WE'RE TAKING INTEROPERABILITY STATE-WIDE

SETDA EDUCATION TECHNOLOGIES LEADERSHIP FORUM
JUNE 22, 2019
PROJECT UNICORN STATE COMMITMENT TO PRINCIPLES
The Council of Chief State School Officers (CCSSO) is a nonpartisan, nationwide, nonprofit organization of public officials who head departments of elementary and secondary education in the states, the District of Columbia, the Department of Defense Education Activity, the Bureau of Indian Education and the five U.S. extra-state jurisdictions.

Project Unicorn is an effort to improve data interoperability within K-12 education. We aim to create a community of innovators who make the broader case for secure interoperability by determining shared priorities, working in partnership with school systems and vendors to understand its importance and benefits, and educating buyers to consider the total cost of ownership.

The State Educational Technology Directors Association (SETDA) is a not-for-profit membership association launched by state education agency leaders in 2001 to serve, support and represent their emerging interests and needs with respect to the use of technology for teaching, learning, and school operations.
CORE PRINCIPLES

COLLABORATION  DEMAND  ADVOCACY  AWARENESS  ACCOUNTABILITY
NEW CLAUSES

1. ENCOURAGE
   best practices, share resources, and educate stakeholders on interoperability.

2. ENABLE
   collaboration across the agency ecosystem.

3. ESTABLISH
   a data governance structure.

4. COLLABORATE
   with districts and schools to support the implementation of interoperable data systems.

5. ADVOCATE
   for the implementation process of interoperable data infrastructure with vendors.

6. PRACTICE
   implement, and support districts with best privacy practices.
SUPPORT YOUR STATE COMMITMENT
If you're interested in being a leader for interoperability in your state, support the principles of the State Commitment.

TALK TO OTHER STATE LEADERS
Ask other state leaders who have implemented interoperability in their state agency to show you how.

REACH OUT AND LEARN MORE
Reach out to the teams at CCSSO, SETDA, and Project Unicorn for resources and information on how you can take next steps.

CONSULT THE CASE STUDIES
Visit our website for two case studies with Michigan and Oklahoma to see how they got started. Check this page for new updates and resources.
STATES LEADING INTEROPERABILITY:

OKLAHOMA'S INTEROPERABILITY STORY
AGENDA

- Oklahoma State Department of Education Snapshot
- The Wave
- Key Considerations for The Wave
- Building District Buy-In
- The Solution
- Automation and Real-Time Data
- The SIF Implementation
- Where Oklahoma SDE is Now
- Highlights and Features
- What’s Next?
OKLAHOMA STATE DEPARTMENT OF EDUCATION

SNAPSHOT:

512 School Districts
28 Charter Districts
1,795 Schools
693,700 Students
THE WAVE

2004

IN YEAR ONE

Oklahoma passes a law in 2004 requiring that by the 2005-2006 school year, any Student Information System or Learning Management System would have to send data via the Schools Interoperability Framework (SIF).

IN YEAR FIVE

Ensure that all SIS tools reported to the SDE utilizing XML (Extensible Markup Language) and automatically generate and send student unique ID, the STN (Student Testing Number).

Hire a vendor that could perform the needed requirements. CPSI hired in 2005.

IN YEAR TEN

Enable SDE staff to manage data for statistical reporting at state level, routinely provide information to districts, satisfy federal reporting requirements, and manage data for decision-making including how it addresses accountability issues, student mobility, longitudinal studies, emerging policy matters, federal reporting mandates.
KEY CONSIDERATIONS FOR THE WAVE

HEAVY PERFORMANCE REQUIREMENTS
With over half a million students and more than 540 districts, the solution had to meet heavy performance requirements.

FAIL-SAFES FOR RURAL & URBAN DISTRICTS
System needed to allow for connectivity issues common to rural districts as well as larger amounts of data from larger districts.

DISTRICTS NEED TO LEARN DATA MANAGEMENT
The data in the SIS had to be accurate since the districts are no longer just exporting files and modifying spreadsheet data before sending.

INCOMING DATA HAS TO BE VALIDATED
The state needed to implement a way to validate incoming data to know if it matched state business rules.
OKLAHOMA STATE
DEPARTMENT OF EDUCATION
THE SOLUTION:

DATA SECURITY MEASURES
Users needed to view data securely while maintaining state flexibility. CPSI designed a web-based user interface to deliver reports to users about validation errors. All components are housed securely within the SDE.

CPSI IMPLEMENTS THE WAVE
CPSI was hired to implement The Wave, with a hardware structure and plan of action to implement STN automation and Wave reporting structures as well as assist with Oklahoma SIF specification.

OKLAHOMA SIF SPECIFICATION
The SDE and SIF worked to produce the 1.5r1 specifications with extended objects. SIS vendors had to meet this certification.

DEFINE STN HANDLING
Oklahoma SIF specification defined requirements for handling the STN by implementing CPSI tools including xDZIS, xDValidator, and xDStore. This helped manage assignments of STNs and resolve ambiguous issues with students.
IMPORTANCE OF AUTOMATION AND REAL TIME DATA

- Data automation is critical to the success of the project. File uploads over SFTP and other traditional methods have too many areas for critical failure in data delivery.

- Collecting data automatically and directly from the source in real-time enabled the SDE to have a constant flow of data for STN assignment and data collection.

- The SDE could deliver STN numbers back to the SIS systems in real-time.
SIF IMPLEMENTATION AND OBJECTS

THE SDE CONTINUES TO UPDATE FRAMEWORKS AND EXPAND REQUIREMENTS FOR SUPPORT FROM VENDORS.

- AttendanceCodeInfo
- CalendarDate
- CalendarSummary
- DisciplineIncident
- LEAInfo
- RoomInfo
- SchoolCourseInfo
- SectionInfo
- StaffAssignment
- StaffPersonal
- StudentAcademicRecord
- StudentAttendanceSummary
- StudentContact
- StudentDailyAttendance
- StudentPeriodAttendance
- StudentPersonal
- StudentSchoolEnrollment
- StudentSectionEnrollment
- StudentSectionMarks
- TermInfo
OKLAHOMA STATE DEPARTMENT OF EDUCATION
WHERE WE ARE NOW:

- The SDE is currently collecting and validating data for over **540** school districts seamlessly via automation.
- The SDE is also assigning STNs for over **693,700** students.
- The Wave system receives and average of **8,810** requests per week over **5** servers hosted at the SDE.
- Over **430** different validations occur against the **20** different objects collected on a daily basis, creating millions of data validations occurring on daily. Plus, the average time for validation and STN assignment is under **9** seconds.
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<th><strong>INCREASED EFFICIENCY</strong></th>
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<td>Increased efficiency in state reporting since districts do not have to “remember to report”</td>
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<th><strong>REAL-TIME DATA</strong></th>
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<td>SDE has access to current real-time data all year - not just at reporting periods</td>
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<th><strong>SIS REQUIREMENTS</strong></th>
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<td>All SIS vendors in the state are required by law to connect to the SDE via SIF Agents</td>
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<th><strong>AUTOMATIC &amp; SCALABLE</strong></th>
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<td>STNs are assigned automatically using the xDUID toolset from CPSI. xDStore gives the SDE the ability to expand data collection w/o the need for custom programming</td>
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<th><strong>SAVED MONEY &amp; TIME</strong></th>
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<td>Oklahoma State Department of Education has saved both money and time, allowing the SDE to do more with less resources</td>
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<th><strong>SECURE DATA MANAGEMENT</strong></th>
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<td>Districts can manage their own data securely over the web for data certification, reporting, and STN management</td>
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WHAT'S NEXT FOR OKLAHOMA SDE?

- Expanding to add a CEDS-base LDS by planning to use CPSI’s xDStore for CEDS/Generate transactional data store and data layer.

- SDE and CPSI are creating a data dictionary of the data used in the applications at the state level used in collections to create the mappings to CEDS using xDStore for CEDS/Generate in order to automate the movement of data into the data silos that will be used for data reporting.

- Retiring non-necessary legacy applications in order to reduce the maintenance burden on IT and data staff. This work is currently in progress, with an estimated completion date of July 2020.
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Roundtable Discussions
YOUR SUCCESS STORIES
Think about a successful project that you've worked on that required using data from multiple sources.

1. What was the project?
2. What different systems/data sources did you need to use for the project?
3. What value did the project provide to the organization?
4. How much time/effort did it take to retrieve all of the data for the project?
YOUR DATA DEFEATS
Think about a time when a project was not successful or think about the previous project.

1. What value was not delivered because the data were not accessible?
2. How does the lack of access to those data impact the work of your team?
3. How would more seamless access to the data affect the work of your team?
THINK ABOUT THESE PITFALLS
from '5 Pitfalls to Scale in Edu'
https://medium.com/@culatta/5-pitfalls-to-scale-in-education-e24288799c0

1. Ignoring context
2. Boiling the ocean
3. Over focus on tech
4. Under Focus on tech
5. Ownership and buy-in
SO... HOW DID YOUR PROJECT SOLVE FOR OR CONTRIBUTE TO THOSE PITFALLS?
WHAT WAS THE CLASSROOM AND LEARNER/LEARNING IMPACT?
DID IT ENGAGE PROGRAMS OUTSIDE OF IT/DATA? HOW?
HOW WAS DATA PRIVACY AND EFFECTIVE USE OF DATA ACCOMPLISHED (OR NOT)?
WAS IT SUSTAINABLE? HOW, OR WHY NOT? WHERE DOES IT GO NEXT?
QUESTIONS TO CONSIDER:

1. What continues to be the greatest challenge for interoperability/integration efforts moving forward?

2. If an organization could only do a single thing to improve data interoperability and integration, what would you suggest and why?
THANK YOU