorporated into all OCM communications.
5. The DMF form on SharePoint will be modified and automated where possible to enhance user-experience and ensure the PMO is capturing sufficient information.
6. A DMF “Aging Report” will be created to show outstanding decisions not closed in 30, 60, 90 days and beyond.

To increase adoption of the DMF, the PMO is preparing and planning OCM activities to support the new DMF processes, decision-making criteria, and roles and responsibilities.

6.8 Authorization Required

The Project obtains authorization and funding from two entities: CDSS and ACYF. The proposed changes are outlined in this document, as well as, the required federal Advanced Planning Document. CWS-CARES submitted the Planning Advanced Planning Document on June 26, 2019 and received approval on August 20, 2019.

7.0 Updated Risk and Issue Management Plan

The Risk Management plan documents the process and procedures that are used to manage project risks and issues. It identifies the persons responsible for managing various areas of the risks, how the risks are tracked throughout the life cycle and how contingency plans are implemented. Refence the Risk and Issue Management Plan, Attachment 18.

7.1 Risk Register and Issue Log

Jira is the tool that is used to manage the Risks and Issues process including collection, assessment and status reporting. It is a central repository for all risks and issues identified and includes information such as probability, impact, severity, owner, mitigation or resolution plan, etc.

Managing risks and issues in Jira allows the team to link any related stories to the appropriate risk or issue. By doing so also helps to identify any dependencies or blockers, as well as monitor when issues are being resolved. While the Project continued through the SPR preparation process, the transitioning to the PaaS approach began, which resulted in all previously documented High Risks and Issues either being resolved or retired as they were no longer applicable.

8.0 Updated Economic Analysis Worksheets (EAWs)

See Appendix A for the EAWs approved in SPR 2 Addendum 1 and Appendix B for the EAWs submitted with this SPR.