NCCSD Systems Modernization Committee

Systems Modernization States Lessons Learned Webinars

Pre-Planning and Planning – 10/8/2021

Pennsylvania
PACSES Technology Refresh

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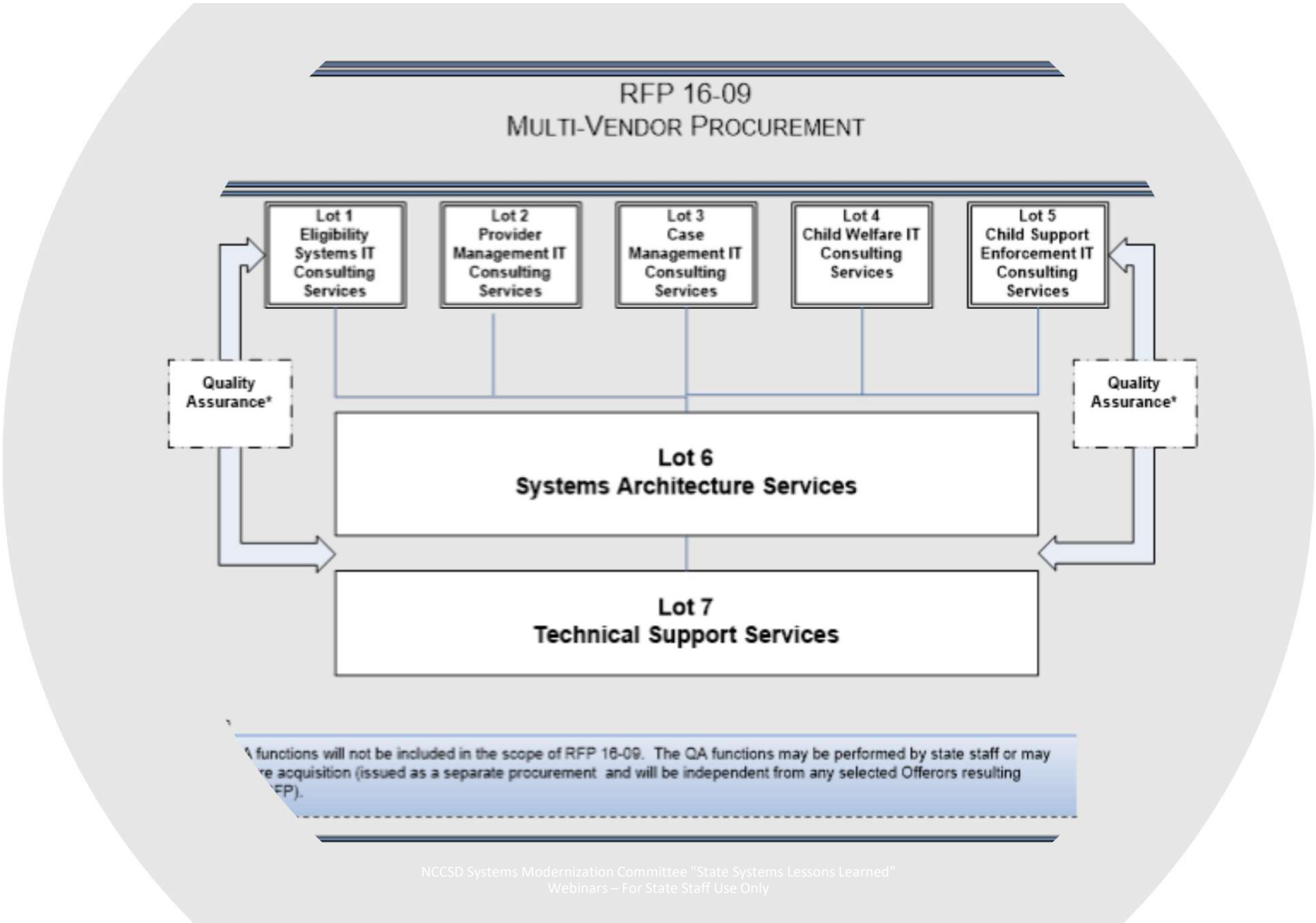
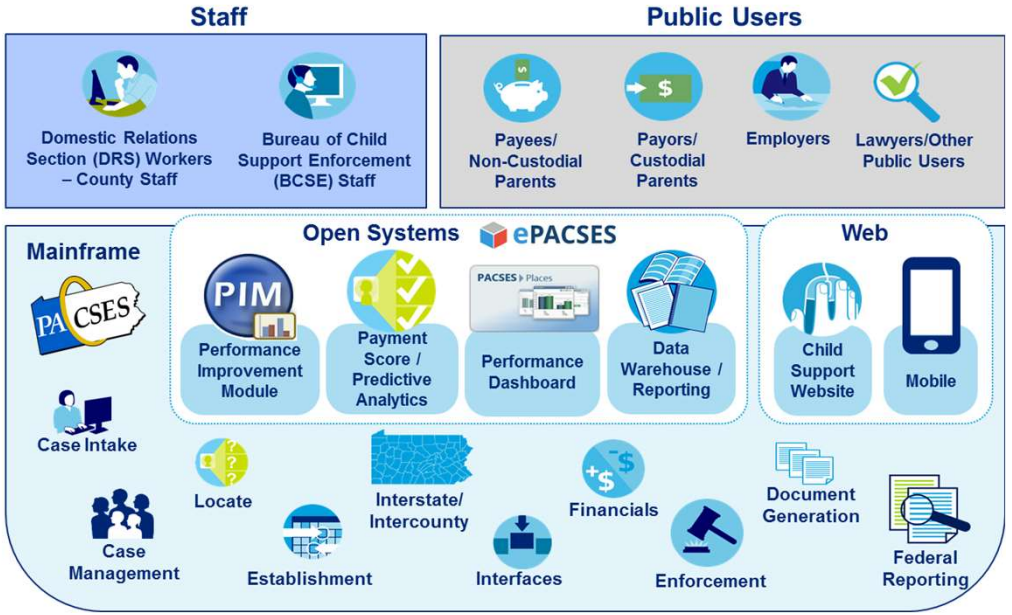
Pennsylvania Background

- We were approved for our system replacement in 2017, have concluded 3 phases, with one remaining.
- PA Child Support is state supervised and county administered by the courts of common pleas – falls under the state Dept of Human Services
- We serve 1.3 million customers in roughly 400,000 cases
- Human Services is served by an IT delivery center that falls under our state CIO – along with a number of other depts
- Goal of that delivery center concept is to bring consistency, eliminate redundancy and improve security & project outcomes.
- Within this IT management structure, we use a multi vendor system


RFP 16-09
MULTI-VENDOR PROCUREMENT
Lot 1
Eligibility
Systems IT
Consulting
Services
Lot 2
Provider
Management IT
Consulting
Services
Lot 3
Case
Management IT
Consulting
Services
Lot 4
Child Welfare IT
Consulting
Services
Lot 5
Child Support
Enforcement IT
Consulting
Services
Quality
Assurance*
Quality
Assurance*
Lot 6
Systems Architecture Services
Lot 7
Technical Support Services
functions will not be included in the scope of RFP 16-09. The QA functions may be performed by state staff or may
e acquisition (issued as a separate procurement and will be independent from any selected Offerors resulting
FP).

Pennsylvania Technology Refresh

- Mainframe line-of-business application derived from the New England Child Support Enforcement System (NECSES), which was built and implemented in the late 1980s
- PACSES implemented statewide in 1999
- 3,500+ case worker and county/state staff users across 80 DRS offices in 67 counties distributing $1.4B in annual collections
- The combined Mainframe and Open Systems applications consist of approximately:
  - **2,800+ programs**
  - **6 million Lines of Code**
  - **360+ form templates**
- Interfaces and integrates with over 30 state and federal systems



Alternatives for PACSES Technology Refresh Technology Refresh

- **Goal:** Reduce overall costs of system replacement while addressing risks of the current mainframe environment and providing the benefits of a more modern technology platform
  - Must focus on a migration of technology; business features and rules must generally remain “as is” consistent with what is currently available through the PACSES mainframe to county DRS users
  - Options must sustain the full rich set of current PACSES functionality and integration and avoid the need for Federal re-certification

- Four additional options considered:
  1. **Support Layer Replacement:** Replace or rewrite Support Layer Assembler components with functionally equivalent mainframe-based components **($$)**
  2. **Incremental Renewal: Full system replacement ($$$$$)**
  3. **Refactoring:** Utilize an automated process to transition existing application codebase from mainframe to Open Systems technology **($)**
  4. **PACSES Technology Refresh:** Migrate mainframe PACSES to the Open Systems ePACSES architecture by business function **($$$)**

Option 1: Support Layer Replacement

- **Approach**
  - Replace or rewrite Support Layer Assembler components with functionally equivalent C or COBOL components
  - Design and implement a new architectural approach for mainframe batch and online processing without the Support Layer
- **Pros**
  - Helps remediate the most critical mainframe-related risk – Assembler code in the Support Layer tightly coupled to the Unisys mainframe architecture
- **Cons**
  - PACSES remains on the mainframe, subject to significant rising costs as DHS and other agency applications migrate off the Unisys mainframe platform
  - Does not address any other potential benefits to the program – e.g., no enhancements or improvements to the end user experience to address training and productivity improvements
  - Effort cannot be leveraged for future re-platforming of PACSES – any future project would need to encompass the complete migration of PACSES off the mainframe platform

Option 2: Incremental Renewal

OFFICE OF CHILD SUPPORT ENFORCEMENT
An Office of the Administration for Children & Families

Incremental Renewal was Federally approved, letter received on September 6, 2011.

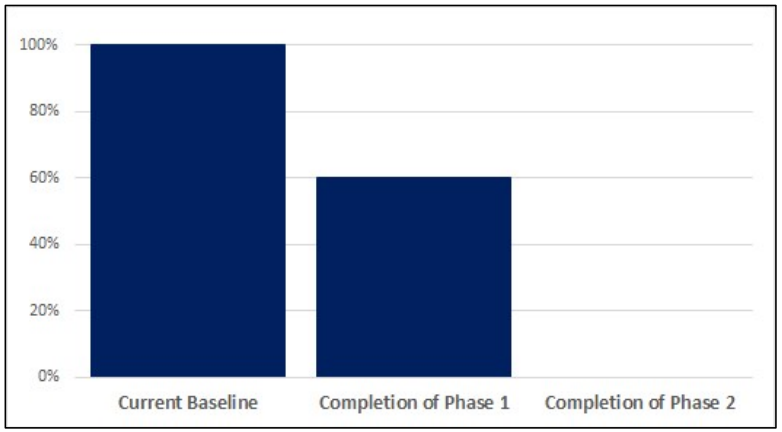
- Feasibility Study Completed – May 2010
- Business and Technical Requirements gathered and used as basis for Feasibility study
- Incremental Renewal chosen as recommended alternative and approved by Federal OCSE
- Incremental renewal sequence recommended and approved by Federal OCSE
- Incremental Renewal was the only alternative that met 100% of the business objectives.
- New PACSES is to retain the intrinsic business knowledge built into legacy PACSES.
- No major changes to current business processes and practices.
- Technology upgrade with enhanced automation and expectation-based user intervention.

Option 3: Refactoring

- **Approach**
  - Utilize an automated tool to convert mainframe program code to an Open Systems technology (.NET or Java)
  - Application is converted as is and creates a functionally equivalent version on the new platform, maintaining the current user interface and other characteristics such as batch processing
- **Cons**
  - Tool provided by Innowake, the primary vendor for this technology being used for refactoring projects in Colorado and Idaho, does not support conversion of Unisys COBOL, Assembler, or other technologies used within the Support Layer that are specific to the Unisys platform
  - Option not technically feasible for PACSES mainframe

Option 4: PACSES Technology Refresh

- **Approach**
  - Migrate mainframe PACSES functionality to the existing Open Systems ePACSES architecture by business function
  - Transition full business functionality including both online and batch programs for “in scope” processes, separated into two phases
- **Pros**
  - Aligned to the complete set of benefits associated with PACSES system replacement but 50% cost in comparison to original Feasibility Study Incremental Renewal
  - Mainframe replaced and Support Layer dependency eliminated for business functions included in completed phase
  - Proportional reduction in mainframe utilization and cost with each phase



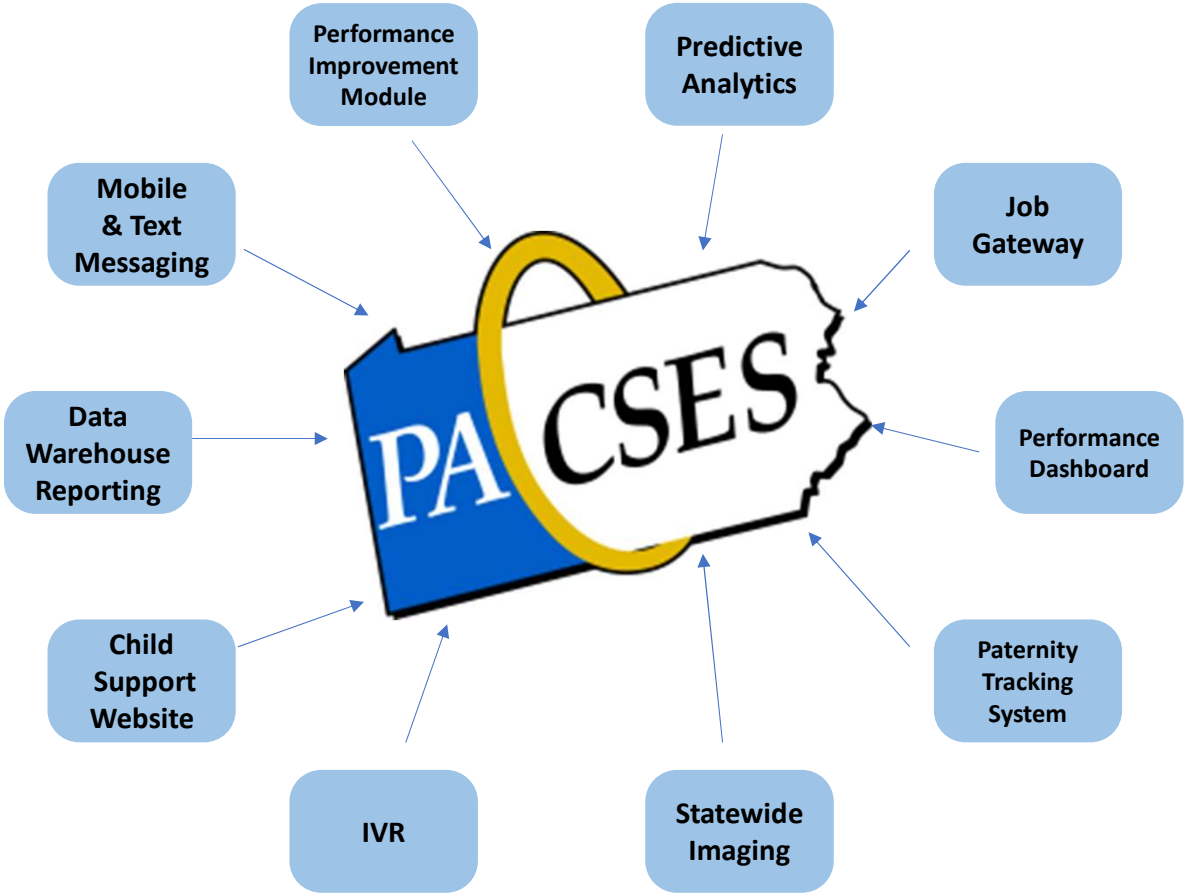
Option 4 Proportional Reduction in Support Layer Dependency Across Phases

- **Cons**
  - User interface spread across mainframe and ePACSES until completion of both phases
  - Data synchronization required between mainframe and ePACSES until completion of both phases

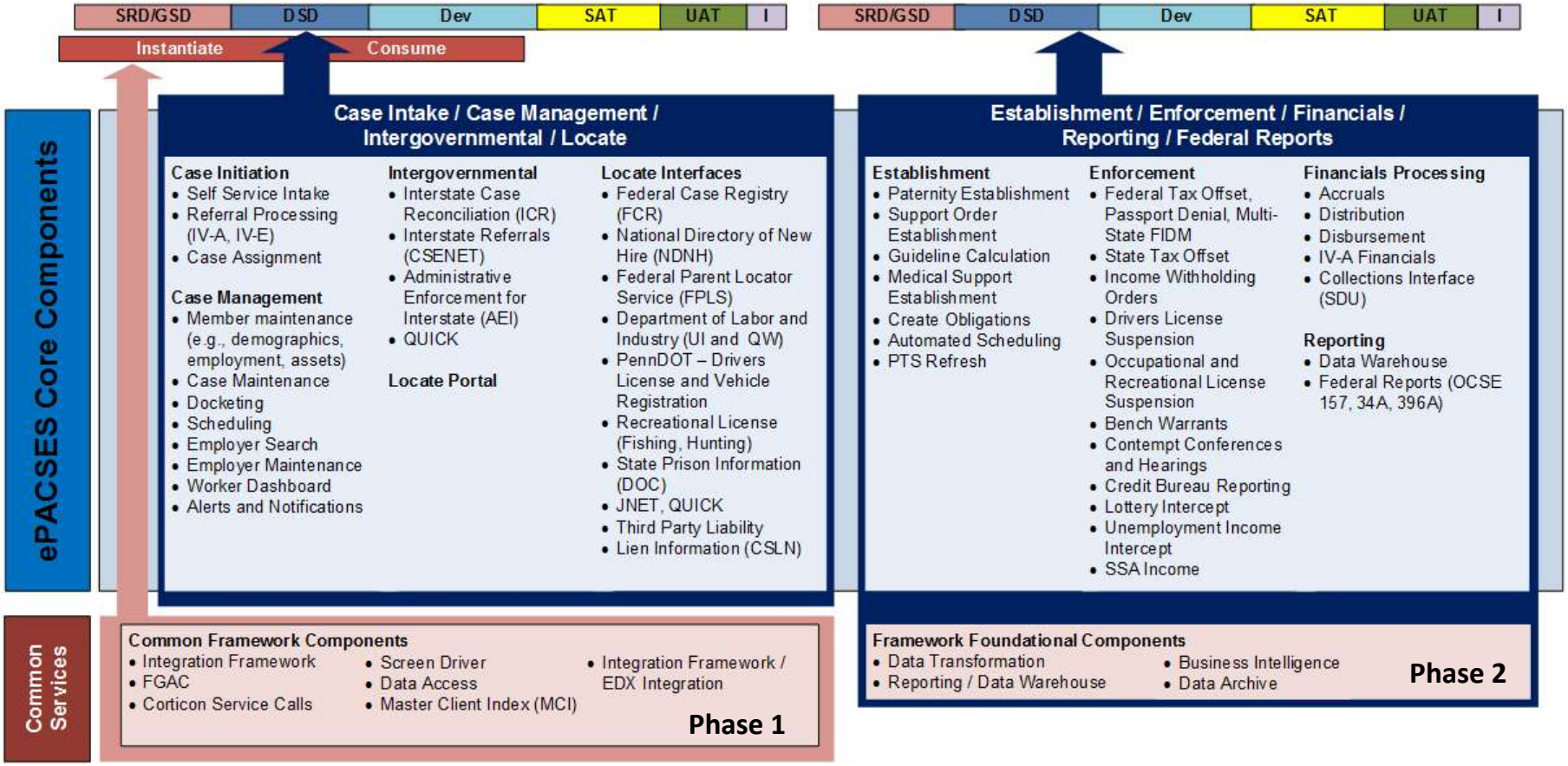
Benefits of PACSES System Refresh

- **Preserve program performance** of Pennsylvania DHS BCSE and continue to maximize Federal incentive payments
- **Eliminate the risk of disruption** to the Pennsylvania CSE program associated with outdated mainframe technology
  - PACSES Support Layer underlying all online and batch processing is largely built using assembler and other technologies closely tied to the Unisys hardware platform
  - Assembler components represent the most complex and/or most difficult to support elements of the Support Layer due to the lack of available resources with assembler knowledge and/or experience with the Support Layer architecture
- **Reduce technology-related support costs** for the mainframe platform
  - Potential impact of the end of the current PACS (outsourced IT infrastructure) contract on mainframe costs overall
  - Expected 10-30% mainframe cost increase
- **Cost avoidance**
  - Technology Refresh 50% of the cost of Incremental Renewal

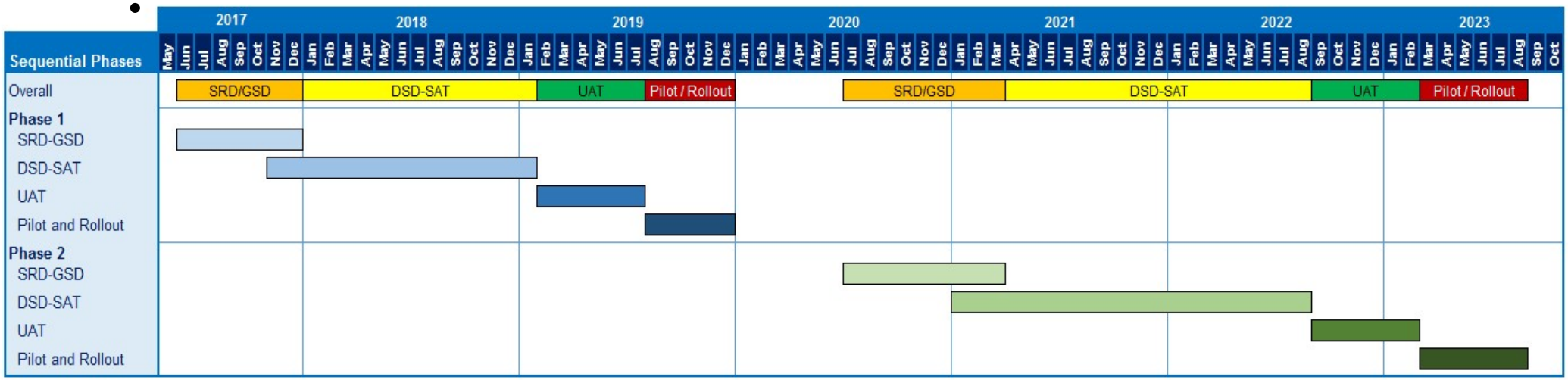
Ancillary/Open System Components



Phased Approach



Project Timeline & Hours



	Phase 1	Phase 2
Total Effort (SWAG Hours)	167,000 – 178,000	464,000 – 574,000
Timeframe	31-35 months	37-42 months
Net Phase Duration (Months)	SRD-GSD: **7** DSD-SAT: **14** UAT: **6** Pilot and Rollout: **6**	SRD-GSD: **9** DSD-SAT: **17** UAT: **6** Pilot and Rollout: **6**