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May 21, 2015

The Honorable Diane Douglas
Superintendent of Public Instruction
Arizona Department of Education
1535 West Jefferson Street
Phoenix, AZ 85007

The Honorable Diane Douglas:

In response to the Project Investment Justification (PIJ) for the “**AELAS Arizona Education Data Standard (AzEDS)**” project, my staff has reviewed your proposal to process data submitted by Local Education Systems into the Ed-Fi data model and the Common Education Data Standards (CEDS).

The PIJ implied funding was available from the FY2016 Automation Projects Fund (APF) in the amount of \$2,000.0 thousand for the total five-year life cycle cost of the project of \$2,000.0 thousand.

This is notification of the Arizona Strategic Enterprise Technology Office's recommendation to the Information Technology Authorization Committee (ITAC) for **Approval with Conditions** of the technology project as follows:

1. ADE shall provide an informational update to ITAC on a quarterly basis, or as otherwise requested, to include the required third party review report currently provided to ADOA-ASET and JLBC. Should the quarterly update indicate that this project or other associated projects are at risk of failing to achieve intended results, ADOA-ASET may recommend that future funding be temporarily suspended pending the successful implementation of the risk mitigation plan. ADE will include ADOA-ASET in all meetings with the 3rd party review consultants until the risk mitigation plan is fully implemented.
2. ADE shall identify a funding source for the development costs associated with the project beyond the current FY2016 APF allocation.

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The ITAC is scheduled to meet on May 27, 2015 to review this project.

Should the ITAC approve the project, you may then proceed to secure additional approvals as required from the Joint Legislative Budget Committee, the Office of Strategic Planning and Budgeting, and the State Procurement Office.

Best Wishes,



Michael J. Lettman
Acting State CIO and Chief Information Security Officer
Arizona Strategic Enterprise Technology (ASET) Office

cc

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ASET# ED15004

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PIJ Summary - ASET

Project Number: ED15004

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<i>Project and Investment Justification Name</i>	<i>Date Submitted</i>
AELAS Arizona Education Data Standard (AzEDS)	May 05, 2015

Project Overview

Problem Description

The initial AELAS Standardized Student Data Store (under PIJ ED14004) created and implemented the foundation infrastructure which this PIJ will be utilizing and extending. The complexity of that project provided insight into additional support tools that ADE will need to create in order to support and maintain data integrity.

The infrastructure design is tightly aligned and extended from the Ed-Fi data model and the Common Education Data Standards (CEDS). The Ed-Fi data model is organized into 16 base domains. Domains serve to provide views of the Ed-Fi Unifying Data Model to assist in its understanding and its application. In many cases, a specific Ed-Fi data exchange schema may only deal with data in a single domain, such as assessment or enrollment. In other cases, it may span several domains, such as with a student transfer record.

Due to the complexities associated with the Ed-Fi data model, some Student Information Systems (SIS) vendors were not ready to submit data on the original schedule, and sufficient Local Education Agency (LEA) integration testing has not been completed prior to the cut over deadlines. Furthermore, ADE departments did not have a full understanding of how they would extract and use the Ed-Fi data.

Solution

The data submitted by the LEAs in Fiscal Year 2016 will be processed from either Student Accountability Information System (SAIS) submissions, or from submissions to the AzEDS Application Programming Interface (API), with data cross populated to support the SAIS and the AzEDS systems running in parallel. SAIS will be maintained as the system of record while LEAs are given time to incrementally (by LEA) migrate data submissions via the AzEDS API. Data submitted in AzEDS will be pushed back into SAIS, as well as submitted SAIS data will be pushed into AzEDS. This will allow for a transition over the year until June 2016 when AzEDS will become the system of record. This solution provides more time for vendors and LEAs to validate and configure the system to submit data.

LEAs will receive notifications if their SIS vendors are not certified and will be encouraged to migrate to a SIS vendor who is. LEAs have already been notified that if they do not submit data in the new format, they will not receive state funding.

Major Deliverables and Outcomes

Release 2.1 Certification

In Fiscal Year 2016, ADE will create certification scenarios for Release 2.1 and have the vendors certify that they are accurately submitting the data for Release 2.1 components.

Milestones:

- Create Vendor Certification: 10/31/2015
- Publish Vendor Certification: 1/30/2016

Assumptions:

- Release 2.1 will contain Grand Canyon and Dropout Recovery data only
- The Grand Canyon and Dropout Recovery data collected in AzEDS for Fiscal Year 2016 will not be used by ADE

Reports

In Fiscal Year 2016, ADE will create reports from the new system for various stakeholders including Federal Reports to receive federal money for programs; AzEDS summary reports to review student data collected; and LEA reports to support the validation of the new system. In addition, ADE will create internal agency reports to provide information to agency employees.

Milestones:

- 8 reports completed: 9/30/2015
- 6 reports completed between 10/1/2015 and 12/31/2015
- 5 reports completed between 1/1/2016 and 3/31/2016

Assumptions:

- Release 2.1 has all the data needed to create Federal reports.
- The reports will use the AZ Dash reporting portal solution.
- Federal Regulations do not change during the Fiscal Year 2016.

Support Tools

In Fiscal Year 2016 ADE will create reports and users screens for internal ADE users to provide information and support LEA on the data they submitted. ADE will initially create manual data scripts and reports of the tools in Excel while supporting the application, and then migrate them into an application for long term use by the Help Desk.

Milestones:

- Complete design of support tools: 8/1/2015
- Complete development and testing of support tools*
- Complete user acceptance testing of support tools*
- Complete deployment and implementation of support tools*

*(Date will be determined after Design Milestone)

Assumptions:

- Design for the support tools will be completed by 6/30/15 and the rest of the development activities will occur in Fiscal year 2016.
- New support tools will not need to go through Security Penetration testing.
- Performance testing will not be needed on support tools.
- The current solution has logging turned on and the data needed for support tools is captured in the current solution.
- Support tools will first be created to be executed manually then automated as the solution is rolled out.
- Able to create a log of who has changed the data and what data was changed using the support tools for audit purposes.

SAIS to AzEDS integration

The data submitted to SAIS by the LEAs will be duplicated and then will feed the AzEDS system. This will allow AzEDS to have the same data as SAIS which can be tested in parallel during Fiscal Year 2016.

Milestones:

- Complete SAIS to AzEDS Integration requirements and design: 7/17/2015
- Complete SAIS to AzEDS Integration development and testing: 8/7/2015
- Complete SAIS to AzEDS Integration user acceptance testing: 8/21/2015
- Complete SAIS to AzEDS Integration deployment and implementation: 9/1/2015

Assumptions:

- After the data is initially captured in SAIS, the approach will be to submit the data through the REST API via schedule batch job.

Data Validation Service

Data from the new Ed-Fi Student Data Interchange will be compared and verified against SAIS Transaction and Integrity. This will allow for accurate testing of the AzEDS system prior to it becoming the system of record.

Milestones:

- Complete Data Validation Service requirements and design: 8/1/2015
- Complete Data Validation Service requirements development and testing: 9/15/2015
- Complete Data Validation Service requirements user acceptance testing: 9/30/2015
- Complete Data Validation Service requirements deployment and implementation: 10/15/2015

Assumptions:

- The report will be used by ADE employees to verify the accuracy of the new system.

915 Process / Data Collection

ARS § 15-915 allows an LEA to amend the past three years of data for correction of state aid or budget limit errors, which may result in correction of payment amounts. In Fiscal year 2016 ADE will develop functionality that supports the submission of “915” adjustment transactions into the AzEDS system for use by the School Finance Department. This requires potential development and testing cycles with each of the SIS vendors.

Milestones:

- Complete requirements and design of 915 Processes: 8/30/2015
- Complete development and testing of 915 Processes*
- Complete user acceptance testing of 915 Processes*
- Complete deployment and of 915 Processes*

*(Date will be determined after Design Milestone)

Assumptions:

- The LEAs will maintain the data through their SIS vendor solution and stay the system of record for their student data.
- No new API will be needed in the data submittal process so security testing is not required. If new API is required, testing will be included.
- Vendors are able submit for prior fiscal years. State law does not change for this function.

Unique ID / Split Merge

The default Ed-Fi interchange provided by DLP (vendor partner for Ed-Fi Alliance) does not handle the volumes needed by Arizona. The default solution also does not address the need to provide correct unique id to students in case where one student has been assigned two unique ids (Merge) or also when a single id has been assigned to two students (Split). ADE is required to develop a solution that can handle the state student population volume, utilize better search criteria and add clean up data tasks to handle data entry mistakes.

Fiscal Year 2016 Objective of Split/Merge: In order to maintain accurate student and staffing counts, ADE needs a mechanism to flag data that was entered incorrectly through name changes and data entry mistakes. The system needs to be able to identify the master record and correct data entry mistakes by merging records that were entered incorrectly or splitting records into two. ADE needs a mechanism to transmit flagged data to SIS vendors so they can accurately correct the data maintained by LEAs.

Milestones:

- Complete requirements gathering for Split/Merge: 6/30/2015
- Complete Design Split/Merge: 7/31/2015
- Complete development and testing of Split/Merge*
- Initiate vendor certification of Split/Merge*

- Complete vendor certification of Split/Merge*
 - Complete user acceptance testing of Split/Merge*
 - Complete deployment and implementation of Split/Merge*
- *(Date will be determined after Design Milestone)

Assumptions:

- ADE will identify data entry mistakes across LEAs and provide that information to LEAs.
- Vendor certification of the function will occur to validate that data passing between ADE and LEA is correct.
- Training for LEA administrative staff and internal users will be provided by their SIS vendor.
- The SIS vendors may need to modify their systems to consume Unique ID changes as determined by the ADE Unique ID component.
- Security testing will need to occur on the data entry points from SIS vendors.

Project Implementation

ADE will provide support on the Ed-Fi model and state reporting to the LEAs during the pilot period with each SIS vendor, and assist in rollout to the AzEDS Rest API Services in Fiscal Year 2016. Plan goal will be up to 90 LEAs migrating per month after the SIS pilot period.

Milestones:

- Complete vendor readiness: 7/15/2015
- Complete vendor implementation: 6/01/2016
- Complete LEA readiness: 8/15/2015
- Complete LEA implementation: 6/30/2016
- Complete production implementation for Pilot LEAs 9/1/2015

Assumptions:

- The majority of SIS vendors will have passed Release 2 certification by June 2015. Otherwise the LEAs of non-certified vendors will be asked to switch to SIS vendors.
- ADE will provide support on both current and future releases to vendors and LEAs.
- Pilot will consist of 1 to 3 LEAs per vendor.
- Training materials will be created and provided to LEAs by ADE and SIS vendors.

Version 3

The following Data Domains will need to be implemented using the Ed-Fi model to complete the deliverable of reducing agency applications in Fiscal Year 2017

1. Community College
2. LEA/School Calendar
3. Bell Schedule
4. Graduation

5. AZ Safe (Discipline)

Milestones:

- Complete requirements gathering of Version 3: 8/1/2016
 - Complete design of Version 3: 9/1/2016
 - Complete development and testing of Version 3*
 - Initiate vendor certification of Version 3*
 - Complete vendor certification of Version 3*
 - Complete security penetration of Version 3*
 - Complete performance testing of Version 3*
 - Complete user acceptance testing of Version 3*
 - Complete deployment and implementation of Version 3*
- *(Date will be determined after Design Milestone)

Assumptions:

- ADE will continue to use the Ed-Fi model for data collection.
- New API version released for data collection will need security testing.
- Vendor certification will be required to ensure correct submittal of data, otherwise LEAs will not receive Keys to submit data.
- Six months lead time will be required to provide vendors requirements in order for them to incorporate changes.
- Each component will:
 - Enable REST API
 - Incorporate integrity rules through InRules
 - Have reports to validate the data
 - Transport the data to the Agency ODS

New Charter Estimated Counts –

As part of the overall 915 process and the initial analysis of the current submission for charter estimated counts, the project calls for additional requirements analysis and design for Ed-Fi because of some concerns with accuracy and timeliness in the data submission. The Ed-Fi solution can be used to increase accuracy and efficiency in the data gathering techniques that are then used in the payment calculations.

The objective of this feature is to implement more accurate estimates of charter counts than the online application being used today. The data will be used to project payments for charter schools until they reach their 40th day in which the data collected is used to forecast payments. The approach will use the data the charter schools submitted through AzEDS at the beginning of the year.

Milestones:

- Complete design for Charter Estimated Counts: 7/31/2016
- Complete development and testing for Charter Estimated counts*
- Complete user acceptance testing for Charter Estimated Counts*
- Complete deployment and implementation of Charter Estimated Counts*

*(Date will be determined after Design Milestone)

Assumptions:

- No new data collection will be needed.
- As no new API is needed, security testing is not required.
- No additional SIS vendor requirements or work is needed.

New Student Information Rules Service

The Exceptions Web service exposes the business rule exceptions so the SIS can consume the status of their transactions submitted and have the LEA data steward correct the exceptions. This function will be a future enhancement to be completed in Fiscal Year 2017.

Milestones:

- Complete design for Student Information Rules: 7/30/2016
- Complete development and testing for Student Information Rules*
- Complete user acceptance testing for Student Information Rules*
- Complete deployment and implementation of Student Information Rules*

*(Date will be determined after Design Milestone)

Overall Project Milestone Table

MILESTONE	ESTIMATED COMPLETION DATE
Release 2.1 Certification	
Create Vendor Certification	10/31/2015
Publish Vendor Certification	1/30/2016
Reports	
8 reports completed	9/30/2015
6 reports completed between 10/1/2015 and 12/31/2015	12/31/2015
5 reports completed between 1/1/2016 and 3/31/2016	3/31/2016
Support Tools	
Complete design of support tools: 8/1/2015	TBD
Complete development and testing of support tools*	TBD
Complete user acceptance testing of support tools*	TBD
Complete deployment and implementation of support tools*	TBD
SAIS to AzEDS integration	
Complete SAIS to AzEDS Integration requirements and design	7/17/2015
Complete SAIS to AzEDS Integration development and testing	8/7/2015
Complete SAIS to AzEDS Integration user acceptance testing	8/21/2015
Complete SAIS to AzEDS Integration deployment and implementation:	9/1/2015
Data Validation Service	
Complete Data Validation Service requirements and design	8/1/2015

Complete Data Validation Service requirements development and testing	9/15/2015
Complete Data Validation Service requirements user acceptance testing	9/30/2015
Complete Data Validation Service requirements deployment and implementation	10/15/2015
915 Process / Data Collection	
Complete requirements and design of 915 Processes	8/30/2015
Complete development and testing of 915 Processes*	TBD
Complete user acceptance testing of 915 Processes*	TBD
Complete deployment and of 915 Processes*	TBD
Unique ID / Split Merge	
Complete requirements gathering for Split/Merge	6/30/2015
Complete Design Split/Merge	7/31/2015
Complete development and testing of Split/Merge*	TBD
Initiate vendor certification of Split/Merge*	TBD
Complete vendor certification of Split/Merge*	TBD
Complete user acceptance testing of Split/Merge*	TBD
Complete deployment and implementation of Split/Merge*	TBD
Project Implementation	
Complete vendor readiness	7/15/2015
Complete vendor implementation	6/01/2016
Complete LEA readiness	8/15/2015
Complete LEA implementation	6/30/2016
Complete production implementation for Pilot LEAs	9/1/2015
Version 3	
Complete requirements gathering of Version 3	8/1/2016
Complete design of Version 3	9/1/2016
Complete development and testing of Version 3*	TBD
Initiate vendor certification of Version 3*	TBD
Complete vendor certification of Version 3*	TBD
Complete security penetration of Version 3*	TBD
Complete performance testing of Version 3*	TBD
Complete user acceptance testing of Version 3*	TBD
Complete deployment and implementation of Version 3*	TBD
New Charter Estimated Counts	
Complete design for Charter Estimated Counts	7/31/2016
Complete development and testing for Charter Estimated counts*	TBD
Complete user acceptance testing for Charter Estimated Counts*	TBD
Complete deployment and implementation of Charter Estimated Counts*	TBD
New Student Information Rules Service	
Complete design for Student Information Rules	7/30/2016
Complete development and testing for Student Information Rules*	TBD
Complete user acceptance testing for Student Information Rules*	TBD
Complete deployment and implementation of Student Information Rules*	TBD

Benefits

Improvements in ADE’s data assets will eventually lead to replacing numerous applications with an integrated platform of core capabilities such as identity management, reporting, and a single business rules engine to meet the legislative changes in an efficient manner. Improvements at the agency will enable districts and charter schools to reconsider their resource allocation to data management, cleanup, and reaction to the constant requests from ADE for more data.

- Reduce the number of data elements utilized for LEA reporting
- Reducing the number of data collection points will eliminate the silo affect within the agency thus ensuring the data integrity
- Eliminate the redundancy of many student data elements collected by the various program areas within the agency
- Student Data elements used for reporting will be standardized within the agency
- Enable student-related data sharing in such a way as to minimize replication and errors
- Provide interoperability between the numerous program areas

The proposed changes to the project will enable ADE to fully operationalize the Student Education Data Store with available Ed-Fi compliant data domains.

Project Management

ADE contracted resources will manage the project, utilizing contracted Architects, Analysts and Developers to complete the project deliverables.

Enterprise Architecture

Compliant.

Summary of Proposed Costs

<i>All Figures in Thousands (\$000)</i>						
<i>Cost Description</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>Total</i>
Development Costs	2,000.0	0.0	0.0	0.0	0.0	2,000.0
Operational Costs	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Costs	2,000.0	0.0	0.0	0.0	0.0	2,000.0

Recommendation: Approval with Conditions

1. ADE shall provide an informational update to ITAC on a quarterly basis, or as otherwise requested, to include the required third party review report currently provided to ADOA-ASET and JLBC. Should the quarterly update indicate that this project or other associated projects are at risk of failing to achieve intended results, ADOA-ASET may recommend that future funding

be temporarily suspended pending the successful implementation of the risk mitigation plan. ADE will include ADOA-ASET in all meetings with the 3rd party review consultants until the risk mitigation plan is fully implemented.

2. ADE shall identify a funding source for the development costs associated with the project beyond the current FY2016 APF allocation.