A man with glasses and a young girl are sitting on a light-colored couch. The man is holding a tablet and both are looking at it with interest. The background shows a modern interior with a plant and a bookshelf.

NC FAST Child Welfare System — Assessment, Alternatives Analysis, Recommendations and RFI

Go Forward Strategy, Recommendations and Roadmap - FINAL

September 4, 2020



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

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A note on confidentiality: To maintain the integrity of potential future procurement processes that results from this project, please keep the discussions and findings confidential.

Section 1:

CWS System Assessment:

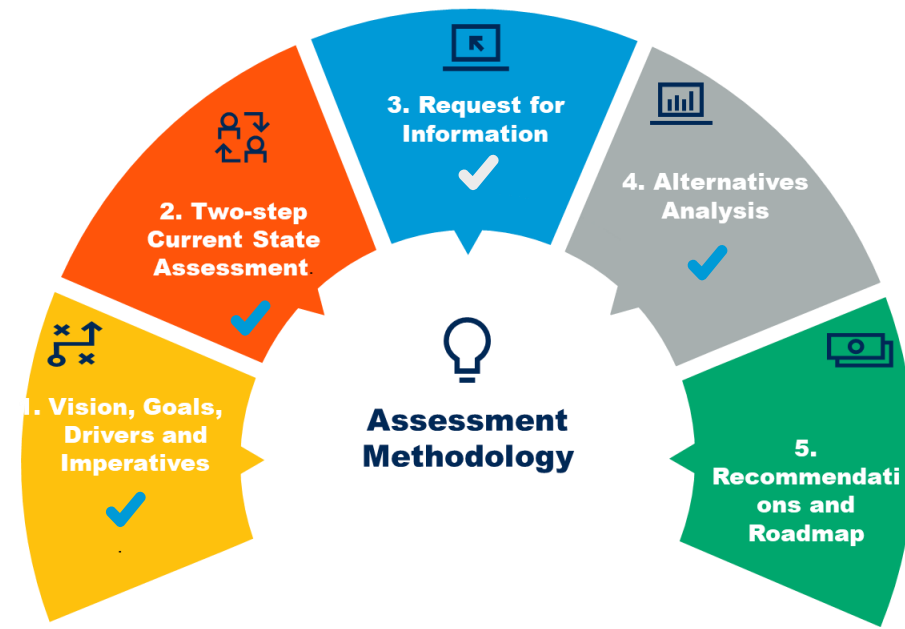
Project Step –

Recommendations and

Roadmap

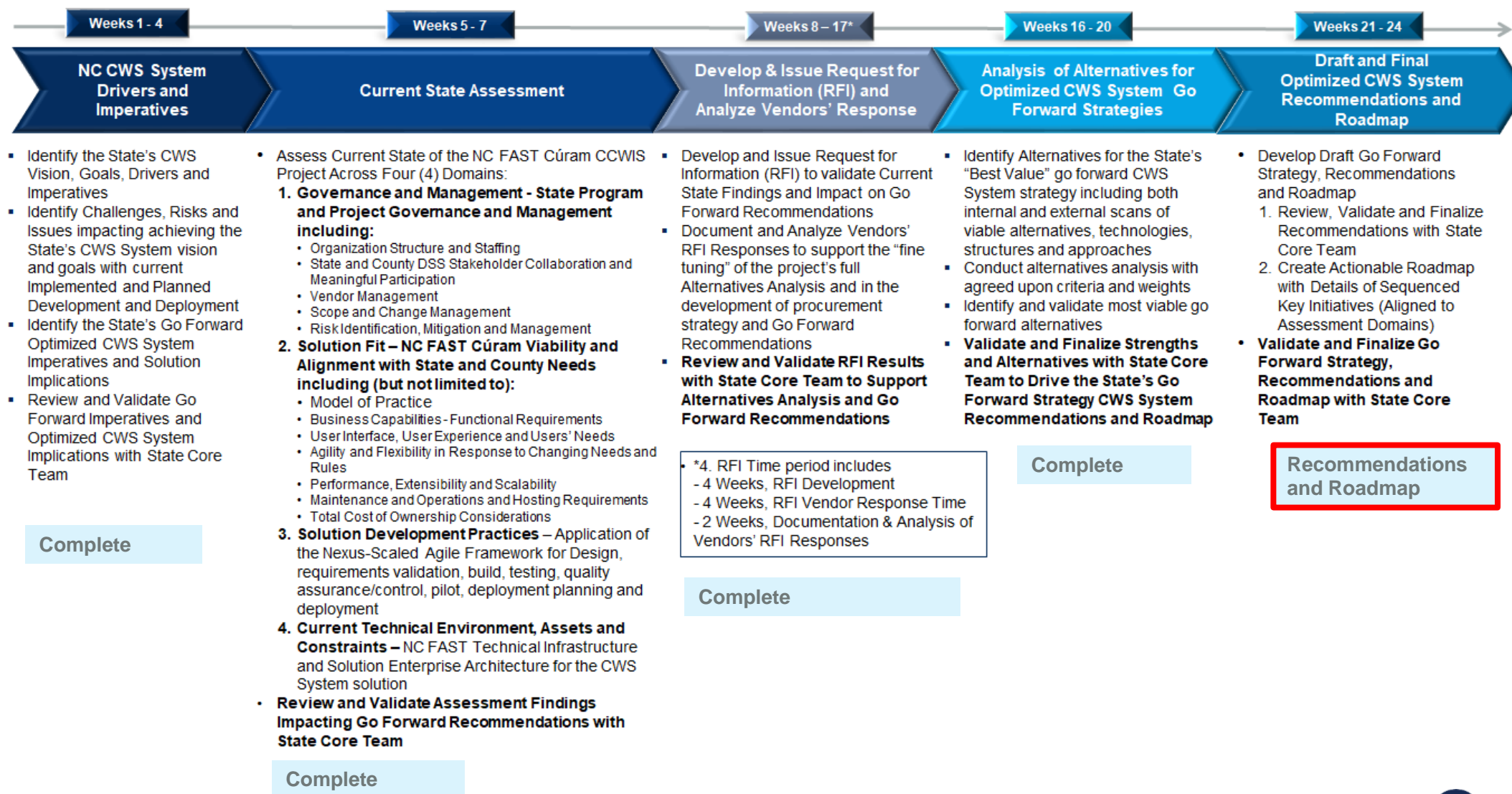
Gartner's Child Welfare System Assessment

- Due to the issues raised by the counties, Senate Bill 537 - PART III-N. Postpone Deployment of NC Fast Case-management Functionality for Child Welfare System/Aging And Adult Services' Program, Develop RFI, Program Evaluation Division Study has been passed
- The goal for Gartner's project is to support the Department's compliance with this recently passed legislation
- Gartner has deployed a proven methodology of 5 steps and thus far, the first 4 are complete
 - Vision, Goals, Drivers and Imperatives – **Complete**
 - 2-step Current State Assessment — **Complete**
 - Request for Information — **Complete**
 - Alternatives Analysis – **Complete**
 - Recommendations and Roadmap – **This Step**



Child Welfare System Assessment

Project Step – Recommendations and Roadmap



Section 2:

High Level Synthesis of Gartner Recommendations

High Level Synthesis of Gartner Recommendations

What recommendations were made as a result of the assessment?

- The overarching recommendation is to continue with the existing NCFAST CWS System after it has been optimized (by enhancing* some aspects of the current system and augmenting* other areas with additional technologies) as the first step in a stepwise evolution to satisfy the needs of the North Carolina CWS community as expressed by the agreed Vision and Guiding Principles developed during the assessment.
- The Gartner assessment followed a tried and tested best practice approach to devising go-forward strategies for solution fit and system implementations, and at every step was driven by the combined efforts of the core team – a diverse and highly representative group of state and county stakeholders. This work included a comprehensive evaluation of vendors and market offerings through a Request for Information (RFI) issued to a broad set of CWS solution providers.
- After work on clarifying the desired future state (vision, guiding principles, imperatives and RFI) this team, using input from the current state assessment, the PED study and a survey of the pilot counties, considered a variety of alternative strategies and came to a unanimous conclusion on the CWS go forward system strategy.

*The terms Enhance, Augment and Replace are clarified in Appendix C

High Level Synthesis of Gartner Recommendations (Cont'd)

What recommendations were made as a result of the assessment?

- To enhance the probability of success, a robust and participative governance process must be established up front to ensure county CWS staff can continue to operate safely, effectively and efficiently both during the system implementation and subsequently. Success in this complex effort is possible only via a cooperative engagement model involving state, county and frontline stakeholders including:
 - Making radical changes to the NCFAST governance structure and processes including the formation of a dedicated CWS governance subcommittee (a standing committee - fully integrated into the Global Governance for the NCFAST platform providing oversight of the CWS Practice and Product Management) and a new CWS Practice and Product Management Office (the ultimate authority over the development and upkeep of the optimized CWS Product Roadmap reflecting the consensus of all State and County stakeholders on requirements). This office will be created within Human Services Business Information and Analytics involving the addition of new full-time positions.
 - A robust Change Management and Communications process that aligns individuals and teams, manages performance and helps transform culture, addressing Policy, Practice, Organizational Structure, Operations & Management and Staff Development
 - There is an ongoing need to carefully plan the evolution and deployment activities, and ensure continued momentum through the stepwise optimization and implementation across counties by devising an evidence-based proof of concept approach where each step of system optimization is fully validated and gains pilot county support prior to roll out.

High Level Synthesis of Gartner Recommendations (Cont'd)

What happens next?

- As the assessment engagement concludes, it is important for the North Carolina team to focus on operationalization of the strategic roadmap created by the assessment project to evolve it into a practical and actionable plan.
- The first steps are to establish the governance process and organization as soon as possible and, in parallel create the collaborative effort under the leadership of Director of Human Services Business Information and Analytics to establish and prioritize the detailed optimization opportunities and proposals.
- This team must build on the staff engagement model and teamwork established by the assessment core team to enable this and start immediately. The second priority is to create a budget request to ensure the procurement and development work required for optimization can seek funding in time to move forward in accordance with the overall schedule and county expectations.

High Level Synthesis of Gartner Recommendations (Cont'd)

What will ultimately be needed to move forward?

- Several areas require attention to ensure the correct level of capable staff resources are available and assigned to the execution of the final action plan:
 - Immediate need for concentrated planning efforts to ensure funding and approvals are secured.
 - Creation of the CWS Practice and Product Management Office to ensure continued staff efforts to effectively manage the stepwise agile process of continuous elaboration and improvement.
 - Consider hiring independent consulting / subject matter expert support, in the short-term, to facilitate the establishment of the necessary governance mechanisms and processes.
- For a successful technology and services acquisition:
 - Based on the expectation that elements of the resulting augmentation will require procurement of technologies and services, NC should establish an expedited approach to such Proof of Concepts and related procurements in order to move to deliver real benefits quickly and maintain momentum.

High Level Synthesis of Gartner Recommendations (Cont'd)

What will ultimately be needed to move forward?

- For continued success resulting from the chosen strategy NC should:
 - Recognize the level of effort required for system change at the county level and find a way to support that across the wide variety of county abilities to resource and fund such efforts.
 - Continue the stepwise approach to the evolution and further development and deployment of system capabilities that will drive positive outcomes for children, youth and families by making timely, accurate information available to inform county and state decision-making.
 - Support the stepwise evolutionary approach through the efforts of the CWS Practice and Product Management Office and changes within the Information Technology Division to become increasingly agile in the development, deployment and support of IT systems.
 - In alignment with the DHHS Cloud Computing Strategy and CCWIS requirements for modularity continue to work with system architects and key technology suppliers (such as IBM – providers of the underlying NCFast technology platform) to implement changes in the fabric and operation of the platform.



Section 3:

Vision, Guiding Principles and Imperatives



The Future State Vision for the Optimized CWS System

A statewide CWS system¹ and consistent model of practice that drives positive outcomes for children, youth and families by making timely, accurate information available to inform county and state decision-making, creating an efficient to use and intuitive user experience for child welfare workers and building toward a full CCWIS-compliant solution over time.

¹The “statewide CWS system” is synonymous with the “statewide case management system” referred to in the 2020-2024 Child and Family Services Plan

- The CWS System provides:
 - Intake reports of potential child abuse or neglect
 - Assessments of the circumstances noted during the intake process
 - Case management support for in-home services, foster care, and adoption
 - Real-time and mobile support for frontline workers’ data collection and decision support
 - Licensing of foster parents and facilities
 - Payment and reimbursement calculations and tracking for foster care placements
 - Interstate Compact for Placement of Children (ICPC) and National Electronic Interstate Compact Enterprise (NEICE)
 - Tracking of the complete history of a child’s and family’s involvement with social services as the child and family move within the state
 - Case management support youth and young adults who have experienced time in foster care

Guiding Principles for achieving the future state vision

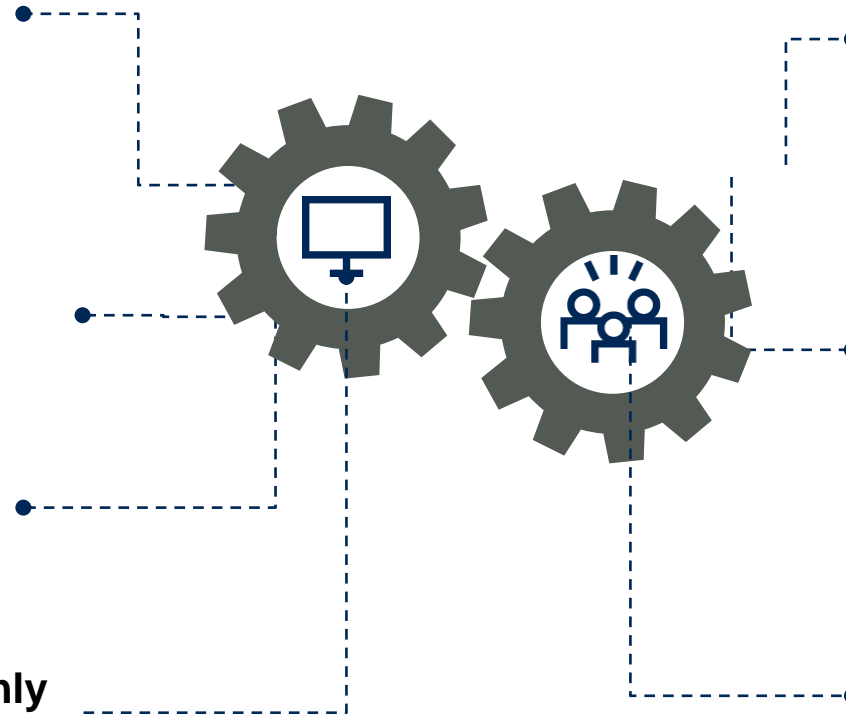
Safety and well-being of the children, families and NC Child Welfare staff are of the greatest importance.

Create a system* that is **easy and intuitive to use** and efficiently manages **data** and **documents**.

A system that child welfare workers can access and **use 24/7 from a broad set of supported devices**.

Whenever possible, **data should only be entered once** and used many times.

*statewide CWS system



Ongoing training and support for the model of practice, the system and changes will be **aligned to maximize quality** of the service provided.

Counties and State representatives must be partners and active participants committed to reach consensus at every step of the process.

Counties vary in size, complexity, and available resources. While any system will require some standardization, we must build a system that works for all counties.

Optimized CWS System's Imperatives

Transformation

- Align with the 2020-2024 Child and Family Services Plan
- Make governance transparent and inclusive
- Adopt a product management approach*

Organization

- Implement a wise investment strategy
- Holistically manage organizational change and readiness
- Strategically establish and manage OCSP** human resources

Infrastructure

- Design in process improvement
- Manage transformation of business, information and technology through enterprise architecture planning
- Proactively manage and optimize use of data

***Product management approach** — An integrative discipline that governs the CWS System solution right from its inception to delivery and post-implementation service

****Optimized CWS System Program (OCSP)** — The program encompasses the effort to define, acquire and implement the future CWS System solution

Section 4:

Key Inputs for the Roadmap:
Current State Assessment,
PED Study, RFI, Analysis of
Alternatives and County
Issues Survey

P4 Assessment

Four Assessment Domains



	Key Strengths	Biggest Challenges
1. Governance and Management	<ul style="list-style-type: none"> Strong desire and direction for a statewide system Elaborate formal governance (EAC) Statewide investment and staff 	<ul style="list-style-type: none"> NC FAST Program perceived as actually driving business change Governance not effectively inclusive Statewide Model of Practice (MoP) agreement did not precede implementation Inadequate depth in training / change management
2. Solution Fit	<ul style="list-style-type: none"> Considerable “gap-fit” efforts Designed to be CCWIS compliant Strategy of sharing information between the various NC FAST elements 	<ul style="list-style-type: none"> Level of customization required Usability and Reporting gaps persist Inconsistency with “fix” prioritization and feedback
3. Solution Development Practices	<ul style="list-style-type: none"> Nexus “Scaled” agile framework used Continued efforts at improving the system usability and functionality Provided deployment “readiness” team resources 	<ul style="list-style-type: none"> Unrealistic timelines Incremental delivery approach not understood by everyone Insufficient testing Individual county variations not adequately supported
4. Technology Environment, Assets and Constraints	<ul style="list-style-type: none"> State of NC technology standards Cúram platform with WebSphere integration architecture Based on proven technology components Planned investments in operational supporting technology and processes 	<ul style="list-style-type: none"> Mobile application approach limited with architecture not yet fully defined Limited modularity of Cúram architecture and design Out of date Cúram software upgrades Lack of clarity on progress and results of the ongoing optimization efforts

CWS System Go Forward Readiness Assessment

Assessment Summary View

- For each domain Gartner “looked back” at the P4 project to identify key strengths that were present and challenges that impacted the effort
- Based on the findings, Gartner performed analysis of the current readiness of DHHS to move forward with the CWS initiative
- The assessment indicates that in future thinking and planning for an optimized statewide CWS System, NC should consider prioritizing the areas assessed within the **Solution Development Practices** and **Governance and Management** domains
- The details of this assessment will guide the alternatives analysis process and resulting strategy recommendations and roadmap

CWS System Go Forward Readiness Assessment, Cont'd

Four Assessment Domains

	Capabilities	Actions to Mitigate Observed Risks
1. Governance and Management	<ul style="list-style-type: none"> • Vision and goals agreed on this project • EAC Governance established • NC FAST Project Infrastructure – M&O and business analysts realigned • Substantial knowledge base • Staff with county experience now work at the state level on Model of Practice (MoP) • Considerable input from counties documented • RFI Market analysis 	<ul style="list-style-type: none"> • Need to formalize the agreed strategy • Ensure consistent MoP drives system needs • Need effective voice and participation of the counties in the governance process • Staffing alignment of both ITD and the Business Information Office • Involvement of front-line staff • Vendor management and enforceable SLAs • Ensure first-rate Independent Validation and Verification (IV&V)
2. Solution Fit	<ul style="list-style-type: none"> • Substantial P4 requirements and gaps documentation and experience • Much planning for compliance already in place 	<ul style="list-style-type: none"> • Agreement and commitment to standardize on common processes and procedures across counties and specific agreement on variances • Clarity on usability and mobility requirements must be established • Address CCWIS compliance requirements for significant changes (e.g., data quality plan, interfaces, business rules definition) in addition to technology solution • Fidelity to governance processes

CWS System Go Forward Readiness Assessment, Cont'd

Four Assessment Domains

	Capabilities	Actions to Mitigate Observed Risks
3. Solution Development Practices	<ul style="list-style-type: none"> • State standards • Scaled Agile methodology • Recent investments made in test automation tools and now moving toward Continuous Integration and Continuous Delivery models • Accenture providing support for development of training curriculum and content for the online and in-person sessions 	<ul style="list-style-type: none"> • Clarity on MoP • Fidelity to governance processes with effective voice and knowledgeable participation of the counties • Knowledgeable Program SMEs resourcing • Establish non-functional requirements • Fidelity to PM disciplines • Testing needs more resourcing or automation • Greatly increase depth and alignment of training
4. Technology Environment, Assets and Constraints	<ul style="list-style-type: none"> • The State has well established processes and published standards on key technologies • Standard case management platform (Cúram) for all social programs • The NC FAST system is developed on well-supported commercial off the shelf middleware software from established vendors • The State has established an on-premises Enterprise Service Bus implementation for all Application to Application integrations • NC FAST has a dedicated M&O and putting a repeatable process in place to measure performance and quality along with recent investments have been made to introduce automated testing and DevOps capabilities 	<ul style="list-style-type: none"> • Define the CWS system standards and fully fund the appropriate set of infrastructure and tools for offices and the field • Move to continuous modernization • Improve usability and user experience • Migrate to a scalable cloud infrastructure as a service to enable ability to respond ongoing • Introduce improved standardization and management of Application Program Interfaces • Implement adequate testing infrastructure and automation • Need an adequate County infrastructure to ensure the user's perception of system reliability • Lack of a Product Management approach to evolving and enhancing the system may lead to user dissatisfaction

PED Study Results Highlights

NC FAST Child Welfare Case Management Software Demonstrates Adequate Functionality but Poor Usability

Findings	Recommendations
<ul style="list-style-type: none">• Lack of a unified practice model and resource disparities between counties hinder the State's ability to implement a child welfare case management system.	<ul style="list-style-type: none">• The General Assembly should direct DHHS to collaborate with a qualified organization to implement a statewide practice model and standardize child welfare business processes.
<ul style="list-style-type: none">• Lack of state policy leadership and insufficient training have stymied P4 implementation.	<ul style="list-style-type: none">• The General Assembly should direct DHHS to require any future training contractor to conduct culture change readiness training.
<ul style="list-style-type: none">• The oversight structure of NC FAST contributed to P4 development and implementation challenges.	<ul style="list-style-type: none">• If the General Assembly chooses to fund NC FAST in Fiscal Year 2020–21, it should direct DIT to embed staff within the NC FAST team to provide additional state oversight and reporting on P4 challenges.
<ul style="list-style-type: none">• NC FAST P4 is functional, but its usability is poor.	<ul style="list-style-type: none">• The General Assembly should direct DHHS to prioritize improvements in the usability of NC FAST in future vendor contracts• The General Assembly should direct DHHS to require a free proof of concept for any additional software purchased to reduce unnecessary risk to the State..
<ul style="list-style-type: none">• Issues surrounding appropriations have delayed improvements to functionality; indecision about NC FAST P4 will increase overall project costs and may subject the State to federal penalties.	

Request For Information (RFI) — Overview

- NC DHHS received RFI responses from 25 vendors, including:
 - 12 highlighting their full CCWIS solutions that could replace P4 or provide augmentation
 - 6 describing products that could usefully augment P4 – see Appendix A
 - 7 who could provide supporting technologies or consulting expertise
- Many of the responding vendors can point to specific state CWS experience but can demonstrate very little depth in successful implementations of their described CCWIS solutions
- There are no pure next generation systems that have a demonstrated success track record in production. Most are hybrid solutions
- Despite the pricing details requested in the RFI, the vendors that responded chose to provide only very high-level information regarding prices. In most cases, there is no information on how their prices would vary if NC DHHS chose to purchase a subset of the solution and products involved
- Complete replacement solutions are available, and the Vendors’ cost estimates of 7 years Total Cost of Ownership are between \$35M - \$150M, however, based on Gartner’s analysis of costs of similar size and scope of implementations, the high-level cost estimate range for the Design, Development, Implementation and Enhancement to the state over a 7 years period would likely be between \$120-180M and take at least 24 months for the minimum viable product to deploy
- Augmentation solutions to address some of the current NC FAST challenges are available, and there are viable approaches to integrate these new capabilities

Selected Lessons Learned

RFI Summary Analysis - Full CCWIS Solutions

RFI Summary Analysis – Full CCWIS Solutions
Sparse Track Record

Vendor Organizations	#	In Process Projects	Complete Projects	CWS Knowledge Described	County Administered State Experience Identified
Vendor 1	0			Y	-
Vendor 3	1	LA		Y	Very Limited
Vendor 4	1	CT		Y	-
Vendor 5	4	NH, ME	DE, MI	Y	Yes (but not this solution)
Vendor 7	1	MD		Y	-
Vendor 11	1	TX		Y	-
Vendor 16	3	CT, ID	AZ	Y	-
Vendor 19	2	VA, MI		Y	Very Limited
Vendor 22	0			-	-
Vendor 23	0			Y	-
Vendor 24	1	ME	ID	Y	-
Vendor 25	0			Y	Yes, worked with PA and CA (SACWIS)

A number of these vendors can point to specific state CWS experience but very little depth in successful implementations of their described CCWIS solutions

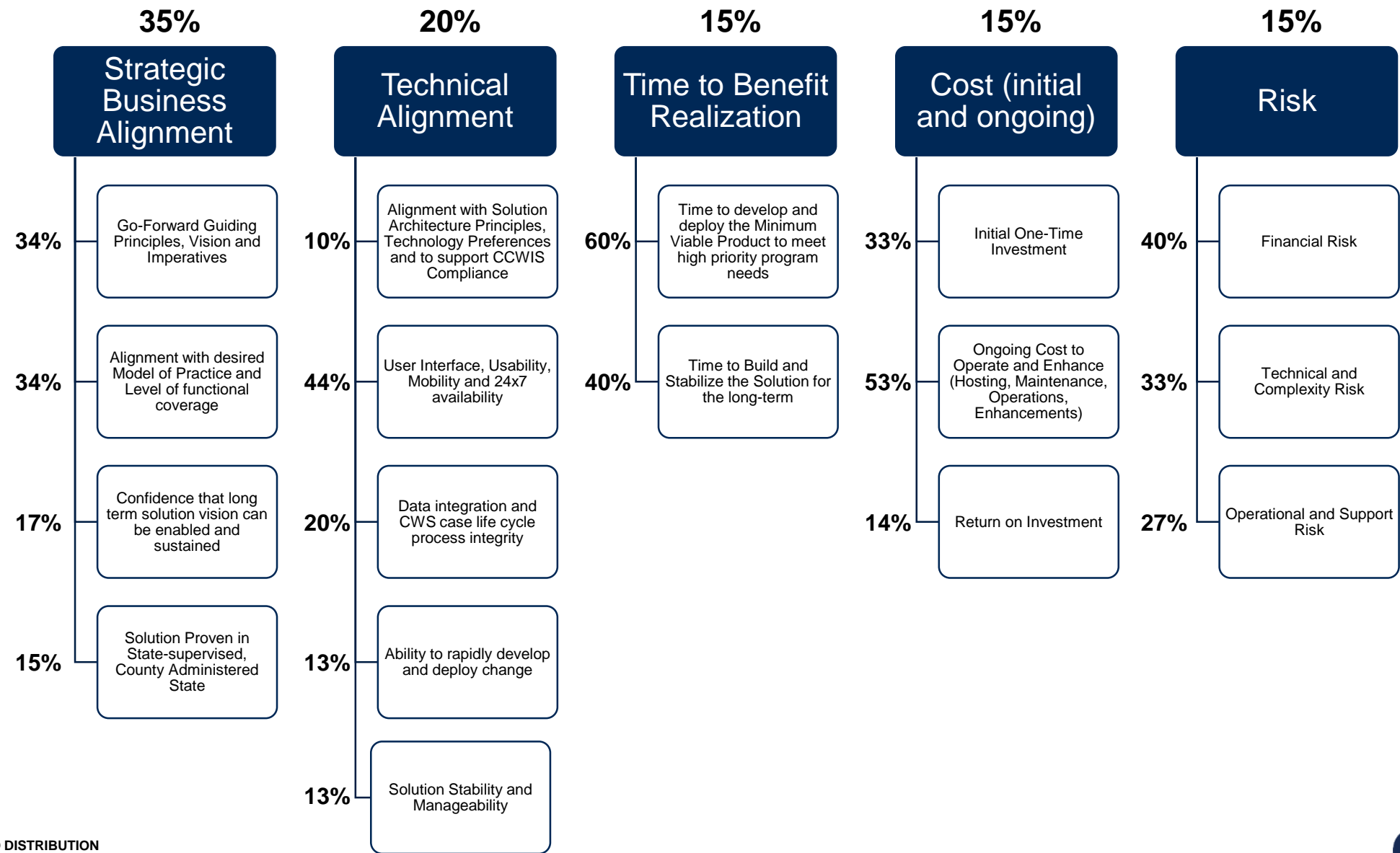
This is, to some extent, explained by relatively recent finalization of CCWIS rules in 2016

We believe this is representative of the marketplace – "plenty of vendor enthusiasm with little track record"

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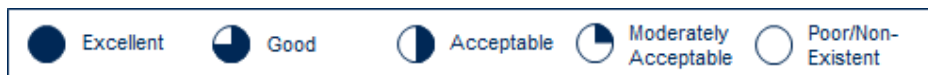
Gartner

Criteria and Subcriteria with Weights – Finalized by the Core Team



Scores Ranked Across Alternatives

		1st	2nd	3rd	4th	5th
		Augment and Enhance P4	Replace P4 with COTS/SaaS	Enhance and Optimize P4	Replace P4 with Custom Solution	Replace P4 with Transfer Solution
		B	C	A	E	D
Strategic Business Alignment	Go-Forward Guiding Principles, Vision and Imperatives	4	4	3	4	3
	Alignment with desired Model of Practice and Level of functional coverage	4	4	3	5	2
	Confidence that long term solution vision can be enabled and sustained	4	3	3	3	3
	Solution Proven in State-supervised, County Administered State	2	2	2	1	2
	Combined	3.700	3.530	2.850	3.720	2.510
Technical Alignment	Alignment with Solution Architecture Principles, Technology Preferences and to support CCWIS	4	4	3	5	3
	User Interface, Usability, Mobility and 24x7 availability	4	4	3	5	4
	Data integration and CWS case life cycle process integrity	3	3	3	4	3
	Ability to rapidly develop and deploy change	3	4	2	4	3
	Solution Stability and Manageability	3	5	4	5	5
	Combined	3.540	3.930	3.000	4.670	3.700
Time to Benefit Realization	Time to develop and deploy the Minimum Viable Product to meet high priority program needs	4	3	4	2	3
	Time to Build and Stabilize the Solution for the long-term	5	3	3	1	3
	Combined	4.400	3.000	3.600	1.600	3.000
Cost (initial and ongoing)	Initial One-Time Investment	4	3	5	4	3
	Ongoing Cost to Operate and Enhance (Hosting, Maintenance, Operations, Enhancements)	3	2	3	2	2
	Return on Investment	5	3	4	1	3
	Combined	3.610	2.470	3.800	2.520	2.470
Risk	Financial Risk	4	3	3	1	3
	Technical and Complexity Risk	3	3	3	3	3
	Operational and Support Risk	3	3	4	2	3
	Combined	3.400	3.000	3.270	1.930	3.000
Combined Score		3.7145	3.292	3.198	3.1435	2.889



Result of the Analysis of Alternatives

Agreed by the Core Team

- The NC Core Team recommends that the strategic direction and go forward strategy for the planning, selection and implementation of a state-wide CWS system for North Carolina state and counties is based on the **“Augment and Enhance P4”** Alternative that received the highest scores in the Alternatives Analysis. This recommendation is based on the understanding that the strategy that evolves around this alternative will also include certain activities and constraints:
 - **The nature of the augmentation will be specified and agreed prior to further investment:** An in-depth analysis will be conducted that determines the scope, nature and prioritization of the main aspects of augmentation planned prior to any procurement or decisions regarding the specific technologies to be acquired to augment P4
 - The go forward strategy will include a number of activities that comprise the **strategic roadmap** that will be **developed under the direction of this team** and be a product of this project
 - This strategy and roadmap will be entirely in **alignment with the agreed Principles, Vision, Goals and Imperatives** defined by this project
 - The strategy and roadmap will include plans to specifically ensure that **risks** identified in the Current State Readiness Assessment **will be fully addressed in a timely fashion**
 - Decisions regarding the above and all of the CWS implementation going forward will be governed by **a revised and state/county balanced governance process** implemented in accordance with the strategic roadmap

■

2018 P4 Issues - Pilot Counties Survey

Issue Category	Sub-Issue	Issue Short-Name	Avg Score	Min Score	Max Score
1	Issue Category Overview	Consistency between NC FAST and state statute and business policies	7	3	10
2	Issue Category Overview	Increased workload as the result of system requirements reducing time spent on social work	4	1	7
3	Issue Category Overview	Inadequate Security Roles	9	8	9
4	Issue Category Overview	Confidentiality between ES and CW	8	5	10
5	Issue Category Overview	Foster Care Financials	5	2	8
6	Issue Category Overview	System Availability	5	3	7
7	Issue Category Overview	Alignment between System and Policy/Modified Manual	7	3	10
8	Issue Category Overview	Help Desk Tickets, Support Personnel, and Job Aids	7	3	8
9	Issue Category Overview	System Security Issues	8	5	10
10	Issue Category Overview	Conclusion/Summation	5	3	10

This Survey highlights several areas that are good candidates for system enhancement and augmentation:

- “Case planning” technology (and other family-facing forms) -- simplified and mobile
- Supervisor monitoring dashboards (overhaul and potentially augmenting technology)
- General ongoing case management technologies that could reduce data entry and clicks
- System available 24/7
- Artificial intelligence that will consume unstructured data to bring forward key case insights from wherever they are. This could save social worker’s time from digging through case narrative to find important details and increase efficiency



Section 5:

Go Forward

Recommendations Roadmap

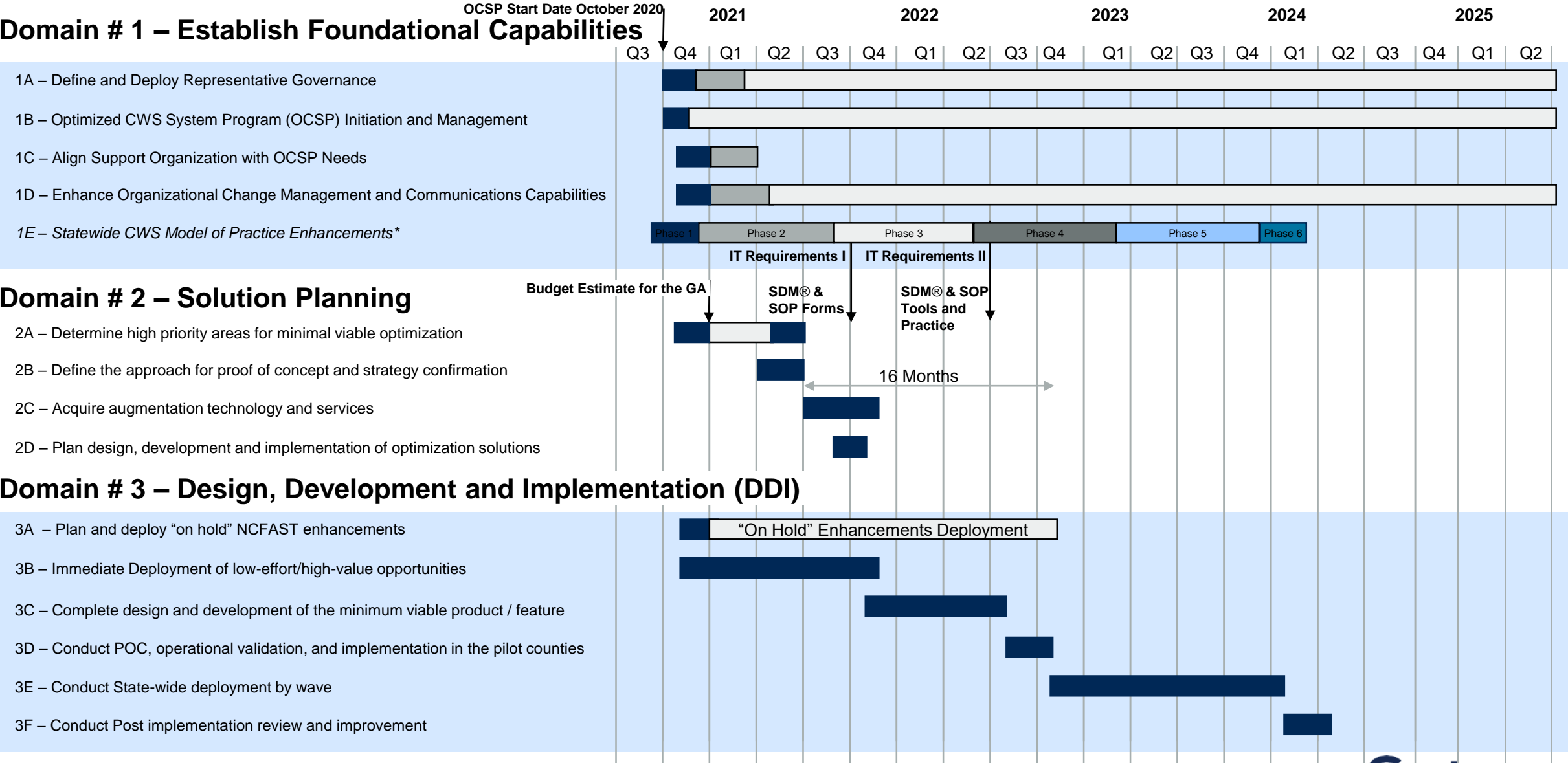


Draft Go Forward Roadmap

Recommendations and Workstreams

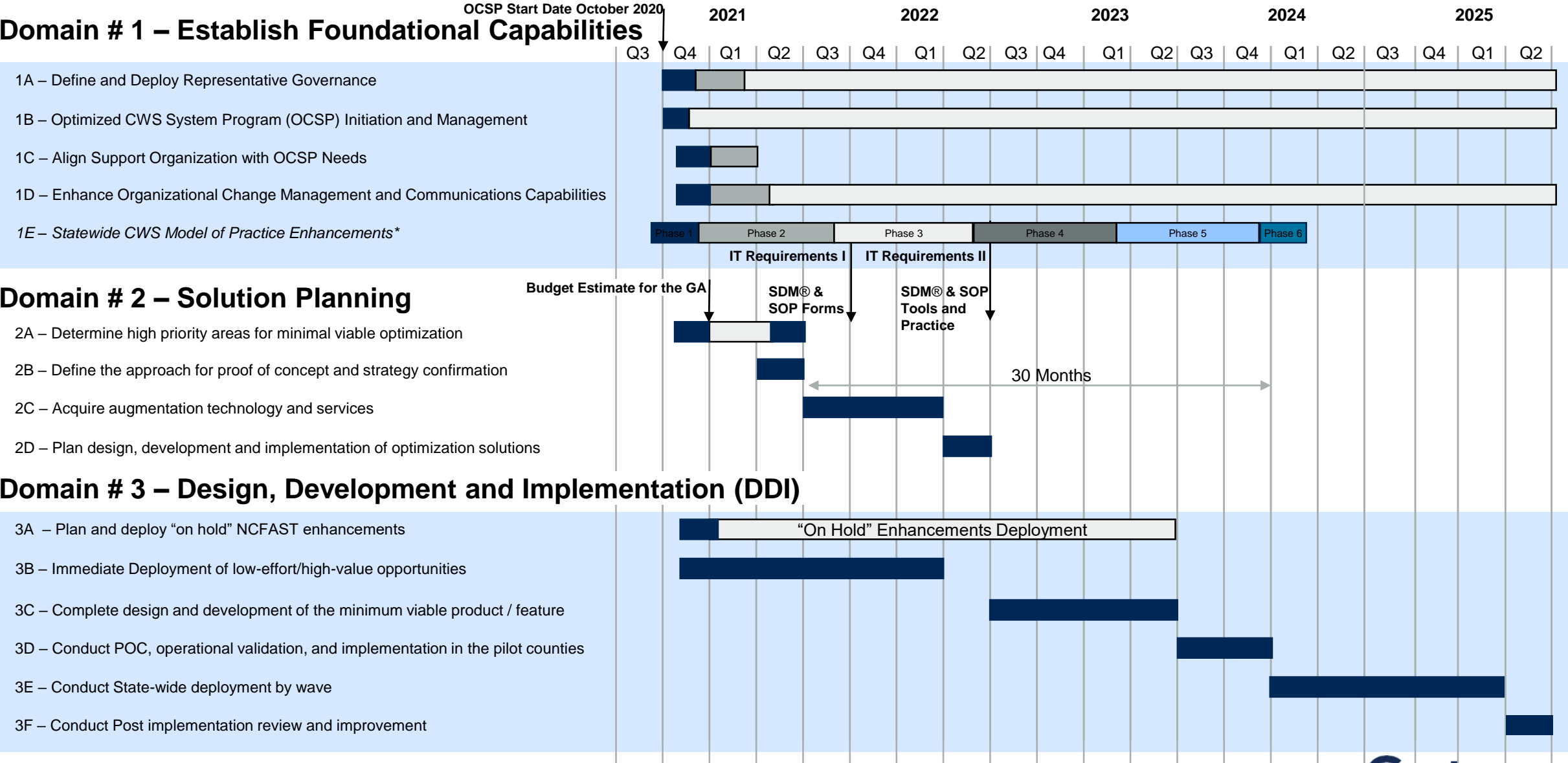
Description		Workstreams
Establish Foundational Capabilities	<ul style="list-style-type: none"> Establish and launch the OCSP Enhance and develop a number of focused management and organizational capabilities in support of North Carolina's transition to a state-wide Optimized Child Welfare System Implement a consistent, statewide approach to the practice of CWS 	1A – Define and Deploy Representative Governance
		1B – Optimized CWS System Program (OCSP) Initiation and Management
		1C – Align Support Organization with OCSP Needs
		1D – Enhance Organizational Change Management and Communications Capabilities
		1E – <i>Statewide CWS Model of Practice Enhancements*</i>
Solution Planning	<ul style="list-style-type: none"> Determine how the NCFAST CWS System will be enhanced and augmented in order to make it an acceptable state-wide system Acquire technologies and services required to complete the augmentation and enhancement Plan in detail how this new and improved state-wide system will be fully tested and deployed 	2A – Determine high priority areas for minimal viable optimization
		2B – Define the approach for proof of concept and strategy confirmation
		2C – Acquire augmentation technology and services
		2D – Plan design, development and implementation of optimization solutions
Design, Development and Implementation (DDI)	<ul style="list-style-type: none"> Combine “on hold” infrastructure enhancements, functional with high-priority enhancements and augmentation from the application of additional tools and technologies Demonstrate and provide compelling evidence that the optimized system is operating successfully for the pilot counties Carefully deploy the optimized system at all 100 counties <p><i>*Workstream 1E is a project important to OCSP but may not fall within the governance and program management of OCSP</i></p>	3A – Plan and deploy “on hold” NCFAST infrastructure enhancements
		3B – Immediate Deployment of low-effort/high-value opportunities
		3C – Complete design and development of the minimum viable product / feature
		3D – Conduct POC, operational validation, and implementation in the pilot counties
		3E – Conduct State-wide deployment by wave
		3F – Conduct Post implementation review and improvement

Roadmap Timeline – Low Range Estimates



*Workstream 1E is a project important to OCSP but may not fall within the governance and program management of OCSP

Roadmap Timeline – High Range Estimates



*Workstream 1E is a project important to OCSP but may not fall within the governance and program management of OCSP

Domain # 1 – Establish Foundational Capabilities

Key Attributes Common to All Workstreams

Description

- Establish and launch the OCSP
- Enhance and develop a number of focused management and organizational capabilities in support of North Carolina's transition to a state-wide Optimized Child Welfare System
- Implement a consistent, statewide approach to the practice of CWS

Benefits / Success Measures

- Ensure North Carolina's vision for the future statewide CWS system and the strategy to attain that vision is widely understood and agreed by all key stakeholders
- Expectations regarding statewide roll-out vs. future improvements managed
- Improve clarity, transparency and confidence in decision-making
- Active pursuit of organizational change management
- Position and organize supporting resources to align with the OCSP strategy

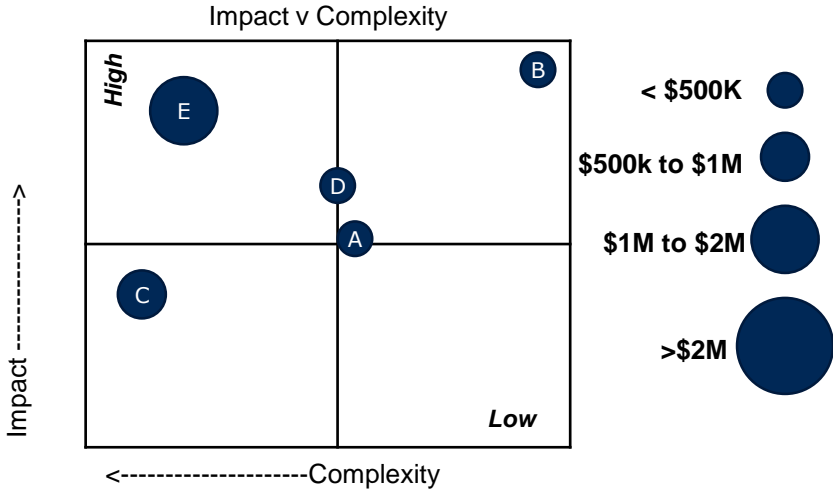
Risks

- Inadequate level of critical product and project management skills
- Limited trust in adherence to Guiding Principles
- Lack of County leadership support for governance structure
- Lack of fidelity to governance framework and processes
- Lack of clarity regarding the scope of the governance structure
- Ineffective communication of governance structure to all stakeholders
- Conflicting responsibilities between OCSP Governance and ITG

Critical Success Factors

- Collaborative execution of the OCSP Strategy with appropriate stakeholders from Counties along with State program, policy and IT staff
- Effective communications and understanding on process, OCSP Strategy and performance against plan
- Managing expectations with all key stakeholders

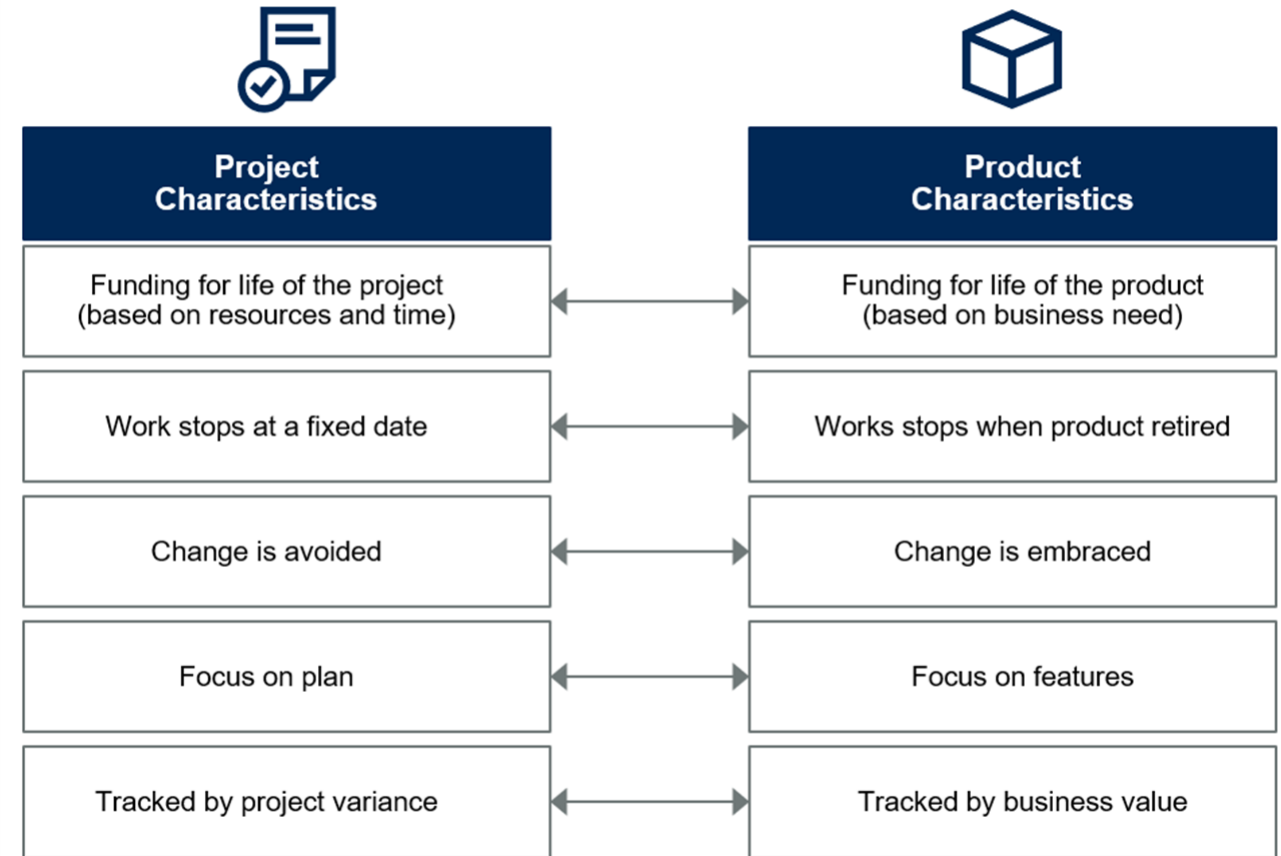
	1A – Define and Deploy Representative Governance	1B – Optimized CWS System Program (OCSP) Initiation and Management	1C - Align Support Organization with OCSP* Needs	1D – Develop Organizational Change Management and Communications Capabilities	1E – Statewide CWS Model of Practice Enhancements
Impact	High	High	Medium	High	High
Complexity	Medium	Low	High	Medium	High
Cost	<\$500K	<\$500K	\$500K to \$1M	<\$500K	>\$2M



Move to a Product Management Approach

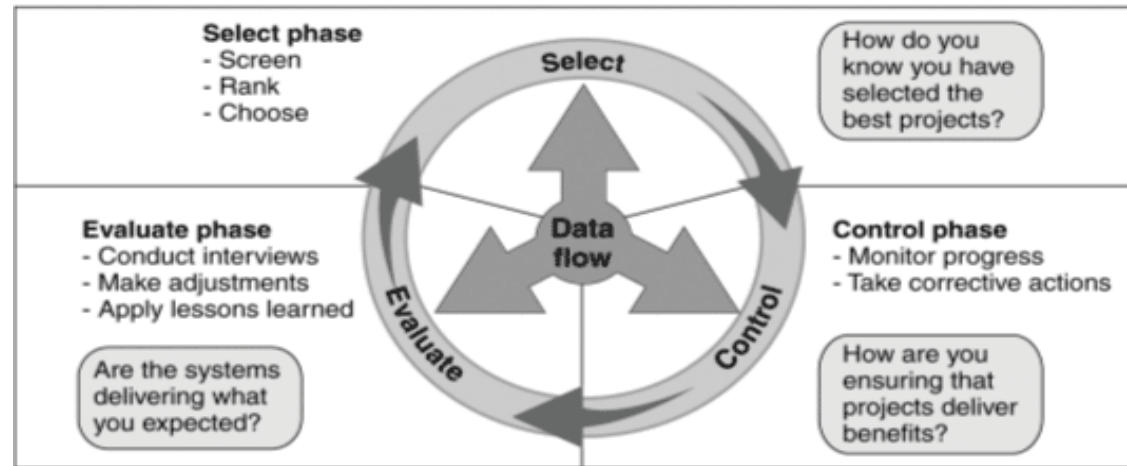
- Optimize P4 and deploy a “minimum viable product”
 - Determine what capabilities are required for eventual statewide deployment
 - A product that provides a solution including those capabilities is the Minimum Viable Product (MVP)
- There will be additional enhancements AFTER the deployment of the MVP
 - Such enhancements will not be implemented by addressing them (independently) one “defect” at a time
 - Planned and deployed in a way that high-value business outcomes are identified and planning effort is expended to coordinate enhancements and achieve the outcomes
- Need to establish:
 - Trust of counties and social workers that they will be able to influence future change in a meaningful way
 - Understanding of funders that this is not a one-off investment and they must continue to invest to keep the system aligned with important needs and obtain best value for North Carolina, families and children

Projects Versus Products



Source: Gartner
ID: 356407

OCSP Governance Purpose

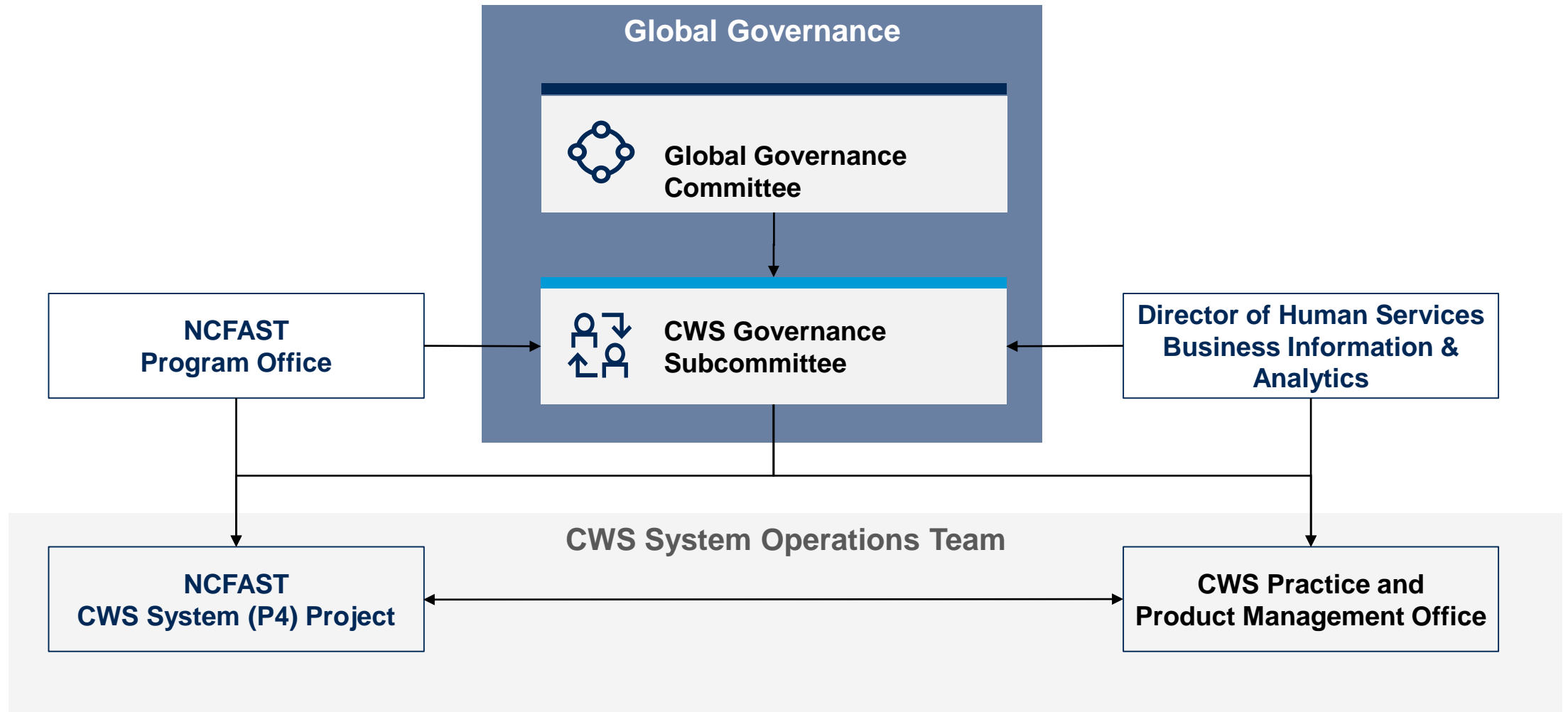


- Establish definitive decision-making rights, roles, responsibilities and accountabilities that enable leadership to make the important (and potentially costly) decisions on when and how to invest with a high level of objectivity and transparency that includes:
 - A series of standard, repeatable processes which are adaptive based on business value characteristics and not only facilitate management's ability to make good investment decisions, but also oversee and control those investments
 - Communications that ensure data used, decision processes and results are available and understood by all stakeholders, and improve trust and confidence in decision-making for OCSP
 - A broad and diverse set of Counties and State representatives that become partners and active participants committed to reach consensus at every step of the process
 - A means of assessing investments as a basis for continuously improving future decision making

OCSP Governance Recommendations

- Governance is too important for the future success of establishing a statewide CWS system solution to take short-cuts. NC must carefully move forwards based on the foundational workstreams described in the Strategic Roadmap. The governance, organizational support and change management structures will be designed and established based on those efforts
- The Optimized CWS System will be achieved by enhancing and augmenting the NCFast CWS System and therefore continue to depend on the NCFast Platform and require close coordination for all technology, development and implementations issues. In alignment with this strategy NC CWS System Optimization efforts should continue to work with, enhance and augment the Global Governance* structures that will continue to support the overall NCFast Program and Platform
- For improved alignment with the OCSP strategy, augment the existing governance structure and processes to ensure the CWS System solution closely aligns with the business needs of DHHS, the county CWS units including the social workers and other staff working directly with children and families and the Federal CCWIS requirements. Consider, at minimum, the following governance augmentations:
 - **Dedicated CWS Governance Subcommittee** – The Global Governance committee will mandate and charter a standing sub-committee focused purely on CWS System needs that is tasked with responsibility of obtaining business consensus on the CWS System Solution investments and deployment decisions
 - **Dedicated CWS Practice and Product Management Office** – DHHS will create this office reporting to the Director of Human Services Business Information and Analytics. This office will be responsible for managing and supporting the CWS Governance Subcommittee, defining the CWS System Solution Vision and developing/maintaining the Product Roadmap to achieve that vision

OCSP Governance – Structure Overview



OCSP Governance – Essential Responsibilities

CWS Governance Subcommittee

- Ensure fidelity to the future state vision for the Optimized CWS System and Guiding Principles and responsible for agreeing, socializing and approving any changes in these
- Review Roadmap and plans, prioritize investments and oversee the OCSP
- Establish the Product and Program mandates and make evidence-based, fully-analyzed, disciplined and wise investment recommendations for Global Governance Committee final approval
- Approve the product roadmap and associated program plan and approve any subsequent proposed changes
- Hold the CWS Practice and Product Management Office accountable for sufficient and effective stakeholder (state, county and field) participation – based on agreed measures and targets
- Monitor the effective and cost-efficient application of information technologies, related personnel resources and funding
- Allocate the budget among approved program initiatives and projects
- Monitor the progress of investments and suspend and/or terminate activities as necessary
- Resolve escalated issues around policy, participation, resources and change management

OCSP Governance – Essential Responsibilities and Authority

CWS Practice and Product Management Office

- Be the **ultimate authority over the development and upkeep of OCSP Product Roadmap** reflecting the consensus of all State and County stakeholders regarding all functional and technical capabilities to be delivered
- Coordinate CWS Business Analysis activities including the development of business requirements their alignment with CWS policy and practice
- Product Vision and Roadmap:
 - Accountable for a comprehensive OCSP Product Roadmap encompassing multiple stakeholder views and including needs analysis, business case creation, development plans, product validation/confirmation and release schedule
 - Review and recommend via the CWS Governance Subcommittee any Product Roadmap associated Program Plan changes including resource requirements
 - Report progress to the CWS Governance Subcommittee
- Manage and support the operational aspects of the CWS Governance Subcommittee
- Ensure fidelity to the strategy and decisions of the CWS Governance Subcommittee
- Provide support to the Program Manager and Product Development and Implementation Teams to ensure clarity on priorities, OCSP vision, goals and guiding principles
- Manage OCSP stakeholder participation:
 - Include enough involvement of county and fieldworker SMEs to ensure the issues “on the ground” are taken account of
 - Devise a method to validate that the developed solution is “good enough” from a county (regardless of size or type) and field perspective
 - Collaborate effectively with NCFast P4 Program Office to ensure alignment and support for the Product Roadmap and delivery timelines
 - Consult with county leadership regarding these issues and implementation plans to obtain their affirmation
 - Measure and track the level of stakeholder participation by category
- Escalate risks and issues to the CWS Governance Subcommittee with information on how they are being addressed and/or providing recommendations to prevent or mediate risks and issues

OCSP Governance and Interactions

OSC Program Manager, Product Development and Implementation Teams and Product Management Office

- The **OSC Program Manager leads the Product Development and Implementation Teams** and is responsible for execution of Program Project Plans, including:
 - Provide and coordinate substantial input to the Product Roadmap development based on the work of a number of projects
 - Collaborate with CWS Practice and Product Management Office to identify and define potential program projects or project changes that may be needed to ensure the product roadmap can be achieved and the program goals are met
 - Monitor the effective and cost-efficient implementation of information technologies, and management of related personnel resources and funding
 - Provide review of prioritized enhancement proposals, project charters, and change requests for cross-project impacts and dependencies
 - Be a resource for agile project managers and the execution of projects through leadership, coordination and oversight
 - Identify project risks and issues for resolution, tracking, escalation, and reporting

1. Establish Foundational Capabilities

Workstream 1A – Define and Deploy Representative Governance

Description > Define and deploy outcome-driven representative governance for the Optimized CWS System Program (OCSP*)

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">Establish clear decision-making rights, roles, responsibilities and accountabilities for the OCSPEnable participation and agreement of the key stakeholder interests: both State and CountiesConnect decisions to actions, including fundingAchieve improved ability to manage OCSP performance due to increased visibilityRealize accelerated NC Child Welfare benefits through active tracking and adjustments to plans	<ul style="list-style-type: none">Refresh and establish distinct governance structure for OCSP (to support the “augment” strategy and ongoing), including framework and processes<ul style="list-style-type: none">Staff governance bodies with appropriate, skilled resourcesAppoint an OCSP Director and key project leadsEstablish the OCSP Product Manager role:<ul style="list-style-type: none">Team of Product Managers (Product Management sample job description included in Appendix) assigned to lead and given a high level of authority for decisions on the definition, creation and implementation of a number of products (throughout the entire life cycle) that together comprise the Optimized CWS SystemDefine the adaptive governance framework, including:<ul style="list-style-type: none">Decision-making “bodies” (e.g., Product Managers, PMO, Project team Leads, Executive Board and Operations Team, etc.)Decision rights, roles and responsibilities for each governance bodyCommunication and escalation processes between governance bodies around, Product Definition, Measures of Success, Budget, Risks, Issues and DecisionsRole in relationship to ITGEstablish and continuously improve governance controls, examples include:<ul style="list-style-type: none">Project Charter templatesDecision logs, for tracking the “who, what, when” for key project decisionsStatus Reports, for key project health reporting (scope, schedule, budget)Vendor Management tracking and reportingRisk mitigation, for identifying and mitigating any risksIssue resolution, for identifying, managing and resolving issuesProvide training for those participating in governance processes	<ul style="list-style-type: none">Improved clarity, transparency and confidence in decision-making related to the OCSPOCSP Charter, tools and templates definedProduct Managers assigned and initial success measures agreed	<ul style="list-style-type: none">Level of IT, State and County InvolvementState and County staff trust of and satisfaction with the processAlignment of expectations with project plans
		Estimated Duration	Resources
		<ul style="list-style-type: none">Product managers role definition and assignments – 3 monthsEntire governance process with tools established – 3 monthsProduct management and governance in support of continuing CWS System optimization - ongoing	<ul style="list-style-type: none">Internal Resources<ul style="list-style-type: none">Governance refresh and setup – 0.5 PYProduct Managers 1-1.5 PY per annumExternal Resources<ul style="list-style-type: none">\$50,000

*Optimized CWS System Program (OCSP) — The program encompasses the effort to define, acquire and implement the future CWS System solution
**1 PY = 1 Person Year = 2000 Hours/Year
***The total PY hours quoted could be accomplished by one or more persons and at any point of time

1. Establish Foundational Capabilities

Workstream 1B – Optimized CWS System Program (OCSP) Initiation and Management

Description >

Establish a series of workstreams to achieve the Optimized CWS System Vision as guided by the agreed principles

<div>Objectives</div> <ul style="list-style-type: none">Establish core team that will lead and support implementation of OCSP WorkstreamsEnsure that all necessary stakeholders are committed, ready and understand their necessary level of participation to enable program successOptimization Vision, Guiding Principles and Imperatives and resulting strategy widely communicated and understoodOptimization strategy established as a major stepwise evolution, the minimum viable product being the first stepOCSP is managed	<div>Key Activities</div> <ul style="list-style-type: none">Establish core team and publish Program CharterCommunicate the OCSP vision and guiding principles (developed as a part of this project) and the Program Roadmap (a version of roadmap resulting from this project when fully adopted by the CWS System Governance Board) and explain the concept of minimum viable product and what results are expectedLaunch Program meetings to ensure that all necessary parts of the State and Counties are committed, ready and understand their necessary level of participationDevelop a communication plan to ensure that all stakeholders have timely and accurate information regarding planning, development, and implementation effortsProvide ongoing program/project management of the OCSP	<div>Deliverables/ Outcomes</div> <ul style="list-style-type: none">Program CharterDetailed Project Plan and ReportingKick-off MeetingsProgram Communications Plan	<div>Key Performance Measures</div> <ul style="list-style-type: none">Level of stakeholder participationCharters and plans in place
		<div>Estimated Duration</div> <ul style="list-style-type: none">Initiation and launch - 1-2 MonthsProgram/Project Management ongoing	<div>Resources</div> <ul style="list-style-type: none">Internal Resources<ul style="list-style-type: none">Planning, launch and setup – 0.25 PYOngoing PM - .5 PYCore stakeholders (5-10) – 0.1 PY

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1. Establish Foundational Capabilities

Workstream 1C – Align Support Organization with OCSP* Needs

Description > Determine the sourcing strategy and organization of the business and IT resources needed to support the OCSP strategy

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">▪ Ensure staff resources are available to support the OCSP governance processes and structures▪ Make skilled resources available to support the entire life cycle of CWS system enhancement, augmentation and implementation▪ Position organizationally to ensure credibility and trust of key stakeholder groups▪ Maximize use of key ITD shared staff and technology resources	<ul style="list-style-type: none">▪ Confirm or select the Enterprise Scaled Agile Methodology and SDLC to be utilized for the optimization efforts▪ Confirm and/or define (using existing role definitions as appropriate) roles as required:<ul style="list-style-type: none">– Scrum Master / Project Manager(s)– Product / Solution Manager(s)– Enterprise, Solution and Systems Architects– Business Analysts– Technology and product development, testing and support– DevOps and Continuous Integration and Continuous Delivery Pipeline team▪ Map roles to the Governance, System Development Life Cycle (SDLC) and change control management processes as applicable to the optimization of NCFast CWS System▪ Identify Full-Time Equivalent (FTE) quantities and number of teams required given the anticipated workload▪ Assign positions to the Information Technology Division units, Human Services Business Information & Analytics, state and regional CWS support units, and dedicated implementation / deployment teams to maximize shared use of skills and establish the level of credibility and support needed▪ Determine staffing shortfall and identify sourcing and funding options▪ Document support organization change and transition plan▪ Gain governance approval for implementation	<ul style="list-style-type: none">▪ Role definitions▪ Revised organizational structure and staffing budget▪ Support organization change and transition plan	<ul style="list-style-type: none">▪ Positions filled▪ Staff availability for OCSP activities▪ Stakeholder satisfaction
		Estimated Duration	Resources
		<ul style="list-style-type: none">▪ Roles defines –2 months▪ Positions filled and aligned to structure – 3 months	<ul style="list-style-type: none">▪ Internal Resources<ul style="list-style-type: none">– Role definition, management and HR – 0.25 PY

**Optimized CWS System Program (OCSP) — The program encompasses the effort to define, acquire and implement the future CWS System solution*
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Establish Foundational Capabilities

Workstream 1D – Enhance Organizational Change Management and Communications Capabilities

Description >

Establish and mobilize a robust Organizational Change Management process in support of OCSP at State and County level

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none"> Establish a robust Change Management process that aligns individuals and teams, manages performance and transforms culture, addressing Policy, Practice, Organizational Structure, Operations & Management and Staff Development Communicate the vision and gain commitment from State and County stakeholders – management, operations, programs, Plan, align and mobilize impacted resources 	<ul style="list-style-type: none"> Establish Communications and Change Management objectives Define Communication and Change Management organization structure and staff Identify the universe of organizational changes, communications and training that need to occur to facilitate major OCSP elements Define and adopt Communication and Change Management frameworks and processes Develop a communications plan with appropriate stakeholder/audience segmentation, channel identification, and messaging to reach all internal and external stakeholders Extend current DHHS Change Management process to implement plan in coordination with the rollout of the technical and organizational changes that will occur Segment stakeholders and build stakeholder awareness, understanding and participation in Counties within DHHS, across other State entities that are impacted, and where appropriate, with external partners 	<ul style="list-style-type: none"> Change Management Plan Communication Frameworks and Processes Stakeholder Segmentation Framework 	<ul style="list-style-type: none"> Awareness of tasks by targeted stakeholder groups Level of Participation CWS Customer Satisfaction
		Estimated Duration	Resources
		<ul style="list-style-type: none"> Analysis and Planning – 2 Months Frameworks and Processes – 4 Month 	<ul style="list-style-type: none"> Organization Change Management Analysis and Planning – 0.25 PY Frameworks and Processes – 0.5 PY

**Optimized CWS System Program (OCSP) — The program encompasses the effort to define, acquire and implement the future CWS System solution*

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Establish Foundational Capabilities

Workstream 1E – Statewide CWS Model of Practice Enhancements

Description >

Design and implement a consistent state-wide standard operating procedure for the practice of Child Welfare Services utilizing Structured Decision Making®

Objectives

- Implement a statewide practice model and standardize child welfare business processes

Key Activities

- Phase 1: Pre-Project Planning: Including the kickoff meeting and policy and practice analysis.
- Phase 2: SDM® Assessments in Investigations This would include SDM® workgroups for the intake, safety, and risk assessments; risk validation work; SDM® management report; and training and automation updates of these first three assessments.
 - By end of September 2021 it is anticipated that key implications and additional requirements for the CWS System will be identified: Select SOP forms that will support SOP elements and determine if the forms need to be addressed by enhancements or augmentation
- Phase 3: SDM® Assessments in Ongoing Casework This would include SDM® workgroups for the case planning tool, the reunification assessment, the risk reassessment, executive analytics consulting, and the training and automation updates of this set of assessments.
 - By end of June 2022 it is anticipated that additional implications and requirements for CWS System changes will be identified: Identify policy that needs to be added, revised, and deleted to align with the practice model and to assure that SOP tools and practice standards expectations are addressed by enhancements or augmentations to the CWS System if necessary
- Phase 4: SOP Initial Launch This would include SOP orientation sessions, foundational trainings, and supervisor trainings.
- Phase 5: SOP Implementation Activities :This would include SOP intensive practice series, working across difference trainings, and the coaching institute.
- Phase 6: SOP Sustainability: This would include the training integration activities and fidelity review

Deliverables/ Outcomes

- SDM® reports
- SOP Launch and Implementation Plans
- Revised SOP implemented statewide
- System change requirements

Key Performance Measures

- Level of Participation
- Extent of SDM® coverage
 - proportion of CWS processes

Estimated Duration

- Pre-Project Planning – 3 months
- SDM® Assessments in Investigations - 9 months
- SDM® Assessments in Ongoing Casework – 9 months
- SOP Initial Launch – 9 months
- SOP Implementation Activities -9 months
- SOP Sustainability – 3 months

Resources

- Internal Resources
 - To be determined
- External Resources
 - Contract resources from NCCD

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Domain # 2 – Solution Planning

Key Attributes Common to All Workstreams

Description

- Determine how the NCFast CWS System will be enhanced and augmented in order to make it an acceptable state-wide system
- Acquire the technologies and services required to complete the augmentation and enhancement
- Plan in detail how this new and improved state-wide system will be fully tested and deployed

Benefits / Success Measures

- Full examinations of the possibilities and opportunities for enhancement and augmentation
- Stakeholder participation
- Efficient and compliant procurement
- Evidence-based approaches

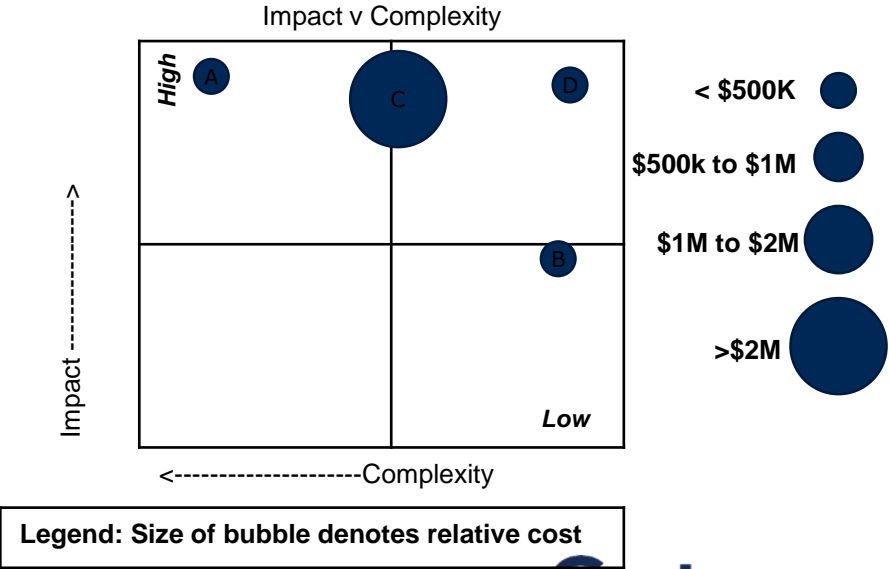
Risks

- Resistance to standard solutions due to perception varying county needs
- Lack of enthusiastic participation – NCFast fatigue
- Unreconcilable conflicts inhibit agreements on prioritizing optimization choices
- Unable to obtain the funding necessary for the obtainable solution

Critical Success Factors

- Visible leadership support for OCSP
- Participation of experienced front line social workers and other staff
- Adoption of Product Management to attain the vision with improved engagement across the various stakeholders
- Managing communications with and expectations of all key stakeholders

	2A – Determine high priority areas for minimal viable augmentation and enhancement	2B – Define the approach to proof of concept and strategy confirmation	2C – Acquire augmentation technology and services	2D – Plan design, development and implementation of augmentation
Impact	High	Medium	High	High
Complexity	High	Low	Medium	Low
Cost	<\$500K	<\$500K	>\$2M	<\$500K



2. Solution Planning

Workstream 2A – Determine high priority areas for minimal viable optimization

Description > Determine and agree on areas for minimal viable augmentation and enhancement based on a consultative risk vs. reward analysis

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">Determine what augmentation and enhancements are necessary to make the NCFast CWS System usable for all NC countiesEngage with the NC CWS social work community such that a “minimal viable” subset can be identified and implemented with confidence that future high priority needs will be addressedIdentify target products and technologies that can enable high priority augmentation	<ul style="list-style-type: none">Assign leader, form and charter an operational and representative working team that:<ul style="list-style-type: none">Consists of a combination of individuals assigned to this activity with enough time (30%-50% of their time) to spend on it including:<ul style="list-style-type: none">Individuals that have a good working knowledge of the NC CWS Policy and Model of Practice for each of the key functional areas and understand the necessary variety across counties that must be catered for including: population / level of demand for CWS services, rural vs. urban counties and staffing levels and skill sets availableIndividuals that are key representatives of the OCSF support organization and understand technology challenges and constraintsProduct managers who determine the suitability/acceptability of the solutions proposedBudget analysis support staffWill remain open to all feasible solutionsIs prepared to work through the full complexity of weighing up choices across multiple and conflicting alternatives to reach a consensus position and stand behindDevelop and gain support/approval on an initial budget request for the GA Long SessionThe team will work through a number of iterations of the potential enhancement and/or augmentation opportunities to improve UX/UI****, Model of Practice Alignment and key process efficiencies using an evaluation and prioritization methodology (this evaluation includes confirming gaps and identifying technology/product sources of each opportunity)Select low-effort/high-value items for immediate deployment in selected counties (3B)Create a proposed OPSC Augmentation Strategy for budget and DHHS leadership and legislative confirmation and approval via the agreed governance structures – this specifies a system product that is deemed the minimum viable for statewide deployment	<ul style="list-style-type: none">Workgroup charter and membershipWorking list of potential enhancement/augmentation opportunitiesProposed OCSF Augmentation Strategy including options and budget analysis	<ul style="list-style-type: none">Level of stakeholder participationKeeping to the time-boxed scheduleTransparency of the process
		Estimated Duration <ul style="list-style-type: none">2 months to form, assign the team make initial budget request and establish an initial list of opportunities4 months to complete the evaluation and prioritization2 months to complete the analysis for presentation to leadership	Resources <ul style="list-style-type: none">Internal Resources<ul style="list-style-type: none">Workgroup CWS representatives: 5PYWorkgroup support: 3PYExternal Resources<ul style="list-style-type: none">Facilitator \$100K

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**** UX/UI – User Experience and User Interface

Examples of Optimization Opportunities – by source

2018 P4 Issues Survey

- “Case planning” technology (and other family-facing forms) -- simplified and mobile
- Supervisor monitoring dashboards (overhaul and potentially augmenting technology)
- General ongoing case management technologies that could reduce data entry and clicks
- System available 24/7
- Artificial intelligence that will consume unstructured data to bring forward key case insights from wherever they are. This could save social worker’s time from digging through case narrative to find important details and increase efficiency

Request for Information (RFI)

- Intake augmentation to reduce time for data collection
- Integrated Forms, Document Management and Electronic Signatures
- Comprehensive Mobility – covering a variety of mobile use cases including mobile access to all case records and mobile case planning including location-independent development of family service agreements
- Improved data collection and streamlined Case Planning Process including speech-driven data collection, text analytics and cognitive search capabilities
- Chatbots and Natural Language Processing to provide real-time monitoring, feedback and insights from detailed case records
- Self-service reports, dashboards and advanced analytics
- Data quality planning, metrics and monitoring,
- Foster Care: ID Lookup, Licensure, Matching, Placements and Payments

Infrastructure

- Make system available 24*7
- Operationally separate NC FAST for CWS and EB into separate instances and plan for integration of the two instances through the Enterprise Service Bus
- Upgrade underlying software to fully supported versions
- Expand fully automated testing and move towards Continuous Integration and Continuous Delivery pipeline
- Migrate to the Cloud, initially with IaaS approach, and move to service containerization in the future

2. Solution Planning

Workstream 2B – Define the approach for proof of concept and strategy confirmation

Description >

Define the approach for proof of concept success / acceptance criteria and strategy confirmation

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">Establish a consistent and agreed strategy to provide due diligence with regard to the augmentation strategyAgree on the measures of successDefine the relationship between Proof of Concept and sequencing and roll-out	<ul style="list-style-type: none">Identify areas of candidate high priority enhancement/augmentation with a high level of uncertainty regarding the possible benefits and/or level of effort/cost of implementingDefine the proof of concept scope, measures and targets to create upfront an unambiguous plan of how the Prof of Concept results will be used and the impact of these results on future plansIdentify the counties that will test specific aspects of the area being targeted, have an interest in validating the proposed solution and sign up to apply the time and resources required with full understanding of and agreement to the testing criteria and implicationsSeek as much cooperation from vendors (e.g., free products / services)Detailed planning and execution should consider:<ul style="list-style-type: none">That regardless of free services offered, proof of concept efforts are disruptive relatively costly, staff have to be free to take necessary training, learn and adjust to new ways of working and (as success is not guaranteed) be fully prepared to revert to their standard operating proceduresKeep proof of concept efforts to a minimum by being very selective in what is to be tested, the areas/counties involved and consolidating across multiple solutions (without undermining the ability to understand the results)Proof of Concept efforts need as much focus on change management, training data conversion as any other system changeThere will be a period of time between completion of the measured test and future roll-out or reversion of these features and the counties involved need extra and specialized support throughout both the test and this timePhases include: Plan, Prepare, Test, Evaluate, Cut-over or Revert	<ul style="list-style-type: none">System change areas to be testedImpacted countiesTesting criteria and benchmark levelsDetailed Proof of concept planEvidence needed for solution and roll-out decisions	<ul style="list-style-type: none">Volunteering and commitment of resources from targeted countiesAvailability and quality of testing measures data
		Estimated Duration	Resources
		<ul style="list-style-type: none">3 months with some efforts in parallel with workstream 2A	<ul style="list-style-type: none">Internal Resources<ul style="list-style-type: none">CWS Workgroup representatives: 0.25 PYWorkgroup support: 0.5 PY

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2. Solution Planning

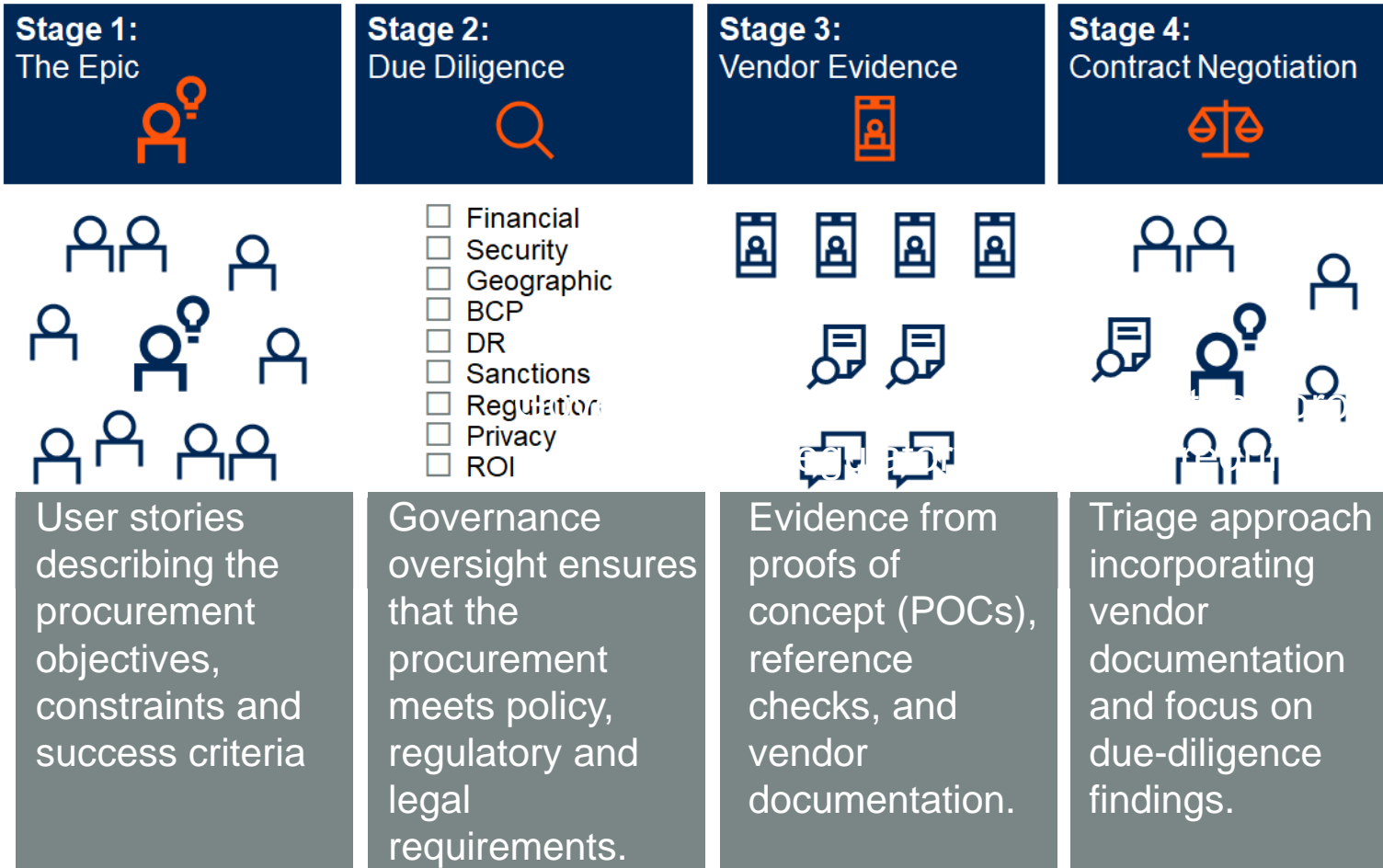
Workstream 2C – Acquire augmentation technology and services

Description > Acquire augmentation technology and services including POC success criteria validation

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">▪ Expeditious acquisition of required technologies and services▪ Select the best value approach for completing the NCFast CWS System including software, hardware and infrastructure, and Design, Development and Implementation (DDI) Services▪ Utilize existing contracts or execute competitive, open, objective, and transparent procurement process	<ul style="list-style-type: none">▪ Confirm from the results of Workstream 2A and the management funding decisions and 2B Proof of Concept testing to establish a list of target technologies and services for acquisition▪ Establish where there are compelling business drivers and no compliance constraints to using existing contracts, obtain technologies and services for proofs of concept without cost or commitment where possible and, as a result, identify any appropriate competitive procurement▪ To expedite and respond to understood requirements consider an “Agile” approach to such competitive procurements:<ul style="list-style-type: none">– Agile procurement tests technology vendor solutions against business problem statements and risk criteria, to make evidence-based decisions and support efficient contract negotiations– Gartner recommends a 4-stage process (any failing vendors are de-selected at each stage):<ul style="list-style-type: none">□ Stage 1 – The Epic: Identify stakeholders and potential vendors, document an “Epic” of a number of stories each defining the features, outcomes and performance levels required□ Stage 2 – Due Diligence: Evaluate the risks of the procurement and what due diligence will be required to achieve compliance with policy and regulations□ Stage 3 – Vendor Evidence: The evaluation of whether the stories’ objectives are met by the proposed solution through the evaluation of evidence (e.g., demos or existing clients)□ Stage 4 – Contract Negotiation: Workshop to agree terms and statement of work▪ If necessary, conduct full RFP procurements – durations here assume agile	<ul style="list-style-type: none">▪ Acquisition plans using existing contracts▪ Competitive procurements, where necessary, using “agile” process▪ Contracts and statements of work	<ul style="list-style-type: none">▪ Optimize use of existing contracts▪ Expedited procurement while complying with procurement rules▪ Any vendor protests or legal action resulting in delays or penalties
		Estimated Duration	Resources
		<ul style="list-style-type: none">▪ 5 - 9 months, either multiple agile procurements or single procurement with sub-contractors	<p>Internal Resources</p> <ul style="list-style-type: none">– CWS Workgroup representatives 2 PY– Workgroup support 1 PY <ul style="list-style-type: none">▪ External Resources<ul style="list-style-type: none">– Facilitator or RFP development \$100K

**Optimized CWS System Program (OCSP) — The program encompasses the effort to define, acquire and implement the future CWS System solution*
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The Agile Procurement Methodology



- NC should consider use of Enterprise Agile procurement methods when engaging augmentation vendors
- Agile Procurement Principles
 - Embrace changing business demands
 - Procurement team empowered with authority
 - Accept and learn from failure
 - Rely on existing evidence and demonstration

2. Solution Planning

Workstream 2D – Plan design, development and implementation of optimization solutions

Description > Plan Design, Development and Implementation of system enhancements, augmentation technologies and infrastructure improvements

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">Elaborate the business priorities and benefits to be derived from the target enhancements and augmentationIdentify practical staged implementation approaches and opportunities to establish an optimized statewide CWS systemConsolidate all the elements / threads to create a coherent and actionable low-risk plan	<ul style="list-style-type: none">This workstream is included here in recognition that until the optimization strategy has more “bones on the flesh” and the actual nature and extent of enhancements and augmentation has been defined and the technologies chosen along with the approach for proof of concept and optimization confirmation, it is not possible to fully establish these plansDefine and agree on the Agile SDLC processes that will be used (working under the direction of the product management group) to complete the statewide CWS System including the enhancements and augmentations included in this planStarting with the approved OCSP Augmentation Strategy (resulting from workstream 2A), conduct a gap priority analysis and working sessions led by the product management group focusing on business value and impact for children, families and staffDefine principles that embody the direction, limitations, constraints and standards for implementation planningDevelop implementation planning scenarios for inclusion in the Augmentation Technologies solicitations covering areas of SDLC activity including sequenced implementation phases – this will supersede the details included in the workstreams in Domain #3 Design, Development and Implementation (DDI) – workstreams:<ul style="list-style-type: none">3A – Deploy infrastructure enhancements3B – Complete design and development of the minimum viable product / features3C – Conduct POC, operational validation, and implementation in the pilot counties3D – State-wide deployment by region3E – Post implementation review and improvement	<ul style="list-style-type: none">Confirmed Agile SDLC approachComprehensive integrated design development implementation plan	<ul style="list-style-type: none">Completeness of planAccuracy of time, effort and cost estimatesTransparency, marketing and level of plan “buy-in” achieved
		Estimated Duration	Resources
		<ul style="list-style-type: none">2 - 3 months	<p>Internal Resources</p> <ul style="list-style-type: none">CWS Workgroup representatives: 0.5 PYWorkgroup support: 1 PY

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****The total PY hours quoted could be accomplished by one or more persons and at any point of time*

Domain # 3 – Design, Development and Implementation (DDI)

Key Attributes Common to All Workstreams

Description

- Combine “on hold” infrastructure enhancements, functional with high-priority enhancements and augmentation from the application of additional tools and technologies
- Demonstrate and provide compelling evidence that the optimized system is operating successfully for the pilot counties
- Carefully deploy the optimized system at all 100 counties

Benefits / Success Measures

- State achieves a goal of consistent practice and record keeping across counties that satisfies Federal demands and a basic CCWIS qualification
- Counties work together with the state to achieve this important goal, improve the prospects for the safety of children and secure additional funding
- Attain economies of scope and scale for further system and process optimization

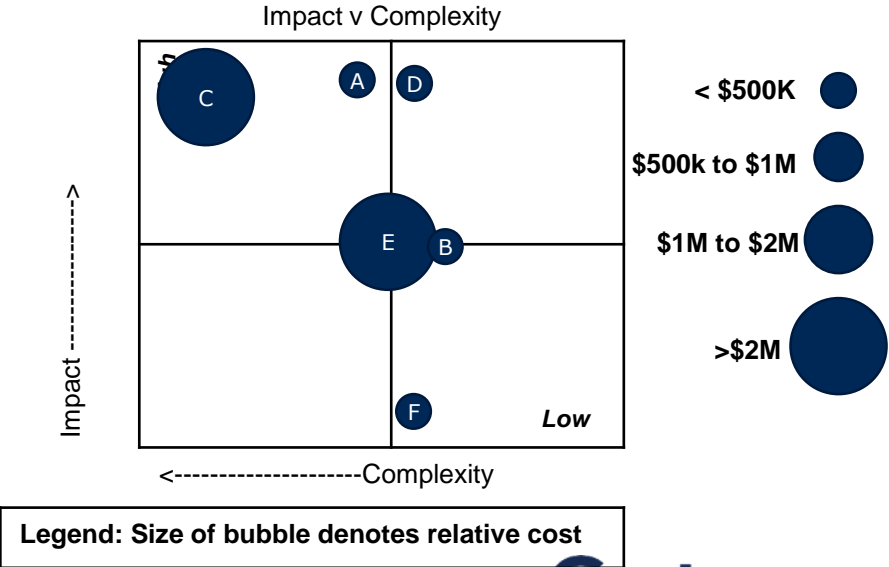
Risks

- Unforeseen technology or integration issues derail the proposed solution
- Results from the POC are insufficient for the pilot counties to agree on statewide roll-out recommendation
- Unwillingness to accept the POC evidence of success – NCFast reputation

Critical Success Factors

- Counties strongly motivated to move to a statewide system
- Visible leadership support for OCSP
- Managing communications with and expectations of all key stakeholders

	3A – Plan and deploy “on hold” NCFast enhancements	3B – Immediate Deployment of low-effort/high-value opportunities	3C – Complete design and development of the minimum viable product / features	3D – Conduct POC, operational validation, and implementation in the pilot counties	3E – Conduct State-wide deployment by wave	3F – Conduct Post implementation review and improvement
Impact	High	Medium	High	High	Medium	Low
Complexity	Medium	Medium	High	Medium	Medium	Medium
Cost	<\$500K	<\$500K	>\$2M	<\$500K	>\$2M	<\$500K



3. Design, Development and Implementation (DDI)

Workstream 3A – Plan and deploy “on hold” NCFAST enhancements

Description > Plan and execute a coordinated approach to major NCFAST enhancements that have been on hold during P4 pause and spending constraints

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">Deliver a platform and operational environment for the NCFAST CWS system focused on the needs of the Child Welfare social work community	<ul style="list-style-type: none">A number of major NCFAST operational enhancements (including infrastructure and application system changes) have been identified, developed and planned in detail but are on hold pending decisions on deploying a statewide CWS SystemGiven the strategy to continue with NCFAST as the basis of the future statewide CWS system these items should now be addressedProduct Management will lead prioritization and planning of these enhancements in coordination with the additional functional enhancements and augmentations.These include items that will provide immediate system usage benefits, others that will directly impact how other desired enhancements and augmentation can be accomplished, and others providing benefits in the longer term and may include, but will not be limited to:<ul style="list-style-type: none">Make system available 24*7Operationally separate NC FAST for CWS form NCFAST for EBUpgrade underlying software infrastructure to fully supported versionsImplement fully automated testingMigrate NCFAST to the CloudEtc.	<ul style="list-style-type: none">An improved basis for continuing system use, evolving capabilities and maintainabilityCoordination across all system changes	<ul style="list-style-type: none">Completeness of planAccuracy of time, effort and cost estimates
		Estimated Duration	Resources
		<ul style="list-style-type: none">Plan established in 2 monthsDuration varies greatly by the nature of the enhancement, the timing will be highly related to any minimum viable product dependencies	<ul style="list-style-type: none">Internal Planning Resources<ul style="list-style-type: none">ITD .2 PYInternal Enhancements Execution Resources<ul style="list-style-type: none">Depends on selected enhancements initiatives

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3. Design, Development and Implementation (DDI)

Workstream 3B – Immediate Deployment of low-effort/high-value opportunities

Description > Address through immediate deployment (in selected Pilot counties) in the short term low-effort/high-value opportunities identified in 2A along with process and practice changes to enhance the use of the NCFast CWS System

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">▪ Deliver results and demonstrate benefit of the OCSP strategy as early as possible▪ Address highest value fixes to issues impacting Pilot counties▪ Experiment with enhancement and augmentation validation strategies	<ul style="list-style-type: none">▪ The agile processes used in workstream 2A to identify and prioritize enhancement and augmentation opportunities will also generate some low-risk/high-value items where immediate deployment will provide a substantial return▪ In addition to system changes this workstream will identify process, practice and system usage changes to enhance P4's ability to support County CWS▪ Product Management to work with counties to identify those that anticipate substantial value and are willing and able to participate in additional piloting and testing activities▪ Complete any necessary technology commissioning, development, configuration and system testing▪ For each of the selected counties:<ul style="list-style-type: none">– Conduct Pre-implementation readiness assessment– Develop County detailed planning and schedule: then execute on plan<ul style="list-style-type: none">□ Kick-off□ Change management and communications□ Reversion strategy□ Implement tracking for measures of success and establish baseline metrics□ Data conversion, permission and access changes as required□ Infrastructure changes (e.g., new devices, network changes)□ Pre-implementation training□ Pre-implementation county confirmation test□ Implementation and cut-over□ Post-implementation support and coaching□ Milestone for measuring against success criteria – continue or revert	<ul style="list-style-type: none">▪ Significant improvements in the systems deployed in the selected counties▪ Detailed lessons on the use and implementation of the revised system▪ Evidence of the level of success achieved (input for the statewide rollout decision)	<ul style="list-style-type: none">▪ Completeness of plan▪ Accuracy of time, effort and cost estimates▪ Implementation satisfaction survey▪ Implementation quality – any reversion required, level of problems/defects
		Estimated Duration <ul style="list-style-type: none">▪ In parallel with 2A, 2B and 2C▪ 13 – 17 Months	Resources <ul style="list-style-type: none">▪ Internal Resources<ul style="list-style-type: none">– CWS Workgroup representatives: 0.5 PY– Workgroup support: 0.1 PY– Dev/Implementation Team: TBD▪ External Resources:<ul style="list-style-type: none">- Depends on selected enhancements

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3. Design, Development and Implementation (DDI)

Workstream 3C – Complete design and development of the minimum viable product / features

Description >

Complete design and development of the Minimum Viable Product / Features to meet County demands

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">▪ Deliver a system that satisfies the vision, imperatives and guiding principles and meets all the agreed requirements for the Minimum Viable Product for statewide deployment▪ County Users are fully prepared for the system introduction▪ System is robust with no failures after go-live▪ Plans and progress are communicated in a focused way and ensure expectations are met▪ Well managed engagement and partnership of a large team including vendor and state staff	<ul style="list-style-type: none">▪ Establish the project team to complete the design and development of the enhanced and segmented statewide CWS system, including:<ul style="list-style-type: none">– Onboarding vendors (vendor management processes, measures and reporting, any transition plans)– Confirming roles and responsibilities and use of the agreed Agile SDLC▪ Confirm scope of the Enhanced CWS System Minimum Viable Product▪ Working under direction of the product management group and following the agreed Agile SDLC, conduct iterations to agreed completion of Features and Stories:<ul style="list-style-type: none">– Detailed requirements validation / elaboration– System Design– System Build and Configuration– Data Conversion (as appropriate)– System, Integration and Operational Testing▪ Complete multiple iterations until minimum viable product is developed	<ul style="list-style-type: none">▪ Requirements defined▪ Optimized System Design▪ Test Plans and Results▪ Operation Documentation	<ul style="list-style-type: none">▪ Alignment with product definition (Workstream 2B)▪ Schedule and budget▪ CWS Workgroup satisfaction with the process
		Estimated Duration	Resources
		<ul style="list-style-type: none">▪ 9-12 Months (very speculative until the nature and complexity of the optimized solution design is complete and the DDI plan revisited – Workstream 2D)	<ul style="list-style-type: none">▪ Internal Resources<ul style="list-style-type: none">– CWS Workgroup representatives 2 PY– Workgroup support 1 PY▪ External Resources<ul style="list-style-type: none">– Systems Integrator and Staff consultants \$2M (very speculative until 2A and 2C complete)– IV&V - \$300K

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3. Design, Development and Implementation (DDI)

Workstream 3D – Conduct POC, operational validation, and implementation in the pilot counties

Description > Proving the Concept - Complete implementation and operational validation of the Minimum Viable Product in the 11 pilot counties

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">Validate the revised system including the minimum viable product enhancements and augmentations in real operation in a variety of County operation settingsMeasure against predefined criteria to establish if this enhanced and augmented system is at an acceptable level to satisfy the success criteria in the chosen countiesTest, to the extent possible in counties that already have NCFast implemented, the revised and improved approach to implementation	<ul style="list-style-type: none">Based on the approach defined in workstream 2BConfirm the counties and team leads involved in each POC implementation phaseFor each county:<ul style="list-style-type: none">Conduct Pre-implementation readiness assessmentDevelop County detailed planning and schedule:Execute on plan<ul style="list-style-type: none">Kick-offChange management and communicationsReversion strategyImplement tracking for measures of success and establish baseline metricsData conversion, permission and access changes as requiredInfrastructure changes (e.g., new devices, network changes)Pre-implementation trainingPre-implementation county confirmation testImplementation and cut-overPost-implementation support and coachingMilestone for measuring against success criteria – continue or revertConduct POC Evaluation Assessment	<ul style="list-style-type: none">Significant improvements in the systems deployed in the pilot countiesDetailed lessons on the use and implementation of the revised systemEvidence of the level of success achieved (input for the statewide rollout decision)	<ul style="list-style-type: none">Schedule adherenceAgreed success criteria and measurementsImplementation satisfaction surveyImplementation quality – any reversion required, level of problems/defects
		Estimated Duration	Resources
		<ul style="list-style-type: none">3 - 6 months	<ul style="list-style-type: none">Internal Resources<ul style="list-style-type: none">CWS Workgroup representatives: 0.5 PYWorkgroup support: 0.1 PYDev/Implementation Team: TBDExternal Resources<ul style="list-style-type: none">Systems Integrator and Staff consultants \$200K

**Optimized CWS System Program (OCSP) — The program encompasses the effort to define, acquire and implement the future CWS System solution*
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3. Design, Development and Implementation (DDI)

Workstream 3E – Conduct State-wide deployment by wave

Description > Conduct State-wide incremental deployment by wave (predefined groups of counties)

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">Smooth and consistent implementations achieved on a wave roll-out as speedily as possible.	<ul style="list-style-type: none">Although it is an important Child Welfare goal to seek standardization across counties in practice processes and systems the same does not apply to implementation and roll-out.As noted in the Guiding Principles “Counties vary in size, complexity, and available resources” This along with the legacy CWS systems in use drives considerable variation that must be successfully catered for during roll-out. The enormous system implementation disparities between counties emerged clearly from Gartner’s assessment and analysis of the P4 implementation.Each county needs considerable support for project planning and management, organizational and process change management, communications and aligned system/practice training that must be carefully coordinated and aligned with the cut-over schedule as well as help with data conversion, integration with legacy systems and infrastructure changesThis project could take advantage of the new regional support structure to provide “local” help if the roll-out is regionally alignedGiven the level of active local users the scale and operational complexity this will require multiple waves of counties implemented within each regionFor each county the process for measuring level of success (used for the pilot counties proof-of-concept) should be used at each county implementation as evidence of success and to judge the level of future support needed.	<ul style="list-style-type: none">Statewide system deployed	<ul style="list-style-type: none">Level of disruptionDefect ratesCounty staff rating
		Estimated Duration	Resources
		<ul style="list-style-type: none">12-18 months	<ul style="list-style-type: none">Internal Resources<ul style="list-style-type: none">CWS Workgroup representatives 2 PYWorkgroup support 1 PYCounty staff – 2PY per countyDev/Implementation Team: TBDExternal Resources<ul style="list-style-type: none">Systems Integrator and Staff consultants \$1M (very speculative until 2A, 2C and 2D complete)IV&V - \$400K

**Optimized CWS System Program (OCSP) — The program encompasses the effort to define, acquire and implement the future CWS System solution*
***1 PY = 1 Person Year = 2000 Hours/Year*
****The total PY hours quoted could be accomplished by one or more persons and at any point of time*



3. Design, Development and Implementation (DDI)

Workstream 3F – Conduct Post implementation review and improvement

Description > Conduct Post implementation review to assess level of success and determine lessons learned for future major upgrades, assessment domains

Objectives	Key Activities	Deliverables/ Outcomes	Key Performance Measures
<ul style="list-style-type: none">Conduct evidence-based review of the level of success achievedPut in place the approach to the next set of enhancements to keep the CWS system optimized as needs and priorities change	<ul style="list-style-type: none">Review and evaluate success and determine lessons learned for future major upgrades, assessment domains including:<ul style="list-style-type: none">Governance and ManagementSolution FitOrganization Change Management and communicationsPre-implementation Support and TrainingPost-implementation Support and TrainingCritically examine levels of usage and barriers encounteredData collected from sample of counties – a combination of in-person reviews and surveysIn-depth evaluation to assess where additional help, specialized training or support would be helpful across county typesStart an evaluation of future enhancement / augmentation / refresh should be planned	<ul style="list-style-type: none">Evidence for measuring success in subsequent iterations of Product optimizationResults for inclusion in analysis of return on investment	<ul style="list-style-type: none">Measurement discipline and accuracyStakeholder satisfaction with extent and accuracy of the review
		Estimated Duration	Resources
		<ul style="list-style-type: none">3 months	<ul style="list-style-type: none">Internal Resources<ul style="list-style-type: none">CWS Workgroup representatives: 0.5 PYWorkgroup support: 1 PYExternal Resources<ul style="list-style-type: none">Independent consultant - \$50K

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Section 6: Appendices



Appendix A:

RFI Summary Analysis – Augment Only Responses

RFI Summary Analysis – Augment Only Responses

Vendor Organizations	Augmentation Concept	Price Information (7 year)
Diona	Current P4 mobility vendor offering to augment another case management solution with advanced mobility functionality.	\$35 million
FTC	Foster Care placement module that runs on AWS Cloud Services to improve matching and accelerate placement. A tactical augmentative solution that can potentially help with child placement, but does not directly address NC's highest priority challenges.	\$2.7 million
IBM Watson	Cúram optimization and addition of chatbots and NLP (natural language processing) for data insights and feedback, and Northwoods to add the Traverse text analytics and cognitive search to improve data collection and case plan development as well as improve mobile access to all of Cúram functionality from the road.	No pricing provided
LexisNexis	Identity lookup data retrieval service available through stand-alone Accurint portal, XML, or batch	No pricing provided
Marinus	Three proposed modules (two of which are not yet developed) to augment NC FAST: Child Welfare Mission Control (real-time monitoring of several critical child welfare practice areas), CASSETTE (navigation, search, visualization, and drill-down of case records) and TalkTool (speech-driven data-entry)	Just over \$1 million (software development and implementation costs only)
Mathematica	Two augmentation Offerings: 1. Data quality planning and monitoring 2. Advanced analytics solution	No pricing provided



Appendix B:

Product Manager – Sample Job Description



Product Manager

Job Description

- **Overview of Role**

- The Product Manager is the owner of the product and is accountable for its strategy, design, development, enhancement, delivery, pricing and cost recovery. The role ensures that the product is developed and maintained using sound business and technology management practices and it supports business transformation by enabling new capabilities.

- **Business Management Responsibilities**

- Consults with product consumers to assess and anticipate current and future product requirements and develops a long-term action plan
- Manages the product's budget and makes informed and dynamic investment prioritization decisions
- Works with stakeholders to continually optimize the governance and decision-making processes within the product
- Develops service-level agreements for the products' business outcomes
- Builds and attracts world-class technology talent for the product team
- Collaborates with business partners to determine the right product cost model and facilitates demand planning and management conversations
- Defines product pricing models based on an understanding of benchmark service levels and prices in the industry

Product Manager

Job Description, Cont'd

■ Technology Management Responsibilities

- Coordinates with business, data, and IT architects to align IT product and other architectures
- Oversees product operations and guides continuous improvement efforts to support business outcomes
- Defines, tracks, and communicates product-specific KPIs to improve the product's adoption and performance
- Works with other product managers to avoid duplication and identify interdependencies
- Manages vendor relationships related to the product and aligns vendor products and services with enterprise strategy and product objectives
- Implements industry standards and development methodologies, including Agile and DevOps, within the product to increase its responsiveness and growth

■ Business Transformation Responsibilities

- Acts as the point of contact for the IT product and works closely with business relationship managers and IT functional leads as required
- Collaborates with business partners to transition business-led technology experiments to the IT product for scaling, wherever feasible
- Recommends business process changes for better product adoption
- Applies expertise in design thinking and data science to ensure customer-centric experiences
- Identifies and evangelizes business and technology trends that can improve the product's business outcomes
- Contributes to embedding digital opportunities in business strategy, including the company's product and channel strategies

Product Manager

Job Description, Cont'd

Skills and Competencies

Expert Knowledge

- Strategy Development
- Reporting and Analysis
- Service-Level Management
- Service Engineering and Architecture
- Technology Road-mapping

Full Knowledge

- Business Opportunity Development
- Financial Management
- Communication and Change Leadership
- Vendor Management

Working Knowledge

- Design Thinking
- APIs and Integration
- Agile Methodologies
- Big Data
- UI/UX

Qualifications and Experience


- Appropriate tertiary qualification: B.Com, B.Eng, IT, Computer Science, Information Systems; MBA or similar postgraduate business qualification
- At least seven years of professional experience in IT service delivery, with at least five years of experience working directly with senior business leaders.
- Strong business acumen; understands the key financial drivers and dynamics related to growth and an organization's revenue goals
- Deep exposure to business processes through experience working outside Corporate IT (e.g., in Sales, Marketing, R&D)
- Experience in product management and enterprise architecture preferred.

Product Manager

Job Description, Cont'd


Qualifications and Experience

- Appropriate tertiary qualification: B.Com, B.Eng, IT, Computer Science, Information Systems; MBA or similar postgraduate business qualification
- At least seven years of professional experience in IT service delivery, with at least five years of experience working directly with senior business leaders.
- Strong business acumen; understands the key financial drivers and dynamics related to growth and an organization's revenue goals
- Deep exposure to business processes through experience working outside Corporate IT (e.g., in Sales, Marketing, R&D)
- Experience in product management and enterprise architecture preferred.



Appendix C:

Definition of Terms: Enhance vs. Augment vs. Replace



Enhance, Augment or Replace

Terms	Definition	P4 Examples	----- Analogous Examples -----	
			Individual Health	Car Payload Capacity
Enhance	Changes made to a system using its existing core architecture and components that result in significant improvements	Expand use of Diona or provide mobile access to other P4 functions	Therapeutic medications	Strengthen the roof rack
Augment	Aspects of an enhancement that requires the addition of separately purchased components well beyond current architecture and regular maintenance expenditure	Add text analytics and cognitive search to improve data collection and case plan development	Get Prescription Glasses	Add a trailer
Replace	Where significant improvements are made by the acquisition of an alternative system that is used to replace the system	Total replacement of P4 with a CCWIS solution from an alternative vendor	Hip joint replacement	Replace a sedan with an SUV

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