EngagePoint™

Arkansas EEF Project

Historical Analysis & Recommendation for the Path Forward

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Submitted to:
State of Arkansas,
House of Representatives

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Executive Summary – AR EEF Project History

The Arkansas Enrollment and Eligibility Framework (AR EEF) now manages more than 225,000 citizens. In many ways, Arkansas avoided the dismal failure many states experienced in their quest to meet the Affordable Care Act's (ACA) requirements.

However, AR EEF has yet to achieve the program's originally defined goals, and has been scrutinized for being late, over budget, and missing functionality. The reality is that the project's cost efficiency and the delivered functionality are misaligned.

EngagePoint played a significant role in the AR EEF from early 2013 until the end of 2014. In this document, you will find an insider's view from EngagePoint's perspective that stems from our role in the project. Using our insiders' perspective, we have attempted to perform an objective assessment of key events and decisions that were made across the span of the project that ultimately determined the project's outcome.

In this document, we have also attempted to isolate and analyze the root cause of the project's challenges. A number of key events had a major influence on the outcome of the project, both positive and negative. We have captured these key events on a timeline to illustrate the impact on the project, and this timeline can be found in Appendix A.

Our intent in writing this historical project assessment is solely to help the State of Arkansas learn from past challenges and set a course forward that allows for the greatest possible success of the AR EEF project to the maximum benefit of Arkansans.

Project History

With the rollout of the Affordable Care Act (ACA), Arkansas chose to travel down the path of the Healthcare.gov/Federally Facilitated Marketplace (FFM) option, and was inventive in creating the Private Option. All states, including Arkansas, faced unprecedented and aggressive timelines defined by the ACA. A late procurement process also occurred in Arkansas, which put the initial go-live deadline of October 1, 2013, for accepting applications into jeopardy. This factor is just one of the many obstacles that the project team had to overcome.

As the State considers the history of procuring and laying down a new eligibility and enrollment system, it is quickly apparent that the eligibility and enrollment system is a challenging system to implement. However, the State was doing more than just building a new system. Arkansas was establishing an eligibility and enrollment system that would support the ACA and the Private Option, and the State also needed to modernize its existing programs. EngagePoint's vision aligned perfectly with the State's and CMS' vision: do not repeat past mistakes by standing up another vertical silo that forces the caseworker to figure out why a citizen is eligible in only one of the available systems. Instead, the State needed to stand up an integrated eligibility and enrollment system.

Consider the following advantages of an integrated eligibility and enrollment system:

- Citizen coverage could float between the Private Option and traditional Medicaid coverage.
- All citizen activity could be managed efficiently through integrated case management.
- Citizen information could transfer effortlessly between the Arkansas system and Healthcare.gov, thus supporting "any open door."
- Effective benefit renewal and termination processes could provide timely healthcare services.
- The system could comply with CMS funding regulations for modularity, reuse, and technology leveraging.

Ultimately, these goals inspired Arkansas to build the AR EEF system.

However, the desired outcome have yet to occur. Yes, the system is functioning and manages over 225,000 citizens. Considering the timelines that were presented and the obstacles encountered (documented herein), this accomplishment is actually quite impressive. Moreover, AR EEF is further along than some states' systems, and the project team has also avoided the disaster that numerous states have encountered. Still, the AR EEF system could be much better.

The ensuing sections will help the State understand where the AR EEF faltered. These sections will explain why there is an imbalance between the funds the State has spent and the functionality the State has received.

In the remaining sections, we list the project roles and responsibilities, identify all project contributors, and supply a description of the tasks each vendor was meant to achieve. After an opening to the project timeline, we define the key challenges that led AR EEF to its current state. This historical view of AR EEF will help the State conduct a thorough root cause analysis.

Roles and Responsibilities

Role Definitions

The definitions of some important terms that will be referred to throughout the document are included below.

- **Systems Integrator (SI):** Provides architecture and integration design and development.
- **Design, Development and Implementation (DDI) Lead:** Oversees project requirements, design, development, testing, and documentation.
- **Maintenance and Operations (M&O) Lead:** Provides support desk, defect management, and release and deployment management.

Project Team Composition and Roles

The project team consisted of leaders from the Department of Human Services (DHS), Department of Information Systems (DIS), Division of County Operations (DCO), and various vendors.

The project team's roles and responsibilities are detailed in the table below.

Table 1: AR EEF Roles and Responsibilities

Role	Responsibilities
DHS project leadership	Acted as the prime contractor and therefore had a wide array of responsibilities. For purposes of this discussion, EngagePoint will focus on the responsibilities of project leadership, project structure, project governance, and vendor management. DHS project leadership also owned user acceptance testing (UAT).
DIS	Owned the installation, administration, and management of the AR EEF infrastructure hardware and software.
DCO	Provided business and policy subject matter expertise.
CAI	Administered the RFP process, and ran the Project Management Office (PMO), which DHS project leadership referred to as the EPMT. The DHS project leadership also assigned CAI to lead the initial phase of the design, development, and implementation (DDI) portion of the project. The PMO was responsible for enforcing the project leadership established by the prime contractor, which included administering project management standards and processes, owning the integrated project plan, project reporting, decision log, and risk register, and managing the change control process.
IBM	Provided the Cúram eligibility software, and served in a consulting role to the State.
eSystems	Provided the IBM Cúram development for Modified Adjusted Gross Income (MAGI).
RedMane	Assessed the Cúram installation that IBM and eSystems performed. Eventually, DHS project leadership reassigned the Supplemental Nutrition Assistance Program (SNAP) and non-MAGI tracks to RedMane.
Northrop Grumman (NG)	Performed the mainframe transition and MAGI and SNAP data conversions, and wrote operational reports for EEF.
First Data	Acted as the independent verification and validation (IV&V) vendor.
EngagePoint	Selected to be the Systems Integrator (SI), but our role changed often, as noted in the following text.

EngagePoint was selected to be the System Integrator, which included leading the architecture and integration of multiple COTS products to create the core functionality of the solution. EngagePoint eventually filled multiple roles on the project, and our role on the project varied as dictated by DHS project leadership. The following timeline details EngagePoint's varying roles throughout the project.

Table 2: EngagePoint's AR EEF Project Roles

Timeframe	Role
April 2013 (project	Named as Systems Integrator.
July 2013	Assigned as Design, Development and Implementation Lead by DHS project leadership.
October 2013	Began providing Maintenance & Operations services. At this point, EngagePoint served as the SI, DDI Lead, and Maintenance and Operations (M&O) Lead.
January 2014 to May 2014	Reduced to M&O provider by DHS project leadership, as he took over as project leader.
May 2014 to December 2014	Assigned back to DDI Lead by DHS project leadership. • At this point, EngagePoint is again the DDI Lead and retained the M&O role. • DHS project leadership abolished the Systems Integrator role.

Project Timeline

The AR EEF project's timeline is provided in Appendix A. This timeline includes the pre-project period that begins with the issuance of the request for proposal (RFP) through procurement, and ends when EngagePoint left the project. Key inflection points have been noted throughout, and the timeline has been color-coded to specific phases that occurred as the project evolved.

From a historical perspective, this document and the timeline in Appendix A are meant to complement each other; therefore, it will be beneficial to have them both in hand for cross-reference. While the timeline provides the project's chronology, the Project History section provides the supporting detail regarding major influencers to the project's outcome.

Project Challenges

The AR EEF project is a large, complex, multi-vendor IT project that requires the integration of multiple commercial-off-the-shelf (COTS) products. ACA-related projects, such as AR EEF, are highly challenging simply because projects like these had never been attempted before. No

one had a blueprint for building an integrated eligibility and enrollment system. A successful integrated eligibility and enrollment system has to satisfy new Medicaid policies and rules and CMS funding requirements, while integrating multiple COTS products, multiple state systems (such as Medicaid Management Information System (MMIS)), and two new federal systems (Healthcare.gov and the Federal Data Hub). Moreover, the system had to be delivered in an unprecedented timeframe.

Challenging projects like this require steady program leadership, a Systems Integrator to provide technical expertise and architectural leadership, and a project environment that fosters collaboration for a multi-vendor implementation team. Unfortunately, DHS project leadership's approach to project structure created inefficiencies in project execution and, in some cases, created gaping holes that were never filled.

Key Challenge #1: Prime Contractor Role Was Not Fulfilled

DHS project leadership never assigned a prime contractor to the project. Some have stated that EngagePoint was the prime, but we were assigned to other roles, as described throughout this document. DHS project leadership acted as its own prime contractor but did not fulfill the obligations of a prime contractor, particularly in these areas:

Prime Contractor Challenge: Project Structure Was Not Maintained

- The DDI project structure changed numerous times:
  - April 2013: DHS project leadership assigned CAI as the DDI Lead.
  - July 2013: DHS project leadership assigned EngagePoint as the DDI Lead.
  - January 2014: DHS project leadership took over as the DDI Lead.
  - May 2014: DHS project leadership reassigned EngagePoint as the DDI Lead.

- From an M&O perspective, DHS project leadership never established a formal support structure:
  - AR EEF was put into production in October 2013, and DHS project leadership did not have an M&O plan or team to provide production support.
  - EngagePoint was asked to fulfill this role, as EngagePoint understood the necessity.
  - DHS project leadership refused to acknowledge M&O as a required activity to sustain a production system, even after more than 16 months in production.

Regarding DDI, four project leadership changes within a 12-month period should have been a red flag of the prime contractor's program management and leadership capabilities. Each time the DDI leadership changed, a new project organization structure was put in place, and each DDI leader led the project a different way. As a result, processes changed and project momentum stopped while the project team became acclimated to the new leadership and new approach. Time was lost with each occurrence. One DDI leadership change would be challenging, but the AR EEF project experienced four such changes in a short time frame.

The M&O challenges are covered in detail in the "Lack of an M&O Plan" section. According to industry standards and common sense, whenever a new system is put into production and new users are added to the system, proper support by way of a support plan and organization are needed to execute that support. Neither was implemented.

Prime Contractor Challenge: Project Governance Was Not Implemented in a Timely Fashion

By definition, project governance oversees the entire project, including the prime contractor and the Project Management Office (PMO). The lack of governance led to the following:

- Decisions were not made regarding the technical and business requirements aspects of the AR EEF solution.
- There was no approved architecture strategy or roadmap.
- There was no business requirements definition process.

- There were no finalized requirements, so the project scope was unmanaged.
- Project governance was implemented in July 2013 via EngagePoint's urging and proposal. At this point, EngagePoint was assigned to the DDI Lead role.
- EngagePoint implemented these processes:
    - The Business Review Board (BRB) addressed business requirements and scope.
    - The Technical Review Board (TRB) addressed technology and architecture.

As these governance boards began only in July, the project lost three months of requirements management and architectural definition. The project started in April 2013 with only six months left until the CMS-mandated go-live deadline for accepting applications. With this loss, the project team now had only three months left to meet the nationwide deadline, and this work required heroics.

There is a saying in the services business: "You can recover days, you can sometimes recover weeks (with a little bit of luck), but you cannot recover a month." The project team had just lost three months, which had a material impact on the rest of the project.

Prime Contractor Challenge: No Vendor Management

Vendor management is a crucial part of this project simply because there are so many vendors involved, but the vendors were left unmanaged. In addition, many of the vendors are direct competitors, which resulted in a volatile mix. RedMane and eSystems compete head-to-head with each other as Cúram implementers, and they both competed with EngagePoint as Cúram integrators for this project. IBM alternately collaborates with and competes with all the project vendors on a project-by-project basis.

The competitive challenges were further complicated as all project staff shared the same workspace, which made intellectual property protection difficult. Instead of creating a collaborative environment where teamwork is truly required, vendor rivalry was prevalent.

Effective Vendor management's value addresses the above, while holding vendors accountable and coordinating their activities, much like a General Contractor at a construction site. Each vendor presents moving parts in an already complex IT project. Managing vendors to their deliverables and holding them accountable for their performance is an industry standard, but this management was missing on the AR EEF project. Vendor performance was variable, which will be addressed in subsequent sections. Instead of holding a vendor accountable for poor performance, the DHS project leadership tapped another vendor to complete the work. From a project cost standpoint which resulted in double costs, the vendor tasked with completing the work was paid as AR EFF is a time and materials (T&M) project, but payments were still made to the vendor that failed to deliver the original scope. Therefore, vendors were paid in full while falling short on their deliverables and another vendor was paid to overcome the shortcomings.

Prime Contractor Challenge: Did Not Establish Effective PMO

DHS project leadership assigned CAI to run the PMO (referred to as the EPMT), which included CAI fulfilling the DDI Lead role when the project started in April 2013. Within the project's first months, CAI's ineffective DDI leadership and project management processes were apparent:

- Documentable project progress was deficient within the first 60 to 90 days under CAI leadership.
- CAI produced very little project documentation.
- CAI had not produced a project plan. Sticky notes covered a wall; this is not a project plan.
- The CMS gate review was now at risk.

Table 3: Gate Review Process

CMS Gate	Definition	Emphasizes
	A phase-driven go/no-go decision where project life cycle activities are reviewed to assure that appropriate Office of Management and Budget and Health and Human Services requirements are observed. A project can only proceed with a "go" decision by the appropriate senior management.	• The successful accomplishment of objectives • The plans for the project's next life cycle • The risks associated with moving into the next project life cycle

With the AR EEF project already starting late because of the procurement process, the project team lost an additional two to three months. The AR EEF project was at high risk of failure to meet the CMS-mandated go-live deadline of October 1, 2013, for accepting applications.

DDI leadership was taken from CAI and turned over to EngagePoint in July 2013, and CAI's role was reduced to PMO only. However, CAI's PMO work fell short as well:

- The PMO never produced a comprehensive, integrated project plan.
- The PMO never provided project leadership; CAI mostly organized meetings.
- In September 2013, CAI was deemed unqualified to review or edit the mandatory CMS documentation.
    - Documentation was required to pass the October go-live CMS gate review.
    - Again, the CMS gate review and October 1 deadline were at high risk.

EngagePoint took on the CMS documentation responsibility. The go-live CMS gate review was successful, and the review included an EngagePoint-provided project plan as well as the required CMS documentation. From this point forward, CAI mostly organized meetings.

Key Challenge #2: Project Splitting

The scope of the AR EEF project from a macro level included the MAGI, non-MAGI, and SNAP programs. There are multiple benefits to building an integrated eligibility system that would support these programs together (such as cost-efficient to implement, cost-effective to maintain, duplicate work avoided, integrated systems allowing for holistic reporting). Building separate systems has a significant cost and maintenance price tag attached to it, and this approach is very complex. EngagePoint's contract included building an integrated system, and that was our direction.

While in the SI role, EngagePoint approached the architecture and integration with the intention that AR EEF would be an integrated eligibility and enrollment system for the State. As dictated by DHS project leadership, the MAGI project was to be delivered first, then the non-MAGI and SNAP projects would be integrated and brought online.

During the chaotic phase from January to May 2014, DHS project leadership made significant decisions:

- The project was reorganized into multiple, parallel teams.
- The MAGI and non-MAGI projects were split into separate tracks.
- All non-MAGI work was put on hold by DHS project leadership. Unbeknownst to EngagePoint at that time, the DHS project leadership began reassigning non-MAGI work to RedMane.
- SNAP work was reassigned from EngagePoint to RedMane.
- MAGI, non-MAGI, and SNAP work were executed as parallel efforts, which meant that individual teams executed individual projects.

DHS project leadership decided to execute MAGI, non-MAGI, and SNAP efforts in parallel without a common architecture, requirements, or integration approach. While DHS project leadership lacked the resources to manage or integrate three large parallel tracks, the bigger problem was the excessive cost that the State would incur and the lack of value that the business would see in the final solution. The project's issues included:

- Duplicated work across the multiple tracks would drive up costs significantly.
- Building a non-integrated solution simply created another set of siloed systems that the State already had and was trying to steer away from.
- A non-integrated solution is more complex and expensive for the State to maintain.
- The value in reusing IT assets, such as software, is lost, thus driving up costs.
- An integrated system would have given the business a holistic view of their programs and enrollment statuses, and reporting would have been holistic, which would allow the business to make timely and informed decisions across programs. That is now lost.
- Had the State built an integrated system as was intended, the State could have reused IT assets to build their own State-based exchange; the non-integrated decision will now also drive up the cost of the State-based exchange.

Key Challenge #3: Systems Integrator (SI) Role

DHS project leadership did not support or maintain the SI role. Large IT projects require an SI, which manages the architecture, integration design, and development. EngagePoint was asked to assume the SI role at the start of the project, but was soon removed from this role.

- DHS project leadership changed vendor roles numerous times.
- DHS project leadership resisted and rejected the key technology principles required for CMS funding, including:
    - CMS Seven Standards and Conditions
    - Medicaid Information Technology Architecture (MITA)
    - Service-oriented architecture (SOA)
- DHS project leadership eventually controlled the integration approach and architecture.
- By August 2014, DHS project leadership abandoned the SI role.

The CMS Seven Standards and Conditions define technology standards and conditions that must be met by states in order for Medicaid technology investments (including traditional claims processing systems and eligibility systems) to be eligible for enhanced match funding. These standards and conditions fully embrace Medicaid Information Technology Architecture (MITA) and emphasize seamless integration and IT asset reusability.

MITA is intended to foster integrated business and IT transformation across the Medicaid enterprise to improve the Medicaid program administration.

Service-oriented Architecture (SOA) is a key feature of MITA and is a software design strategy in which common functionality and capabilities are developed so that they can be reused by various technologies. SOA assists greatly with integrating many different technologies and significantly reduces the complexities of building and maintaining a complex IT system.

The reason for providing brief descriptions of these technology principles is to point out a common theme: integration. There are extensive benefits to building an integrated system, with reduced cost leading the way, and the SI's job is to provide integration services. DHS project leadership's abandonment of the SI role put the AR EEF design and architecture at risk, which also paved the way for the DHS project leadership's decision to execute MAGI, non-MAGI, and SNAP efforts in parallel without a common architecture, requirements, or integration approach. Without an SI to

provide architecture governance, the design and architecture of AR EEF is at grave risk, and so is the State's enhanced funding.

A project like AR EEF absolutely requires an SI that can architect, design, and integrate the solution for today's needs, tomorrow's growth, and a longevity that lasts decades. Houses are designed by an architect. Why spend hundreds of millions on a system that is not properly architected, designed, and integrated? This question needs to be answered, because this is where AR EEF is currently headed.

Key Challenge #4: Lack of an M&O Plan

When any new application or system is brought online and put in production mode, M&O is planned for and activated immediately upon go-live. M&O allows for production support so that users can report issues that are then tracked and corrected. M&O also ensures operational tasks are managed in a way that allows the business to make timely decisions (such as reporting) and that the application is properly maintained.

DHS project leadership refused to acknowledge M&O as a required activity to sustain an in-production system, and after more than 16 months in production still do not have a formal M&O plan. Without a proven M&O plan:

- Little to no transition was conducted.
- The State lacked the staff to take on M&O; if the staff levels existed, the State would have eliminated some of the associated cost with eSystems' ownership of M&O.
- Key M&O positions remained open.
- The first service pack (software fixes) deployed after EngagePoint left the project took the system down for two days.
- The next deployment took the system down for more than two hours.

The State could have eliminated these challenges if DHS project leadership had accepted the proposed transition plan—a plan that was accepted by both DCO and DIS.

Key Challenge #5: Lack of Vendor Deliverables

One of the advantages of having a multi-vendor implementation team is that the customer realizes parallel work streams that contribute to project throughput and production of deliverables. Unfortunately, the AR EEF project did not enjoy those benefits, as vendor deliverables were often late. In these situations, another vendor had to complete the deliverable, which meant that other project deliverables were affected. Examples of these missed deliverables follow.

Lack of Vendor Deliverable: SNAP FE Enrollment Solution

Northrop Grumman (NG) was responsible for converting the existing SNAP participant information from the State legacy systems and then loading that data into the IBM Cúram eligibility application prior to the October 1 go-live date. In August 2013, it became apparent that NG was late with this deliverable and conversion would be missed. This created an immediate October 1 risk for SNAP-eligible cases. As a result of this risk, DHS project leadership asked EngagePoint to create an alternative SNAP-facilitated enrollment process (SNAP FE) that had to be in production for the October 1 go-live. EngagePoint developed an integration layer solution to process the SNAP eligible cases, create the appropriate notices, and send the notices downstream to the MMIS system, which would allow citizens to enroll and select a health plan.

The alternative SNAP FE solution was put into production successfully for the October 1 go-live date, and 55,000 SNAP recipients were converted and automatically enrolled. Diverting EngagePoint resources to ensure this solution's success was the right thing to do, as EngagePoint always kept its focus on a successful and accurate open enrollment. That diversion also meant other work scheduled to be completed by those same resources was sacrificed, which increased project execution time and costs to the State.

Lack of Vendor Deliverable: FFM Account Transfer Solution

For states like Arkansas that use Healthcare.gov/Federally Facilitated Marketplace (FFM), communicating with the FFM is an integral component of the eligibility and enrollment system. Accounts (citizen information) are supposed to be shared in real-time between the FFM and AR EEF. This sharing allows citizens to apply through either system, and their income level assessment determines which system ultimately processes their

application and enrollment. For example, citizens can start at the FFM, but their account information transfers to AR EEF for processing as their income qualifies them for Medicaid.

One of eSystems' responsibilities included implementing the real-time account transfer functionality between Cúram and the FFM. This functionality needed to be in production by the second CMS-mandated deadline of January 1, 2014, for processing eligibility determinations. By the middle of December 2013, it became apparent that eSystems was late in delivering the account transfer functionality, and the functionality deadline would be missed. DHS project leadership decided to pursue an alternative solution: processing CMS-supplied FFM flat files (data files) that contain account transfer information. On December 20, 2013, DHS project leadership asked EngagePoint to create a solution to process the CMS flat files—and the solution needed to be delivered in just 11 days.

This functionality was so important that CMS postponed the AR EEF Operational Readiness Review (ORR) until the account transfer solution was functioning.

EngagePoint developed an integration layer solution that processed flat files through more than 30 steps to transform bad data, process accurate records, create error files for records in error, and pass the information down to the MMIS system so that citizens could complete the enrollment process. EngagePoint stored the account transfer records in the integration layer until such time that eSystems completed the functionality build-out in Cúram. At that time, EngagePoint moved the account transfer records from the integration layer into Cúram. EngagePoint worked with the DCO to build a mini-project plan, document the requirements, and then perform the coding and testing against the CMS flat files. Within 11 days, the first CMS flat file was processed.

eSystems continued to struggle with completing the real-time account transfer functionality. In February 2014, eSystems failed for the third time to deliver as committed to DHS project leadership. In March 2014, eSystems' account transfer functionality failed IV&V attestation again. DHS project leadership stated that DCO was millions of dollars over budget due to eSystems' inability to complete the Cúram development needed to process real-time account transfers.

In November 2014, eSystems finally had Cúram ready to accept the loading of the account transfer records into Cúram from the integration layer. In December 2014, Cúram finally was ready to support the real-time account transfer functionality. Overall, this functionality was delivered 12 months late. This was a massive cost increase for the State.

Lack of Vendor Deliverable: MMIS Reconciliation Code

Another eSystems responsibility included developing the code to complete a reconciliation of 200,000 data records between the MMIS system and Cúram in order to ensure these two systems were in sync. In December 2014, eSystems was late with this deliverable to the point that the testing phase could occur, even though the functionality was to be deployed to production in three weeks. With so little time left, full end-to-end testing was at risk of being completed. With two weeks left before deployment, eSystems' code was still defective and unstable, and one of their batch jobs took over 60 hours to run. At this point, EngagePoint took over leadership from eSystems in order to make sure this work was completed. EngagePoint informed DHS and DCO project leaders of the risks due to eSystems' lack of testing and code quality.

EngagePoint was familiar with the reconciliation requirements because EngagePoint provided integration code that was necessary for this functionality; the EngagePoint code was written and tested in October. Therefore, EngagePoint built a plan to complete the coding and performed end-to-end testing through the night and weekend.

The MMIS reconciliation passed State user acceptance testing (UAT) and was deployed to production. While this was good news, production execution showed eSystems' reconciliation code had a very high 50 per cent defect rate, which resulted in Cúram data issues. Because these data issues were preventing DHS from putting the change in circumstance and annual renewal functionalities into production, DHS project leadership immediately requested that the EngagePoint integration team fix all the Cúram data issues with new integration layer code in less than two weeks; DHS project leadership wanted these issues fixed before January 31, 2015.

The data issues were fixed and the work was completed, but more project time was lost and more cost was incurred by the State.

Lack of Vendor Deliverable: Cleaning Up Bad Data

eSystems produced Cúram batch jobs that were put into production through standard release deployment mechanisms. In November 2013, eSystems performed this task but did not document either the full functionality or the impact that these batch jobs would have. They also did not properly test the functionality. The batch jobs passed the testing cycles, including the State UAT, because the lack of documentation did not alert the testers to the full impact of the batch jobs. These batch jobs then ran in the production system and created data issues in the MMIS system in which coverage is reflected. Specifically, the eligibility data of over 70,000 citizens was negatively impacted.

Two months were spent developing integration layer solutions for these problems in order to ensure the data was fixed in MMIS. In this case, the lack of a deliverable illustrates eSystems' lack of quality and the failure to follow standard procedures, including proper documentation and testing.

Resources spent valuable time cleaning up problems when their efforts should have been spent in progressing other deliverables in the project plan. This was yet another unexpected cost increase for the State.

Lack of Vendor Deliverable: Hired Inexperienced Cúram Developers

As previously noted, eSystems was brought in to provide the IBM/Cúram development for MAGI. Project history shows that eSystems deliverables were often late and lacking quality, creating costly work for the State:

- Real-time FFM account transfer functionality was 12 months late. DHS project leadership requested that EngagePoint fix this solution.
- MMIS reconciliation code was very late and had a 50 per cent defect rate. DHS project leadership requested that EngagePoint fix eSystems' reconciliation code.
- MMIS reconciliation code resulted in Cúram data issues. DHS project leadership requested that EngagePoint fix these data issues.
- Batch jobs resulted in MMIS data issues for over 70,000 citizens. EngagePoint spent two months fixing this problem.

In addition to the above, eSystems' challenges surfaced elsewhere:

- In April 2013, eSystems hired Cúram developers who were inexperienced on the current Cúram 6.x release that was being used for AR EEF.
    - The fear was that eSystems would produce unnecessary, costly custom code instead of leveraging the Cúram out-of-the-box product functionality as directed by the State. This fear was raised as a risk.
- In November 2013, this fear became reality: EngagePoint determined that eSystems wrote unnecessary custom code for reasonable compatibility, which resulted in over 90 per cent of cases that processed incorrectly.
    - EngagePoint reported this issue to the State as a deliberate violation of charging the State for unnecessary work by eSystems.
- On May 8, 2014, DHS project leadership emailed the EEF project team, explaining the "removal of eSystems' leader from the project for failure to produce" in over four months.
- In December 2014, eSystems' annual renewal functionality was late. The DHS project leadership requested that EngagePoint deliver a solution to auto-renew Private Option recipients for 2015.

With several instances of eSystems' lacking deliverables, productivity, and quality, DHS project leadership authorized EngagePoint in May 2014 to hire 11 Cúram developers. EngagePoint immediately hired and on-boarded these resources and they soon contributed significantly to the project. These resources worked full time through December 2014, which resulted in approximately six to seven months of new cost to the State. Yet DHS project leadership retained all eSystems developers. EngagePoint would later be blamed for exceeding their budget because of the DHS request to hire additional resources.

Key Challenge #6: Technology

A number of technological issues contributed to the delay in project delivery and an imbalance of project dollars spent versus functionality delivered. These obstacles required workarounds and rework on multiple occasions. Many technology challenges could have been avoided with an appropriate understanding of the available COTS functionality, a plan to address gaps, and proper architecture planning to ensure a scalable and sustainable technical foundation.

IBM Cúram

One of the biggest challenges with the AR EEF implementation was the misunderstanding or misrepresentation of Cúram as a COTS technology that can support the requirements for an integrated eligibility and enrollment system. This is the most critical false assumption that led to the challenges facing AR EEF.

Most assume that a COTS product has required minimal functionality that are proven and time-tested, and that using COTS will reduce implementation risks. The reality is that the Cúram software stack had significant gaps, and Cúram development has spent the last three years building out these gaps.

As a consequence to this incremental development, every state that implemented Cúram was forced to live through the gyration of releases and reworks as new capabilities were introduced. At times, fixes were temporarily introduced to meet the ACA timeline, only to be thrown away months later. Continuous introduction of unstable code that was not time-tested caused grief and frustration to both staff and user communities.

This challenge can be solved by truly understanding and recognizing the capabilities, limitations, and gaps of Cúram, and having a comprehensive strategy on how to mitigate those limitations and gaps. The AR EEF project's difficulties are a result of the failure to recognize these shortcomings early and properly addressing them from the start. As a result of this lack of understanding, the project had to constantly wait for the next release of Cúram or develop custom fixes to address the gaps. Both approaches translate to unnecessary delays, wasted efforts, and reworks.

Cúram is not a Complete Integrated Eligibility and Enrollment System

The root cause of these challenges is the clear understanding of the Cúram product's capabilities and boundaries, rather than its quality. Cúram software is an eligibility and entitlement solution, and contains five primary functional modules:

- Universal portal for citizen access
- Eligibility rules engine for eligibility determination
- Case management for state workers to manage cases
- Appeals management for handling case appeals
- Provider management for registering providers

Unfortunately, these five modules will only deliver the fully functional integrated eligibility and enrollment solution that the State expects in conjunction with the nine other modules listed below:

- Enrollment management
- Financials management
- Communications management
- Document management
- Master data management
- Data warehouse and reporting
- Integration framework
- Identity and access management
- Governance, risk, and compliance

In summary, when assembling a solution using COTS products, it is critical to have proper and unbiased resources that can perform a thorough analysis of the COTS products' capabilities to ensure that gaps are well-understood up front, and that a clear strategy is in place to address them. Failure to do so would result in delays and frustrations, as well as an ineffective, unsustainable solution.

Integration with Healthcare.gov

Another challenge included the Healthcare.gov website's lack of readiness. The State relies on the Federal Facilitated Marketplace (FFM) to determine eligibility for citizens seeking MAGI benefits. During the early launch period, Healthcare.gov struggled to handle the basic load. Once stabilized, the information received from the FFM was inaccurate and incomplete, thus forcing the AR EEF to perform additional duties, such as validating, cleansing, and de-duplicating data. These Healthcare.gov maturity gaps diverted resources to deal with the unexpected issues.

Summary: Project History

In addition to the issues detailed in previous sections, CAI's lack of deliverables and project progress during the initial two to three months of the project resulted in significant time being lost (see the "Prime Contractor Role Was Not Fulfilled" section). While EngagePoint is proud of having stepped up and delivered results when many other vendors failed, the time that was lost and the cost that was incurred by the State can not be recovered or overlooked. These challenges resulted in several project delays during which functionality was not delivered. Most importantly, months of work that was required to correct other vendor's deliverables resulted in unexpected and avoidable costs.

Looking Ahead – The Path Forward

The State of Arkansas has been a thought leader in setting public policy that is moving the State towards a citizen-centric public program administration model that is expected to be more cost effective, sustainable, and can deliver the right benefit to the citizen at the right cost with the desirable outcome

These policy initiatives and innovations combined with advent of ACA, have created a significant need for benefit administration systems modernization and integration. The legacy systems designed and built decades ago are inadequate in terms of functionality, architecture, and data. They are unable to serve rapidly evolving policy and programs, and are limited in their ability to enable the caseworker to administer programs. However, citizens must be able to engage with the benefit utilization and assume greater role in managing to the desired outcome.

The AR Eligibility and Enrollment Framework (AR EEF) project was initiated to implement the much needed system modernization with the goal to have a truly integrated framework of benefit administration on which multiple programs can be successfully administered.

This section analyzes the options to achieve the desired goals by defining the current state of the AR EEF system, the desired state, and the various options available to achieve the end goal. The document also incorporates past challenges and lessons learnt to ensure that the recommended option can be properly executed.

EngagePoint has written this recommendation section at the request of the AR Joint Performance Review committee of the Legislature, at no cost to the State. The sole intent and purpose of this document is to empower the State in making the best decision in achieving the desired success of AR EEF for the maximum benefit of Arkansans.

Integrated Eligibility and Enrollment – Seven Essential Components

Integrated eligibility and enrollment must accomplish a horizontal solution that allows multiple public programs to be administered with a citizen-centric approach instead of the past's program-specific approach. The objective of an integrated eligibility solution can be met by ensuring a clearly delineated set of seven functional and architectural goals:

1. **Citizen centric case management** across all programs that citizens will be eligible for throughout their life spans
2. **Eligibility determination** for various types of current and future eligibility models
3. **Enrollment administration** across all programs types, unified handling of all life events, and evidence management
4. **Financial administration** across all modes of cost sharing, subsidies, payments, and incentives across all programs
5. **Reconciliation** across multiple stakeholders (state agencies, federal, commercial, clinical, employers, and individuals)
6. **Citizen-centric Data Layer** that serves as the shared truth repository for citizen identity, benefit history, supporting content, evidence, and life events
7. **Integration Layer** that facilitates system integration, process integration, data integration, content integration, and transaction integration across legacy and future systems within the integrated eligibility and enrollment solution

Public Program Administration is Rapidly Evolving

Public programs eligibility is constantly evolving and never before at the current pace. The Health and Human Services (HHS) sector has seen unprecedented change in a very short time frame and this change of pace is unchanging.

Key drivers in the recent spate of changes is ACA's ushering in of an era of state-federal-commercial data sharing, growing acceptance of cost sharing and earned subsidies into traditionally fully subsidized programs, and lastly, a definitive progression towards performance-based program administration.

On top of all that, the citizen expects and is familiar with high degree of self-service in the commercial sector from banking to buying and expects the same from his interaction with the government.

Eligibility Models – One Size Does Not Fit All Programs

As we look to the future of eligibility determination, there will be distinctly different models of eligibility determination and enrollment administration rules that will need to co-exist on a common, integrated platform. There are different types of eligibility determination scenarios:

- Capitated programs
- Subsidized programs
- Cost sharing models
- Outcome-focused model
- Incentive-based model
- Specialty need and population group specific programs

Rules Engine is Important, But Not a Full Solution

Integrated eligibility and enrollment system require a strong eligibility engine. Given the nature of public programs, the eligibility determination for each program can vary meaningfully. Most eligibility determinations share the need for a rules engine, but can vary widely in terms of eligibility criteria, type of evidence, event handling, and eligibility output needed to successfully drive downstream processing such as enrollment, payment, and effectuation.

Selecting an eligibility engine requires that the engine can handle determination for all types of programs. However, given the range of eligibility models, it is also reasonable to assume that a single engine can handle the various pre-determination, determination, verification, and post-determination steps across all models.

It is important to evaluate an eligibility engine for its ability to handle the following determination functions:

- Eligibility determination and enrollment administration for capitated programs
- Eligibility determination and enrollment administration for fully-subsidized programs
- Eligibility determination, enrollment, and financial administration for partially-subsidized programs with some form of citizen cost-sharing
- Eligibility determination, enrollment, and financial administration of elective programs
- Member allocation, enrollment administration, and financial administration of performance-based programs

Enrollment Administration is Critical and Complex

While eligibility determination is a single step, enrollment administration is a multi-step workflow management challenge. Enrollment administration is fundamentally a complex workflow management system that sits right behind the eligibility determination step. The requirements for enrollment administration are as follows:

- Event handling
- Enrollment workflow management
- Benefit selection and assignment
- Effectuation
- Renewals
- Disenrollment
- Appeals and adjustments

These requirements demand a well thought out enrollment administration module that allows for configuration and integration of all the above capabilities.

Financial Administration will be Essential Moving Forward

As policymakers look towards increasing the citizen engagement and cost-sharing in health and social benefit programs across all programs, the need for financial administration is becoming more urgent and complex.

There is a great opportunity to engage the citizen in cost-sharing based on income and need levels, and with greater participation from the citizen, the State can achieve optimal utilization and outcomes.

In order to implement the necessary cost sharing models, outcome-based payments and incentives for proper utilization, a proper financial management system is required that can at least accomplish the following:

- Multi-program accounting
- Multi-tier accounting ledgers
- Financial transaction workflow management
- Subsidy calculation
- Invoicing
- Payment collection, attribution and distribution
- Event handling
- Exception handling
- Interfaces to Enrollment administration

Reconciliation is Difficult But Must Be Accomplished

A large number of stakeholders are involved in public programs administration, particularly when program administration requires data exchange between state agencies, federal agencies, commercial carriers, clinicians, employers, brokers, citizens, and citizen representatives (such as navigators and social workers)

A complete solution must account for process and data reconciliation across multiple stakeholders, such that every stakeholder truth can be reconciled to other stakeholders' truths.

For example, enrollment data reconciliation across Medicaid, Exchange, and carriers is an essential function that will allow program expenditure accountability to be achieved. A lack of reconciliation will inevitably result in over- or under-utilization of the program.

The AR EEF solution must include a powerful, configurable reconciliation management system that can meet the following functional and data needs:

- Multi-party reconciliation workflow management
- Configurable process flow
- Configurable data sources for every step
- Data linking across data sources with configurable linkage rules
- Expected – Actual analysis
- Analysis and visualization of large volumes of data
- Automatic and manual resolution of variance between expected and actual
- Remediation workflow and interfaces
- Transaction auditing and compliance

Citizen-centric Case Management – a Key Goal

Most states have historically implemented program-specific or agency-specific case management in their operations and underlying systems. This is a natural result of the evolution of programs and agencies.

However, to achieve a true citizen-centric program administration, with the ability to manage utilization, cost and improve outcomes, there has to be a citizen-centric view across all programs. Such a view would allow for effective citizen engagement and allow caseworkers, county workers, and policy makers to influence better outcomes at the lowest cost to taxpayers and to the highest benefit for citizens.

Achieving a citizen-centric, any-all program model of case management is achievable only with the integrated eligibility and enrollment system. This is the core value proposition of investing in integrated eligibility and enrollment systems that leads towards citizen empowerment, citizen self-service, effective communication, and greater citizen engagement in the public program benefit delivery.

Effective citizen-centric case management requires unifying the following data elements across programs on a horizontal framework:

- Identity (who is the citizen?)
- Communications (CRM)
- Events (life, administrative, and system events)
- Content and evidence (citizen-supplied, internal and external)
- History (case history, benefit history, and exceptions)
- Audit trail and activity logs

Getting the Architecture Right is Critical

The right implementation approach must implement the right functionality and architecture to achieve a sustainable and effective integrated eligibility and enrollment system. This is the basis for our recommendations in moving forward.

Given the current state of available technology, there are several exceptional methods for implementing a truly scalable, multi-program solution architecture for an integrated eligibility and enrollment system, as long as key considerations are steadfastly addressed:

- Citizen-centric data model
- Integration framework that shares a rich set of services across programs
- Well-defined software modules that can be enhanced and upgraded
- Well-defined and strictly enforced interfaces to bind modules into a solution
- Clear integration blueprint backed by an empowered, skilled governance team

What is the Right EEF Solution for State of Arkansas?

We believe that the right EEF solution for State of Arkansas has the following:

- Is functionally complete
    - Application intake, eligibility determination, enrollment administration, and financial administration
    - Event management, a citizen system of record, shared services, and a common integration framework
- Is not program-specific
    - Building a program-specific system will lead to silos of functionality and make the system very expensive to maintain
- Is multi-program capable
    - Program-specific logic should be configured on top of a well-defined multi-program capable system

- Is modular and leverages existing software modules
    - Allows for upgrades and enhancements at the module level without major changes to the overall solution
- Is open and capable of information sharing
    - Uses well-defined information and integration services to publish and consume all external data
- Is designed to meet CMS standards and conditions in theory and in practice
- Is citizen- and case worker-centric
    - Past systems have been designed around programs, which leads to a very disjointed caseworker experience that essentially prevents citizen engagement
    - AR EEF can and should be designed to allow for seamless case management across program boundaries, which will empower caseworkers and county workers to be effective in any location
    - AR EEF must allow for increasing citizen engagement and pave the path toward a unified and effective citizen experience that leads to citizens having the information they need to engage and act
    - This approach will help achieve the desired balance between access, outcome, and cost of the programs administered through AR EEF

Avoid Functional Silos

A silo is a large structure used to store bulk materials such as grain for agriculture. In technology, a silo is a term used to describe a complex IT system designed to serve a certain business purpose. The connotation is that an IT silo is intended for only one purpose - that the components inside this silo are not shareable or reusable for other purposes.

The following diagram depicts the functional silos that the current solution design will result in: EEF for MAGI, EEF for non-MAGI, SNAP, and other programs. When we take a close look at each of these program silos, we see that they each provide very similar capabilities and processes, such as application intake, eligibility determination, enrollment, case management, life events management, appeals management, and notifications.

Despite the similarities, these silos do not share or reuse any of these commonalities. This problem is akin to buying four different drills with four different bits, rather than purchasing one drill with the power to support multiple bits.

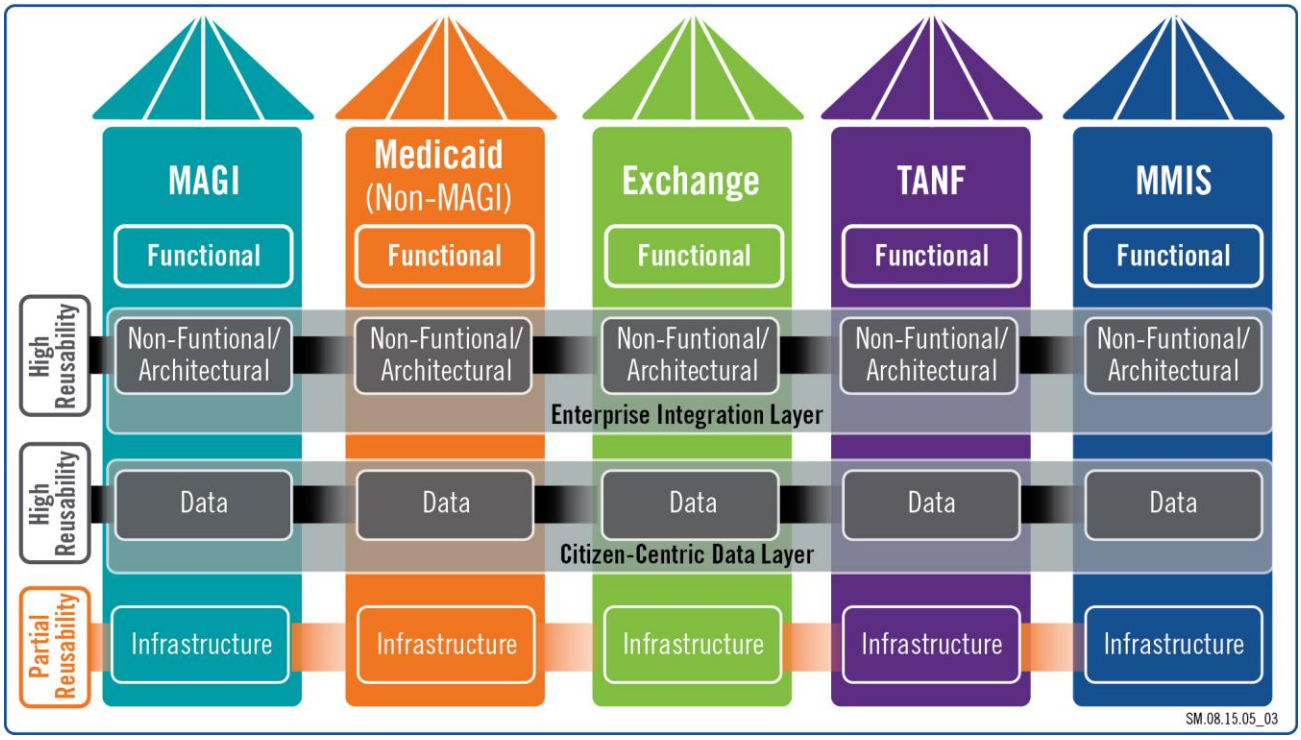


Figure 1: AR EEF Functional Silos

States need to move away from the inefficiencies of silos and strive toward the IT shared services and consolidation model like the powerful, adaptable drill for complex IT projects. CMS advocates this approach via MITA, and EngagePoint is implementing this approach for many states to manage risks, improve efficiencies, and reduce costs.

At the heart of this strategy is the enterprise foundation that powers technical capabilities that can be shared and used across other state systems, such as MMIS, health exchange, and Child Welfare. Using the drill analogy, the enterprise foundation acts as a battery pack that can power the drill, as well as a power saw, nail gun, and router. Inside the battery pack are rechargeable batteries that can be easily replaced if they fail to hold a charge. This is analogous to the concept of using COTS software rather than custom-built software. COTS products are proven and time-tested options that reduce implementation risks.

Coincidently, this is exactly the approach other states are embracing as part of system modernization efforts: standing up a statewide enterprise foundation based on COTS and whose technical capabilities can be shared

by more than 15 systems across all agencies.

Define a Single Solution for the Entire Scope

DHS project leadership must not split the AR EEF into separate MAGI, non-MAGI, and SNAP solutions. The DHS project leadership must work with the prime contractor to review and agree to the priorities, scope, milestones, and deliverables with the State project leadership for an integrated EEF MAGI, non-MAGI, and SNAP implementation.

As shown in the following diagram, an eligibility engine is responsible for several functional areas of the solution. The key takeaways for our solution strategy are:

- A fully functioning EEF requires functionality outside of the eligibility engine's boundary
- A sustainable EEF solution must be based on modular COTS products to enable ease of maintenance, support, and enhancement
- A sound enterprise foundation is the prerequisite to realize sustainable IT modernization. Its shared services promote IT consolidation and reuse across departments and agencies

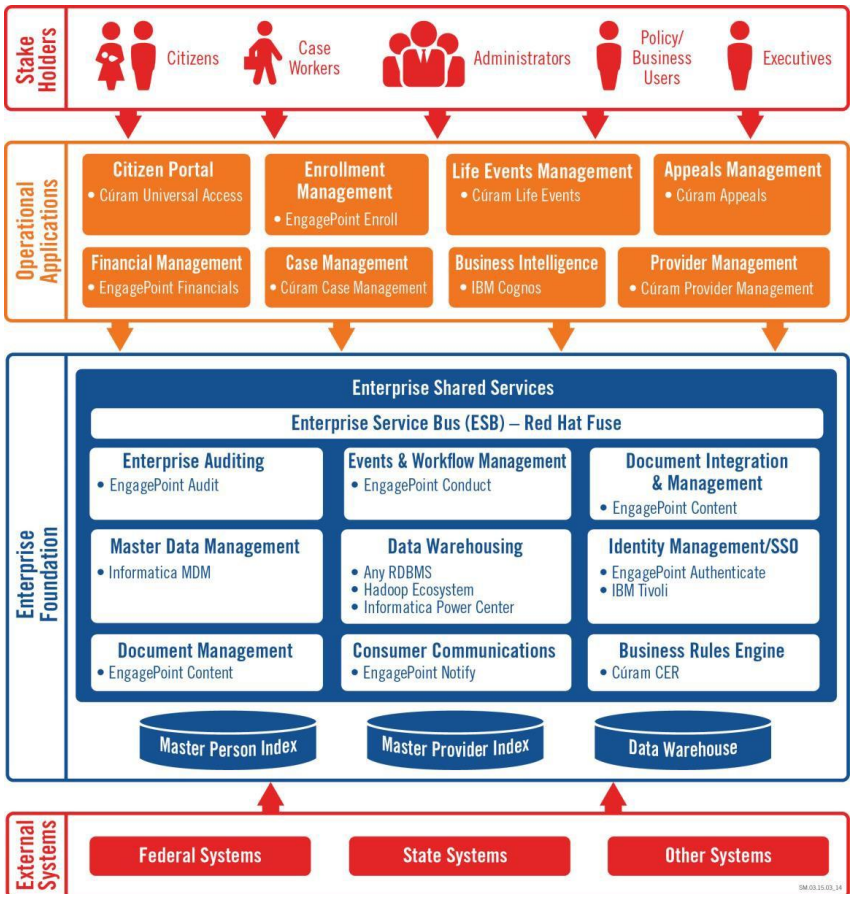


Figure 2: Sample EEF Solution Design

Options for the Path Forward

Given the industry-wide movement towards modularity and CMS-mandated interoperability, whatever path the State chooses, the solution must be functionally modular, software-based, and capable of serving the current and future needs of Arkansans.

All options ultimately must be weighed against the standards of:

- Modularity
- Upgradability
- Good solution architecture
- Reusable components and services
- Information sharing

There are three possible paths forward for the State to achieve a sustainable IE&E solution:

- Option 1: Stay the current course without changes
- Option 2: Full system replacement
- Option 3: Build on what you have - leverage but course-correct

Option 1: Stay the Current Course

This option requires maintaining the eligibility engine-centric architectural approach that is in place today. By doing so, the State will need to wait for the evolution of the eligibility engine that addresses functional gaps while using custom development to fill gaps that remain outside of the eligibility engine's realm. To pursue this strategy, proper fit-gap between solution requirements and software capabilities must be performed and remediation of the gaps must be properly managed.

This strategy carries several major risks:

- The solution will end up with excessive customization and long-term cost of ownership will be very high.
- As software matures, much of the customization will have to be ripped out, which will lead to multiple periods of system instability.

- The solution will continue to have unpredictable delays based on over-dependence on a single software vendor and a high degree of customization.
- The end solution will contain a great deal of custom code and fixes to address shortcomings, which will prevent the State from achieving sustainability.

Option 2: Full System Replacement

This option has the State replacing the existing solution with a new solution. This approach can be appealing when the assumption is made that there is a complete and ready-to-use solution that meets the State's needs. In reality, the best available alternative would be another solution that is functionally assembled from multiple software modules and then customized to meet State-specific program requirements. Given the specifics of the Private Option and the investment necessary for this approach, this solution is akin to starting from scratch with the same approach and same challenges as evidenced by current state of AR EEF.

There are several major risks to this strategy:

- Implementing a new system will create major disruptions to both internal staff and external customers.
- The State will make a significant investment for a similar outcome.
- The need to achieve a modular system will require overcoming the same challenges as building upon the current investment.
- Changing components does not address the challenges of scope, governance, integration, and execution.

If lessons are learned and better project methodologies (as outlined in the Managing for Success section) are applied, then this option can work. However, this option offers no inherent advantage in terms of cost, risk, or leveraging past investments.

Option 3: Build on What You Have

In this option, the State would acknowledge the eligibility engine's limitations, and position the eligibility engine to solve only what it is designed to solve, rather than morph it into something different. This option realigns the solution architecture to the original reference architectural vision in order to achieve a sustainable solution that will give the State the necessary foundation to confidently move forward on the modernization journey.

A sustainable design should have some of the following characteristics:

- Physically modular components
- Clear separation of application/functional layers and foundational/non-functional layers
- Components that have well-defined interfaces
- Best-practice enterprise integration patterns
- COTS products leveraged first, when possible
- Standards adoption, where possible

The risk to this strategy is purely centered on execution. The State must:

- Find a strong and unbiased Systems Integrator (SI) that understands how to build sustainable solutions.
- Perform a comprehensive gap analysis to identify key areas of deficiencies and leverage COTS products to plug them, rather than try to force in a solution that is not intended for the job.
- Institute a strong governance structure with the authority to make decisions and has the best interests of the State in mind.

Recommendation: Build on What You Have (Course Correct and Manage for Success)

The State, by design and by good fortune, has already embarked down the modular solution path when it began the AR EEF project. The project's challenges primarily have arisen from procurement, governance, and management.

This perspective is grounded in our hands-on experience working on the project as well as our intimate knowledge of the State's systems and processes. We also draw upon our lessons learned from each of the HHS solutions we have implemented. The following recommendations are anchored by our historical insight, skills, knowledge, and expertise.

EngagePoint recommends that the State leverage the AR EEF system's good components and complete a course correction on the root cause issues that have presented the previous challenges.

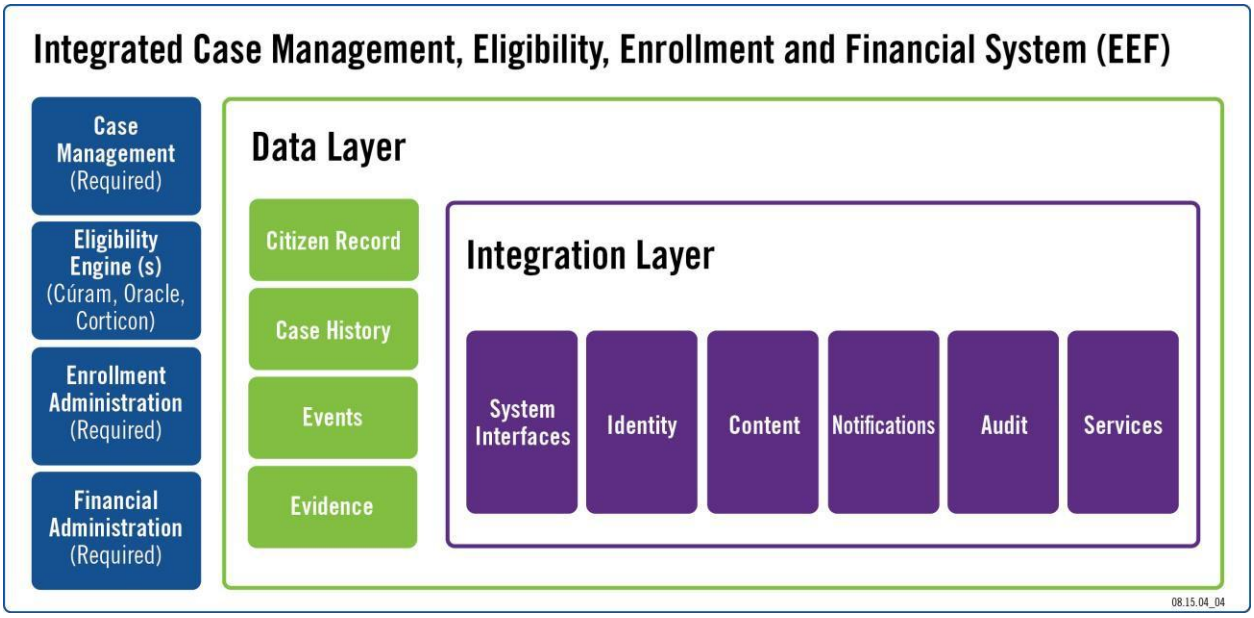


Figure 3: EngagePoint's AR EEF Solution Recommendation

Managing for Success

This section outlines EngagePoint's detailed recommendations regarding the management of AR EEF project's success.

Success Starts at the Beginning

Before procuring any more services, software, or solutions, the State should take these five steps

1. Figure out the project's risk profile
2. Choose the methodology that matches that risk profile
3. Hire the right skill sets for the team
4. Find the right prime contractor and the right Systems Integrator
5. Stick with the methodology

Figure Out the Project's Risk Profile

Are you comfortable with waiting two to three years to get the system all at once, or are you more comfortable receiving the system in increments, with each increment delivered a few weeks to a few months apart?

Both options have clear pros and cons. Each option requires vastly different skill sets to achieve project success. The participation, skill, and time commitment of policy makers, business analysts, project managers, and project sponsors will vary dramatically based on how the State proposes to manage risk.

Take time to think hard about the agency/project risk profile, because this question, when answered properly, will determine the approach and fate of the project.

Choose the Methodology that Matches That Risk Profile

The State must choose the methodology that matches the risk profile and the State's resourcefulness. Then the State must prescribe the methodology in its procurement.

Choosing Agile versus Waterfall versus Iterative frameworks is a key decision. There is often a mismatch between client and vendor software development life cycle (SDLC), and most State agencies are particularly uncomfortable with Agile.

The State must carefully evaluate which SDLC the business and vendor can agree upon. Then the State must:

- Train everyone involved in the project to the same SDLC
- Align project management and payments with the SDLC
- Stick with the SDLC the State chooses. The project team should avoid switching from Waterfall to Agile (or vice versa) mid-stream
- Hire project managers who truly understand the chosen SDLC

The State should prescribe the methodology, rather than the vendor.

Risk is often mischaracterized because the methodology is unfamiliar. The State must ensure that project sponsor/leadership is well educated and informed and has an experienced practitioner by their side throughout. That would be the ideal role for IV&V: acting as an experienced practitioner of the chosen methodology to help you manage the risks.

Hire the Right Skill Sets for the Team

The State must choose the right people with the right skills for the prescribed methodology.

A project manager (PM) must be more than just any project manager. A PM who is accustomed to the Waterfall methodology will be unfamiliar with Agile because they are vastly different approaches to project management. The concepts of risk, progress, and success are so different across these methodologies that success can look like failure to the practitioner of a different methodology.

Similarly, an analyst should must be more than just any analyst. An analyst that takes pride in the completeness of requirements will dislike the iterative nature of Agile's requirements.

A developer should must be more than just any developer. A good Agile developer will be wasted on a Waterfall approach and will likely quit long before coding begins.

Find the Right Prime Contractor and the Right System Integrator

Fundamentally, the prime contractor with its project management office, and the System Integrator with its designers and architects, must be in full alignment with the risk profile and chosen methodology. A system integrator that understands waterfall approach when asked to implement Agile approach is very likely to fail and same is true the other way around. A prime contractor that manages risk using waterfall versus a prime contractor that manages risk through agile and COTS, are total opposites.

Manage Scope in Alignment with SDLC

Scope definition must be aligned with implementation methodology. If the methodology is Waterfall, then all elements of scope must be spelled out and agreed upon up-front with the proper allocation of time and money to achieve a complete and executable scope at both a functional and non-functional level. On the other hand, if the methodology is software-based, then a fit-gap approach can be taken. If the methodology is agile, then appropriate sprint-based scope management must be put into place.

Stick with the Methodology

The project team must stick with the same methodology throughout the project; changing mid-stream will surely destroy the project. The State should learn to manage the risk by leveraging the methodology, rather than fighting it. All approaches are risky, or there would be no project challenges and every project would succeed.

However, if the contract terms do not align with the methodology, there will be huge temptations along the way to switch methodology as the way to manage risk, but is guaranteed to accomplish the exact opposite by guaranteeing project failure.

Pick the methodology that aligns with your risk and risk management profile and stick with it. Switching is akin to starting over.

Fix Procurement to Establish Accountability

In a complex project with multiple systems, multiple COTS and interfaces, time and materials contract model are unlikely to succeed and should be replaced with a fixed price, fixed scope contract model. This model is critical to ensure there is a well-defined scope that can be implemented in a fixed cost basis. This will avoid runaway costs moving forward.

Additionally, as stated earlier, the success of a leverage and course correct approach is going to be centered on remediating the gaps and realigning the solution architecture foundation. It is critically important to assign a prime contractor who understands complex integration. Integration is key to success. The prime contractor must understand the need for and be capable of managing complex integration points of all State programs using the eligibility engine/integration solution.

Procurement Guidelines

- Fixed price
  - Prime contractor has the necessary experience and commitment
    - COTS-based solutions
    - Vendor management
    - Scope management
    - Change management
  - System Integrator
    - Must have experience with integrating third-party software
    - Understands and believes in modular architecture
    - Compliant with CMS standards and technological direction
  - Software Vendors
    - Must have clear and committed roadmaps
    - Committed to well-defined and published interfaces
      - Data
      - Process
      - Events
      - Audits
      - Other items, as needed

- Fixed scope
  - Must be defined for functional, architectural, and performance criteria
  - Every requirement must have an executable test case and acceptance criteria or the requirement should be removed from project acceptance
  - Establish proper change control board with representation from business and technical
    - Establish dispute resolution and appeal processes that have definitive outcomes
      - Either scope or cost/timelines must be adjusted
      - No decision is automatically a decision to contain scope
- Fixed timeline
  - Allow for proper time allocation
    - Development
    - Testing
    - Acceptance
    - Deployment
  - Work backwards
    - Do not allow for reduction in time allocated to
      - Deployment
      - Acceptance
      - Testing
    - First look to manage scope
- Choose the SDLC that matches your risk management approach, and prescribe that SDLC

Project Governance and PMO

The DHS project leadership must implement a qualified IT project management office (PMO). The PMO must possess an appreciation and awareness that this is a complex IT project, and neither the PMO nor prime contractor can succeed alone. The PMO must be staffed with resources that have the appropriate skills and experience to effectively facilitate and enforce project management processes to effectively manage day-to-day efforts. To ensure success, the State must implement the proper project

governance and oversight and establish an effective governance structure for quick decision-making and resolution of risks and issues. The governance structure must reside above the PMO and prime contractor in the leadership hierarchy in order to effectively enforce solution architecture integrity and sustainability.

There are many ways to slice the governance apple. Good governance balances out-of-the-box products with needed customization:

- Balance functional, architectural, and project management tracks
- Require proper certification of key personnel, including PMP-certified project managers with the relevant experience in scale, domain, and complexity of the project

Define Roles Clearly

All sides have a critical role to play:

- DHS: requirements, acceptance, avoidance of customization, and timely procurement
- Prime contractor: project plan, execution, vendor management, software release management, holding clients accountable, and compliance
- Policy makers: must define acceptance criteria, and must realize that perfection (such as zero defects or 100 per cent accuracy) is unattainable

Enforce Accountability

The State must leverage IV&V properly, rather than just monitor the role. The goal is to establish key performance indicators for the project. The State should ensure that IV&V objectively measures each indicator. The State must hire and manage IV&V, rather than a project stakeholder.

Allow for Surprises

Benefit administration is complex because there are so many categories and sub-categories of beneficiaries. The State must allow for metric-driven automation.

The State must also be sure to plan for exceptions. Some categories or cases may not require automation. The State should set clear criteria for scenarios in which a manual workflow is acceptable.

Finally, the State should understand that data will never be perfect and allow for proper data management infrastructure and resources.

Remember Infrastructure

Infrastructure needs to be ready at the start, rather than towards the end. The State needs proper environments, including multiple development, test, acceptance, production, and backup environments. Release management is difficult and expensive. All environments do not have to be on premise and self-managed.

Make Sure There Are Enough Business Experts Who Can Accept the System

The State should hire a proper team of business and policy analysts engaged up-front and make sure they have the power to negotiate and decide on fit versus gap.

EEF Is a Generational System – Right Design is Essential

- Procure for sustainability and reusability.
- Own the architecture, rather than just the functionality
- This approach will save money in terms of cost of ownership

The ACA fueled the first wave of state IT modernization. Unfortunately, because of tight deadlines and the failure of most state leadership to fully understand CMS MITA, many early implementations are far from reaping the promises of MITA and SOA.

A second wave of procurement has begun. These procurements are calling for solutions that leverage a state- or agency-wide shared services enterprise foundation; this is a fundamental change to the previous attempt and the right prerequisite for achieving sustainable design.

The principles for achieving sustainable design must be ingrained in the entire process, from procurement to solution design to governance. The AR EEF should abide by these principles.

A good integration blueprint should include a well-defined enterprise foundation powered by well-defined components (such as EngagePoint Audit, Authenticate, Content, Conduct, and Notify). These components have been identified and validated by industry thought leaders as foundational and mandatory in any successful enterprise modernization initiative.

The bad news is that the AR EEF project has deviated from a sustainable blueprint. Continuing down this current path will lead to the proliferation of the same monolithic silos that the entire country has lived with for the past four decades and now is trying to move away from. The tax dollars invested in this cycle of modernization will be a complete waste, and the goals of better serving a growing population with an ever-decreasing budget will be missed.

The good news is that with the right knowledgeable resources and partners, the system can be brought back onto a sustainable track, but only if it has not deviated too far. The timing and the decision to take corrective action are critical.

Plan for Maintenance & Operations of a COTS-Based System

There is a huge difference between maintaining a custom-built solution and maintaining a COTS-based solution. Software-based systems require a different approach to ownership and maintenance and are driven by the following considerations:

- The EEF is inherently dependent on external data and external transactions.
- The EEF is assembled from both COTS software and custom configuration and code.
- Support for COTS products should be purchased from the respective vendors.

- Support for the custom code and configuration, which are closely tied to and are extensions of the standard COTS capability, requires a support model that is closely aligned with COTS and integration knowledge.

In addition to the above constraints, all COTS-based solutions require a different approach to M&O that includes the following functions:

- COTS roadmap management
- On-going Fit-Gap
- Backward compatibility
- Impact analysis
    - Functional
    - Performance
    - Security
- Test automation and acceptance management
- Release management

States are typically inexperienced in managing COTS-based solutions. The State is paying for software maintenance, so the State needs to learn to leverage that maintenance. The State will not get every enhancement it asks for (and customization is costly). However, the State also will also save significant money on superfluous enhancements. As COTS vendors keep innovating, the State benefits from that innovation.

Managing upgrades and enhancements requires skills and resources, so the State must hire the right M&O vendor with strong COTS management experience.

Plan for a Tiered M&O model

A tiered model of M&O will allow the State to focus its resources on the right functions while maximizing value from COTS maintenance contracts and vendor paid innovations -- to maximum advantage. Managing tiers will allow the State and vendors to own clearly delineated roles and responsibilities such that defects and enhancements can be properly evaluated and incorporated in the functioning system.

EngagePoint recommends a four-tier M&O support model:

- L1 Support (State)
  - Initial call
  - Priority assignment
  - Logging
  - Dispatch
  - Knowledge base resolution
  - Communications to initiator
- L2 Support (System Integrator)
  - Initial analysis
  - Known and approved intervention
  - Data conversion and transfer resolution
  - Log and data collection
  - Problem attribution
  - Estimation
  - Issue log updates
  - Assignment
- L3 Support (System Integrator and COTS vendors)
  - Attribution validation
  - COTS resolution
  - Custom code resolution
  - Integration layer resolution
  - Data quality and format resolution
  - Non-production verification of resolution
  - Issue log updates
  - Knowledge base updates
- L4 Support (State Infrastructure/IT Department)
  - Staging resolution verification
  - Release management
  - End to end and regression testing as applicable to knowledge base updates with release notes
  - Problem closure
  - Final communications

When Can This Be Accomplished?

The following table shows potential sequence and timeframes required to roll out the complete solution across various programs. A number of assumptions and dependencies will drive these timelines and should be used as a reference point only.

Table 4: Potential Solution Timelines

Program	%age Complete	Time needed to completion	Recommended Start Date	Target Finish Date
MAGI	75-80%	18 months	Jan 2016	June 2017
NON-MAGI	0%	30 months	Jan 2016	June 2018
SNAP	0%	15 months	June 2016	Oct 2017
TANF	0%	18 months	June 2017	Dec 2018

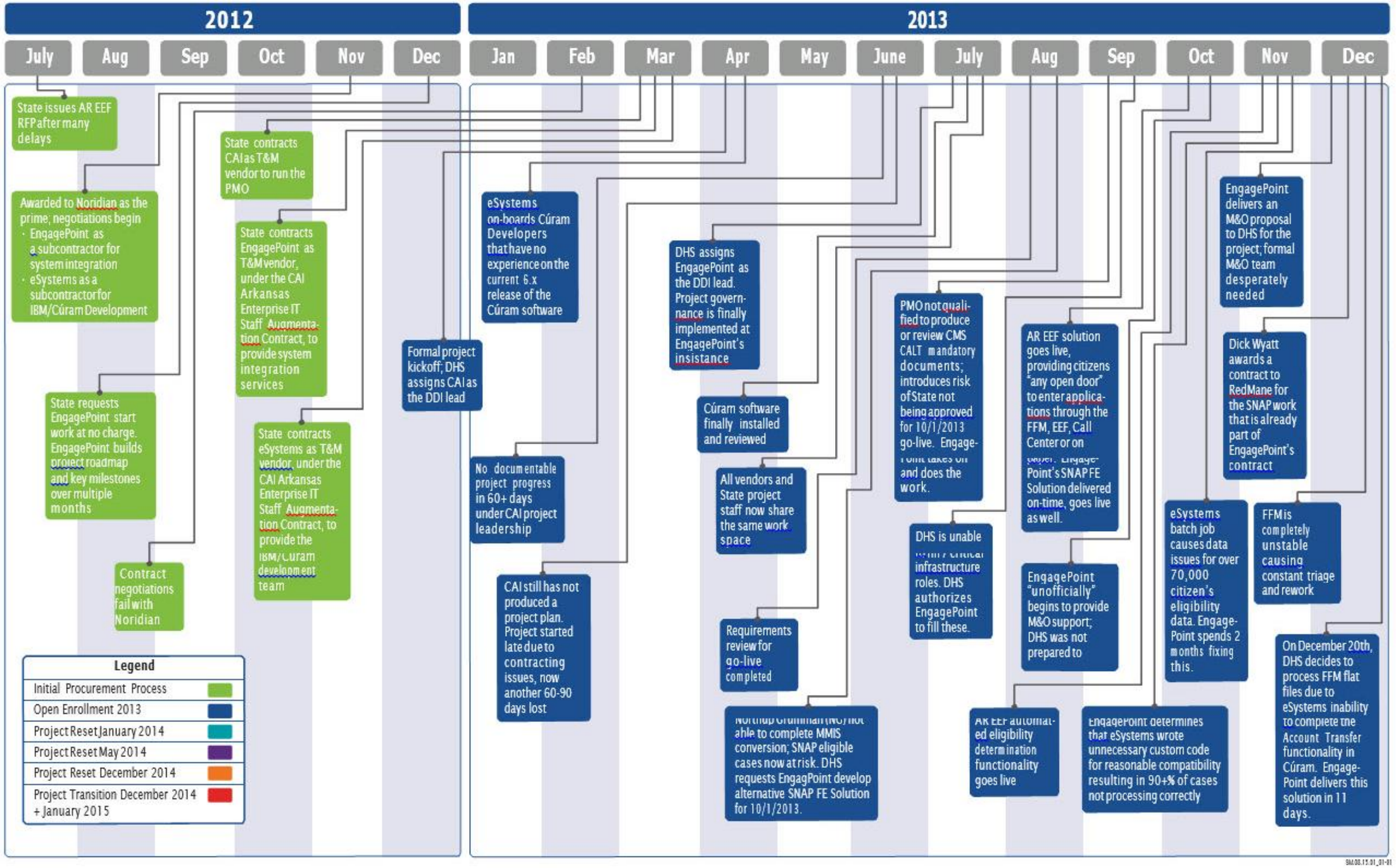
Look Ahead Summary

In closing, the AR EEF project has been challenged by very difficult timelines, delayed procurement, ambiguous requirements, and the challenges of managing complex IT project with unique and new technical challenges. The initial approach taken for the project was to build an integrated solution that would serve multiple programs using a modular, upgradeable, and open architecture. However, the project exigencies forced the project off-track into a highly custom, vendor-dependent implementation, which is neither modular nor sustainable. In addition, project governance failures and a lack of a prime contractor compounded the issues. However, despite all the challenges, the solution is serving a large number of Arkansans and can be course-corrected. The current solution and past investments are unsalvageable, but can also serve as a stepping-stone towards achieving a very successful outcome for the State. The path forward comprises a well-defined project organization, with careful emphasis on solution architecture, methodical execution, and governance.

Acronyms

Acronym	Definition
ACA	Affordable Care Act
AR EEF	Arkansas Eligibility and Enrollment Framework
BRB	Business Review Board
CMS	Centers for Medicare & Medicaid Services
COTS	Commercial-off-the-shelf
DCO	Division of County Operations
DDI	Design, Development, and Implementation
DHS	Department of Human Services
DIS	Department of Information Systems
FFM	Federally Facilitated Marketplace
HHS	Health and Human Services
IV&V	Independent Verification and Validation
IT	Information Technology
M&O	Maintenance and Operations
MAGI	Modified Adjusted Gross Income
MITA	Medicaid Information Technology Architecture
MMIS	Medicaid Management Information System
NG	Northrop Grumman
PMO	Project Management Office
RFP	Request for Proposal
SI	Systems Integrator
SNAP	Supplemental Nutrition Assistance Program
SNAP FE	SNAP Facilitated Enrollment
SOA	Service-Oriented Architecture
T&M	Time and Materials
TRB	Technical Review Board
UAT	User Acceptance Testing

Appendix A: AR EEF Project Tiemline



2014

Jan | Feb | Mar | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec

Dick Wyatt recommends to executive governance to fire EngagePoint and have NG and RedMane take over the EEF project. This is rejected by DCO and DIS.

eSystems fails to deliver inbound / outbound Account Transfer for the 3rd time

Project continues to be plagued by eSystems defective and unnecessary custom code

eSystems Account Transfer code fails the IV&V attestation again due to coding defects

Dick Wyatt rejects EngagePoint's M&O proposal. He takes over and restructures the project and reduces EngagePoint's role to Defect Management only.

Dick Wyatt surprisingly announces that EngagePoint software (Architect Suite) will be phased out

eSystems runs Cúram batch jobs without testing them; creates Cúram functionality and data issues

EngagePoint proposes reusing the EngagePoint automated testing facility to expedite testing, reduce costs and improve quality

EngagePoint initiates Non-MAGI requirements sessions with DCO

Results under new project leadership:
- Under Dick, limited to no progress in new functionality and eSystems leader is fired
- While EngagePoint deployed multiple Service Pack releases to resolve Cúram defects

Dick Wyatt requests all Non-MAGI goes on hold

Dick Wyatt holds a State-only meeting on May 7th stating that he plans to fire EngagePoint and eSystems

Dick Wyatt emails the EEF project team on May 8th indicates that EngagePoint is now back in charge of DDI and that he is removing the eSystems leader from the project for failure to produce

Within a month of regaining leadership, EngagePoint deploys to production 3 major releases including a Cúram Upgrade, Account Transfer functionality, SNAP FE conversions to Cúram and fixes for Cúram showstopper defects

EngagePoint proposes a way to phase in Change in Circumstance and MAGI renewal functionality

Dick Wyatt awards a contract to RedMane for the non-MAGI work that is already part of EngagePoint's contract

EngagePoint escalates concern to DHS that the RedMane SNAP and non-MAGI work cannot be done in isolation

DHS authorizes EngagePoint to hire 11 emergency Cúram developers

Dick Wyatt abandons the Systems Integrator role

DHS approves 17 change orders that impacts Change in Circumstance

Dick Wyatt informs CAI, eSystems, RedMane, IBM and NG he is firing EngagePoint and for these vendors to hire EngagePoint's staff

NG's MAGI renewal conversion has not materialized in 12+ months; DHS requests EngagePoint produce this functionality in 6 weeks; not realistic & not accepted

EngagePoint's contract expires 12/31/14, proposes 90-120 day MAGI M&O transition plan to the State; DCO & DIS agree with plan, Dick Wyatt rejects plan

The scope for Change in Circumstance and MAGI renewals continues to be increased and approved by DHS

eSystems is now very late with their MMIS reconciliation deliverable

Dick Wyatt announces that he selected eSystems to lead M&O effort; they have no knowledge of the system integration work; Dick directs eSystems to hire EngagePoint's integration developers

eSystems MMIS reconciliation code continues to be defective

EngagePoint steps up and takes over leadership of reconciliation effort

Change in Circumstance and MMIS reconciliation passes State UAT. Both deployed to produciton.

Dick Wyatt rejects DCO and DIS efforts to retain EngagePoint beyond 12/31/2014; only a few resources are extended 30 days

2015

Jan | Feb | Mar | Apr | May | June

EngagePoint requested to transition the automated testing knowledge to eSystems; no transition occurs as eSystems resources don't arrive until EngagePoint is departing

EngagePoint performs transition to the few State resources that were available

EngagePoint's Architect Suite software continues to run & support AR EEF

eSystems annual renewal functionality is late. DHS requests and EngagePoint delivers a solution to auto-renew private option recipients for 2015.

EngagePoint's remaining resources complete a professional and cooperative departure from the EEF project

Legend

- Initial Procurement Process
- Open Enrollment 2013
- Project Reset January 2014
- Project Reset May 2014
- Project Reset December 2014
- Project Transition December 2014 + January 2015

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