



ADOA - ASET
Arizona Strategic Enterprise Technology

Project Investment Justification (PIJ)

*A Statewide Standard
Document for Information Technology Projects*

***Project Title: AELAS Organization Entity
Management***

Agency Name: Arizona Department of Education (ADE)

Date: 09/25/2013

Prepared By: Anish Verma

TABLE OF CONTENTS

I. GENERAL INFORMATION {A}	5
I.A GENERAL INFORMATION {A}	5
I.B SPECIAL FUNDING CONSIDERATIONS {A}	5
II. PROJECT OVERVIEW	5
II.A MANAGEMENT SUMMARY {A}	5
II.B EXISTING SITUATION AND PROBLEM, “As Is” {A}	8
II.C PROPOSED CHANGES AND OBJECTIVES, “To Be” {A}	9
II.D PROPOSED TECHNOLOGY APPROACH {REQUIRED FOR PRE-PIJ ASSESSMENT ONLY}	9
III. PROJECT APPROACH	9
III.A PROPOSED TECHNOLOGY {REQUIRED FOR PIJ APPROVAL}	9
III.B OTHER ALTERNATIVES CONSIDERED	10
III.C MAJOR DELIVERABLES AND OUTCOMES	11
IV. POLICIES, STANDARDS & PROCEDURES	11
IV.A ENTERPRISE ARCHITECTURE	11
IV.B SERVICE ORIENTED ARCHITECTURE PLANNING AND IMPLEMENTATION	12
IV.C DISASTER RECOVERY PLAN AND BUSINESS CONTINUITY PLAN	12
IV.D PROJECT OPERATIONS	12
IV.E WEB DEVELOPMENT INITIATIVE	12
V. ROLES AND RESPONSIBILITIES	13
V.A PROJECT ROLES & RESPONSIBILITIES:	13
VI. PROJECT BENEFITS	13
VI.A BENEFITS TO THE STATE	13
VI.B VALUE TO THE PUBLIC	14
VII. PROJECT TIMELINE {A}	14
VII.A PROJECT SCHEDULE	14
VIII. PROJECT FINANCIALS	14
VIII.A PRE-ASSESSMENT PROJECT FINANCIALS {REQUIRED FOR PRE-ASSESSMENT PIJ ONLY}	15
VIII.B DETAILED PROJECT FINANCIALS {REQUIRED FOR PIJ APPROVAL}	15
VIII.C FUNDING SOURCE {A}	16
VIII.D SPECIAL TERMS AND CONDITIONS (IF REQUIRED) {A}	16
VIII.E FULL TIME EMPLOYEE PROJECT (FTE) HOURS	17
IX. PROJECT CLASSIFICATION AND RISK ASSESSMENT	17
IX.A PROJECT CLASSIFICATION AND RISK ASSESSMENT MATRIX	17
X. PROJECT APPROVALS	19
X.A CIO REVIEW {A}	19
X.B PROJECT VALUES	19
X.C PROJECT APPROVALS {A}	19
APPENDIX	20
A. ITEMIZED LIST WITH COSTS	20
B. CONNECTIVITY DIAGRAM	20
C. PROJECT SCHEDULE - GANTT CHART OR PROJECT MANAGEMENT TIMELINE	20
D. NOI (WEB PROJECTS ONLY)	20
GLOSSARY	21

PROJECT INVESTMENT JUSTIFICATION (PIJ) TEMPLATE DECISION MATRIX

After determining the category of project, complete the sections of the PIJ or PIJ Lite document as indicated below. All projects with \$25,000 or more in development expense require that a PIJ or PIJ Lite be approved by ASET. All projects with \$1,000,000 or more in development expense require a PIJ to be approved by the Information Technology Authorization Committee (ITAC) as well.

ASET may request additional information or require completion of additional sections, if the project is deemed critical in nature.

Category	PIJ Lite	Pre PIJ *	PIJ	ITAC Review
Low Risk projects: Including Operational Infrastructure Upgrades (<i>i.e. PC Replacement/Refresh, Network Upgrades</i>)	●			
Medium Risk projects		Optional	●	
High Risk projects		Optional	●	
Very High Risk projects		Optional	●	
\$1.0M and Above projects		Optional	●	●

Section	Category	PIJ Lite	Pre PIJ *	PIJ	Add for ITAC \$1.0M+
I.	General Information				
I.A	General Information	●	●	●	
I.B	Special Funding Considerations		●	●	
II.	Project Overview				
II.A	Management Summary	●	●	●	
II.B	Existing Situation & Problem, "As Is"	●	●	●	
II.C	Proposed Changes & Objectives, "To Be"	●	●	●	
II.D	Proposed Technology Approach		●		
III.	Project Approach				
III.A	Proposed Technology	●		●	
III.B	Other Alternatives Considered			●	
III.C	Major Deliverables & Outcomes	●		●	
IV.	Policies, Standards & Procedures				
IV.A	Enterprise Architecture	●		●	
IV.B	Service Oriented Architecture Planning & Implementation			●	
IV.C	Disaster Recovery Plan & Business Continuity Plan			●	
IV.D	Project Operations			●	
IV.E	Web Development Initiative			●	
IV.F	IT State Goals			●	
V.	Roles and Responsibilities				
V.A	Roles and Responsibilities	●		●	
VI.	Project Benefits				
VI.A	Benefits to the State			●	
VI.B	Value to the Public			●	
VII.	Project Timeline				
VII.A	Project Schedule	●	●	●	
VIII.	Project Financials				
VIII.A	Pre-Assessment Project Financials		●		
VIII.B	Detailed Project Financials	●		●	

VIII.C	Funding Source	●	●	●	
VIII.D	Special Terms and Conditions (if required)	●	●	●	
VIII.E	Full Time Employee (FTE) Hours	●		●	
IX.	Project Classification & Risk Assessment				
IX.A	Project Classification & Risk Assessment Matrix	●		●	
X.	Project Approvals				
X.A	CIO Review	●	●	●	
X.B	Project Values	●	●	●	
X.C	Project Approvals	●	●	●	
Appendix					
A	Itemized List with Costs	●		●	
B	Connectivity Diagram				●
C	Gantt Chart, Project Management Summary				●
D	NOI (Web Projects Only)	●		●	

* **Pre PIJ** is optional for agencies seeking approval from external entities to contract for outside labor or resources to assess scope, technology and approach. After the assessment is completed, full project details will be added to the PIJ for final PIJ Approval.

NOTE: Pre PIJ Assessments are not required for all projects but up to the discretion of the Agency.

I. General Information

I.A General Information

Agency CIO:	Mark Masterson	Contact Phone:	
Agency Contact Name:	Anish Verma	Contact Phone:	
Agency Contact Email:		Prepared Date:	Sep 13, 2013

I.B Special Funding Considerations

☐ Yes ☒ No - Does this project require funding approved for a Pre PIJ Assessment phase?

If **YES**, provide details for the **Pre PIJ Assessment** funding needs by filling out the areas marked with **{A}** or **{Required for Pre-PIJ Assessment only}**. Further information and details will be required after the assessment for the Final PIJ approval.

If **NO**, provide details for the Final PIJ by filling out **all** areas **excluding** those sections marked with **{Required for Pre-PIJ Assessment only}**.

II. Project Overview

II.A Management Summary

I. Problem Description

Enterprise is the entity management system for the Arizona Department of Education (ADE). The database schema for Enterprise reflects the organizational structure of educational entities (i.e., school districts and charter holders) within Arizona. The initial design of Enterprise was defined by the School Finance division within ADE; as a result other groups within ADE are unable to efficiently utilize the data stored within this system. The correctness of the data housed within the Enterprise system is questionable, and the system is composed of duplicated and unorganized logic causing significant data integrity issues.

The IT department is in a perpetual reactive mode, constantly applying Band-Aids to a hemorrhaging system. Over a period of multiple years attempts have been made to improve the system, however, the technology and architecture or lack thereof has led to a system that is unable to be validated and difficult to understand. Additionally code that may otherwise be shareable is distributed among individual applications. Though processes are currently being improved, quality assurance sometimes is at a level of just checking for deviations from the norm. As a result an extreme amount of time and effort is spent to ensure valid results are obtained.

Furthermore, due to the age and architecture of many of ADE's current systems, the database within Enterprise system is replicated to provide business areas with access to Entity information. There are currently 12+ replicated copies of the Enterprise database and several untraceable and unaccountable copies, which were created by program areas to enrich and transform data to meet their individual needs.

Retiring the replicated copies will require a dedicated effort; the timeline for which may exceed the timeline required to be compliant with the data standards recently mandated by the DATA Governance Commission as part of its mandate to improve quality of data within ADE. In the interim the replicated copies will be maintained by creating them from the Enterprise replacement. This approach will ensure that the Enterprise replacement will not disrupt critical agency functions that are dependent on the current architecture.

II. Solution

In order to address the above mentioned problem it is proposed that ADE implement the following solution in a multiyear phased approach.

Phase 1 (FY 14):

Develop a new entity management solution called Organization Entity Management System (OEMS) to:

1. Utilize standardized data definitions for educational entities and their attributes,
2. Define the relationships among entities using a unified data model (i.e. Ed-Fi data model),
3. Develop a change management application using Microsoft Dynamics CRM to act as a single authoritative source to manage all data changes
4. Integrate with ADEConnect to provide secured access to the change management application.

In FY2014, ADE completed all the milestones listed above except milestone 3 which is still in progress. In FY14, ADE IT has completed requirement gathering for milestone 3 and will complete the outstanding development including one time population of data and developing the capability to periodically extract data from the new system and re-create the current Enterprise database with remaining Funds from FY2014 carryover. ADE may need to use additional funds requested for FY2015 to complete the outstanding work, if ADE cannot complete these tasks with FY 2014 funds.

Organization Entity Management System (OEMS) has two dependencies:

1. Ed-Fi Operational Data Store (ODS) Architecture currently being developed and deployed by the SLDS-Arizona Education Data-driven Decision System (AzED³S). The architecture component of the AzED³S project will:
 - Create the specifications for education organization-related data in ODS,
 - Map education organization-related elements to the Education Fidelity (Ed-Fi) data model,
 - Develop data mapping and ETL scripts for loading transactional data to ODS
 - Seamlessly integrate data from various sources into the education organization ODS.
2. ADEConnect the identity management system for ADE will provide the ability to:

- Pass user authentication credentials in a safe and protected manner
- Assign the authorized user one of the predefined permissions based on his role to access, view, create, edit or delete data within OEMS.

Phase 2 (FY 15):

In FY2015, ADE is proposing to use funding to complete the following milestones:

1. *Identify Arizona Department of Education (ADE) program areas that utilize information stored within Enterprise (ADE's legacy data system) , such as*
 - a. *Role played by an Organization, for example feeder sites, consortiums, charter holders, schools, districts, etc.*
 - b. *Relationships between roles of an organization, for example a college or university may act as a charter sponsor, a public school may belong to a school district or charter district, etc.*
 - c. *Primary contacts for the organization based on its role, for example an organization may have different contacts if it acts a college or university and other set of contacts when it acts as a charter sponsor.*
 - d. *Demographics for example billing, physical, and mailing address of an organization based on its role, for example the billing, physical, or mailing address of an organization may differ when it acts a college and also acts a charter sponsor.*
2. *Identify only, ADE applications that use data stored within one of the 12+ copies of Enterprise. Such as Health and Nutrition to achieve the goal of reducing 12+copies of Enterprise to a single source of truth.*
3. *Develop interfaces to consume data from Enterprise replacement, for example:*
 - a. *Develop ASP.NET web based interface using web services from Microsoft Dynamics CRM to enable Local Education Organizations that currently receive funds from ADE to view and request changes for information pertaining to their individual organizations, such as name of the organization, role it may play, relationships it may have, primary contacts, and demographics as further described under bullet 1.*
 - b. *Develop Microsoft Dynamics CRM based intranet interface to enable ADE Program areas to be able to view information on all organizations and apply changes to information pertaining to their individual organizations, such as name of the organization, role it may play, relationships it may have, primary contacts, and demographics as further described under bullet 1.*

Phase 3 (FY 16):

While not included in the scope of work at this time, if funding is available in FY2016, the following milestones will be completed:

1. ***Establish a timeline for refactoring the applications to use these interfaces instead of reading data directly from the copies of Enterprise database.***
2. ***Sunset all identifiable copies of Enterprise database.***

III. Quantified Justification

OEMS will provide the robust relationship management capability requested by program areas, while preserving the ability of the School Finance team to perform ADE's critical function of paying districts and charters. Furthermore developing OEMS will help ADE:

1. Be supportive of Ed-Fi solution and common education data standards (CEDS) which provide consistent data definitions required to seamlessly share data among different systems and applications,
2. Drive data accuracy by creating the *Change Management Gateway*. The Web front end interface that will act as the single authoritative source to funnel in all changes to the OEMS. This interface will support the granular, role-based access control (RBAC) mechanism provided by *ADEConnect*, the replacement for *CommonLogon*,
3. Eliminate the coordination and communication needed between program areas to create or modify data elements,
4. Eliminate the need for creating complex workarounds to implement updates for keeping all the copies of Enterprise synchronized,
5. Enable the elimination of many education organization data elements collected by the various program areas within ADE, and
6. Enable education organization data sharing in such a way as to minimize replication and errors

II.B Existing Situation and Problem, "As Is"

The Enterprise system houses information on educational entities, which is used by a diverse group of both internal (ADE IT, School Finance, Exceptional Student Services (ESS), Research and Evaluation (R&E), Office of English Language Acquisition Services (OELAS), Highly Qualified Teachers (HQT), Certification, Grants, Health and Nutrition, and EduAccess) and external users (districts, schools, charter holders, universities, and researchers). The current architecture for the Enterprise system was developed more than 10 years ago, mainly to support School Finance. As the ADE charter expanded, new applications were introduced, and replicated copies of the Enterprise database were made available to help meet the increasing demand for education organization data. The core of the current problem is the lack of a centralized method to add/update organization changes. Currently, due to the lack of this centralized change management application, program areas use one of the 12+ production copies of Enterprise. Some of the program areas even create a flat file copy (Excel or, Access databases, etc.) of the Enterprise database without syncing their changes to the master copy, leading to severe data integrity issues.

Additionally, the Web front end interface of the Enterprise application, which acts as the user interface for performing change management to the data, only supports the "All or Nothing" access provided by CommonLogon. It lacks the design required to integrate with a role-based access control (RBAC) system,

such as ADEConnect. Because of this current design shortfall, a user with access rights to edit data can make changes to all segments of the database, including the ones outside the scope of their program area, potentially resulting in ADE's inability to ensure data security and data quality. This impediment makes it a difficult exercise to define ownership of these data elements. The simple task of updating an existing data element often requires cumbersome communication and coordination between stakeholders from different ADE program areas. This form of manual coordination increases the likelihood of omitting crucial stakeholders, who may later override, or even worse delete, these modifications.

II.C Proposed Changes and Objectives, "To Be"

ADE IT is proposing the development and implementation of OEMS, a centralized change management application to serve as the foundation for providing the core entity, contact, and relationship capabilities that are needed to deliver the AELAS vision. OEMS will provide the ability to define entities, relationships, and rules without needing development each time a new type of entity, relationship or rule is added or needs to be updated. To accomplish this, the proposed system will provide capability to:

1. Define Entity Types,
2. Define Relationship Types
3. Define Business Rules and Use Access
 - i. Using the defined Entities
 - ii. Using the defined Relationships

This system will be developed in a phased approach. Phase 1, OEMS will provide the capability to present data to current consumers of the Enterprise database in the way they are accustomed until those systems can refactor to leverage the new capabilities.

II.D Proposed Technology Approach

N/A

III. Project Approach

III.A Proposed Technology

The proposed OEMS will be delivered using a Commercial off-the-shelf solution: Microsoft Dynamics CRM (MDCRM). MDCRM was procured by ADE IT in Fiscal Year (FY) 2013 utilizing AELAS PSO index 31138 (120106-18) – SAIS Enterprise. The agreement covers license costs for both internal (ADE staff) and external users (LEAs) until FY2016. OEMS will utilize a multi-tiered architecture:

1. Implement a Change Management Gateway using MDCRM to act as the front end tier of OEMS and integrate it with ADEConnect to provide roles based access control to authenticated users,

2. Create SQL Server 2012 database using Ed-Fi data model and SQL Server Integration packages to feed the data to Agency's Operational Data Store under development by the AzED³S. These SQL technologies will act as the middle and backend tier for OEMS,
3. Create SQL Server Integration packages or ETL scripts to maintain the replicated copies of Enterprise to current consumers of Enterprise database in the way they are accustomed until those systems can refactor to leverage the new capabilities.

Additionally the following equipment will be used to implement the OEMS:

Hardware Stack:

2 Medium size web servers

4 Medium size application servers

The servers are virtual machines that can be configured to provide additional capacity as the demand increases.

III.B Other Alternatives Considered

1. The "Do Nothing" or "Use Existing Systems" Alternative

If we do nothing, ADE will continue using the existing Enterprise system as is and perpetuate the problem including escalating maintenance cost and poor data quality. ADE will continue to settle for inefficiency, operate in silos, and perpetuate data issues, which lead to incorrect reporting and incorrect funding.

2. The Build Alternative

Building (or contracting to have built) a centralized educational organization data management system was considered, but determined to be excessively expensive, requiring almost double the development effort in comparison to the commercial off-the-shelf application.

III.C Major Deliverables and Outcomes

Phase 1/ FY14 :

1. Map data from Enterprise into the Ed-Fi data model.
2. Develop education organization change management application using MDCRM.
3. Develop role-based permissions to enable finer-grained controls for data access. Integrate the permissions with roles provided by ADEConnect.
4. Perform one time population of data.
5. Provide the capability to periodically extract data from the new system and re-create the current Enterprise database to be replicated to downstream consumers.

In FY2014, ADE completed all the milestones listed above except milestones 3, 4, and 5, which are still in progress. Milestones 4 and 5 are dependent on milestone 3 and will be completed upon completion of milestone 3. Furthermore, in FY14, ADE IT has completed requirement gathering for milestone 3 and will complete the outstanding development on this milestone with remaining funds from FY2014 carryover. ADE may need to use additional funds requested for FY2015 to complete milestone 4 and 5 if ADE cannot complete these milestones with FY 2014 funds.

Phase 1/ FY15:

In FY2015, ADE is proposing to use funding to complete the milestones outlined under the FY15 sub section of Solution section, listed on Page 7, of this PIJ.

Phase 3/ FY 16:

While not included in the scope of work at this time, if funding is available in FY2016, ADE is proposing to complete the milestones outlined under the FY16 sub section of Solution section, listed on Page 7, of this PIJ.

Outcome of this project is a fully functional automated workflow based entity management system which will pave the way to eventually sunset Enterprise system and 12+ copies of its replicated database.

IV. Policies, Standards & Procedures

IV.A Enterprise Architecture

☒ **Yes** ☐ **No** - Does this project meet all standards and policies for Network, Security, Platform, Software/Application, and/or Data/Information as defined in <http://aset.azdoa.gov/security/policies-standards-and-procedures> as applicable for this project?

If NO please describe NEW or EXCEPTIONS to Standards {Network, Security, Platform, Software/Application and/or Data/Information}:
--

IV.B Service Oriented Architecture Planning and Implementation

☒ **Yes** ☐ **No** - Does this project qualify as an SOA application by improving application delivery for technology reuse and /or application reuse and / or services reuse?

IV.C Disaster Recovery Plan and Business Continuity Plan

☐ **Yes** ☒ **No** - Does this project require a Disaster Recovery Plan and Business Continuity Plan?

IV.D Project Operations

☐ **Yes** ☒ **No** - Is there a written assessment of short-term and long-term effects the project will have on operations?

IV.E Web Development Initiative

☐ **Yes** ☒ **No** - Is this a Web Development initiative? If **YES**, a Notice of Intent (**NOI**) must be provided.
Link: <http://aset.azdoa.gov/node/15>

IV.F IT State Goals

Please check which goal the project is in support of; if more than one, indicate only the primary goal.

- ☐ Accelerate Statewide Enterprise Architecture Adoption
- ☐ Champion Governance, Transparency and Communication
- ☐ Invest in Core Enterprise Capabilities
- ☐ Proactively Manage Enterprise Risk
- ☐ Implement a Continuous Improvement Culture
- ☐ Adopt Innovative Sustainability Models
- ☐ Reduce Total Cost of Ownership
- ☒ Improve Quality, Capacity and Velocity of Business Services
- ☐ Strengthen Statewide Program and Project Management
- ☐ Build Innovative and Engaged Teams
- ☐ Other _____

V. Roles and Responsibilities

V.A Project Roles & Responsibilities:

Please identify Project Roles & Responsibilities:

Role	Responsibilities	Person
Project Sponsor	High-level decision maker	Elliott Hibbs
ADE IT CIO	High-level decision maker	Mark Masterson
ADE CTO	High-level decision maker	Ed Jung
Project Manager	Manage project	Anish Verma
Service Delivery Manager	Manage product	Amit Soman
Solution Architect	Technical approach and design	Ashman Deokar
Business Analyst	Requirements and documentation	TBD
Data Architect	Technical approach and design	TBD
CRM + User interface Developer	Develop, test, and deploy	TBD
Quality Analyst	Test strategy and approach	TBD

Please indicate Project Manager Certification:

The project manager assigned to the project is:

- ☐ Project Management Professional (PMP) Certified
☐ State of Arizona Certified
☒ PM Certification not required

VI. Project Benefits

VI.A Benefits to the State

Score: 0=None, 1=Minor, 2=Moderate, 3=Considerable, 4=Substantial, 5=Extensive.

Description	Score
Agency Performance: The extent to which duties and processes will improve or positively affect business functions. Consider reduced redundancy and improved consistency for the agency.	4
Productivity Increase: The improvements in quantity or timeliness of services or deliverables. Consider improved turnaround time or expanded capacity of key processes.	4
Operational Efficiency: Efficiencies based on improved use of resources, greater flexibility in agency responses to stakeholder requests, reduction or elimination of paperwork, legacy systems, or manual tasks.	4
Accomplishment Probability: The extent to which this project is expected to have a high level of success in completing all requirements for the division or agency.	3
Functional Integration: The impact the project will have in eliminating redundancy or improve consistency. Consider the impact of information sharing between departments, divisions, or agencies in the State.	3
Technology Sensitive: The implementation of the right types of technology to meet clear and defined goals and to support key functions. Consider technologies and systems already proven within the agency, division, or other similar organizations.	3
Total	21
Additional Information (provide details on Benefits that score > 3)	

Describe additional details on benefits > 3 score. Also provide details on any savings that may be applicable.
Agency Performance – OEMS will address the entity-related data needs for 120+ applications and will provide the framework to implement data governance for data integrity and data quality.

Productivity Increase – OEMS will integrate with ADEConnect to provide role-based permissions to authenticated users, which will help eliminate the manual intervention required to enforce data governance. This will significantly increase productivity.

Operational Efficiency – The web-based front-end of the OEMS system will provide the single authoritative change management interface, as desired by current business stakeholders of the Enterprise application. This interface will provide the mechanism to permit an authorized user to update only specific data elements, based on the role and permissions assigned to him/her by his/her program area through ADE Connect. This will help eliminate incomplete or inaccurate data entries resulting from a user's lack of understanding of the data elements outside the scope of his/her program area. This will also reduce the manual collaboration between program areas currently required to ensure changes are communicated to all program areas.

VI.B Value to the Public

Score: 0=None, 1=Minor, 2=Moderate, 3=Considerable, 4=Substantial, 5=Extensive.

Description	Score
Client Satisfaction: Rate how stakeholders may respond to anticipated improvements. This could apply to health and welfare services, quality of life or life safety functions.	4
Customer Service: Rate anticipated improvements to internal and external customer service delivery. Give consideration to faster response, greater access to information, elimination or reduction in client complaints.	3
Life Safety Functions: Applies to public protection, health, environment, and safety. Consider how this project will reduce risk in these functions.	0
Public Service Functions: Applies to licensing, maintenance, payments, and tax. Consider how this project will enhance services in these functions.	3
Legal Requirements: Consideration should be given to projects mandated by federal or state law. Other consideration could be given if there are interfaces with other federal, state, or local entities.	2
Total	12
Additional Information (provide details on Value to the Public scores > 3)	
<i>Describe additional details on scores > 3.</i>	
Client Satisfaction – Implementation of these capabilities will provide an interface to administrative staff at LEAs to search for entity-related data such as contacts and parent-child relationships.	

VII. Project Timeline {A}

VII.A Project Schedule

Provide estimated schedule for the development of this project. These dates are estimates only; more detailed dates will be required at project start up once the project schedule is established.

Project Start Date: 10/1/2014

Project End Date: June 30, 2015

VIII. Project Financials

Project Funding Details

Select One

- ☐ Pre PIJ Assessment Funding Details Only
☒ Full PIJ Project Funding Details

VIII.A Pre-Assessment Project Financials {Required for Pre-Assessment PIJ Only}

Project Funding Details for Pre-Assessment Project Investment Justification Only

(Double click on table below – add funding in **whole dollars** and then click outside the table to return to Word doc)

ESTIMATED COSTS						
Category	FY_____	FY_____	FY_____	FY_____	FY_____	Total
Assessment Costs						\$ -
Development Costs						\$ -
Total Development Costs (including Assessment)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operational Costs (if estimate is available)						\$ -
Total Estimated Project Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

VIII.B Detailed Project Financials {Required for PIJ Approval}

Development and Operational Project Funding Details

Funding Categories:

Professional and Outside Services: The dollars to be expended for all third-party consultants and contractors.

Hardware: All costs related to computer hardware and peripheral purchases for the project.

Software: All costs related to applications and systems related software purchases for the project.

Communications: All costs related to telecommunications equipment, i.e. switches, routers, leased lines, etc.

Facilities: All costs related to improvements or expansions of existing facilities required to support this project.

License & Maintenance Fees: All licensing and maintenance fees that might apply to hardware, software and any other products as up-front costs to the project (ongoing costs would be included under Operational expense).

Other: Other IT costs not included above, such as travel, training, documentation, etc.

NOTE: FTE costs may be included in section VIII.e below, as required.

(Double click on table below – add funding in **whole dollars** and then click outside the table to return to Word doc)

VIII.C Funding Source {A}

(Double click on table below – add funding in whole dollars and then click outside the table to return to Word doc)

Funding Source Category	Name of Funding Source	Currently Available (\$)		New Request (\$)		Total (\$)
		Development Budget	Operational Budget	Development Budget	Operational Budget	
General Fund						\$ -
Federal ARRA Fund						\$ -
Federal Fund						\$ -
Other Appropriated Funds	Automation Projects Fund (AELAS ARS 15-249)	\$ 450,000		\$ 600,000		\$ 1,050,000
Other Non Appropriated Funds						\$ -
TOTAL PROJECT COSTS (Should = development and operational totals above)		\$ 450,000	\$ -	\$ 600,000	\$ -	\$ 1,050,000

VIII.D Special Terms and Conditions (if required) {A}

Special Terms and Conditions (if required)

Risk Factor	Low (0)	Medium (1)	High (2)	Very High (3)	Score
Project Management Complexity					
Project Team Size (# of people)	1-5	6-10	11-15	> 15	1
Project Manager (PM) Experience	Deep experience in this type of project	Some experience in this type of project and able to leverage subject matter experts	Some experience in this type of project and has limited support from subject matter experts	New to this type of project	0
Team Member Availability	Dedicated staff for project activities only as assigned	Staff is in place, few interrupts for non project tasks are expected and have been accounted for	Available, some turnover expected, some interrupts for non project issues likely	Dedicated team not available; staff will be assigned based on capacity	0
# of Agencies involved in Development activity	1	2	3	> 3	0
Vendor (if used)	No Vendor required	Vendor has been used previously with success	Vendor has been used previously with some management support required	New Vendor and/or multiple vendors	1
Project Schedule	Schedule is flexible	Schedule can handle minor variations, but deadlines are somewhat firm	Scope or budget can handle minor variations, but deadlines are firm	Scope, Budget and Deadlines are fixed and cannot be changed	1
Project Scope	Scope is defined and approved	Scope is defined and pending approval	Scope being defined	High level definition only at this point	1
Budget Constraints	Funds allocated	Funds pending approval	Allocation of funds in doubt or subject to change without notice	No funding allocated	1
Project Methodology	Defined methodology	Defined methodology, no templates	High level methodology framework only	No formal methodology	0
IT Solution Complexity					
Product Maturity (if purchased)	Product implemented & working in > 1 state agency or business of similar size	Product implemented & working in 1 agency or business of similar size	Product implemented & working only in an agency or business of smaller size	Product not implemented in any agency or business	3
Solution Dependencies	No dependencies or interrelated projects	Some minor dependencies or interrelated projects but considered low risk	Some major dependencies or interrelated projects but considered medium risk	Major high-risk dependencies or interrelated projects	1
System Interface Profile	No other system interfaces	1-2 required interfaces	3-4 required interfaces	> 4 required interfaces	1
IT Architectural Impact	Follows State IT approved design; principles, practice & standards	New to the State but follows established industry standards	Evolving "industry standard"	No standards, leading edge technology	0
Deployment Impact					
Process Impact	No business process changes	Agency wide process changes	Multi-State Agency process changes	State-wide process changes	0
Scope of End User Impact	Department or Division level only	Multiple Division or Agency wide impacts	Multi-Agency impacts	State-wide impacts	0
Training Impact	No training is required	Minimal training is required	Considerable training is required	Extensive training is required	1
Total Risk Score					11

X. Project Approvals

X.A CIO Review {A}

Key Management Information	Yes	No
1. Is this project for a mission critical application system?	<u>Y</u>	
2. Is this project referenced in your agency's Strategic IT plan?	<u>Y</u>	
3. Is this project consistent with agency and State policies, standards and procedures?	<u>Y</u>	
4. Is this project in compliance with the Arizona Revised Statutes and GRRC rules?	<u>Y</u>	
5. Is this project in compliance with the statewide policy regarding the Accessibility to Equipment and Information Technology for Citizens with Disabilities?	<u>Y</u>	
6. Is this project mandated by law, court case or rule? If yes, cite the federal requirement, ARS Reference or Court Case.		<u>X</u>
Details: Provide details related to technology as part of the requirement.		

X.B Project Values

The following table contains summary information taken from the other sections of the PIJ document.

Description	Section	Significance
Assessment Cost {A}	VIII. Project Financials {Required for Pre-Assessment PIJ Approval Only}	\$
Economic Benefits	VI. Benefits to the State	21
Value Rating	VI. Value to the Public	12
Total Development Cost	VIII. Project Financials	\$1050,000
Total Project Cost	VIII. Project Financials	\$1050,000
FTE Hours	VIII. Project Financials	0
Project Risk Factors	IX. Risk Summary	11

The PIJ must be transmitted to ASET by email as a Word document. Project approvals may be sent to ASET by email in PDF format. Include the Project Title below for identification. Send to your ASET Oversight Manager, or if not sure who is assigned to your Agency, PIJ docs can be sent to ASET_Projects@azdoa.gov.

X.C Project Approvals {A}

Select One ☐ Pre PIJ Assessment Approval Only ☒ PIJ Project Approval

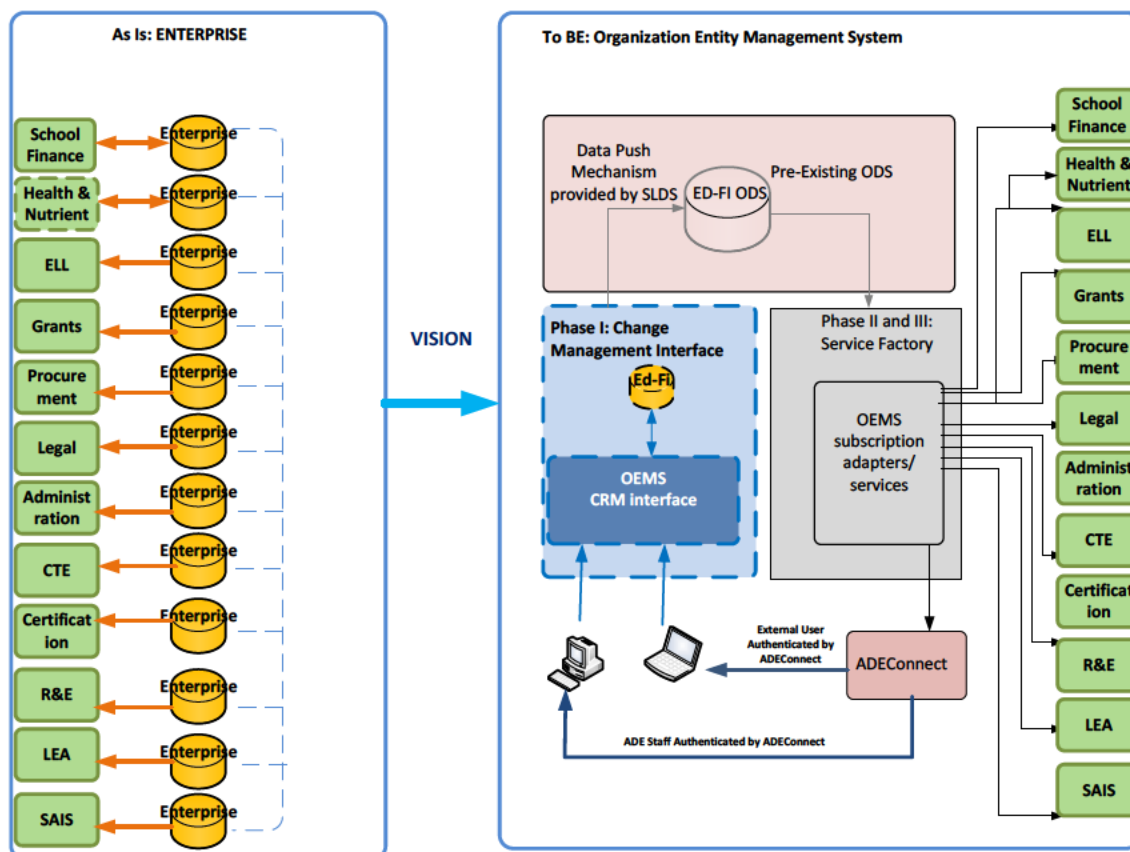
Project Title: AELAS Organization Entity Management

Responsibility	Printed Name	Approval Signature	Date
Project Manager	Anish Verma		
Service Delivery Manager	Amit Soman		
Agency CIO	Mark Masterson		
Project Sponsor	Elliott Hibbs		

Appendix

A. Itemized List with Costs

B. Connectivity Diagram



In the above Figure item highlighted in Blue portray the scope of this PIJ.

C. Project Schedule - Gantt Chart or Project Management Timeline

D. NOI (Web Projects Only)

Glossary

Acronym	Definition	Additional Detail
ADE	Arizona Department of Education	Arizona's state agency that oversees public education.
AELAS	Arizona Educational Learning and Accountability System	The new statewide data system designed to better serve our State's pre-kindergarten to post-secondary and workforce stakeholders. http://www.azed.gov/information-technology/files/2013/02/document-4-aelas-business-case-v0-16.pdf
ADEConnect	ADEConnect	ADEConnect is the new identity management system that is used to manage secure single-sign-on access to ADE's computer, e-mail and internet systems. ADEConnect helps school districts and charter schools gain access to Arizona Department of Education (ADE) systems such as Student Accountability Information System (SAIS), longitudinal dashboards, state district reporting systems and others.
CEDS	Common Education Data Standards	CEDS is a specified set of the most commonly used education data elements to support the effective exchange of data within and across states, as student's transition between educational sectors and levels, and for federal reporting.
	Change Management Gateway	The Web front end developed upon Microsoft Dynamics CRM that will act as the single authoritative source to funnel in all changes to the OEMS.
CommonLogon	Common logon application	The legacy system used by ADE to provide access through authentication and authorization to the needed applications.
COTS	Commercial Off The Shelf	Commercial Off The Shelf is a term defining a non-developmental item that is both commercial and sold in substantial quantities in the commercial marketplace, and that can be procured or utilized under government contract in the same precise form as available to the general public.
CRM	Microsoft Dynamics Customer Relationship Management	A Microsoft provided tool to manage a company's interactions with current and future customers.
CTE	Career and Technical Education	These are programs that prepare students to enter the workforce with the academic and vocational skills needed to compete successfully in the job market.
Ed-Fi	The Ed-Fi solution is a data specification combined with a free tool suite.	Ed-Fi Solution is a data model combined with a tool suite that streamlines the sharing of student data and also provides the elements of dashboards for use by educators to improve the academic outcomes of students.
Educational Entity	An abstract object related to Education domain	An abstraction of an object in the Education domain that has relationships which need to be managed. These objects may be schools, districts, charter schools and charter boards.

Acronym	Definition	Additional Detail
ESS	Exceptional Student Services	A program area within ADE that is accountable for ensuring that all special education programs, regulations, and procedures are in compliance with the Individuals with Disabilities Education Act (IDEA) and eligible children and youth with disabilities are receiving a free appropriate public education (FAPE)
ETL	Extract, Transform, Load	Extract, Transform and Load (ETL) refers to a process in database usage and especially in data warehousing that involves: <ul style="list-style-type: none"> • Extracting data from outside sources • Transforming it to fit operational needs, which can include quality levels • Loading it into the end target (database, more specifically, operational data store, data mart or data warehouse)
	EduAccess	EduAccess is a complete Identity Management System (IDMS) for educational stakeholders in Arizona. EduAccess is managed by the Arizona Department of Education (ADE).
HQT	Highly Qualified Teachers	A program area within ADE that is accountable for ensuring that all teachers be highly qualified in the core academic content area(s) they teach as required by the <i>No Child Left Behind Act</i> .
IDEAL	Integrated Data to enhance Arizona's Learning	A single access point to educational resources and information for all Arizona Educators
IT	Information Technology	Information Technology is the application of computers and telecommunications equipment to store, retrieve, transmit, and manipulate data.
LEA	Local Education Agency	A Charter Holder or District. Officially defined as a public board of education or other public authority legally constituted within a state for either administrative control or direction of, or to perform a service function for, public elementary or secondary schools in a city, county, township, school district, or other political subdivision of a state, or for a combination of school districts or counties as are recognized in a state as an administrative agency for its public elementary or secondary schools. (34 CFR 300.18).
MDCRM	Microsoft Dynamics CRM	Microsoft Dynamics CRM is a customer relationship management software package developed by Microsoft.
.NET		A software framework developed by Microsoft that provides a comprehensive and consistent programming model for building applications.
ODS	Operational Data Store	A database designed to integrate data from multiple sources for additional operations on the data. The data is then passed back to operational systems for further operations and to the data warehouse for reporting. ODS is currently under development as part of the SLDS initiative.

Acronym	Definition	Additional Detail
OELAS	Office of English Language Acquisition Services	A program area within ADE that is committed to providing guidance, assistance, and support to all of Arizona's school districts and charter schools charged with the educational needs of Arizona's English language learner (ELL) population.
OEMS	Organization Entity Management System	The proposed system to replace the current Enterprise Data Management System.
R&E	Research and Education	A division which conducts research on pertinent issues for ADE, performs program evaluations for various divisions with ADE, and completes all State and Federal deliverables for the ADE accountability system
RBAC	Role-based access control	RBAC is an approach to restrict system access to authorized users.
SLDS	Student Longitudinal Data System	The AZ-SLDS is intended to enhance the ability of Local Education and State Agencies to efficiently and accurately manage, analyze, and use education data, including individual student records.
	Stakeholder	A person, group, organization, member or system that is interested in the information stored in OEMS.

Document Information

Title: Project Investment Justification – PIJ Version January 2013
 Originator: Arizona Department of Administration – AZ Strategic Enterprise Technology Office
 Date: January 2013
 Download: <http://aset.azdoa.gov/>
 Contacts: **ASET Oversight Managers:**
<http://aset.azdoa.gov/content/project-investment-justification>

Web Design (NOI Contact):
<http://aset.azdoa.gov/webtools>