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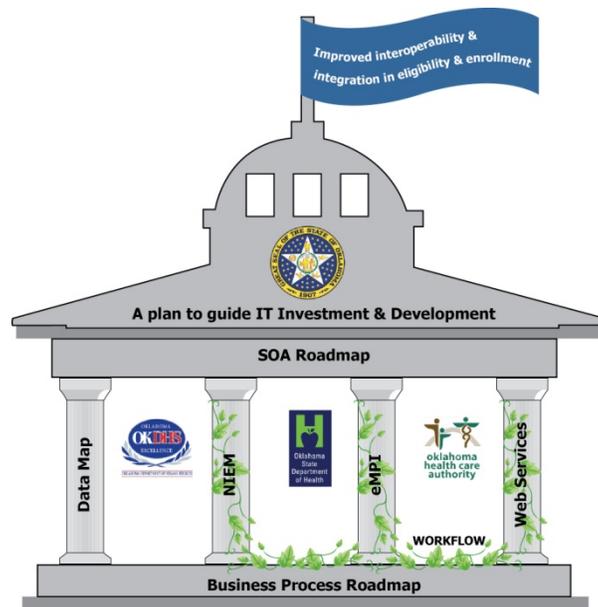
## Oklahoma Interoperability Grant

# Final Report

Revision: 1.0  
Date: September 17, 2013

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**Prepared for:**  
Office of Grants Management  
Administration for Children and Families (ACF)  
US Department of Health and Human Services  
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## Document Revision Record

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Date	Revision	POC	Summary of Changes
09.17.2013	Rev. – 1.0	Lynn Moore	Initial release of draft document

The current version of this document is stored electronically within the OKDHS Source Control System.



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## 1 EXECUTIVE SUMMARY

The U.S. Department of Health and Human Services, Administration for Children and Families (ACF) awarded Interoperability Grants to the State of Oklahoma (the State) and six other states. This grant provided opportunities to explore and plan for improved interoperability and integration in eligibility and enrollment, case management, and related functions across human services information technology systems, and to assess integration with other programs. This grant enabled the State to progress towards a streamlined, secure, interactive customer experience that maximizes automation and real-time decision-making while protecting personally identifiable information.

Oklahoma's Interoperability Grant Project (Grant Project) used a four-agency partnership: Oklahoma Department of Human Services (OKDHS), Oklahoma Health Care Authority (OHCA), Oklahoma State Department of Health (OSDH) Oklahoma, and Office of Management & Enterprise Services (OMES) to explore systems design options, potential outcomes, options, and impacts culminating in an Interoperability Roadmap and associated material that highlights critical elements to consider for improved operations. This Roadmap supports mandated federal requirements<sup>1</sup> and includes:

- A guide to actions that increase eligibility determination
- Plans for a Service Oriented Architecture (SOA), an Enterprise Master Person Index (eMPI), and an Enterprise Service Bus (ESB)
- Descriptions of actions to improve processing times
- Methods to help more eligible households retain their benefits over time
- Ways to increase responsiveness to the most vulnerable citizens
- Plans for increased flexibility and capability to meet access requirements
- Designs for scalability for potential increases in Medicaid enrollment
- The necessary path to redesign the State's current eligibility and enrollment system, leveraging IT investments and existing collaborative environments
- Opportunities to increase interoperability within systems by sharing data among OKDHS' three main business units: Oklahoma Child Support Services (OCSS), Adult and Family Services (AFS), and Child Welfare Services (CWS).

Grant activities allowed use of National Human Services Interoperability Architecture (NHSIA) planning and exploration of how NHSIA fits with the Medicaid IT Architecture (MITA) to design an enterprise architecture for the State's health and human services. OHCA led development of a plan to implement the Affordable Care Act (ACA) and identified standardized services to share over an ESB to achieve interoperability using a federated hub and integrated rules engine.

As planning for data sharing continues, Oklahoma will implement the National Information Exchange Model (NIEM) to enable collaboration, consistency, development, and support to achieve lower development costs, enhanced mission capabilities, a

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<sup>1</sup> Included in the Patient Protection and Affordable Care Act



common vocabulary, and reduced maintenance costs. An additional objective is to integrate with a multiagency or state person identification / identity management solution (e.g. eMPI).

### 1.1 Interoperability Goals, Objectives, and Project Deliverables

OKDHS, OHCA, OSDH, and OMES collaborated to plan for interoperability, automated data exchanges, and service reusability in eligibility and enrollment.

Implementing interoperability will improve customer service delivery, reduce errors/ enhance program integrity, and increase program efficiency. After implementation, people applying for selected benefits will be presented with a series of questions, in which the application interface with then display input screens tailored to eligibility and enrollment for the specific user. Standardized verification methods validate applicant-provided information supported by a common, federally-managed data services hub supplying additional data. Business rules automatically resolve most discrepancies.

Table 1 lists the interoperability objectives that enable this automated processing.

**Table 1: Interoperability Objectives**

Objectives	Desired Outcome	Measurement	Impact
<b>Standardization</b>	Enterprise wide standards	Adopted by inter/intra agencies and programs	Improved efficiency
<b>Reusability</b>	Shared & reused data	Model adopted by other states	Reduced development time
<b>Reduce Data Redundancy</b>	Less data redundancy & improved data consistency	Adopted by inter/intra agencies and programs	Improved data integrity and reduced errors
<b>Governance</b>	Policies and procedures	Adopted by inter/intra agencies and programs	Conformance to standards
<b>Cost</b>	Reduced operating expenses	Less operating and maintenance costs	Consolidated maintenance and shared operating costs
<b>Shared Services</b>	Interoperability	Adopted by inter/intra agencies and programs	Improved agility, response times, interoperability
<b>NHSIA adoption</b>	Interoperability	Adopted by inter/intra agencies and programs	Improved agility, response times, interoperability
<b>NIEM adoption</b>	Interoperability and use of standards	Adopted by inter/intra agencies and programs	Improved agility, response times, interoperability
<b>MITA compliance</b>	Interoperability and use of standards	Adopted by inter/intra agencies and programs	Improved agility, response times, interoperability

Achieving automated, interagency collaboration and service reusability requires the guidance and direction provided by items listed in Table 2. The creation process of these deliverables has provided the agencies an opportunity to review and prioritize actions that:

- Implement federal priorities around health care implementation
- Streamline out-of-date technology processes
- Reduce duplication of data and data entry; reduce errors



- Simplify process for applying and retaining services for Oklahoma citizens
- Improve communication to customers
- Create a seamless experience when inquiring about benefits and eligibility.

**Table 2: Grant Project Deliverables**

1. Develop a roadmap to integrate SOA and an ESB to allow automated data exchange and reusability for services exchanged among OKDHS, OHCA, OSDH and others.
2. Develop a roadmap for a statewide eMPI to reduce enrollment data duplication. Member identification and authentication enhance program integrity and reduce the number of times each person has to repeat this process.
3. Develop a roadmap data exchange based on use of NIEM.
4. Develop a model for enhanced automation and workflow improvement of online enrollment, and identify opportunities for workflow improvement through the introduction of capabilities, such as new web services or business processes, that can apply heuristics (via automated rules engines).
5. Develop a model for centralized customer/ client alerts for eligibility-related communications.
6. Develop a model for integration of information to an enterprise Business Intelligence tool for monitoring and performance tracking as well as outcome measurements.

## 1.2 Interoperability Grant Project Approach

The State performed this project with guidance from an engaged steering committee, engaged participation from the state’s knowledgeable staff, facilitation and full time participation of a trusted Oklahoma Human Services IT vendor, and skillful oversight by the state’s Project Management Office (PMO). State staff served as program experts, subject matter experts, and deliverable team leads.

Cross-functional teams developed deliverables using a structured process:

- Phase I Prepare to write the deliverable (research, analysis, discussion, etc.)
- Phase II Draft the deliverable
- Phase III Review the deliverable
- Phase IV Publish the deliverable.

## 1.3 Conclusion

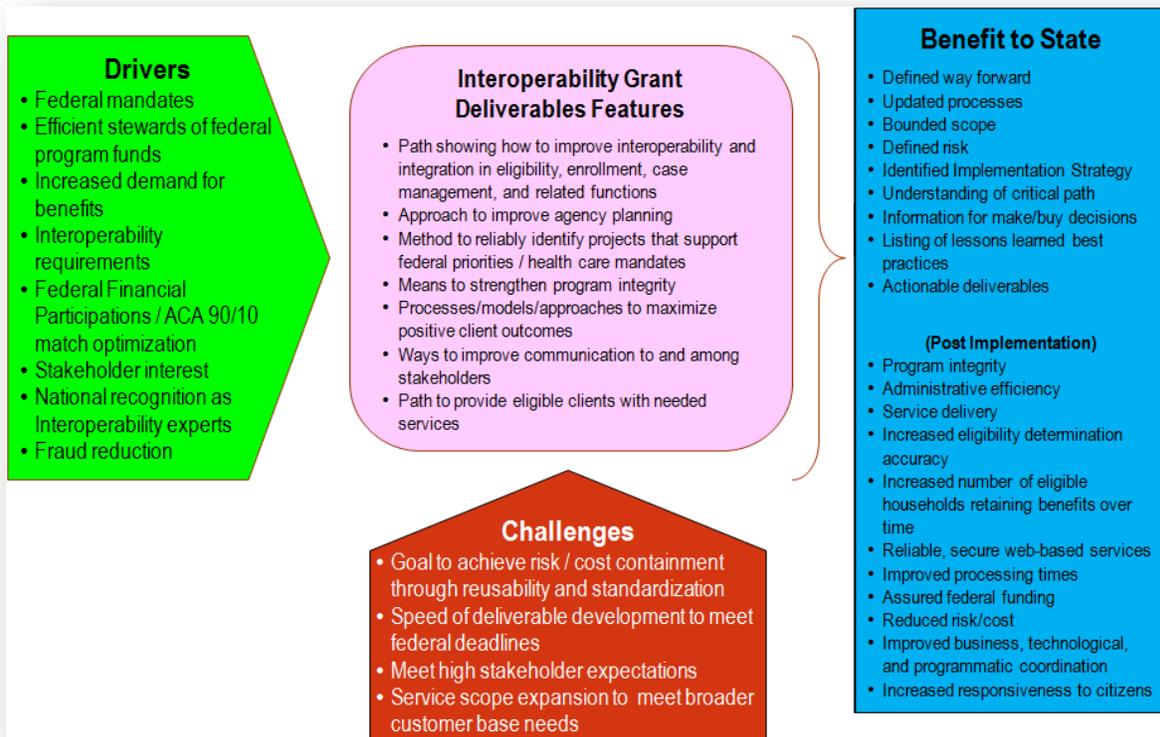
Embracing the NHSIA interoperability guidance, Oklahoma performed analysis, prioritization, and planning - completed a collaborative AS-IS analysis of business processes and IT investments. Teams prioritized options and developed TO-BE roadmaps for guiding IT investments to promote improved client service outcomes through standardization, reusability, and automation.

The State developed and prioritized interoperability options, leveraged technical and program expertise to create plans based on industry standards (e.g., NHSIA, MITA, and NIEM) that benefit recipients through improved program access, and to maximize organizational workforce efficiency through interoperability, standardization, reusability and automation. Using a structured development process, Grant Project teams prepared, drafted, reviewed, and published roadmaps across several focus areas:



SOA, data model, business processes, web-based services (eligibility and enrollment), NIEM, and eMPI. The State leveraged tools and techniques in a structured deliverable development process.

The State prepared plans to implement a SOA solution that facilitates enterprise interoperability for data exchange, enhanced intra- and interagency automation, and to streamline business workflows. Figure 1 depicts Grant Project drivers and challenges, along with features of deliverables that provide Oklahoma with the desired immediate (and future) benefits that promote a reliable way to achieve measureable outcomes.



**Figure 1: Grant Project Features, Drivers, Challenges, and Benefits.** *Oklahoma’s roadmaps address the Grant Project’s drivers and challenges and align with features that deliver maximum benefits.*

## 2 BACKGROUND

Families and individuals have better experiences and service when health and human service providers can access a complete profile of a person. A complete profile saves taxpayers money due to improved efficiency, effectiveness, and integrity by providing appropriate benefits to families. The Grant Project provided an opportunity to research, analyze, collaborate across agencies, assess, and design processes and systems for wise strategic investments in beneficial information systems modifications.



## 2.1 Overview – Oklahoma and Interoperability Grant

OKDHS, the State’s umbrella agency over various federal human services programs, is comprised of core business units whose missions are to administer similar yet distinct human services programs and support units whose missions support core business functions. Human services programs are mandated, regulated, and funded at federal and/or state levels. Over the past few decades, OKDHS developed not from a systematic business plan, but incrementally in response to various factors.

Generally, processes are not consistently defined / documented and systems are specific to programs and fragmented, which impacts sharing information. The State experiences reduced business agility regarding state and federal mandates, higher operating costs, and inadequate flexibility to morph with socioeconomic and environmental changes.

OKDHS realized incremental success by sharing client enumeration standards and systems across platforms for federal benefit programs, child welfare, and child support. However, this activity lacked interagency governance. This, and similar, efforts suggest value in shared processes to benefit the State.

The Grant Project is the culmination of research, collaboration, and review that produced several supporting documents that explored improved interoperability and integration of eligibility and enrollment services. See Table 3. This final document includes, as attachments, deliverables leading up to this final Grant document.

**Table 3: Appendices - List of Deliverables**

Appendix – Deliverable – Purpose
<b>A. SOA Roadmap:</b> Guidance regarding typical SOA activities and initiatives.
<b>B. Data Roadmap:</b> Path to implement eligibility and eMPI requirements including data systems with interagency collaboration using NIEM* through information integration via enterprise data warehouse and web services.
<b>C. Business Processes Roadmap:</b> Guide for collaborative improved business processes both interdepartmental and externally in terms of quality and integrity of shared data exchanges.
<b>D. Web Services Eligibility Suite:</b> Web services implementation roadmap supporting SOA/ESB allowing full automated data exchanges, security, authorization, and service reusability for services exchanged among OKDHS, OSDH, OHCA and other entities.
<b>E. NIEM Analysis:</b> Analysis of data systems identified in the Data Roadmap in interagency collaboration to exploit NIEM*
<b>F. eMPI Analysis:</b> Analysis focusing on Phase II of the Business Process Roadmap recommendation on importance of planning for statewide eMPI to reduce enrollment data duplication.

\*NIEM used for consistent and repeatable exchanges of data among systems and agencies.

## 2.2 Purpose – Plan for Interoperability

The Grant Project provided the State’s participating agencies an opportunity to research, explore, and create a plan to improve interoperability of eligibility, enrollment, and related functions across human services IT systems, and integrate with other programs.



Collectively, the Grant Project deliverables – with prioritized activities for participating agencies to accelerate a collaborative effort – provide a strong foundation in order to create an Implementation Plan.

## **2.3 Interoperability Goals and Benefits**

Achieving interoperability will improve service delivery for customers/clients, reduce errors and enhance program integrity, and increase administrative efficiency. Interoperability will help the State provide an ACA Gold Standard User Experience<sup>2</sup> to its clients.

### **2.3.1 Improve Service Delivery for Clients**

Interoperability will improve service delivery for clients in the following ways:

- Reduce amount of documentation families must submit to apply for multiple benefits
- Reduce time spent by families applying for, or retaining, eligibility
- Providers have access to more complete client profiles and other information needed to deliver more effective services
- Promptly provide information without requiring the client to access multiple sources.

Oklahoma's eligibility determination environment includes the following characteristics:

- Eligibility is performed in various processes
- Manual and electronic processes for various federal social service programs are integrated only through custom interfaces with no exchange standards
- No standard electronic application currently exists that can be used across multiple public assistance programs.

### **2.3.2 Reduce Errors and Improve Program Integrity**

Interoperability will reduce errors and improve program integrity in the following ways:

- Improve accuracy of eligibility determinations (based on Federal/State policy and family circumstances)
- Improve agencies' ability to make changes in eligibility and benefits as appropriate (based on Federal/State policy and family circumstances)
- Increase amount of information available and shared appropriately among programs
  - Provide a common language for data exchanges

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<sup>2</sup> ACA Gold Standard User Experience is an improved eligibility system for customer satisfaction. Per CMS' *Guidance for Exchange and Medicaid Information Technology (IT) Systems*, the eligibility process should be a streamlined, secure, and interactive customer experience that maximizes automation and real-time adjudication while protecting privacy and personally identifiable information.



- Reduce / eliminate duplication of information
- Provide a common and accurate way of identifying a customer or client
- Ensure if one program updates information about a customer or client, all programs will have access – as appropriate - to the updated information

The State’s current workflow provides opportunities for errors in eligibility and enrollment along with program and data integrity issues in the following ways

- Manual entry of customer or client information
- Manual reference checks
- Disparate language for data exchanges, where data exchanges exist
- Information not often shared across programs
- No ability to see an entire profile for a customer or client
- Lack of a common way to identify or align customers or clients across the state
- No Statewide eMPI

Reducing errors and improving program and data integrity will enable the State to provide the most appropriate services more effectively and more affordably,

### 2.3.3 Improve Administrative Efficiency

Interoperability will improve administrative efficiencies in the following ways.

- Reduce duplicative verification activities
- Reduce duplicate document / information storage
- Reduce duplicative eligibility determination activities
- Reduce time to process eligibility applications

Oklahoma’s eligibility determination and enrollment environment includes the following characteristics that could benefit from increased administrative efficiencies.

- Multiple verifications
- Lack of a common way to identify or align customers or clients across the state
- Duplication or addition information (e.g. multiple customer ID numbers)
- Duplicate and program-specific information stored by programs

## 2.4 Key Grant Project Activities and Dates

**Table 4: Key Activities and Dates**

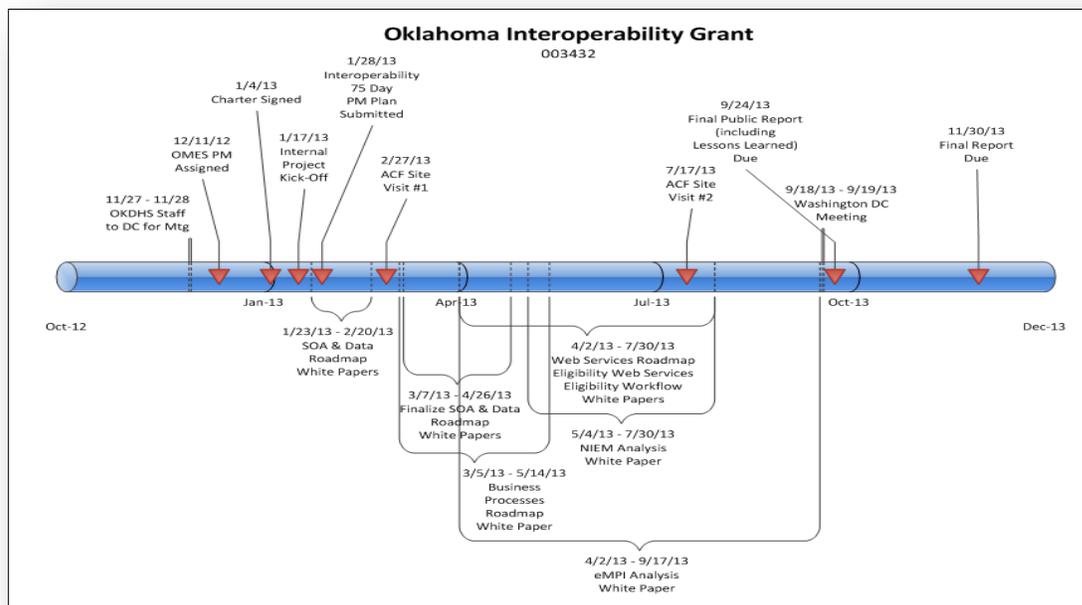
Date	Activity
Aug ‘11	New exceptions explained in first tri-agency letter (Centers for Medicare and Medicaid Services (CMS), Department of Agriculture’s Food and Nutrition Services, and ACF): - Permit States to integrate human service eligibility processes into Health Insurance Exchange (HIE) and Medicaid / Children’s Health Insurance Program (CHIP) systems without allocating common development costs across benefitting programs



Date	Activity
Jan '12	Second tri-agency letter issued, providing guidance on how States can take advantage of exception to leverage investments to serve multiple programs and needs
Jul '12	State of Oklahoma – with assistance from its Information Systems support contractor, Northrop Grumman - prepared a grant proposal to ACF Office of Child Support Enforcement for a State systems interoperability and integration project opportunity
Aug '12	Oklahoma and Northrop Grumman submitted a grant proposal to ACF
Nov '12	ACF awarded interoperability grant funds to the State of Oklahoma
Dec '12	Work began on grant: formed Steering Committee, identified Grant Project team leads and support, expanded Northrop Grumman support team, clarified list of deliverables, created annotated tables of contents for deliverables, created project plan for grant period, and implemented the planning process.
Jan '13	Oklahoma Interoperability Grant kickoff meeting
Feb '13	Began launching deliverable and research teams First ACF visit to Oklahoma (project on schedule)
Aug '13	Second and final ACF visit to Oklahoma (project on schedule)
Sep '13	Grantees visit in Washington, DC
Nov '13	<i>Final report submitted</i>

*Italics: future activity*

Figure 2 contains Grant Project activities – post award, the agreed-upon deliverable schedule, events, and their relationships.



**Figure 2: Key Oklahoma Interoperability Grant Activities.** In December 2012, Oklahoma launched Interoperability grant work; final report submission date is November 2013.

### 3 PROCESSES AND APPROACHES

The Grant Project team followed a structured process when developing each of the Grant Project deliverables and this overall final document. Additionally, the team followed a structured process to create a composite list of options (opportunities) from

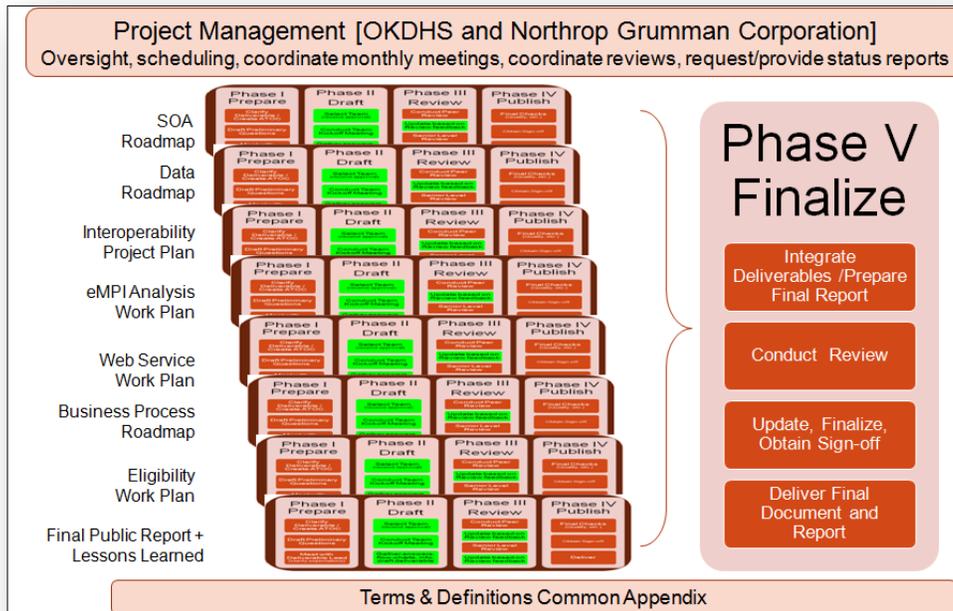


each of the deliverables and other sources, assess the impact of the options and relevance to interoperability goals, categorize the options, and prioritize the resulting list of options.

### 3.1 Develop Grant Project Deliverables and Final Outcome Document

The Grant Project team used the following structured approach for each deliverable: prepare, draft, review, and publish. In addition to using the NHSIA viewpoint as a guide, this approach included defined phases and the use of tools and techniques such as Annotated Tables of Content (ATOCs), cross-functional / interagency work teams, AS-IS research, gap analysis, TO-BE design, peer reviews, technical reviews, prioritization matrices, benchmarking, and facilitated formal review sessions. See Figure 3.

The Grant Project team created this Final Report Document using similar reviews and signoffs as the individual deliverables.



**Figure 3: Structured Deliverable Development.** Cross-functional teams used proven tools in a structured environment to prepare the deliverables.

This structured process and proven tools enabled cross-functional teams to prepare deliverables that will:

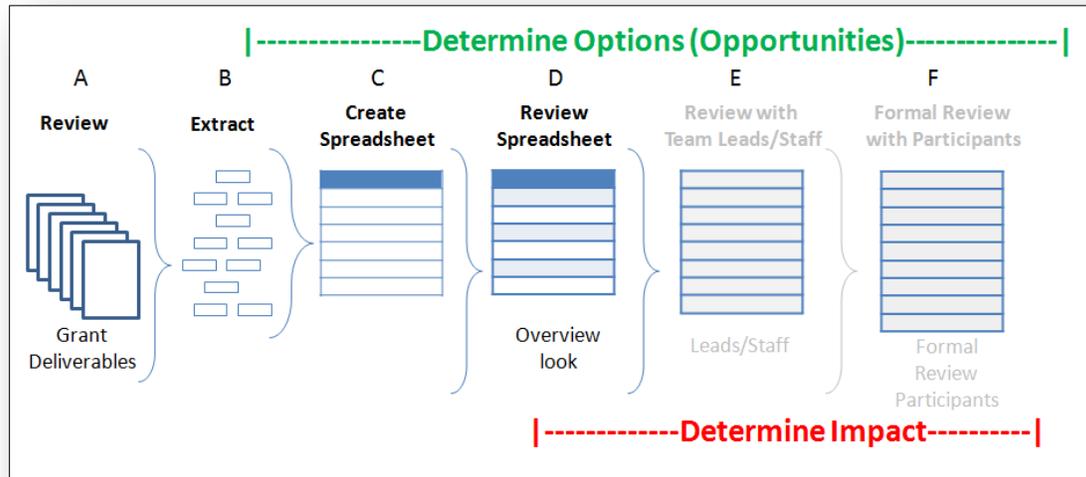
- Help guide IT investment ideas and IT system development
- Provide material necessary to build a comprehensive Interoperable Eligibility and Enrollment Implementation Plan
- Increase the State’s level of maturity for NHSIA and NIEM implementation.
- Create a business process that delivers efficiencies in resources, compliance to standards and a commitment to customer satisfaction.



## 3.2 Extract Options and Analyze Impacts

### 3.2.1 Finalize the List of Options

A final list of options were extracted from the deliverables, then incrementally refined (additional options were added as necessary), then each option was rated and impact on interoperability goals were assessed. See Figure 4.



**Figure 4: Determine and Assess Impact of Options.** *The Grant Project Team used an iterative process with numerous stakeholders to identify options and assess their impact on the Interoperability goals.*

A description of each activity is listed below. The resulting list of categorized, assessed, prioritized options can be found in Section 4.3.

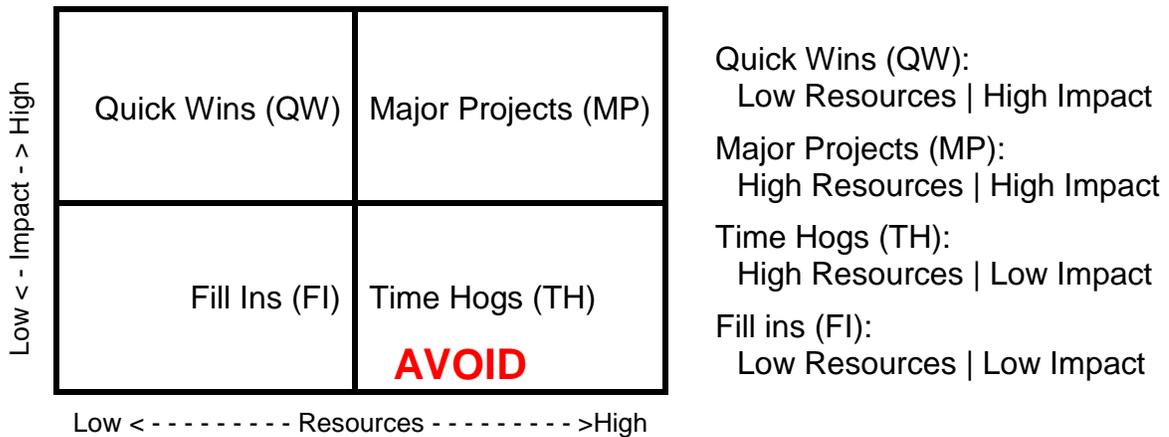
- A. Review Grant Deliverables: Review each Grant Project deliverable
- B. Extract Options: Extract ideas, options, opportunities, recommendations, actions, potential projects, or tasks
- C. Create spreadsheet: Create a list of options with an identifier, name, description, purpose, source deliverable, and affected area(s)
- D. Review and Categorize Options – Determine Ratings (initial): Review ideas; add ratings and impacts – adding options, as necessary
- E. Review Options – Interim Validation: Review options with Team Leads along with staff and stakeholders to validate the list and ratings; add information as applicable



F. Review Options in a Facilitated Meeting: In facilitated, formal meeting<sup>3</sup>, add new items as necessary, validate impact and other ratings, categorize, rank, and prioritize.

### 3.2.2 Assess Impact of Options

The State used an Opportunity Matrix to assess impacts of each option regarding interoperability goals (See Section 2.3) and the resources required. See Figure 5.



**Figure 5: Prioritization Matrix.** *The Grant Project Team and key stakeholders used a prioritization matrix to rank options that will help the State achieve the Interoperability Goals.*

Each opportunity received two ratings:

- Impact (or value or benefit) in progressing the State towards the interoperability goals. Ratings: H (High), M (Medium), L (Low):
  - Higher Impact/Value: Addresses one or more Interoperability Goals (described in Section 2.3); affects more than one agency; broader scope (affects high number of end users / programs)
  - Lower Impact/Value: May or may not address an Interoperability Goal (described in Section 2.3), affects a single agency, limited scope (e.g. number of end users/ programs affected)
- Resources (people, money, tools, etc.) needed to complete the opportunity. Ratings: H (High), M (Medium), L (Low):
  - Higher Resources: Need additional staff, money, tools, time
  - Lower Resources: Can be done with existing or easily obtainable resources; minimal impact to existing work.

The ratings were reviewed and discussed in multiple places:

- During the extract from grant deliverables and discussions

<sup>3</sup> The offsite meeting included Interoperability Steering Committee members, grant Team Leads and members (technical and business personnel), and Northrop Grumman staff (Oklahoma Interoperability grant consultants)



- Vetted during various team reviews, revising as necessary
- Vetted during validation sessions with Team Leads, revising as necessary
- During follow-up conversations with related parties
- During-Offsite the team reviewed / revised each option and its rating, merging options as necessary and forcing the ‘Medium’ ratings into either a ‘Low’ or ‘High’ rating. By offsite end, each opportunity was ranked in its respective quadrant.

## 4 FINAL REPORT ELEMENTS

This section contains the ACF Interoperability Grant required minimum final report elements.

- 4.1 Outcomes
- 4.2 Exploration Questions (and Answers)
- 4.3 Options Considered
- 4.4 Options Impact and Goals
- 4.5 Options Cost Benefit
- 4.6 Options Enterprise Architecture and/or Modules
- 4.7 Exploration Answers (presented with Exploration Questions)
- 4.8 End Result
- 4.9 Breadth
- 4.10 Human Services Program and Initiatives
- 4.11 Information Technology Initiatives
- 4.12 Health Intersection
- 4.13 Stakeholders
- 4.14 Privacy and Confidentiality Framework
- 4.15 Benefit to Other States

### 4.1 Outcomes

*Grantees must explain the outcomes the State sought to improve.*

Table 5 contains a list of outcomes from each Grant Project deliverable. For each potential implementation activity, Grant Project teams kept in mind the methodology developed through foundational efforts for the MOSAIC Program. Grant Project teams designed for a phased implementation approach, sharing information in a similar process as the MOSAIC Program, to ensure development of a repeatable model under the State’s Shared Services IT enterprise model.

**Table 5: Outcomes from Grant Project Deliverables**

Index	Project Outcomes
SOA 01	This project provides opportunities for intra-agency and interagency collaboration, allowing OKDHS and multiple State agencies to leverage SOA services and capabilities in support of the state’s effort to meet ACA timelines for citizen enrollment. Leveraging SOA will provide for reusability and better data exchange to improve outcomes for vulnerable children and improve service delivery for clients.



Index	Project Outcomes
<b>SOA O2</b>	<p>The Interoperability Plan is compliant with the Seven Conditions and Standards outlined by CMS and CMS Guidance for Exchange and Medicaid IT Systems Version 2.0.</p> <ol style="list-style-type: none"> <li>1. Modular Systems Development</li> <li>2. Align with MITA</li> <li>3. Industry Standards</li> <li>4. Share and Re-Use Technology (Leverage Condition)</li> <li>5. Deliver Business Results</li> <li>6. Performance Reporting</li> <li>7. Interoperability</li> </ol> <p>The Plan incorporates MITA Maturity Model (MITA Framework Version 3.0) principles and the NHSIA and SOA Integration Framework. This grant allowed OKDHS to plan and implement an ESB to message transactions with OHCA and internally within OKDHS to streamline web services to utilize the ESB.</p>
<b>SOA O3</b>	<p>Performance improvements can be realized through development of business processes, enabled by SOA, that automatically perform eligibility validation and cross-referencing as web services are enabled across the enterprise. Through the SOA roadmap, development of business processes and validation of web services to support these processes can transform administrative activities, reducing redundancy of effort and streamlining workflows to improve efficiency.</p>
<b>SOA O4</b>	<p>A roadmap for integration of SOA/ESB to allow fully automated data exchange and service reusability for all services exchanged between OKDHS and OHCA and other initiatives. This will allow OKDHS programs to better exchange data and improve outcomes for vulnerable children.</p>
<b>Data O5</b>	<p>A Data Roadmap outcome is to provide direction for further investigation to integrate with the SOA/ESB roadmap to allow fully automated data exchange and service reusability for all services exchanged between OKDHS and OHCA and other initiatives.</p>
<b>Data O6</b>	<p>A Data Roadmap outcome provides a data transformation plan that can be used by other states.</p>
<b>Data O7</b>	<p>A Data Roadmap outcome provides the framework for implementation of an eMPI system.</p>
<b>Data O8</b>	<p>Provide Enterprise-Wide Data Definitions and Data Repository starting with eMPI focus; thus building groundwork for covering other areas.</p>
<b>BP O9</b>	<p>Plan options to incorporate eligibility determinations through the Online Enrollment system for additional populations, and identify opportunities for workflow improvement through the introduction of capabilities, such as new web services or business processes that can apply heuristics (via automated rules engines).</p>
<b>BP O10</b>	<p>Collaborate with OHCA to design a central access point for all eligibility related communications and outreach, which would support online and web based communications and automated alerts. A central access point facilitates automated alerting to remind members when their eligibility is about to expire as well as inform them of their eligibility status for various programs.</p>
<b>BP O11</b>	<p>Ensure timely and accurate Medicaid eligibility information to all partners to support individual business related services to their customer base.</p>
<b>BP O12</b>	<p>Integration of information to an enterprise data warehouse tool for monitoring and performance tracking as well as outcome measurements.</p>
<b>WSS O13</b>	<p>An outcome of this project and specifically this document will be a roadmap that will increase interoperability and lay the ground work for web services implementations. The Web Services Roadmap will integrate with the roadmap for SOA/ESB to allow fully automated data exchanges and service reusability for all services exchanged between OKDHS and OHCA and other initiatives.</p>
<b>WSS O14</b>	<p>Another outcome of this project will provide a data roadmap that can be used by other states.</p>
<b>WSS O15</b>	<p>An outcome of this project is that it will provide the framework for the implementation of an eMPI system.</p>



Index	Project Outcomes
WSS O16	An additional project outcome will be Enterprise-Wide Data Definitions and Data Repository starting with eMPI focus; thus building groundwork for covering other areas.
NIEM O17	Develop models for the use of the NIEM for a consistent and repeatable exchange of data.
NIEM O18	Provide a roadmap that can be used by other states.
NIEM O19	Provide the framework for use of an eMPI system.
NIEM O20	Provide seamlessly integration of systems that serve the consumer in pursuit of health coverage (e.g., Medicaid) and human services programs.
NIEM O21	Enhance services across key mission and function areas by increasing interoperability between diverse organizations.
NIEM O22	Reuse NIEM components and leverage the NIEM development approach to reduce development and maintenance costs.
eMPI O23	Development of a roadmap for statewide eMPI to reduce enrollment data duplication. Member identification and authentication will also enhance program integrity and reduce the number of times our public customer has to repeat this process.
eMPI O24	To incorporate with eligibility determinations, and identify opportunities for workflow improvement through the introduction of eMPI capabilities, such as new web services or business processes that can apply heuristics (via automated rules engines).
eMPI O25	Performance improvements can be realized through the development of an eMPI in concert with business processes, enabled by SOA, which can automatically perform eligibility validation and cross-referencing. Through the eMPI Analysis, the development of business processes and the validation of web services to support these processes this can transform administrative activities to reduce redundancy of effort and streamline workflows to improve efficiency.
N/A	Governance, as applicable, addressed in each deliverable.

## 4.2 Exploration Questions (and Answers)

*Grantees must explain the set of questions the State explored.*

This Grant Project included exploring questions related to overall interoperability planning strategy, supported by interoperability planning elements contained in individual plans. Table 6 contains a list of the questions asked and the derived answers.

**Table 6: Exploration Questions/Answers**

Index	Questions/Answers
Q1	What resources will be needed to integrate OKDHS human services programs into MITA Maturity Model (MITA Framework Version 3.0)/ NHSIA compliant architecture?
A1	Interoperability will be run as a project under the Oklahoma Partnership direction and will require a project schedule, staffing plan, and adherence to the Project Management methodology and the symphony of methodologies deployed as best practices in the lifecycle development of the technology solution. This is captured in a tool called Symphony – Eclipse.
Q2	What technical and business architecture will be needed at OKDHS to integrate MITA? What is the security architecture that protects the interests of all State agencies?
A2	The Interoperability Business Architecture required could include AS-IS and TO-BE Business Node Connection Models, Conceptual Diagrams, detailed Business Process Management Notation (BPMN) mapping for the AS-IS and TO-BE for each of the identified processes for the scope of Interoperability.
Q3	What is needed among the health and human services agencies to develop and share eMPI?

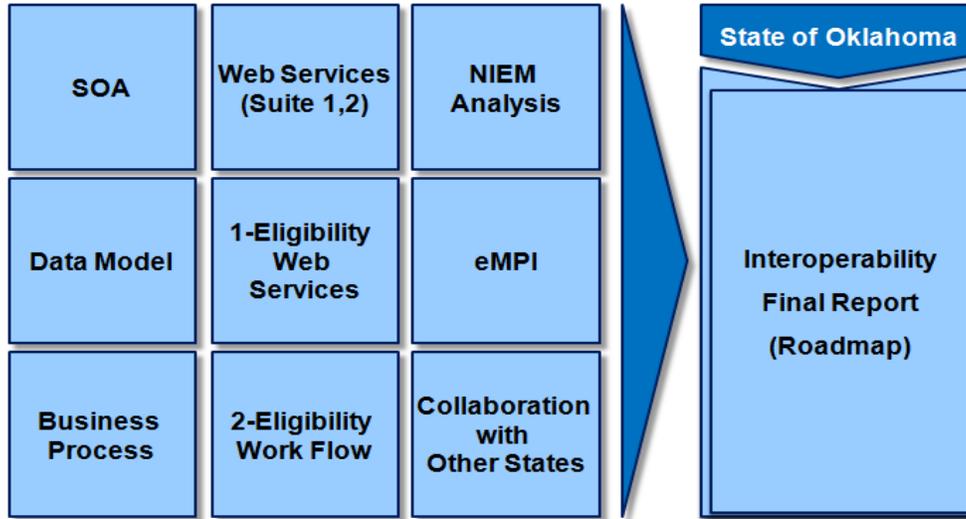


Index	Questions/Answers
A3	The TO-BE Interoperability Architecture will require a mitigation of the current Federal and State Business requirements driving the current business decisions, a building of consensus of ID information to be applied, consensus on a new eMPI framework, consensus on matching criteria logic, consensus on a historical data migration plan and the assistance of the Federal partners to position the local partners through mandates to remove any potential barriers for building this consensus. Once consensus is achieved, MOUs and SLAs must be approved.
Q4	What initiatives of the MOSAIC human services eligibility and case management system can be shared with OHCA initiatives under the ACA?
A4	For interoperability, work completed for MOSAIC; alignment of business requirements, models created, data harvested and resolved and IT solutions offer an opportunity to have a solid foundation to move forward with the roadmap presented here. The provided roadmap is intended to build upon this work and provide an Oklahoma solution.
Q5	What efficiencies can be gained by using SOA?
A5	Adopting SOA lends itself to gaining efficiencies and cost savings by replacing legacy applications with modular services that can be quickly implemented and reused.
Q6	How can governance be used to achieve the wide range of performance expectations?
A6	Interoperability provides an opportunity to develop a strong partnership between the NHSIA partners and MITA partners through the utilization of a strong governance model. This governance model will define performance expectations.
Q7	How can Oklahoma improve overall State IT operating and cost efficiencies?
A7	Interoperability provides an opportunity to realize cost savings through IT by focusing resources for developing and implementing software and hardware not from an individual program and service point of view, but rather from a shared functional point of view that crosses boundaries of silos with something that meets at least 80% of the common needs to complete the function. Hence, cost savings and operational costs from an IT and business perspective are realized through efficient business processing time, data sharing, and development of IT solutions to support the process.
Q8	How can applying NIEM Standards to data can help facilitate a more efficient, timely and accurate exchange?
A8	An interoperability solution using a NIEM Standard for data collection will assist with developing consensus on standardized data elements to aid with data exchanges required to support the overall process of serving common customer/clients needs in a seamless approach, while reducing the required time needed for the common customer/client to access the delivery system's programs and services.

### 4.3 Options Considered

*Grantees must explain the options that were initially explored, as well as the one(s) ultimately developed.*

As described in Section 3.2 and shown in Figure 4, options considered for the Final Report started with extracts from each deliverable. Each deliverable addressed a focus area. See Figure 6. Deliverables were used as input for this Final Report. The list of deliverables can be found in Appendices A-F.



**Figure 6: Deliverable Documents for Each Focus Area Used as Input to Final Report.** *Focus areas - identified by the State and Northrop Grumman - resulted in the initial list of options to include in the Final Report.*

#### 4.3.1 Review Deliverables, Extract Options

A list of the options considered and adopted per deliverable, is provided in Table 7. The letter preceding the Deliverable name indicates which Appendix. Table 7 is the output of Steps A and B identified in Section 3.2.

**Table 7: Summary of Options Considered and Adopted/Developed**

Deliverables	Options Considered	Options Adopted/Developed
<b>Appendix A: SOA Roadmap</b>	Zachman Framework; The Open Group Architecture Framework (TOGAF) Federal Enterprise Architecture (FEA) and Department of Defense (DoD) Architectural Framework (DoDAF); The Open Group Service Integration Maturity Model (OSIMM) Version 2.	Oklahoma adopted NHSIA and MITA standards for requirements with the partnership being established for Interoperability. <b>See Table 8, items 1-15.</b>
<b>Appendix B: Data Roadmap</b>	Based upon Information Exchanges as defined in NHSIA Information Viewpoint, current information exchanges will be mapped to fit in NHSIA's information exchanges and leveraged through NIEM-UML (Unified Modeling Language).	Oklahoma adopted NHSIA and MITA as standards for requirements with the partnership being established for Interoperability. <b>See Table 8, items 16-26.</b>
<b>Appendix C: Business Processes Roadmap</b>		Oklahoma identified quality business requirements in understanding delivery of services and importance of business driven requirements to select a complimentary IT solution through the lifecycle of software development to meet the business needs. <b>See Table 8, items 27-30.</b>
<b>Appendix D: Web Services</b>	The web services approach to support SOA is made easier by the adoption of	Web Services for the TO-BE system will be based on developing modular and reusable system



Deliverables	Options Considered	Options Adopted/Developed
<b>Roadmap, Eligibility Web Services, Eligibility Workflow</b>	an ESB. This can be home grown or Commercial Off the Shelf (COTS). Research is underway on the ESB options available to the State of Oklahoma. Several open source ESBs were reviewed and compared including JBoss, Apache ServiceMix, and Mule. The comparison of these three open source ESBs can be found in Appendix F of the Web Services deliverable.	components that are based on loosely coupled services and SOA design principles which follows NHSIA and MITA guidelines and meets the Seven Standards defined by CMS. The resulting system is based on a scalable, secure, SOA model with the ability to expose web services using standard Application Programming Interfaces (APIs) that can be used internal to the application or through an ESB to external applications if necessary. This will allow Oklahoma to use existing services. For information that is available in real time, information will be exchanged utilizing Web Services and sharing data in standard XML format. <b>See Table 8, items 31-33.</b>
<b>Appendix E: NIEM Analysis</b>	NIEM connects communities of people who share a common need to exchange information in order to advance their missions, and provides a foundation for seamless information exchange between federal, state, local, and tribal agencies. NIEM is characterized by an active user community as well as a technical and support framework.	The NIEM model is planned to be adopted as directed. <b>See Table 8, items 34-45.</b>
<b>Appendix F: eMPI Analysis</b>	Build a state-mandated enterprise wide eMPI that would create a single record (that is identifiable by a unique identifier) for a person by using an agreed upon matching criteria across the agencies.	<b>See eMPI Analysis Roadmap, Section 1.8.3.</b>

#### 4.3.2 Create Spreadsheet of Options

Table 8 contains results of separating out and reviewing each option (non-prioritized). This table is the result of Step C in Section 3.2.

**Table 8: Results of the Extract – Initial List of Options, by Deliverable**

Item	SOA Specific Options Developed	Purpose/Comments	Focus Area	Source/Section
1	<b>Construct / Maintain Master Services Portfolio</b>	Track defined business and IT services. Involves business analysts, architects, and developers.	Increase level of SOA maturity	6.1.1
2	<b>Implement Cross Enterprise Security</b>	Allows the state to deploy agile business processes with ease and in less time; facilitates single sign-on	Increase level of SOA maturity	6.1.2
3	<b>Extend SOA Solutions Scope to Span Multiple Business Units</b>	SOA benefits expected: service reuse, improved integration, interoperability, business agility and reduced maintenance costs.	Increase level of SOA maturity	6.1.3
4	<b>Extend SOA Solutions Scope to External Business Partners</b>	Facilitate the integration with external partners, such as Community Action and Food Banks.	Increase level of SOA maturity	6.1.4



Item	SOA Specific Options Developed	Purpose/Comments	Focus Area	Source/Section
5	<b>Promote SOA Communication and Update Applicable Knowledge Portal</b>	Knowledge sharing; promotes a common vision and mission for the SOA. Involves the business and IT stakeholders.	Increase level of SOA maturity	6.1.5
6	<b>Develop Target Enterprise SOA Architecture</b>	Scope includes communication backbone, business process management applications, business services portfolio, technical services portfolio, business rules engine, data warehouse, and web portal.	Increase level of SOA maturity	6.1.6
7	<b>Specify SOA Policies and Procedures</b>	Guide / govern design, development and deployment of SOA	Increase level of SOA maturity	6.1.7
8	<b>Integrate SOA Principles into Organization Wide SDLC</b>	Deliver SOA program consistently across state; to enforce event-driven design, reusability of SOA components, standardization, flexibility and registration of business and technical services	Increase level of SOA maturity	6.1.8
9	<b>Develop and Implement SOA Lifecycle Governance</b>	Ensure that the design, development and maintenance of apps are aligned with the SOA strategy	Increase level of SOA maturity	6.1.9
10	<b>Establish SOA Governance Strategy</b>	Establish governance to support interoperability; Establish interagency Steering Group (OKDHS, OSDH, OHCA, etc.); Resource an Interoperability Program Office; Establish policy and technology standards for data stewardship, security and consent; Seek clarification on federal and state confidentiality rules so information can be shared and used more effectively; Leverage basic building blocks for interoperability including: the HHS NIEM Domains, MITA, and NHSIA.	Increase level of SOA maturity	6.1.10
11	<b>Ensure Ongoing Partnership between IT and the Business</b>	Enable the IT organization to support business processes in an agile and cost effective manner	Increase level of SOA maturity	6.1.11
12	<b>Ensure Executive Commitment and Sponsorship for SOA Program</b>	Provide the required support from a prioritization perspective	Increase level of SOA maturity	6.1.12
13	<b>Provide SOA Training and Certification</b>	Allow users to utilize new functionality provided by SOA applications and allow for improved design and development of SOA apps	Increase level of SOA maturity	6.1.13
14	<b>Monitor and Report on Service Performance</b>	Assist SOA program in retaining momentum and stakeholder buy-in, assisting in securing funds for future program execution	Increase level of SOA maturity	6.1.14
15	<b>Implement Services Using ESB</b>	Provide the necessary tools to build XML services that leverage APIs	Increase level of SOA maturity	6.1.15
Item	Data Model Specific Options Developed	Purpose	Focus Area	Source/Section
16	<b>Assess current interfaces</b>	Identify a To-Be solution to streamline the current exchange or replace the existing interface with an enterprise-wide solution.	Data Roadmap	3.2.8.1



Item	Data Model Specific Options Developed	Purpose	Focus Area	Source/ Section
17	<b>Review NIEM/ NHSIA governance</b>	Identify gaps that NIEM HS (domain) governance structure does not cover.	Data Roadmap	3.2.8.2
18	<b>Address Data Governance for the agencies for data stored within the agencies, and also on the governance of data exchange that NIEM's HS Domain Governance structure does not cover.</b>	Address data quality, data management, data policies, business process management, and risk management surrounding the handling of data within the agencies	Data Roadmap	3.2.8.3
19	<b>Leverage Best Practices when implementing a Master Data Management (MDM) solution</b>	Create processes for collecting, aggregating, matching, consolidating, quality-assuring, and distributing data to ensure consistency and control; preserve data integrity.	Data Roadmap	3.2.8.4
20	<b>Initiate a checkpoint on the NHSIA Information Viewpoint artifacts</b>	Artifacts include the list of relevant standards, conceptual data model, data dictionary, list of information exchanges, and IEPD requirements artifacts.	Data Roadmap	3.2.8.5
21	<b>Work with NHSIA HS Team to create IEPDs for the information exchanges for the To-Be System</b>	Leverage the identified interfaces for the TO-BE System using NIEM.	Data Roadmap	3.2.8.6
22	<b>If, during the assessment, the NHSIA framework is determined to be inadequate and MITA is thought to be more mature in a specific area, consider using the MITA framework instead.</b>	NHSIA Is the Human Services equivalent of the MITA Architecture Framework. NHSIA provides a framework and roadmap to achieve common goals. The MITA architectural framework is a consolidation of principles, business and technical models, as well as guidelines that provide a template for the State to use to develop its own enterprise architecture.	Data Roadmap	3.2.8.7
23	<b>Establish a Data Governance Steering Committee</b>	Should fit into the State's IT Governance Model that includes participating agency business representatives. Data governance helps establish strategy, objectives and policy to effectively manage enterprise data by specifying accountability on data and its related processes, incl. decision rights.	Data Roadmap	4.11.1
24	<b>Establish a Data Governance Office</b>	A data governance office is a key resource for organizations that need to be deliberate about how they use data resources.	Data Roadmap	4.11.2
25	<b>Form a Data Governance Committee</b>	Includes the owners/ stewards of the data, focuses on implementing data governance, and creates Policies and Procedures.	Data Roadmap	4.11.3
26	<b>Establish a Data Governance Maturity Model</b>	An existing model can be used if it reflects the AS-IS stage in data governance.	Data Roadmap	4.11.4



Business Process Roadmap				
Item	Specific Options Developed	Purpose/Comments	Focus Area	Source/Section
27	<b>Execute a phased approach for the implementation of the Business Process roadmap.</b>	Harvested business requirements are attached to an implementation plan once scoping is completed. Leverage proven transparency in process, using customized templates in current (AS-IS) environment.	Business Processes	5.1
28	<b>Implement Business &amp; IT Governance that embrace the spirit of interoperability (Phase I).</b>	Provide a mechanism for monitoring actions, policies and decisions; involves alignment of interests among the stakeholders and provides the structure through which stakeholders set and pursue objectives. Emphasis is on a business driven governance that is defined by the Interoperability Operational Partnership, that incorporates their decision making team and is driven by their AS-IS harvesting and TO-BE Vision. Included: develop/ create charters, by-laws, governance makeup (members), MOUs, SLAs, policies and procedures, and expand the OHCA/OKDHS Executive Steering Team to include the OSDH and OMES-ISD.	Business Processes	5.1.1
29	<b>Implement a TO-BE eMPI that embraces the spirit of Interoperability (Phase II).</b>	Understand existing mandates and business requirements that created barriers in the past, and to identify opportunities to remove those barriers and create a shared interoperability model. By removing barriers to achieving interoperability, cost benefits for the local implementation plan can affect ROI. Savings should be identified as business requirements and used to understand the impact of decisions related to how programs and services are delivered.	Business Processes	5.1.2
30	<b>Implement a TO-BE comprehensive records management system for case management (Phase III).</b>	Build upon the foundation of MOSAIC to meet the needs of interoperability, incl. processes for intake, interviews, eligibility, enroll/disenroll, case monitoring and reporting. For interoperability, work already done for MOSAIC, i.e. alignment of business requirements, models created, data harvested and resolved, and IT solutions, provides a solid foundation for moving forward. See Item 29 above that refer to ROI and savings.	Business Processes	5.1.3



Web Services Roadmap, Eligibility Web Services, and Eligibility Workflow Specific Options				
Item	Developed	Purpose/Comments	Focus Area	Source/ Section
31	<b>Implement recommended design goals for Web Services for the TO-BE system</b>	The system architecture is based on open standards, reusable services and system components which allow maximum reusability for other systems, agencies and states. It utilizes the NHSIA and MITA 3.0 frameworks. SOA services adhere to the SOA governance policies and procedures, are loosely coupled, and are managed on an ESB. SOA also consists of a rules engine that follows standards.	Web Services/ Eligibility Flow	6.2
32	<b>Implement recommended architectural strategies</b>	SOA that follows NHSIA and MITA 3.0 guidelines, system architecture based on open standards, reusable services and system components, service orchestration managed by an ESB; shared services that allow for a high degree of reusability and platform independency; highly available and scalable architecture, compliance with security standards, and system architecture developed using Microsoft .NET Framework and Microsoft WCF.	Web Services/ Eligibility Flow	6.4
33	<b>Implement recommended system with capability for web-based, real-time eligibility determination, including self-service features and capability to communicate through secure messaging</b>	Proposed system includes: modularization and decoupling of business rules in the current Business Rules Engine, decoupling of customer identification and authentication from eligibility services; state level eMPI to include security and Identity Management services; multiple agency eligibility will be identified for potential future expansion, implementation of workflow and a business process modeling tool to document and further automate eligibility business processes and incorporate population expansion; Business Process Modeling and Business Process Reengineering, interagency initiatives that align with CMS Seven Standards and conditions, MITA 3.0/ NHSIA interoperability and reuse principles.	Web Services/ Eligibility Flow	6.5
NIEM Analysis Specific Options				
Item	Developed	Purpose/Comments	Focus Area	Source/ Section
34	<b>Recommended approach for NIEM analysis</b>	Identify the Business Processes, create business process diagrams, sequence diagrams, and use case(s), identify business rules and requirements at the data element level, conduct stakeholder interviews for identified interfaces, obtain consensus on approach, conduct info gathering; create Exchange Content Model, UML Diagrams, and map to NIEM objects/elements; create schemas, e.g. constraint and extension, based on findings; create IEPD main document, and generate other artifacts as necessary.	NIEM	1.5



NIEM Analysis				
Specific Options				
Item	Developed	Purpose/Comments	Focus Area	Source/Section
35	<b>Core Data: use NIEM guidelines to develop, disseminate and support standards and processes that enable the consistent, efficient and transparent exchange of data elements</b>	NIEM guidelines develop and support translation standards for the consistent use of data among programs and across states. This doesn't require states to change how they currently store data, but it does require a methodology to allow databases to communicate with each other.	NIEM	1.5.1.1
36	<b>Privacy and Security: Encrypt data in motion.</b>	Valid encryption processes for data in motion are those which comply with National Institute of Standards and Technology Special Publication (NIST SP) 800-52, 800-77, or 800-113	NIEM	1.5.1.2
37	<b>Privacy and Security: Design automated eligibility systems with the capability to record actions related to the Personal Identifying Information (PII) provided for determining eligibility</b>	Case files contain identifying information, demographic information, income and resource information, recipients of assistance, as well as any other persons whose circumstances must be considered in determining eligibility.	NIEM	1.5.1.2
38	<b>Privacy and Security: Generate audit logs</b>	Audit logs are system-generated, tamper-proof records of events. Audit logs serve the purposes of security enforcement, policy compliance verification, and legal discovery.	NIEM	1.5.1.2
39	<b>Governance: Establish governance to support interoperability and efficient data management</b>	Establish a governance structure that fosters collaboration and interoperability at all levels, across disciplines and jurisdictions.	NIEM	1.5.1.3
40	<b>Governance: Establish an Interagency Steering Group (OKDHS, OSDH, OHCA, etc.) and subcommittees</b>	Group and subcommittees consist of Subject Matter Experts	NIEM	1.5.1.3
41	<b>Governance: Resource/ staff Interoperability PMO</b>	The PMO is the source of documentation, guidance and metrics on the practice of grant project management and execution.	NIEM	1.5.1.3
42	<b>Governance: Document policy and technology standards and procedures for data stewardship, security and consent</b>	Policy must be sanctioned by senior management and reflect the organizational view on acceptable business practices, which includes management of risk and execution of business processes. Policy also covers critical aspects of the IT organization, from software acquisition and development, to security and disaster recovery, to operations management.	NIEM	1.5.1.3
43	<b>Governance: Seek clarification on federal and state confidentiality rules</b>	The Privacy Rule establishes a federal floor of safeguards to protect the confidentiality of medical information. State laws which provide stronger privacy protections are expected to continue to apply over and above federal privacy	NIEM	1.5.1.3



		standards.		
44	<b>Governance: Leverage basic building blocks for interoperability</b>	Includes FHIM, MITA, NHSIA and the proposed Health and Human Service NIEM Domain	NIEM	1.5.1.3
45	<b>Evaluate recommended NIEM Implementation tools</b>	Perform technical and financial evaluations of tools: OASIS Content Assembly Message (CAM)/jCAM, NIEM Wayfarer 2.1, Justice Information Exchange Model (JIEM) modeling Tool, NIEM SAW, Oracle SOA/BPM Suite, SSGT, Cameo NIEM-UML Solution	NIEM	1.5.1.4
<b>eMPI Roadmap Specific Options</b>				
<b>Item</b>	<b>Developed</b>	<b>Purpose/Comments</b>	<b>Focus Area</b>	<b>Source/Section</b>
46	Under Development			

#### 4.3.3 Review / Categorize Options, Determine Initial Impact

After reviewing the list of options, including any new options, the Grant Project team categorized options (Leadership, Governance, Plans). This review and categorization is Step D in Section 3.2. In concert with reviewing options extracted from each deliverable, the Grant Project Team realized certain activities must occur for interoperability to become reality. Must-do's were added to the list of options, where appropriate.

#### 4.3.4 Review / Categorize Options, Determine Initial Ratings

Determining initial ratings included assignment of an impact rating to each option. Impact ratings are based on the impact of the option on addressing one or more of the three Interoperability Goals (described in Section 2.3):

- Improve service delivery for clients
- Reduce errors and improve program integrity
- Improve administrative efficiency.

#### 4.3.5 Review / Validate Ratings

The Grant Project Team used a formal, facilitated group meeting to conduct final validation of ratings, followed by prioritization of each option. This formal review resulted in the identification and prioritization of the following list of projects (Project Type: Quick Wins (QW), Major Projects (MP), Governance (G) and Leadership (L)) and activities/tasks to complete in the state's pursuit of Interoperability. The results of this facilitated meeting are shown in Table 9.

In small groups, Team Leads along with key staff and stakeholders validated the ratings and confirmed categories.



**Table 9: Reviewed / Categorized / Rated Options**

	Interoperability Options Impact and Goals	Project Type	Focus Area	Resources	Impact	Duration
1	Construct / Maintain Master Services Portfolio	MP-5	SOA	H	H	H
2	Implement Cross Enterprise Security	MP-2	SOA	H	H	H
3	Extend SOA Solutions Scope to Span Multiple Business Units	MP3-C	SOA	H	H	H
4	Extend SOA Solutions Scope to External Business Partners	QW-1	SOA	L	H	L
5	Promote SOA Communication and Update Applicable Knowledge Portal	L-11	SOA	Must Do		
6	Develop Target Enterprise SOA Architecture	MP3-A	SOA	H	H	H
7	Specify SOA Policies and Procedures	G-2	SOA	Must Do		
8	Integrate SOA Principles into Organization Wide SDLC	G-3	SOA	Must Do		
9	Develop and Implement SOA Lifecycle Governance	G-3	SOA	Must Do		
10	Establish SOA Governance Strategy	G-2	SOA	Must Do		
11	Ensure Ongoing Partnership between IT and the Business	G-3	SOA	Must Do		
12	Ensure Executive Commitment and Sponsorship for SOA Program	L-10	SOA	Must Do		
13	Provide SOA Training and Certification	MP-3C	SOA	H	H	H
14	Monitor and Report on Service Performance	L-12	SOA	Must Do		
15	Implement Services Using ESB	MP-5	SOA	H	H	H
16	Assess current interfaces	MP-4	Data Model	H	H	H
17	Review NIEM/ NHSIA governance	G-1	Data Model	Must Do		
18	Address Data Governance for agencies for data stored within agencies, and on governance of data exchange that NIEM's HS Domain Governance structure does not cover	G-1	Data Model	Must Do		
19	Leverage Best Practices when implementing a Master Data Management (MDM) solution	MP-3	Data Model	H	H	H
20	Initiate a checkpoint on the NHSIA Information Viewpoint artifacts	MP-4	Data Model	H	H	H
21	Work with NHSIA HS team; create IEPDs for TO-BE info exchanges	MP-4	Data Model	H	H	H
22	If, during assessment, NHSIA framework is determined to be inadequate and MITA is thought to be more mature in a specific area, consider using MITA framework instead	G-3	Data Model	Must Do		



	Interoperability Options Impact and Goals	Project Type	Focus Area	Resources	Impact	Duration
23	Establish a Data Governance Steering Committee	G-1	Data Model	Must Do		
24	Establish a Data Governance Office	G-1	Data Model	Must Do		
25	Form a Data Governance Committee	G-1	Data Model	Must Do		
26	Establish a Data Governance Maturity Model	G-1	Data Model	Must Do		
27	Execute a phased approach for the implementation of the Business Process roadmap	MP-1	Business Process	H	H	H
28	Implement Business & IT Governance that embrace spirit of interoperability (Phase I)	MP-1	Business Process	H	H	H
29	Implement a TO-BE eMPI that embraces the spirit of Interoperability (Phase II)	QW-2, MP-2	Business Process	L H	H H	L H
30	Implement a TO-BE comprehensive records management system for case management (Phase III)	MP-1	Business Process	H	H	H
31	Implement recommended design goals for Web Services for the TO-BE system	QW-4	Web Services and Eligibility Suite	L	H	L
32	Implement recommended architectural strategies	MP-3B	Web Services and Eligibility Suite	H	H	H
33	Implement recommended system with capability for web-based, real-time eligibility determination, including self-service features; and capability to communicate through secure messaging	QW-3	Web Services and Eligibility Suite	L	H	L
34	Recommended approach for NIEM analysis	QW-5	NIEM Analysis	L	H	L
35	Core Data: use NIEM guidelines to develop, disseminate, and support standards and processes that enable the consistent, efficient and transparent exchange of data elements	QW-5	NIEM Analysis	L	H	L
36	Privacy & Security: Encrypt data in motion	QW-5	NIEM Analysis	L	H	L
37	Privacy & Security: Design automated eligibility systems with capability to record actions related to PII provided for determining eligibility	QW-5	NIEM Analysis	L	H	L
38	Privacy and Security: Generate audit logs	QW-5	NIEM Analysis	L	H	L



	Interoperability Options Impact and Goals	Project Type	Focus Area	Resources	Impact	Duration
39	<b>Governance: Establish governance to support interoperability and efficient data management</b>	L-6	NIEM Analysis	Must Do		
40	<b>Governance: Establish an Interagency Steering Group (OKDHS, OSDH, OHCA, etc.) and subcommittees</b>	L-7	NIEM Analysis	Must Do		
41	<b>Governance: Resource/ staff Interoperability PMO</b>	L-5	NIEM Analysis	Must Do		
42	<b>Governance: Document policy and technology standards and procedures for data stewardship, security and consent</b>		NIEM Analysis	Must Do		
43	<b>Governance: Seek clarification on federal and state confidentiality rules</b>	MP-6	NIEM Analysis	H	H	H
44	<b>Governance: Leverage basic building blocks for interoperability</b>	G-3	NIEM Analysis	Must Do		
45	<b>Evaluate recommended NIEM Implementation tools</b>	QW-5	NIEM Analysis	L	H	L

Below are the tables of options, grouped by category.

#### 4.3.5.1 Leadership

During the formal review, participants identified activities that can be initiated immediately, or matured, for near term movement towards interoperability goals. These activities received priority ratings as shown in Table 10.

**Table 10: Leadership Options**

Priority	What	Discussion/Comments
1	<b>Establish Interagency Steering Group (OKDHS, OSDH, OHCA, etc.) and subcommittees</b> Establish an interim Interoperability Authority responsible to approve Interoperability Projects (within the four initial participating agencies) that will oversee and provide initial guidance and governance for Interoperability and will begin to drive Interoperability Leadership and Governance maturity.	Interim Authority
2	<b>Write Interoperability Charter, including by-laws.</b> Draft charter exists; upon approval the Charter will serve as a guide.	Draft Complete – Commitment, Common Vision
3	<b>Recommend Enterprise Governance Steering Committee</b> Provides an Enterprise Governance Steering Committee – proposal to be reviewed, approved and adopted.	Done as a proposal; need authorization
4	<b>Promote SOA communication and knowledge</b> Provides resources to promote interoperability communication (cultural change management) and knowledge, i.e. SOA concepts, terms, and benefits.	
5	<b>Resource/ staff interoperability PMO</b> Establishes (resources and staffs) an Interoperability PMO.	
6	<b>Ensure executive commitment and sponsorship for interoperability program</b>	OMES Wiki SharePoint –Rely on enterprise



Priority	What	Discussion/Comments
	Establishes Interoperability Program executive commitment/ sponsorship	architecture, and ACF website. Is L-10 dependent on L-2, L-3?
Not Identified	<b>Create Memorandums of Understanding</b>	(Communicate and Deliver)
Not Identified	<b>Create service level agreements</b>	
Not Identified	<b>Authorize establishment of a Data Governance Office</b>	
Not Identified	<b>Establish governance to support interoperability and efficient data management</b>	Need authorization
Not Identified	<b>Authorize a Data Governance Steering Committee</b>	
Not Identified	<b>Monitor and Report on Service Performance</b>	When SLA's are written (Drive Accountability)

### 4.3.5.2 Governance

Prior to project initiation, interoperability projects require SSIC (Shared Services Interoperability Committee) approval. These activities received priority ratings as shown in Table 11.

**Table 11: Governance Options / Tasks**

Priority	Governance Tasks
1	<ul style="list-style-type: none"> <li>Establish a community of practice / center of excellence</li> <li>Create a statewide architecture community of best practices</li> <li>Create Business Governance – Data Related</li> <li>Review NIEM/NHSIA Governance</li> <li>Establish a Data Governance Steering Committee – Data Related</li> <li>Address Data Governance for the Agencies</li> <li>Establish a Data Governance Maturity Model</li> </ul>
2	<ul style="list-style-type: none"> <li>Establish SOA Governance Strategy – Data Related</li> <li>Specify SOA Governance Policies and Procedures</li> <li>Develop Overall SOA Strategy</li> <li>Create Architecture Methodology</li> <li>Governance: Document Policy technology standards and procedures for data stewardship, security, and consent</li> </ul>
3	<ul style="list-style-type: none"> <li>Implement SOA Lifecycle Governance</li> <li>Integrate SOA principles into organization – wide systems development lifecycle (SDLC)</li> <li>Update portal knowledge with SOA communication</li> <li>Leverage MITA Architectural Model if NHSIA model lacks maturity</li> <li>Governance: Leverage basic building blocks for interoperability</li> <li>Ensure ongoing partnership between IT and Business – Data Related</li> </ul>



### 4.3.5.3 Plans

Deploying the following plans will help the State effectively migrate towards its vision of interoperability. These plans are typically required of projects. Some plans are overarching plans, which will cover all individual interoperability projects. Individual interoperability projects can reference overarching plans, rather than create their own, as shown in Table 12.

**Table 12: Plans Identified**

Item	What	Overarching	Can Start Now
P-1	Project Plan		
P-2	Supplier Management (vendors)	X	X
P-3	Cultural Change Management (behavior change)	X	X
P-4	Configuration Management Plan	X	X
P-5	Risk Management Plan (issues / actions)	X	X
P-6	Security Plan	X	
P-7	Communications Plan	X	X
P-8	Cost Management Plan (more difficult)	X	
P-9	Implementation Plan		
P-10	Transition Plan [added after offsite]	X	
P-11	Operational Readiness Plan [added after offsite]	X	X

The formal review team also identified that the following checklists can be created now:

- If software projects, then (do these actions....).
- If a business process project, then (do these actions....)
- Dollar amount threshold decision levels.

## 4.4 Options Impact and Goals

*Grantees must explain the potential outcome impact of each option and how the options explored relate to one or more of these three goals: improve service delivery, reduce errors and improve program integrity, and/or improve administrative efficiency.*

As described in Section 3.2 and shown in the prior section, each option was assessed an impact based on Interoperability Goals, see Section 2.3, and resources necessary to implement the option.

The three Interoperability Goals are listed below along with a discussion points that address how the State to realize each interoperability goal.

### 4.4.1 Improve Service Delivery for Clients



***Improve service delivery for clients: This could include reducing the amount of documentation families must submit to apply for multiple benefits, reducing the time spent by families applying or retaining eligibility, or improving the quality of services families receive because entities providing services have access to the information they need to deliver the more effective services.***

Keeping the benefits of improving service delivery for clients in mind (see 2.3.1), Oklahoma will leverage the evolving State enterprise SOA framework and adopt a governance strategy to facilitate proper design and execution of a prospective enterprise workflow. Eligibility use cases provide opportunities to explore how additional efficiencies can be achieved to meet the ACA Gold Standard User Experience, where clients are automatically referred to appropriate services.

#### **4.4.2 Reduce Errors and Improve Program Integrity**

***Reduce errors and improve program integrity: This could include improving the accuracy of eligibility determinations and improving the agencies' ability to make changes in eligibility and benefits as appropriate, based on State and Federal policy and families' circumstances, along with approaches to ensure that information reported to or available in one program can be shared with other programs in support of program integrity efforts.***

A statewide eMPI would help Oklahoma agencies support and align persons across State systems. Development of a statewide eMPI will reduce errors and increase the accuracy of eligibility determination. Information reported to or available in one program may be shared with other programs – increasing program integrity efforts. Using NIEM standards for the State, data to be exchanged will contain common language for data exchanges, reducing errors and duplication. The State can design a model that provides consistencies in data collected for error reduction between user and agencies that would improve the integrity of the shared data.

#### **4.4.3 Improve Administrative Efficiency**

***Improve administrative efficiency: This could include reducing duplicative administrative processes such as verification, document storage, and eligibility determinations.***

Addressed in the Interoperability Roadmaps, performance improvements can be realized through the development of business processes, specifically enabled by SOA implementation, which can automatically perform eligibility validation and cross-referencing. Through the implementation of the SOA Roadmap, the development of business processes as well as the validation performed by web services to support these processes will result in the current administrative activities to be transformed to reduce redundancy of effort and streamline workflows.

#### **4.4.4 List of Options with Ratings to Impact Interoperability Goal**



The next set of tables shows details of how the options presented in the prior section were rated against their impact to the Interoperability Goals.

#### 4.4.4.1 Quick Wins

Quick Wins (QW) are projects that have a Higher Impact / Value and require Lower Resources. The Quick Wins are time-ordered as seen in Table 13.

**Table 13: Quick Win Activities and Their Impact on the Interoperability Goals**

	Description	Improve Delivery for Clients	Reduce Errors	Improve Administrative Efficiency
QW-1	Extend SOA Solutions Scope to External Business Partners (Table Ref# 1)	✓	✓	✓
QW-2	eMPI (New)	✓	✓	✓
QW-3	Implement Web Based Real-Time Eligibility Determination (New)	✓	✓	✓
QW-4	Implement recommended design goals for Web Services for TO-BE system (Table Ref# 4)	✓	✓	✓
QW-5	<b>A. Core data uses NIEM guidelines to develop, disseminate, and support standards / processes (Table Ref# none)</b> <b>B. Evaluate recommended NIEM implementation tools (Table Ref# 7)</b> <b>C. Reach consensus on NIEM analysis approach (very quick win) (Table Ref# 25)</b> <b>D. Implement NIEM privacy and security (Table Ref# 19)</b>	✓	✓	✓

#### 4.4.4.2 Major Projects

Major Projects have a Higher Impact / Value and require Greater Resources. Major Projects may contain one or more Quick Win components, which will likely be activities that occur throughout the duration of the project. See Table 14.

**Table 14: Major Projects and Their Impact on Interoperability Goals**

Description	Improve Delivery for Clients	Reduce Errors	Improve Administrative Efficiency
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MP-1	"As part of an overall phased implementation" Implement TO-BE comprehensive records management system (MOSAIC) for case management (Phase III)	✓	✓	✓
MP-2	"As part of an overall phased implementation" Implement TO-BE eMPI that embraces the spirit of Interoperability (Phase II).	✓	✓	✓
	Implement Cross Enterprise Security (Role Based)	✓		✓
MP-3	Identify/Leverage Best Practices when implementing Master Data Management (MDM) solution	✓	✓	✓
A	Develop Target Enterprise SOA Architecture	✓	✓	✓
B	Implement recommended architectural strategies	✓	✓	✓
C	Extend SOA Solutions Scope to Span Multiple Business Units	✓	✓	✓
	Assess Interoperability Infrastructure		✓	✓
	Provide SOA Training and Certification		✓	✓
	<b>Description</b>	<b>Improve Delivery for Clients</b>	<b>Reduce Errors</b>	<b>Improve Administrative Efficiency</b>
MP-4	Assess current interfaces		✓	✓
	Work with NHSIA HS Team to create IEPDs for the information exchanges for the TO-BE System		✓	✓
	Initiate a checkpoint on the NHSIA Information Viewpoint artifacts		✓	✓
MP-5	Implement ESB	✓	✓	✓
	Implement Services Using ESB	✓	✓	✓
	Construct / Maintain Master Services Portfolio	✓	✓	✓
MP-6	Clarify federal and state confidentiality rules		✓	✓

#### 4.4.4.3 Additional Projects

Table 16 contains the additional projects identified when preparing the list of options that can impact the Interoperability Goals.

**Table 15: Additional Projects and Their Impact on the Interoperability Goals**

Web Services	Description	Improve Delivery for Clients	Reduce Errors	Improve Administrative Efficiency
--------------	-------------	------------------------------	---------------	-----------------------------------



<b>Eligibility</b>	The web service will return a list of benefits that will identify non-duplication of payments by other eligible programs.	✓	✓	✓
<b>Immunization</b>	This web service will return all immunization health records for an identified client.	✓	✓	✓
<b>Fingerprinting</b>	Collect data, index, and retrieve personal information based on fingerprint image or characteristics. Must standardize business processes across agencies before implementation.	✓	✓	✓
<b>Investigations</b>	This web service would return all available investigative data collected for a client.	✓	✓	✓
<b>Vital Statistics</b>	This web service will return Health Department vital statistics data for a client.	✓	✓	✓
<b>Citizenship</b>	This web service will return citizenship data for a client.	✓	✓	✓
<b>Reporting</b>	This suite of web services will be designed to return data to assist agencies in making informed decisions regarding client outcomes.	✓	✓	✓
<b>Tribes</b>	Web services need to be developed to accommodate the unique business processes used by tribes in Oklahoma.	✓	✓	✓
<b>Motor Vehicle</b>	The web service would return data collected by the department of motor vehicles.	✓	✓	✓

Web Portals	Description
<b>Identify Current Web Portals</b>	Identify a list of current state web portals
<b>Single Sign On</b>	Require Single-Sign On (SSO) capability for all state web portals. SSO automates the process of managing multiple authorizations by capturing user-provided credentials upon initial entry. A user needs to logon only once to systems running under SSO. As systems are accessed, SSO technology automatically passes the proper credentials to applications requested by the user.

#### 4.5 Options Cost Benefit

*Grantees must include the quantifiable and qualitative costs and benefits of each option noted to relevant Federal and State programs and funding streams*

OMB A-94 defines a Cost Benefit Analysis (CBA) as a systematic quantitative method of assessing the desirability of government projects or policies when it is important to take a long view of future effects and a broad view of possible side-effects. A CBA is used to determine if undertaking a project is a sound investment decision.

The Grant Project consists of six focus areas (deliverables). As the size and scope was an enterprise view, the State of Oklahoma did not envision including a CBA, per se; since this was a suggested minimum requirement. The participating agencies in the State's Interoperability Grant project included analysis to redesign the (1) eligibility and enrollment system, (2) integrate SOA, (3) web services and an ESB, (4) streamline business practices, (5) standardize on NIEM-based data models, and (6) create an



eMPI solution to help resolve client and provider identities across disparate systems. Given this enterprise wide scope of the analysis, the Director of Division of State and Tribal Systems, OCSE, ACF, HHS, provided guidance to the team to provide a CBA model using one focus area that could be used as a model for future interoperability focus area CBAs.

In response, the Oklahoma project sponsor selected eMPI, as this focus area deliverable was (1) in-progress, (2) eMPI is a core component for implementing interoperability and (3) a CBA had been completed recently by a participating agency. As a result, Oklahoma adopted the eMPI CBA created by a OSDH vendor, Cognosante, in support of the Systems Tactical Plan, published in quarter 4 of 2011 (see Appendix G, Attachment #1). By adopting this methodology, the Interoperability team was able to create a rough order of magnitude (ROM) estimate, using this CBA as the model, tailoring the estimates to the participating agencies needs to implement an eMPI solution. (See Appendix F).

#### 4.6 Options Enterprise Architecture and/or Modules

*Grantees must explain the enterprise architecture used or planned, including any specified modules or components explored as were identified in the second tri-agency letter dated January 23, 2012, if applicable.*

The interoperability plan incorporates the MITA Maturity Model (MITA Framework Version 3.0) principles and the NHSIA and SOA Integration Framework as an overall enterprise architecture strategy. Implementing SOA will provide a better alignment between business and IT in an effort to improve interoperability.

The Interoperability Roadmap outlines compliance with the Seven Conditions and Standards as outlined by CMS and CMS *Guidance for Exchange and Medicaid Information Technology (IT) Systems Version 2.0*. The Interoperability plan outlines OKDHS' plan to implement an ESB to message transactions with OHCA and internally within OKDHS to streamline web services to utilize the ESB. This will allow OKDHS programs to better exchange data and improve outcomes for vulnerable children.

##### 4.6.1 Building an Roadmap

Typically, building a roadmap involves answering the following questions by performing the associated actions:

#### QUESTION

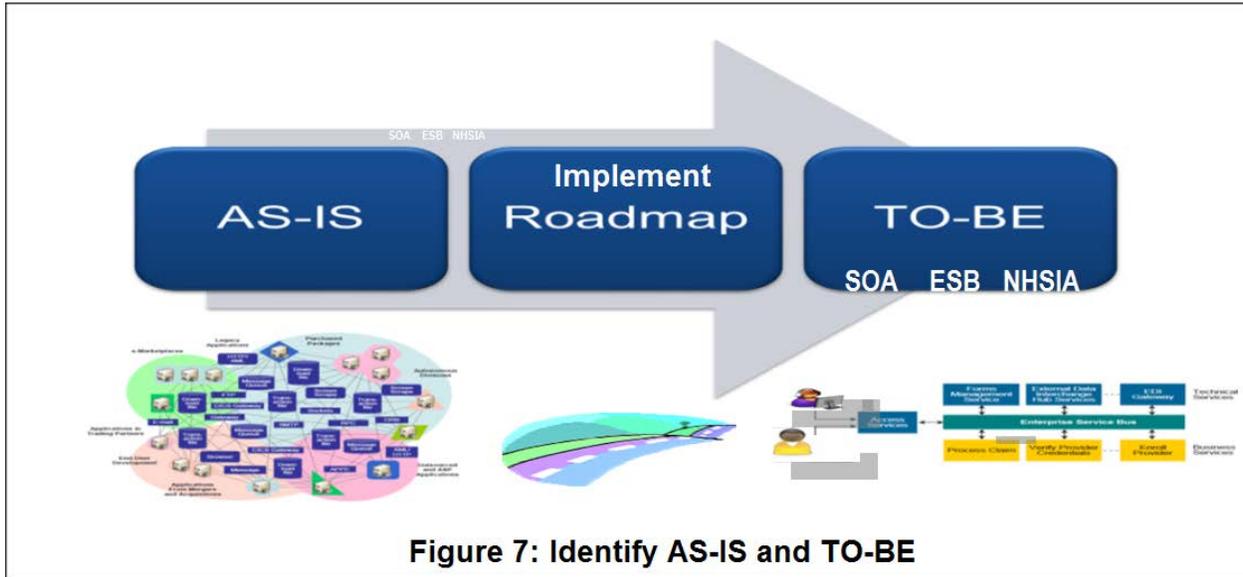
- Where are we now?
- Where do we want to be?
- What is the gap to close between the AS-IS and the TO-BE
- What is the path to get to where we want to be?

#### ACTION

- Define the current or AS-IS state
- Define the future or TO-BE state
- Identify the gaps to close (could be all or some, depending on time, money, or staff)
- Create a roadmap of activities to close the identified gaps



The project team used this approach to identify the current state or AS-IS architecture and identify the future SOA state or TO-BE architecture and analyze the gaps between the two. This analysis provided a basis of understanding enabling development of a focused plan to get to the desired state.



**Figure 7: Identify AS-IS and TO-BE**

**Figure 7: Identify AS-IS and TO-BE**

**NHSIA Core Capabilities and MITA**

NHSIA’s approach is to architect a set of core capabilities to enable critical information sharing and create an environment that allows new capabilities to evolve more easily. NHSIA’s core capabilities include:

- Provide a foundation for interoperability
- Provide foundational capabilities or information

Defining the NHSIA framework required reviewing and attaining a clear understanding of NHSIA. NHSIA’s approach is based on methodologies recommended in the Global Reference Architecture (GRA), published by the Department of Justice (DOJ). NHSIA extends the MITA model to encompass the Human Service domain.

MITA is an evolving CMS initiative that fosters an integrated business, information, and technological *approach* for building management systems that are client-based and capable of sharing information across organizational silos based upon nationally recognized standards.

NHSIA takes MITA concepts and principles and extends them beyond Medicaid to apply to human services.



## Enterprise Architecture Strategy

Developing an Enterprise Architecture strategy included the following activities, which feed into the Roadmap:

- Review NHSIA
- Define NHSIA Framework as it applies to Oklahoma
- Analyze AS-IS Environment
- Define NHSIA Capabilities
- Define SOA Reference Architecture
- Define TO-BE Architecture

Systems involved in the Interoperability project include OSDH, OHCA, CWS, OCSS, and AFS. These systems exchange various types of data via interfaces. Interfaces could be real-time (data is accessed directly any day/anytime), transactional, or transfer (push/pull via File Transfer Protocol (FTP) services).

NHSIA addresses the interoperability problem by breaking down the barriers of siloed systems and promotes sharing information and applications across multiple human services programs. NHSIA also provides the possibility to share the underlying infrastructure across human services programs. Technologies such as SOA make it possible to share the underlying hardware, network, and systems software across multiple human services programs as depicted in Figure 8.

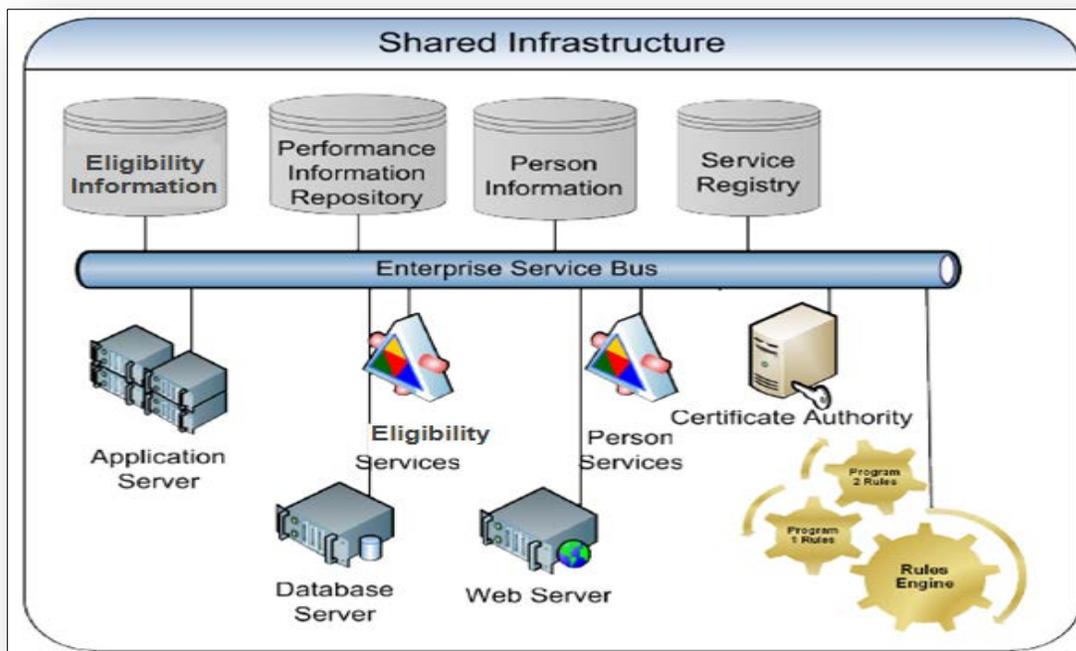
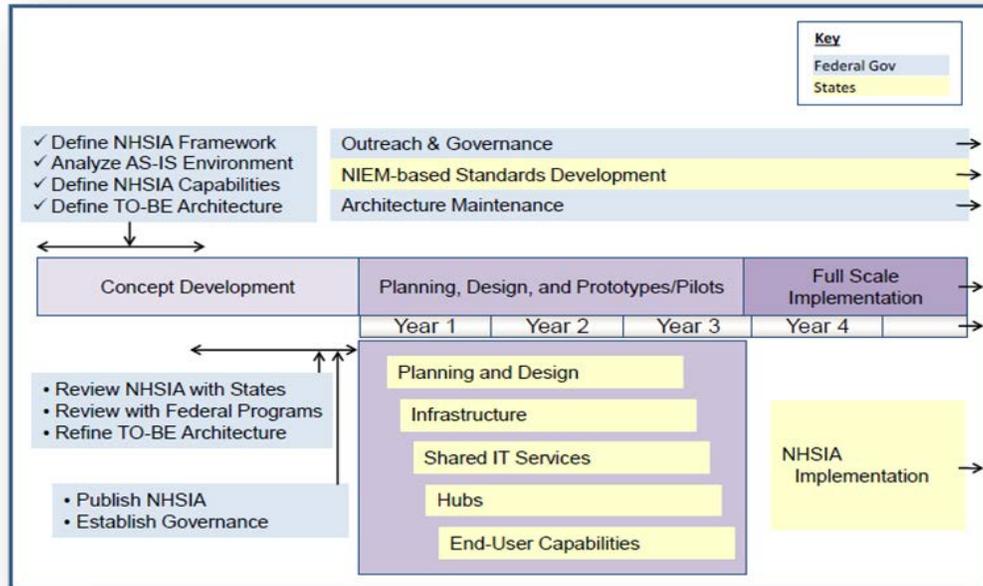


Figure 8: Shared IT Infrastructure



Implementing the complete, long term TO-BE environment envisioned by NHSIA would be a large effort, and probably not attainable in the near term given the level of available resources. See Figure 9 for the multi-year NHSIA Roadmap, which includes an initial focus on implementing the NHSIA core capabilities mentioned earlier in this section.



**Figure 9: Notional NHSIA Roadmap**

In Figure 9, federal government activities are in blue boxes; state government activities are in yellow boxes. Completed federal activities include defining the NHSIA framework, analyzing the AS-IS environment, defining NHSIA capabilities, and defining a draft TO-BE architecture. Future activities include reviewing NHSIA with states, reviewing with federal programs, refining and publishing NHSIA, and establishing governance. Outreach, governance, and architecture maintenance are longer-term federal activities.

The roadmap shows state governments starting with planning, design, and prototypes/pilots, then shifting to full-scale NHSIA implementation. Initial planning, design, and prototypes/pilots might include establishing core infrastructure, shared IT services, hubs, and initial end-user capabilities. Development of NIEM-based standards for information exchange is likely to be a longer-term activity.

Funding and acquiring NHSIA components may take many forms, therefore no single acquisition approach exists for all of NHSIA implementation.

#### 4.6.2 Implementing NHSIA

The steps recommended for the state to follow for implementing NHSIA, as shown in Figure 10.

- Assess Current Situation
- Plan and Design



- Support NIEM Standards Development - Leveraging NIEM for interoperability creates an enterprise wide reusable and standardized set of data exchanges
- Conduct NHSIA Prototypes and Pilots
- Update Plan and Design
- Implement NHSIA Incrementally

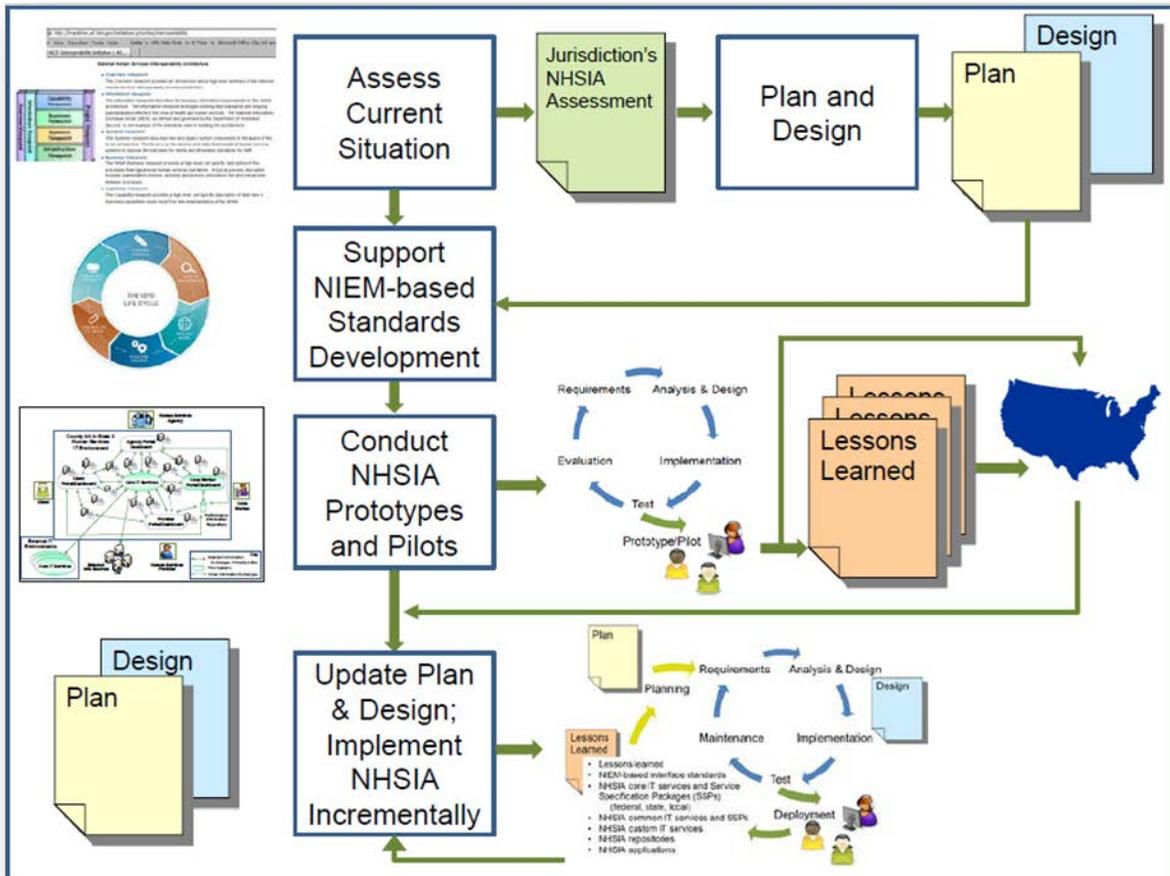


Figure 10: Steps to Implement NHSIA

#### 4.7 Exploration Answers

*Grantees must explain the answers to the set of questions explored.*

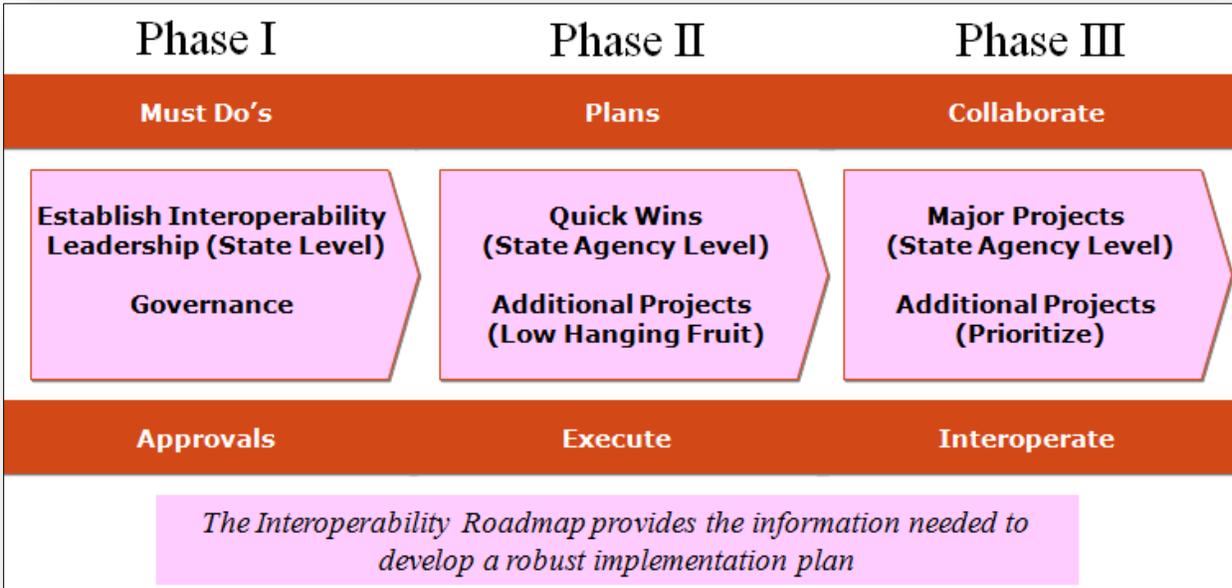
Answers are provided with the Exploration Questions in Section 3.2.

#### 4.8 End Result

*Grantees must explain what option(s) will be explored further or implemented by the State upon grant conclusion.*



This section contains the identified, reviewed, and validated options – clarified as Quick Wins (QW) tasks, Major Projects (MP), see Table 16, and how to explore each option further using a three phased approach shown in Figure 11.



**Figure 11: Phases for Implementation**

**Table 16: Options to Explore Further**

ID	Opportunity / Idea	Purpose/ Comments
QW-1	<b>Extend SOA Solutions Scope to External Business Partners</b> (Table Ref# 1)	Must involve business staff to define work. E.g. Expose existing web services such as Community Food Bank and Community Action Group which currently have none or very limited external web services. <b>Responsible party:</b> AFS-ISD <b>Outcome:</b> Expose SNAP / Childcare application to external partners via OKDHSLive.
QW-2	eMPI (New)	Related focus: Provider ID Management (can accelerate because Provider ID Management is an ongoing Oklahoma project). Providers identified by Health Information Infrastructure Advisory Board (HIIAB), includes public partners such as DHS, OHCA, and others. HIIAB envisions identification of providers using a unique provider ID system that can be used for funding or licensing. <b>Outcome:</b> Establish / manage a unique provider identification system for use by various systems; e.g. funding, licensing
QW-3	<b>Implement Web Based Real-Time Eligibility Determination</b> (New)	Referenced Waiver Management Information System (WMIS) draft Request for Proposal. Aging Services Division through OMES (Office of Management Enterprise Solutions). Governance and standards. Activity related to Phase III (...of Business Processes "MOSAIC"). <b>Outcome:</b> Pilot project (i.e. WMIS) for statewide enterprise solution to implement real-time web based eligibility determination system.



QW-4	<b>Implement recommended design goals for Web Services for TO-BE system</b> (Table Ref# 4)	Concurrence of collation of existing web service standards. Leverage work completed. <b>Outcome:</b> Statewide standard for web service development.
QW-5	<b>A. Core data uses NIEM guidelines to develop, disseminate, and support standards / processes</b> <b>B. Evaluate recommended NIEM implementation tools</b> (Table Ref #7) <b>C. Reach consensus on NIEM analysis approach</b> (very quick win) (Table Ref #25) <b>D. Implement NIEM privacy and security</b> (Table Ref# 19)	<b>Outcome:</b> development of a NIEM workgroup, leverage NIEM standard across state agencies, interstate collaboration and the federal government.  Though NIEM implementation does not impact the user community per se, NIEM implementation will support enterprise standardization and reusability.
MP-1	"As part of an overall phased implementation" <b>Implement TO-BE comprehensive records management system (MOSAIC) for case management (Phase III)</b>	<b>Purpose:</b> Build upon foundation of MOSAIC to meet needs of interoperability, including intake processes, interviews, eligibility, enroll/disenroll, case monitoring, and reporting. For interoperability, work already done for MOSAIC (e.g. alignment of business requirements, models created, data harvested and resolved, and IT solutions) provides a solid foundation for moving forward.
MP-2	"As part of an overall phased implementation" <b>Implement TO-BE eMPI that embraces spirit of Interoperability (Phase II).</b>	<b>Purpose:</b> Understand existing mandates and business requirements that created barriers, identify opportunities to remove those barriers, and create a shared interoperability model. Use to understand existing mandates and other business requirements that created barriers in the past; seek opportunities for removing the barriers to create a shared interoperability model. Allows the state to deploy agile business processes with more ease in less time; facilitates single sign-on.
	<b>Implement Cross Enterprise Security</b> (Role Based)	Allows state to deploy agile business processes with ease and in less time; facilitates single sign-on.
MP-3	<b>Identify/Leverage Best Practices when implementing Master Data Management (MDM) solution</b>	<b>Purpose:</b> Create processes for collecting, aggregating, matching, consolidating, quality-assuring, and distributing data to ensure consistency and control; preserve data integrity.
A	<b>Develop Target Enterprise SOA Architecture</b>	Scope includes communication backbone, business process mgmt applications, business services portfolio, technical services portfolio, business rules engine, data warehouse, and web portal.
B	<b>Implement recommended architectural strategies</b>	SOA that follows NHSIA and MITA 3.0 guidelines, system architecture based on open standards, reusable services and system components, service orchestration managed by an ESB; shared services that allow for a high degree of reusability and platform independency; highly available and scalable architecture, compliance with security standards, and system architecture developed using Microsoft .NET Framework and Microsoft WCF.
C	<b>Extend SOA Solutions Scope to Span Multiple Business Units</b>	SOA benefits expected: service reuse, improved integration, interoperability, business agility and reduced maintenance costs. Example: Begin with a single business unit (i.e. AFS), expand to multiple business units, then interagency.
	<b>Assess Interoperability Infrastructure</b>	Added in offsite. Assess cost of adding to infrastructure for added interoperability, E.g. expanding or use of additional network resources. Assessment to determine state's infrastructure capabilities, in regard to its ability to support a SOA system.



	<b>Provide SOA Training and Certification</b>	Allow users to utilize new functionality provided by SOA applications and allow for improved design and development of SOA applications.
<b>MP-4</b>	<b>Assess current interfaces</b>	Identify a TO-BE solution to streamline the current exchange or replace the existing interface with an enterprise-wide solution.
	<b>Work with NHSIA HS Team to create IEPDs for the information exchanges for the TO-BE System</b>	Leverage the identified interfaces for the TO-BE System using NIEM.
	<b>Initiate a checkpoint on the NHSIA Information Viewpoint artifacts</b>	Develop Viewpoint artifacts such as: Relevant Existing Standards, etc.
<b>MP-5</b>	<b>Implement ESB</b>	Added during offsite discussion. Selection and implementation of an ESB for a statewide SOA solution.
	<b>Implement Services Using ESB</b>	
	<b>Construct / Maintain Master Services Portfolio</b>	Provide the necessary tools to build XML services that leverage APIs. To track defined business and IT services. This involves business analysts, architects, developers, registry and ESB.
<b>MP-6</b>	<b>Clarify federal and state confidentiality rules</b>	Seek clarification on federal and state confidentiality rules.

Table 17 contains a list of additional program areas that would benefit from interoperability.

**Table 17: Additional Interoperability Projects**

<b>Web Services</b>	<b>Description</b>
<b>General Eligibility</b>	The web service will return a list of benefits that will identify non-duplication of payments by other eligible programs.
<b>Immunization</b>	This web service will return all immunization health records for an identified client.
<b>Fingerprinting</b>	Collect data, index, and retrieve personal information based on fingerprint image or characteristics. Must standardize business processes across agencies before implementation.
<b>Investigations</b>	This web service would return all available investigative data collected for a client.
<b>Vital Statistics</b>	This web service will return Health Department vital statistics data for a client.
<b>Citizenship</b>	This web service will return citizenship data for a client.
<b>Reporting</b>	This suite of web services will be designed to return data to assist agencies in making informed decisions regarding client outcomes.
<b>Tribes</b>	Web services need to be developed to accommodate the unique business processes used by tribes in Oklahoma.
<b>Motor Vehicle</b>	The web service would return data collected by the department of motor vehicles.
<b>Web Portals</b>	<b>Description</b>
<b>Identify Current Web Portals</b>	Identify a list of current state web portals
<b>Single Sign On</b>	Require Single-Sign On (SSO) capability for all state web portals. SSO automates the process of managing multiple authorizations by capturing user-provided credentials upon initial entry. A user needs to logon only once to systems running under SSO. As systems are accessed, SSO technology automatically passes the proper credentials to applications requested by the user.



## 4.9 Breadth

*Grantees must explain the breadth of the project (i.e. the number of human services programs and systems included in the State's planning efforts).*

The Grant Project includes an overview of State and Federal programs requiring eligibility determination: Supplemental Nutrition Assistance Program (SNAP), Childcare, Temporary Assistance for Needy Families (TANF), Low Income Home Energy Assistance Program (LIHEAP), Aid to the Aged, Blind and Disabled, and the child care subsidy. Table 18 identifies by Organizational Unit or agency/line of business - lists Federal or State Funded Programs or Services that conducted eligibility for Health and Human Services and their required interaction for needed data. Also this table shows the systems/owners identified in the Grant Project. These systems have various types of data exchanged via interfaces. Interfaces could be Real-Time (data is accessed directly any day/any time), Transactional or Transfer (push/pull via FTP services).

The State knows the value of a repeatable model that may affect interoperability far beyond the interoperability of the active partners for this response. Moving forward, Oklahoma will work with its Federal and State partners on the most cost effective and efficient way to scope their implementation plan of the Phase I, II and III of the Business Process Roadmap for Interoperability.

Other human services programs could benefit from a new configuration of IT services:

- CWS
- OCSS does not perform Medicaid eligibility but they are legally required to receive the referral
- Aging Services Division (Medicaid funded long term care waiver)
- Developmental Disabilities Services (Medicaid funded community based waivers)
- Department of Public Safety
- State Department of Education



**Table 18: AS-IS Agency Programs**

Agency/Line of Business (LOB)	System Name	Program	Eligibility Intake	Intake (face-to-face, interviews, applications, etc.)	Determine Eligibility	Case Mgmt (Enroll/Disenroll Client)	Inquiry, Monitoring (Reports)	Medical/Medicaid
OKDHS - Oklahoma Child Support Services (OCSS)	Oklahoma Support Information System (OSIS)	Title IV-D of the Social Security Act		X	X	X	X	X
		Non-IV-D Pass-Through		X	X	X	X	
		Central Case Registry		X	X	X	X	
		Voluntary Acknowledgements		X		X	X	
		State-wide Birth Records					X	
OKDHS - Adult and Family Services (AFS)	PS2	Adult Protective Services (APS)		X	X	X	X	
		Low Income Home Energy Assistance Program (LIHEAP)	X	X	X		X	
		Supplemental Nutrition Assistance Program (SNAP)	X	X	X	X	X	
		Temporary Assistance for Needy Families (TANF)	X	X	X	X	X	X
		Child Care	X	X	X	X	X	
		Title II						
		Title XVI						
		Medicaid (Title XIX) Eligibility	X	X	X	X	X	X
		Title V - SSI-DCP	X	X	X	X	X	X
		Electronic Payment Systems (EBT, ECC & Aid to the Aged, Blind and Disabled - State Supplemental Payment	X	X	X	X	X	X
OKDHS - Child Welfare Service (CWS)	KIDS	Foster Care /Bridges	X	X	X	X	X	
		Investigation/Assessments	X	X	X	X	X	
		Permanency Planning				X	X	X
		Adoption			X	X	X	X
		Adoption Subsidy	X		X	X	X	X
		Guardianship Subsidy (TANF)	X	X	X	X	X	X
Oklahoma Health Care Authority (OHCA)	Medicaid Management Information System (MMIS)	Medicaid (Title XIX )	X	X	X	X	X	X
		Health Insurance Exchange (HIE)* <sup>1</sup>	X					
Oklahoma State Department of Health (OSDH)	PHOCIS (OSDH Client Information System)	Women, Infants and Children (WIC)	X	X	X	X	X	X
		Children First	X	X	X	X	X	X
		Child Guidance	X	X	X		X	X
		Family Planning (Title X)	X	X	X		X	X
		Early Intervention/SoonerStart	X	X	X	X	X	X
	OSIIS (Immunization Registry) & PHOCIS	Immunizations	X	X	X		X	X
		Vital Records						X
	PHOCIS & BCC Grant Reporting System	Take Charge/Breast & Cervical Cancer Screening Program	X	X	X	X	X	X
		OHCA - MMIS	OK Cares/Breast & Cervical Cancer Rx Act	X	X			X
	OHCA - Online Enrollment	Agency Partner - OSDH w/OHCA	X	X				X
OKDHS - Aging Services Division (ASD)		Nursing Home (Intermediate Care Facility) Care and ADvantage Waiver (Medicaid funded home and community-based waiver)	X	X	X	X	X	X
OKDHS - Developmental Disabilities Service Division (DDSD)		Community Waiver, Family Support Assistance Payment, Homeward Bound Waiver, In-Home Supports Waiver for Adults, In Home Supports Waiver for Children, Intermediate Care Facilities for the Mentally Retarded	X	X	X	X	X	

\* Oklahoma will not have an exchange of its own. OHCA will coordinate with the fed exchange but not have any control over it.  
<sup>1</sup> OHCA will intake info and if the applicant is not eligibility for Medicaid we will send info to the exchange. details unknown at this time.

#### 4.10 Human Services Program and Initiatives

*Grantees must explain which State and federally funded human service programs were taken into consideration in this project and how existing related initiatives were leveraged.*

OKDHS undertook a multi-year, multi-program, agency-wide effort to update its technology, streamline and improve its business practices, consolidate its information systems, and provide a secure, compliant web portal for OKDHS employees, customers/clients and providers to conduct daily business...anytime, anywhere. OKDHS is pursuing a new enterprise software solution that is flexible and supports interoperability to allow internal and external stakeholder's access to enterprise system and data, regardless of technology. OKDHS seeks an enterprise software solution that



will increase customers/client use of self-service tools. The project will lead to a fully-functional, automated system that meets federal certification, compliance and mandates for child support, child welfare, and adult and family services and the associated titles and certifications needed for certification.

#### 4.11 Information Technology Initiatives

*Grantees must explain how the State leveraged and/or complemented existing information technology development initiatives and requirements.*

OKDHS is working with state governance and leadership to procure the software, installation and configuration for an enterprise human services application (HSA) to support the core business functions and processes of OKDHS, as described for the Enterprise System. Also, OHCA seeks to implement ACA technical aspects for Oklahoma. Many aspects of OHCA's plan are consistent with the approach envisioned by the model. OHCA and OKDHS are working together on both of their initiatives to assure no duplication in funding or resources for similar projects using the MITA and NHSIA principles of re-usability. The proposed system will:

- Modernize existing system functionality to provide recipients a “golden standard” of customer care (i.e. a consistent look and feel across stakeholders and seamless customer service with consistent metrics to measure and continuously approve the customer experience).
- Significantly enhance the ability for providers to have prompt access to member eligibility and enrollment information to ensure that eligible individuals receive the health care benefits to which they are entitled and that providers are reimbursed promptly and efficiently.

An individual seeking health coverage in the future will be able to access information and assistance, and apply for health coverage, through multiple channels. All these channels will connect with a standardized, web-based system to evaluate the individual's eligibility for coverage through one of four programs:

- Qualified health plans through the Exchange (with or without Guidance for Exchange and Medicaid Information Technology (IT) Systems 4 Version 2.0 May, 2011/Centers for Medicare & Medicaid Services advance premium tax credits and cost-sharing reductions)
- Medicaid
- CHIP
- Basic Health Program, if established by the state

MITA ensures availability of high-quality health care coverage to families and individuals, achieved through a collaborative partnership between and within federal agencies and states responsible for implementation of the Exchanges and the ACA's Medicaid and CHIP provisions.



MITA envisions a streamlined, secure, and interactive customer experience that will maximize automation and real-time adjudication while protecting privacy and personally identifiable information. Individuals will answer a defined and limited set of questions to begin the process, supported by navigation tools and windows that open to provide or seek additional information based on individual preferences or answers. The application will allow an individual to accept or decline screening for financial assistance, and tailor the rest of the eligibility and enrollment process accordingly. The required verifications necessary to validate accuracy of information supplied by applicants will be managed in a standardized fashion, supported by a common, federally managed data services hub that will supply information regarding citizenship, immigration status, and federal tax information. Tools for calculation of advance premium tax credits will also be provided. Business rules will be supplied that will allow for resolution of most discrepancies through automation, including explanations of discrepancies for the consumer, opportunities to correct information or explain discrepancies, and hierarchies to deal with conflicts based on source of information and extent and impact of conflicts on eligibility. Individuals will attest to the accuracy of the information they supply. The goal of MITA is to serve a high proportion of individuals seeking health coverage and financial support through this automated process.

#### 4.12 Health Intersection

**Grantees that explored options to make their eligibility systems more interoperable or integrated must explain how the issues considered intersected with the States' plans related to the Medicaid expansion that will take effect on January 1, 2014, and, if applicable, the implementation of a Health Insurance Exchange.**

In October 2007 OHCA received a \$6.3 million dollar Transformation Grant through CMS to develop a web based online application and eligibility determination system to improve the ease and efficiency of Medicaid enrollment. Originally known as No Wrong Door, the process allows potential members to apply for SoonerCare electronically.

OHCA and their partner, Hewlett Packard Enterprise Services (HPES), began developing SoonerCare Online Enrollment (OE) to reach those potentially qualified for coverage and improve the efficiency of SoonerCare. The OE process creates a single-point-of-entry intake that results in the applicant's real-time eligibility determination. The project resulted in implementation of the state's first electronic enrollment system for Oklahoma Medicaid members to enroll in SoonerCare.

Oklahoma elected to not participate in the creation of a State Based Exchange; however, OHCA will coordinate with the Federal Exchange by conducting its own intake process and determining eligibility. Additional Interoperability between NHSIA and MITA Programs for Oklahoma can be reviewed in Appendix A of the SOA Roadmap. Oklahoma plans to support a future exchange interoperability concept.

OSDH seeks a comprehensive solution for an Interoperable Public Health Information System (IPHIS), to prepare for participating with health information exchange activities and to improve the quality of data available to support decisions about improving the



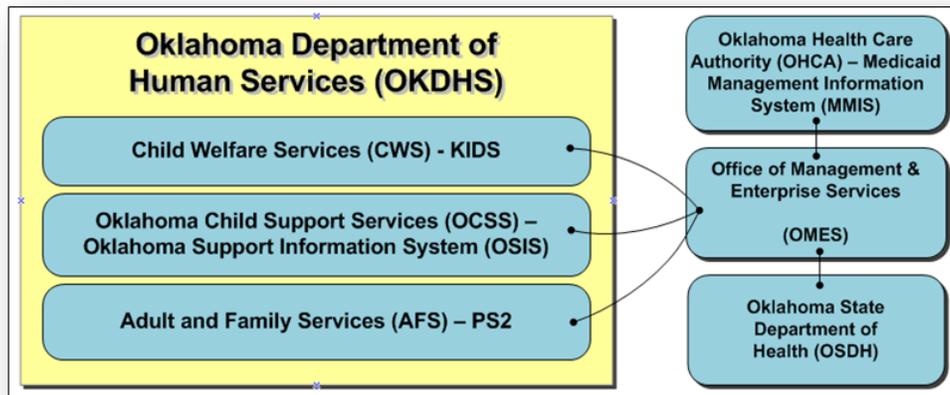
health of Oklahomans. After the completion of internal OSDH interoperability projects described in the IPHIS project, OSDH will continue collaboration and planning for data interchange and interoperability with key systems at OKDHS and OHCA as well as other State of Oklahoma entities.

The Interoperability grant helps establish a roadmap for building a health intersection between OHCA’s established programs, OKDHS and potentially other agency member identification and authentication services, through governance.

#### 4.13 Stakeholders

*Grantees must explain how the State engaged and integrated stakeholders.*

The Grant Project, explored interoperability with the following stakeholders: OKDHS, OHCA, OSDH and OMES. See Figure 12 below for the interactions between OKDHS agencies.



**Figure 12: Stakeholders**

The Grant Project Steering Committee - in collaboration with the OKDHS, OHCA, OSDH and OMES - provides services for three Health and Human Services communities, (i.e. Child Welfare, Child Support and Family Support) as shown in Table 19.



**Table 19: Steering Committee**

Name	Role
James Conway, OKDHS-AFS Deputy Director	Project Sponsor
Jim Hutchinson, OKDHS-OCSS Subject Matter Expert	Subject Matter Expert
Carol Clabo/Marvin Smith, OKDHS-CWS Subject Matter Expert	Subject Matter Expert
Sarjoo Shah, OMES-ISD IT Director	OMES-ISD
Derek Lieser, OHCA IT Director	OHCA
Patsy Leisering, OSF Health Business	OMES-ISD
Keith Lindsay, OSDH Subject Matter Expert	OSDH
Lynn Moore, OKDHS-ISD Project Manager	Project Manager

#### 4.14 Privacy and Confidentiality Framework

*Grantees must explain the privacy and confidentiality framework to support adequate sharing and protection of client and program information to promote eligibility and/or case management purposes.*

As part of the SOA Roadmap development, the team reviewed different Enterprise Architecture (EA) frameworks and methodologies: The Zachman Framework, The Open Group Architecture Framework (TOGAF), Federal Enterprise Architecture (FEA) and Department of Defense (DOD) Architectural Framework (DODAF). SOA Methodologies and SOA Maturity Models were also reviewed to determine potential usefulness and appropriateness for adoption by Oklahoma. SOA maturity models from Microsoft, IBM, Oracle and The Open Group Service Integration Maturity Model (OSIMM) Version 2 have been reviewed. These maturity models provide a framework and a roadmap much like MITA does.

The NHSIA developed by the ACF is a framework to support integrated eligibility determination and information sharing across programs and agencies. NHSIA focuses on enabling information exchange and sharing IT services among information systems.

Oklahoma chose to adopt NHSIA and MITA as standards for requirements with the partnership being established for Interoperability. In the event NHSIA does not address a process, MITA will be used.

To address privacy and confidentiality in a SOA environment, this project examined various security functions that are a part of a SOA enterprise, including:

- Authentication: Proves the service requestor is who the person claims to be.
- Authorization: Determines whether a user is entitled to the service based on various criteria (e.g., employee status, project/sub-project affiliation, role on project, citizenship).
- Access Control: Determines the functions and data within a service that the user is entitled to.
- Encryption: Protects privacy and tamper proofs a message while in transit from a sender directly to a receiver, (e.g. using Secure Socket Layer (SSL) security).



#### 4.15 Benefit to Other States

*Grantees must explain how the work the State completed could benefit other States that are interested in similar issues.*

- 1. Grantees must provide a “road map” for implementation of this planning effort by other States. It could include items from specific timelines, steps, models, etc., to lessons learned and topics to consider.*
- 2. Grantees must include all planning documentation developed as part of this planning grant (e.g. Planning Advance Planning Document (APD), Implementation APD, and/or procurement documents (e.g. Request for Quote (RFQ), Request for Proposal (RFP)).*

Oklahoma has been involved in a wide range of interoperability initiatives and produced a variety of deliverables that can benefit other states as they prepare to migrate to an interoperable environment themselves. Through the Interoperability grant, OKDHS planned and explored the NHSIA and how it fits with the MITA to develop an overall enterprise architecture for the health and human services agencies for Oklahoma. OHCA intends to standardize application components (services) that can be shared over an ESB and achieve interoperability using a federated hub and rules engine. The grant allowed OKDHS to plan and implement an ESB to message transactions with OHCA and to streamline web services to utilize the ESB. This will allow OKDHS programs to better exchange data and improve outcomes for vulnerable children. As planning and implementation for data sharing is standardized and streamlined, Oklahoma will implement the use of NIEM allowing for a consistent and repeatable exchange of data that can be shared among states. An additional design objective is to integrate with a multiagency or state person identification/authentication application (e.g. eMPI):

- This Interoperability Plan can be used by other States to implement Enterprise Interoperability measures.
- States under many Federal programs are asked to share ideas and any custom applications that States build. States can also send staff to State facilities for on-site visits to gain knowledge and to avoid duplication of effort.
- Custom applications developed by government are public domain, the state should be willing to demonstrate and share with other States. In most instances, States interested in our systems often encounter some of the same constraints around change discussed in this document.
- Other States can benefit from lessons learned by avoiding any difficulties encountered.

Oklahoma has been in the forefront of this type of effort through use of an Enterprise Architecture and their work with the MOSAIC project to identify an Enterprise Approach to the business process, as well as an Enterprise IT Solution to support the business decisions.



The deliverables created allow agencies to prioritize the plans and identify projects that support implementation of federal priorities around health care implementation and streamline outdated technology processes, reduce duplication of data, and data entry, simplify the process for applying and retaining services for Oklahoma citizens, reduce errors, improve communication to the customers, and create a seamless experience when inquiring about benefits and eligibility. This roadmap may be used by other states to implement Enterprise Interoperability measures.

Oklahoma has two approved Advanced Planning Documents (APDs): one developed by the OHCA and one developed by OKDHS. OKDHS has an unusual configuration of programs (child welfare, federal eligibility program, and child support) that are included in a consolidated APD. This is being reviewed as a combined document by all the associated federal partners including Health and Human Service (HHS) ACF, CMS, and United States Department of Agriculture (USDA) Food and Nutrition Services. An enterprise architecture approach has been taken to the planning of the joint system to reduce redundancy in data collection and storage.

OHCA, the state's Medicaid authority, received national recognition for its Online Enrollment program. One of the first in the nation to successfully implement an online application for Medicaid benefits where citizens receive real time eligibility determination for benefits. OKDHS configured its systems to link with "Online Enrollment" to ensure a seamless application for individuals coming for assistance at local offices.

With the proposed collaborative model, OKDHS and OHCA can take the work of Online Enrollment and expand it to accommodate federal programs administered by OKDHS (TANF, SNAP / Child Care, LIHEAP, and child care assistance). Since these programs have different eligibility requirements, the partners can identify the discrete data elements that need to be collected in order to make eligibility decisions. A real time eligibility rules engine will make the role of the family support worker easier and reduce human error and decision making. There will be fewer manual processes and an improved experience for citizens of the State of Oklahoma.

Systems to be built have the potential to be transferred to other states. While many states struggled to develop a federal approved child welfare system, OKDHS was the first to develop a federally approved Statewide Automated Child Welfare Information System (SACWIS) system for child welfare information. Subsequently, this system was successfully transferred to nine other states. This kind of information technology leadership and ability to implement complex projects sets Oklahoma apart as a leader in health and human services technology projects.

The following lessons learned and best practices may benefit other states:

### **Lessons Learned:**

- Timeframe hampered ability in level of detail
- Scope of this planning project was quite large making it difficult to gather interoperable resources from partners



- Dedicated resources leads to continuity of project
- New concepts (e.g. NHSIA/NIEM) requires learning curve
- Continued Federal interoperability initiatives and guidance accelerate local implementation plans
- Identified need to construct and maintain a Master Shared Services Portfolio (e.g., Business processes, reporting, resources, information security, applications, database, infrastructure, cost sharing, etc.)

**Best Practices:**

- Developed repeatable enterprise model for planning interoperability
- Leverage existing partnerships and initiatives to embrace an interoperable culture
- Followed the Federal interoperability guidance to create Oklahoma roadmaps
- Leverage foundational work completed on MOSAIC, incorporating eMPI and Case Management
- Dedicated Team Leads specifically assigned
- Development of annotated table of contents provided direction to delivery teams

**5 ACRONYMS**

<i>Acronym</i>	<i>Definition</i>
<b>ACA</b>	Affordable Care Act
<b>ACF</b>	Administration for Children and Families
<b>AFS</b>	Adult and Family Services
<b>APD</b>	Advance Planning Document
<b>API</b>	Application Programming Interfaces
<b>ATOC</b>	Annotated Tables of Contents
<b>BPMN</b>	Business Process Management Notation
<b>BPO</b>	Business Process Outsourcing
<b>CAM</b>	Content Assembly Message
<b>CBA</b>	Cost Benefit Analysis
<b>CHIP</b>	Children’s Health Insurance Program
<b>CMS</b>	Centers for Medicare and Medicaid Services
<b>COTS</b>	Commercial Off The Shelf
<b>CWS</b>	Child Welfare System
<b>DOD</b>	Department of Defense
<b>DODAF</b>	Department of Defense Architectural Framework
<b>DOJ</b>	Department of Justice
<b>EA</b>	Enterprise Architecture
<b>eMPI</b>	Enterprise Master Person Index



<b>Acronym</b>	<b>Definition</b>
<b>ESB</b>	Enterprise Service Bus
<b>FEA</b>	Federal Enterprise Architecture
<b>FI</b>	Fill ins
<b>FTP</b>	File Transfer Protocol
<b>GRA</b>	Global Reference Architecture
<b>HHS</b>	Health and Human Services
<b>HIIAB</b>	Health Information Infrastructure Advisory Board
<b>HIE</b>	Health Insurance Exchange
<b>HIPAA</b>	Health Insurance Portability and Accountability Act of 1996
<b>HNC</b>	Healthcare Network Cloud
<b>HPES</b>	Hewlett Packard Enterprise Service
<b>HS</b>	Human services
<b>HSA</b>	Health services application
<b>IPHIS</b>	Interoperable Public Health Information System
<b>IT</b>	Information Technology
<b>JIEM</b>	Justice Information Exchange Model
<b>LIHEAP</b>	Low-Income Home Energy Assistance Program
<b>MDM</b>	Master Data Management
<b>MITA</b>	Medicaid Information Technology Architecture
<b>MP</b>	Major projects
<b>NHSIA</b>	National Human Services Interoperability Architecture
<b>NIEM</b>	National Information Exchange Model
<b>NIST SP</b>	National Institute of Standards and Technology Special Publication
<b>OCSE</b>	Office of Child Support Enforcement
<b>OCSS</b>	Oklahoma Child Support Services
<b>OE</b>	Online enrollment
<b>OHCA</b>	Oklahoma Healthcare Authority
<b>OKDHS</b>	Oklahoma Department of Human Services
<b>OMES-ISD</b>	Oklahoma Office of Management and Enterprise Services – Information Services Division
<b>OSDH</b>	Oklahoma State Department of Health
<b>OSF</b>	Oklahoma Office of State Finance
<b>OSIMM</b>	Open Group Service Integration Maturity Model
<b>PMO</b>	Project Management Office
<b>QW</b>	Quick wins
<b>RFP</b>	Request for Proposal
<b>RFQ</b>	Request for Quote



<b>Acronym</b>	<b>Definition</b>
<b>ROI</b>	Return on Investment
<b>ROM</b>	Rough order of magnitude
<b>SACWIS</b>	Statewide Automated Child Welfare Information System
<b>SDLC</b>	Software Development Life Cycle
<b>SLA</b>	Service Level Agreement
<b>SNAP</b>	Supplemental Nutrition Assistance Program
<b>SOA</b>	Service Oriented Architecture
<b>SSL</b>	Secure Sockets Layer
<b>SSO</b>	Single sign on
<b>TANF</b>	Temporary Assistance for Needy Families
<b>TH</b>	Time hogs
<b>TOGAF</b>	The Open Group Architecture Framework
<b>USDA</b>	United States Department of Agriculture
<b>WCF</b>	Windows Communication Foundation
<b>WDML</b>	Wireless Device Markup Language
<b>WMIS</b>	Waiver Management Information System