

# Arizona's Education Transformation



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# Arizona Education Learning and Accountability System (AELAS)

- ARS 15-249 enacted in 2010
  - Maintain longitudinal, student level data, including student demographic, grade level, assessment, teacher assignment and other data required to meet state and federal reporting requirements (**AZDash, ODS, OEMS, AzEDS**)
  - Incorporate the student accountability information system (**SAIS replacement**)
  - Be accessible through commonly used internet web browsers to carry out the data collection, compilation and reporting duties (**ADEConnect**)
  - Create detailed plan to develop AELAS

# 2012 AELAS Business Case

## *Create detailed plan to develop AELAS*

- Year-long research project surveying educators and administrators throughout state
  1. Replace SAIS
  2. Reduce data collections and redundancy
  3. Develop actionable dashboards for educators and administrators
  4. Create teaching and learning tools available by state

# SAIS replacement

*Incorporate the student accountability information system*

- Catastrophic failure inevitable on out-of-support technology
  - \$1,700,000 for basic system stabilization
  - \$1,500,000 to complete reverse engineering
  - \$ 650,000 for Enterprise-level architecture ([ED14004](#))
  - \$ 500,000 for functional user requirements ([ED14004](#))
- Stabilization efforts led to high-level design of 2 components of SAIS replacement
  - Student (AzEDS)
  - School Finance (APOR, CHAR, IIF, CSF, Data Push)

# AzEDS development

*Incorporate the student accountability information system*

- Adopted physical and logical data models ([ED14002](#), [ED14004](#), [ED15004](#), [ED16002](#))
  - Implemented data governance program
- Ed-Fi Alliance provided Operational Data Store (ODS) framework and APIs for data transmission ([ED14004](#), [ED14013](#), [ED15004](#))
  - ADE has customized to meet Arizona needs but is still a sharable standard across states
- 13 student information system vendors had to reconfigure their systems to meet new standards
  - Estimated a 6-12 month process but took 18 months to execute
- Required changes in way LEAs collect and transmit student-level data

# AzEDS architecture components

*Incorporate the student accountability information system*

- Organizational Data Stores (ODS) **(ED14004)**
  - Development team working on connecting to other agency data systems
  - Making data consumable throughout the agency
- Organizational Entity Management System (OEMS) **(ED14009)**
  - Database structure governing entity attributes
  - Significant interface with payment systems that requires connections to AzEDS
- Fundamental change in way data is collected, stored and managed

# School Finance refactoring

*Incorporate the student accountability information system*

- Smaller payment streams have been automated (**ED14002**)
  - Automated and decommissioned 29 of 48 manual calculations
  - Processing times reduced from days to minutes
  - \$1,500,000,000 processed by these smaller systems
- Incremental approach to allow perfect and test technology before impacting major systems
- Funding commitment needed to begin work on remaining large payment streams
  - Focus on stand-alone projects to ensure system continuity
- \$4,500,000,000 in state aid payments processed on 1990s technology
  - Manual calculations
  - Remains a significant risk for catastrophic failure with no support

# AZDash development and implementation

## *Maintain longitudinal, student level data*

- Longitudinal data system required by AELAS legislation
- Leveraged federal grants to create connection to existing data warehouse and user-friendly visual reports ([ED14006](#))
- Federated single-sign on security system (ADEConnect) ([ED14006](#))
- Funding provided in FY 2015 to deploy statewide
- No new funding to incorporate new reports or user enhancements

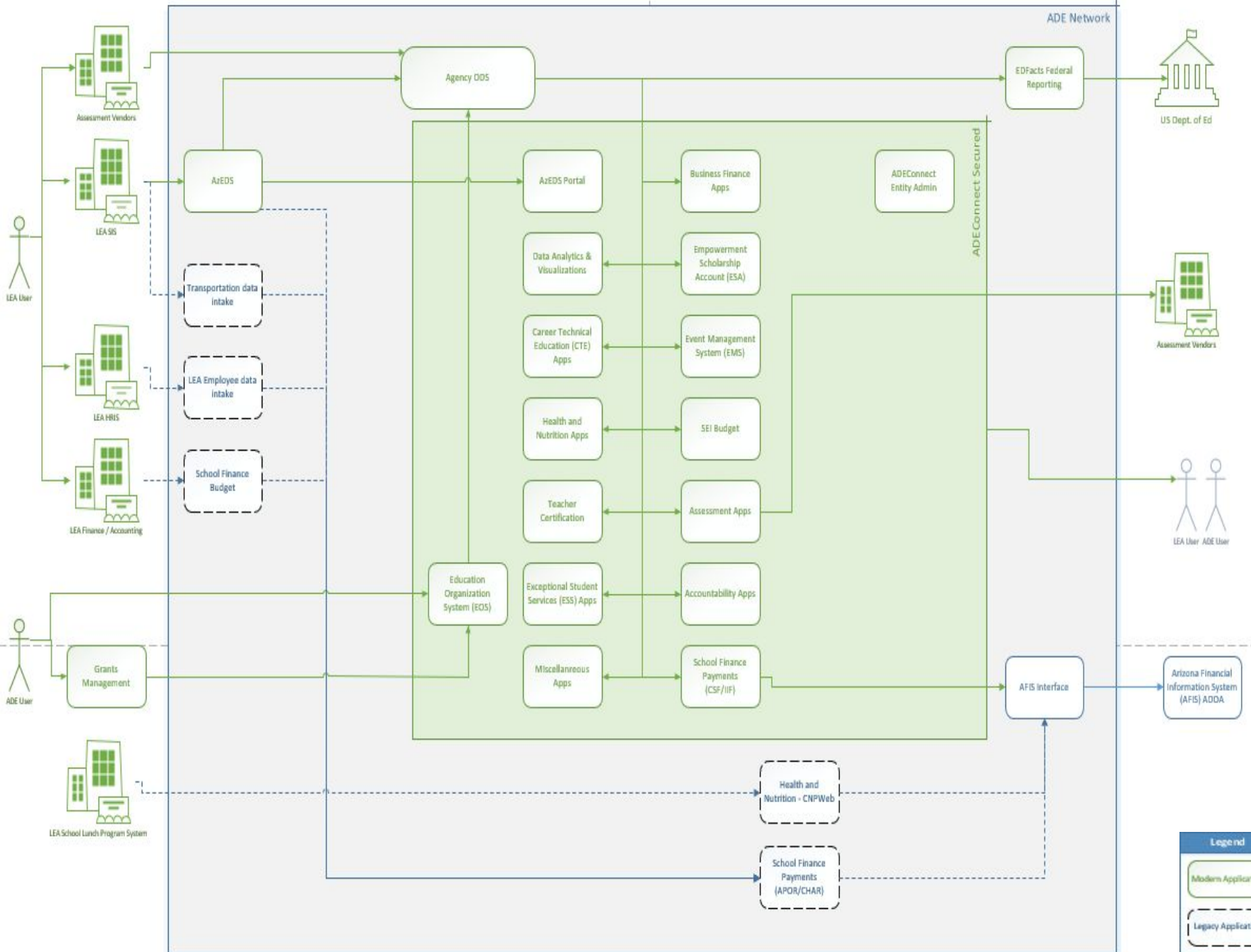


# Teacher and Learning tools (opt-in)

- Leverage state purchasing power and technological expertise to procure cost-effective educational software solutions
- Instructional Improvement System (*ED14007, ED14008, ED14014*)
  - Interconnected and interactive tools to allow educators to make data-driven decisions
  - Highest priority identified by AELAS Business Case researchers
- Statewide Student Information System (SSIS) (*ED14005*)
  - Negotiate a state rate for student management system needed for day-to-day school operation

# Differences between AELAS Business Case and implementation

- System maintenance was not accounted for
- Overestimated ability of LEAs to take on new systems/processes
  - Changes have been rolled out more slowly than estimated
- Software vendors unable to keep pace with ADE's timelines
  - ADE and LEAs had to maintain 2 systems during AzEDS transition
- Teaching and learning tools were not supported by Legislature
  - Limited time and resources have been dedicated to the top need identified
- Appropriations never matched funding requests



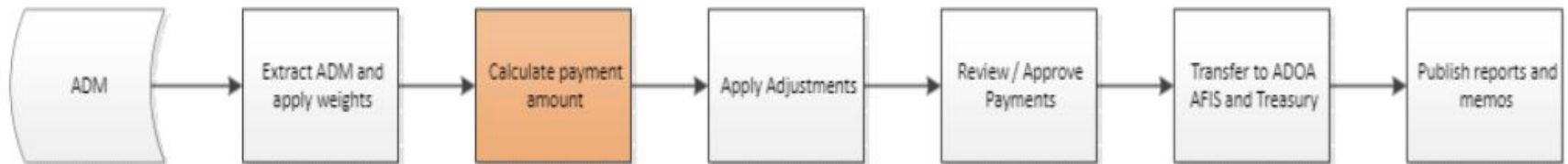
# AELAS sustainability

- Support and maintenance budgets for each component
  - Internal review and approval process with stakeholders, CFO and representative of the administration
  - Stakeholders identify system enhancements prior to fiscal year
  - Monthly reviews
- All AELAS development was built and operates in cloud environment
  - APOR/CHAR infrastructure and code too out of date for cloud technology
  - Remains security risk for state

# Remaining AELAS development

## *Incorporate the student accountability information system*

- Replace APOR/CHAR School Finance payments system
  - Use the foundational blocks that CSF and IIF developed
  - Building blocks for extracting ADM, applying adjustments, approving payments, transferring to AFIS and publishing reports were already built out
- ADE to take the same approach to the design and development of APOR/CHAR



- Final AELAS PIJ submitted to ADOA-ASET team for review (**ED19002**)
  - Pending legislative appropriation

# Thank You



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