



ADOA-ASET

Project Investment Justification

Version 03.31.15

A Statewide Standard Document for Information Technology Projects

Project Title:

Early Childhood Education – Preschool Development Grant (ECE-PDG)

Agency Name:	Arizona Department of Education
Date:	04/24/15 (modified 5-29-15)
Agency Contact Name:	Tom Watkins
Agency Contact Phone:	
Agency Contact Email:	

[Hover for Instructions](#)

I. Project Investment Justification (PIJ) Type*

Yes No Is this document being provided for a Pre-PIJ / Assessment phase?

If Yes,

Identify any cost to be incurred during the Assessment phase.	\$
Based on research done to date, provide a high-level estimate or range of development costs anticipated for the full PIJ.	\$

Explain:

[Click here to enter text.](#)

Yes No Will a Request for Proposal (RFP) be issued as part of the Pre-PIJ or PIJ?

II. Business Case

A. Business Problem*

The State of Arizona’s infrastructure in its ECE system is limited by an under-developed early childhood workforce and systems that do not support preschool programs in the highest need areas.

Currently, Arizona’s High Need Communities (HNC) preschool children information (data) is not integrated with the States’ K-12 data. Integrating preschool data with K-12 data will significantly enhance the ability of administrators, educators and specialists to track progress of early childhood HNC students and recommend policies to improve future performance of these students.

B. Proposed Business Solution*

[Click here to enter text.](#)

In order to meet the challenges of the business problem stated above, ADE I.T. will provide IT services, applications development, and systems integration to enable the following solution components:

- **AZDash Integration:** Integrate existing preschool student data from the GOLD online application (hosted by Teaching Strategies GOLD) into the ADE Agency Operation Data Store (ODS) with existing K12 data and expose it via new and existing AZDash Reports.
- **Profiles:** Collect characteristics for preschool providers, teachers and students to support analysis of Early Childhood Programs effectiveness.
- **Fiscal Monitoring:** ECE will grant monies to sub grantees in good faith that the sub grantee will achieve the goals of the sub grantee’s Grant Project Plan. This will be provided by the existing Grants Management System.
- **External Interactions:** Automation of data collection from certain applications and systems external to ADE (i.e. Bureau of Indian Education (BIE), Department of Economic Security (DES), etc.). Also provide the collected pre-school data from GOLD as appropriate to external applications and agencies via a web portal. **Internal Interactions:** Integration with ADE internal applications and services. Integrated data will interact with ADE systems such as the Customer

Relationship Management (CRM) system, Content Management System (CMS), Learning Management System (LMS), Grants Management System, Reporting System (AZDash), etc.

C. Quantified Benefits*

- | | |
|-------------------------------------|---------------------|
| <input checked="" type="checkbox"/> | Service enhancement |
| <input type="checkbox"/> | Increased revenue |
| <input checked="" type="checkbox"/> | Cost reduction |
| <input type="checkbox"/> | Problem avoidance |
| <input type="checkbox"/> | Risk avoidance |

Explain:

ECE services will be greatly enhanced by the integration of Preschool information with ADE’s K-12 information systems. Also, development of customized dashboards will provide summary information of current and historical preschool data from ECE entry through high school and State of Arizona public colleges. This information will enhance the performance of ECE educators and help ADE understand the needs of AZ ECE students resulting in higher quality ECE programs.

The costs associated with researching childhood development from birth through K-12 and college will be reduced by integrating ECE schools, teacher and student data with K-12 and college data.

III. Technology Approach

A. Proposed Technology Solution*

The proposed technical solution will be a combination of new development and integration with existing applications already developed to meet the business goals outlined in Section B (Proposed Business Solution).

- New development of an ECE web portal using a .Net front end. This will serve as the main landing page where the ECE users (internal as well as external) will access pre-school data and reports to perform their work. This new .NET based portal will have some new capabilities which are specific to the business needs of ECE. All preschools are required to use the GOLD application in order to garner Federal and State funds.
- Extensions to the existing Microsoft Dynamics CRM platform will be leveraged to provide for profile management and change request based work flows. CRM will be leveraged for its business rules and data processing capabilities. The new .NET portal will act as the data presentation facade for end users.
- Existing Agency developed AZDash Reports will be modified to display student achievement related data. The new .NET based portal will call the exiting AZDash reports in a frame. This will help avoid duplication of the student data. It

will also help deliver a uniform experience to end users when accessing various agency developed systems. Early childhood educators and staff members will be able to view an assortment of reports including classroom, district and statewide level reporting.

- BLoad GOLD data into the ADE Agency ODS so ECE users will be able to view all preschool data in AZDash. These reports may include reports similar to existing GOLD Snapshot, Growth, OSEP and Comparative Reports.
- The Event Management System (EMS) will be used for managing and helping end users (both internal and external) view and register for any ECM related event. Access to the EMS will again be based on a frame being rendered from EMS in the new ECE portal.
- The Content Management System (CMS) will be used for managing and helping store and share all artifacts related to ECE initiatives. End users (both internal and external) will be able to view and download documents and other important files using the CMS. Access to the CMS will again be based on a frame being rendered from the EMS in the new ECE portal.
- ECE specific reports will be developed in the new .NET application using a combination of **SQL Server Reporting Services (SSRS)** and Hi-Charts reports.
- Information from external sources will be imported using a variety of methods depending on the capabilities of the external source (i.e. API, SSIS, and batch flat file loading). The new .NET application will subscribe to external web services to pull data from external sources. The new .NET application will also be used to develop simple to use Excel based imports into the new portal for data that is not exposed or available programmatically. The GOLD system will be integrated into the AzEDS global unique ID service.
- The new .NET portal will also have capability for ECE users to export data in Excel and PDF formats.
- Notification capabilities will be built into the portal leveraging CRM capabilities.
- The existing Agency ODS student domain will be extended to support requirements for handling preschool students. Relevant capabilities will be created in the new .NET application to facilitate sub-grantees access to the ODS via profile management functionality so they'll be able to view, upload and manage their information. In order to implement appropriate checks and balances for this information, we will leverage the CRM based change request workflow process.

- For Authorization and Authentication the new ECE Portal will integrate with ADEConnect. The project will commence load and scalability testing with the ADE Connect integration to ensure appropriate performance is maintained.

B. Existing Technology Environment

The proposed technical environment is illustrated below.

C. Selection Process

Other Alternatives Considered

I. The “Do Nothing or “Use Existing Systems” Alternative

ADE does not have an ECE system that can meet all of the current and future ECE services required by the US Department of Education. Existing tools in place cannot provide all of the technology components identified in **Section III B**. ADE must have a system that meets the requirements of the US Department of Education or be at risk of not fulfilling the requirements of the Grant. Without data integration preschools will not see their data in AZ Dash and other ADE systems. Also, ADE will be unable to track pre-school students’ progression through K-12 and college. The proposed solution involves new development and reuse of existing applications already developed to meet the business goals outlined above.

II. The “Commercial off the Shelf (COTS)” Alternative

There are no COTS solutions on the market or within ADE that can meet all of the requirements of the ECE US Department of Education Grant. COTS applications cannot provide the technology components identified in **Section III B**. ADE must develop a customized ECE system combined with reuse of existing ADE applications or be at risk of not fulfilling the requirements of the US Department of Education Grant.

IV. Project Approach

A. Project Schedule*

Project Start Date: 2/17/2015 **Project End Date:** 12/13/2018

B. Project Milestones

Major Milestones	Start Date	Finish Date
Initial Project Discovery	2/17/15	7/17/15
Develop GOLD to Operational Store (ODS) Data Collection Processes	6/15/15	7/31/15
Document Internal System Requirements	7/5/15	11/20/15
Extend ODS to Hold Profile Data	6/3/15	11/23/15
Develop AZELLA Student Level Data	11/23/15	2/19/16
Develop KPT Student Level Data	2/22/16	5/13/16
Develop AZ Merit Student Level Data	5/16/16	8/9/16
Develop Special Education Eligibility Category and Student Entry / Exit Data	8/10/16	11/3/16
Complete Development of Internal Applications Data	11/3/16	11/3/16
Document External System Requirements	11/23/15	4/1/16
Develop Collection Process for Kindergarten	5/16/16	9/21/16
Complete Development of Collection Processes for External Systems and Applications Data	3/1/18	3/1/18
Develop Web Portal for ECE	1/22/16	3/8/18
Develop Dashboards	1/22/16	12/13/18
Develop Reports	12/6/16	12/13/18
Complete Project	12/13/18	12/13/18

V. Roles and Responsibilities

A. Project Roles and Responsibilities

Role	Responsibilities	Person
Project Sponsor	High level decision maker	Carol Lippert
ADE IT CIO	High level decision maker	Mark Masterson
ADE CTO	High level decision maker	Ed Jung
Senior Project Manager	Medium level decision maker	Ed Block
Project Manager	Manage project	Tom Watkins
Operations/Network Engineer	Provide operations supports	Robert Callahan
Solution Architect	Technical approach and design	Ashman Deokar

Business Analyst	Documentation	Tina Daniels
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Project Sponsor – The project sponsor will represent ADE’s business needs for the project. The Sponsor serves as providing the agency’s commitment to the project, and signs off on any changes or acceptance criteria for agreed-upon deliverables. The project sponsor also provides guidance to the service delivery manager and project manager regarding general policy or outcomes.

Project Manager – The project manager serves as the lead for the project and ensures fulfillment of tasks and outcomes for the project. This manager is also the point person for interactions with the vendor and any other contractors brought on to implement the project. The project manager is expected to:

- Plan and conduct meetings with the project sponsor
- Develop the overall Project Plan
- Manage individual tasks and the resources assigned to accomplish tasks
- Direct the issue management process
- Complete status reports for ADE audiences
- Manage any changes in scope
- Conduct weekly project meetings
- Sign-off on deliverables or change orders along with the Project Sponsor

Solutions Architect – The solutions architect is a vital member of the project team and will assist the project team in reviewing the solution in accordance with ADE standards and guidelines. The solutions architect will assist the project team in resolving issues surrounding the hosting and integration with various systems as they arise during implementation.

Business Analyst – The business analyst serves as the lead for translating business requirements into a format understandable for the technical team. The analyst will handle ongoing issues and requirement changes as they arise.

Operations/Network Engineer – The operations/network engineer will monitor the system as needed.

B. Project Manager Certification

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

C. Full-Time Employee (FTE) Project Hours

Total Full-Time Employee Hours	9,690
Total Full-Time Employee Cost	473,322

VI. Risk Matrix, Areas of Impact, Itemized List, PIJ Financials

VII. Project Approvals

A. Agency CIO Review*

Key Management Information	Yes	No
1. Is this project for a mission-critical application system?	X	
2. Is this project referenced in your agency's Strategic IT Plan?		X
3. Is this project in compliance with all agency and State 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 , and applicable to this project? If NO , explain in detail in the "XI. Additional Information" section below.	X	
4. Will this project transmit, store, or process sensitive, confidential or Personally Identifiable Information (PII) data? If YES , in the "XI. Additional Information" section below, describe what security controls are being put in place to protect the data.	X	
5. Is this project in compliance with the Arizona Revised Statutes (A.R.S.) and GRRC rules?	X	
6. Is this project in compliance with the statewide policy regarding the accessibility to equipment and information technology for citizens with disabilities?	X	

B. Project Values*

The following table should be populated with summary information from other sections of the PIJ.

Description	Section	Number or Cost
Assessment Cost (if applicable for Pre-PIJ)	II. PIJ Type - Pre-PIJ Assessment Cost	N/A
Total Development Cost	VII. PIJ Financials tab	\$2,203,267
Total Project Cost	VII. PIJ Financials tab	\$2,203,267
FTE Hours	VI. Roles and Responsibilities	9,690

C. Agency Approvals*

Contact	Printed Name	Signature	Email and Phone
Project Manager:	Tom Watkins		
Agency Information Security Officer:	Robert Callahan		
Agency CIO:	Mark Masterson		
Project Sponsor:	Carol Lippert		
Project Sponsor:	Shari Zara		
Agency Director:	Michael W. Bradley		

VIII. Optional Attachments

A. *Vendor Quotes*

IX. Security Controls

Collaboration with the ADOA-ASET Security, Privacy and Risk (SPR) team may be needed to complete this section, which is only required for those projects that involve data that is Protected or Hosted outside of the Agency or State Data Center. Additional information can be found in the NIST FRAMEWORK section under RESOURCES at <https://aset.az.gov/resources/psp> or you may wish to contact ASET-SPR directly at secadm@azdoa.gov for assistance.

A. *Protected Data*

ADE may decide to use Microsoft Azure Cloud - Infrastructure as a Service (IaaS) for processing. Connectivity between ADOA datacenter and Azure Cloud IaaS occurs over Point to Point VPN. ADOA is currently reviewing baseline security controls for the Microsoft Azure Cloud platform.

B. *Hosted Data*

Check here if the <https://aset.az.gov/arizona-baseline-security-controls-excel> spreadsheet is attached. Otherwise explain below what information/ support is needed to complete the spreadsheet and/or why no sheet is attached:

See Attachments section for attached Controls Excel file.

Check here if a Conceptual Design / Network Diagram is attached. Otherwise explain below what information/support is needed to complete the diagram and/or why no diagram is attached:

See embedded diagrams above

X. Additional Information

XI. Attachments

The following are examples of supporting documents that should be sent as email attachments when required:

- A. Attachment for section VII Security Controls :

XII. Glossary

- GOLD – Early childhood development assessment and tracking application GOLD® online hosted by Teaching Strategies GOLD.
- ECE – Early Childhood Education

XIII. Additional Information

Links:

[ADOA-ASET Website](#)

[ADOA-ASET Project Investment Justification Information Templates and Contacts](#)

Email Addresses:

[Strategic Oversight](#)

ADOA-ASET_Webmaster@azdoa.gov