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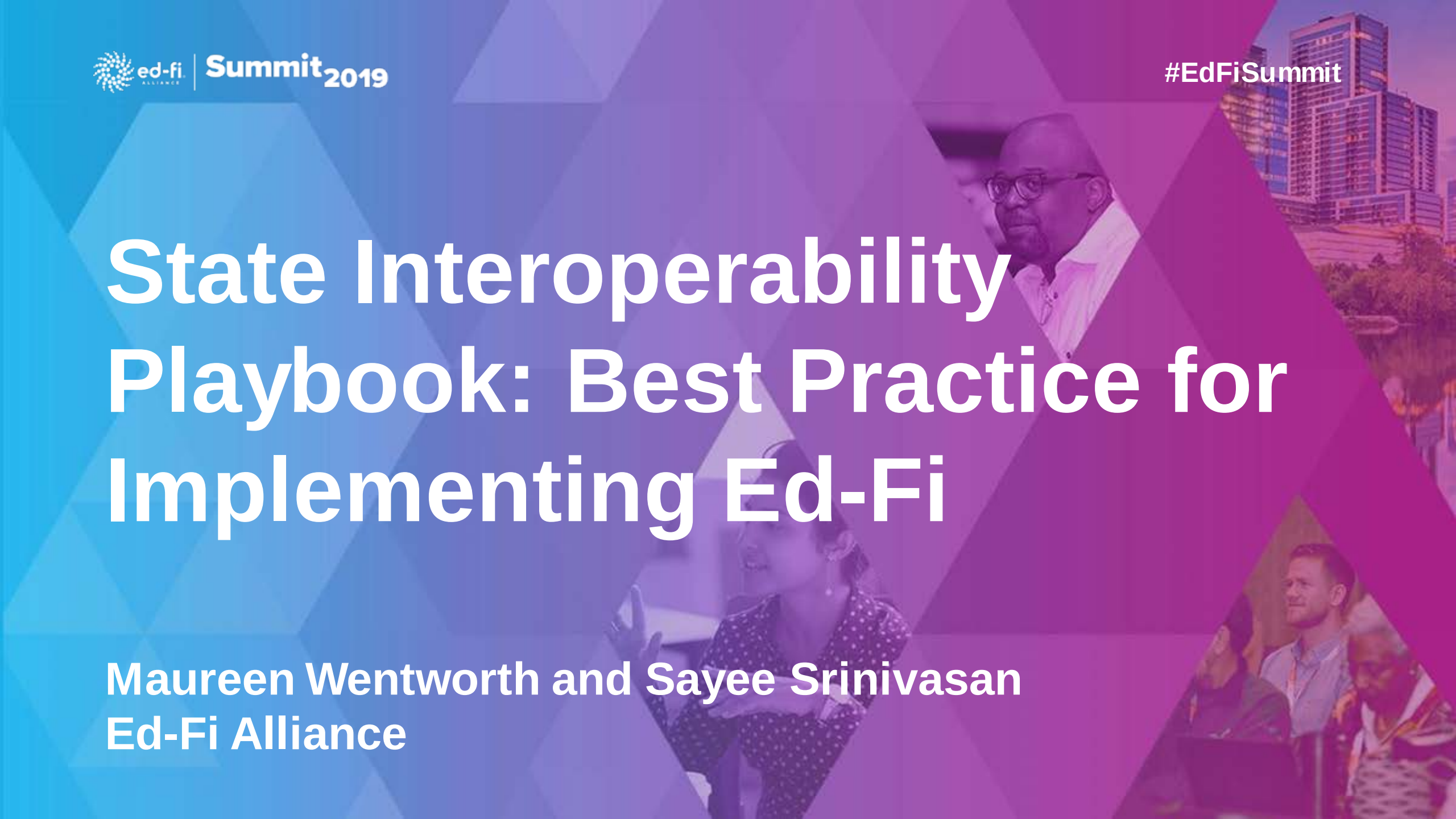

State Interoperability Playbook: Best Practice for Implementing Ed-Fi

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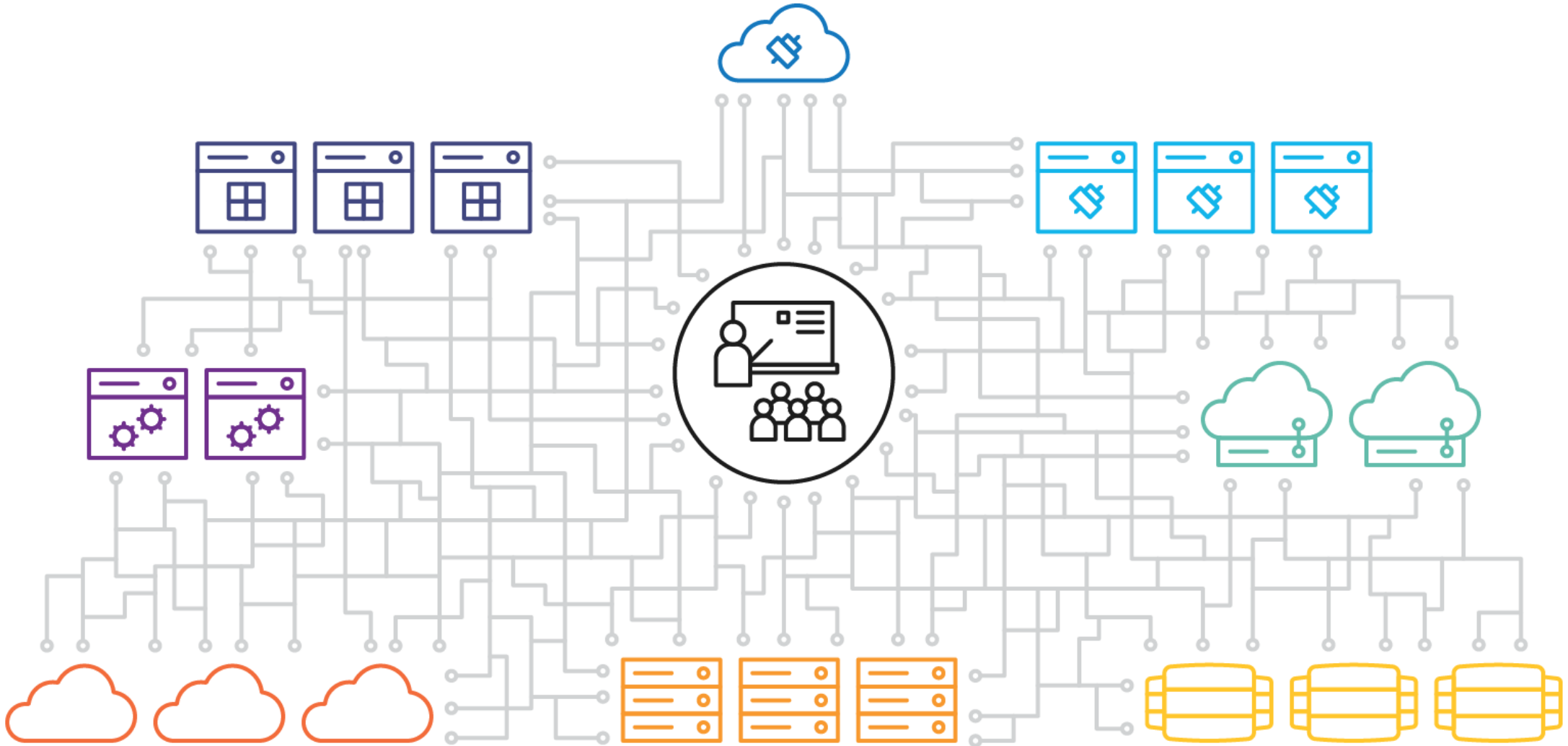
Ed-Fi Alliance



SEA Pain Points

Lack of a single data standard leads to data being inaccessible and not available for comparative analysis.

Data resides in silos creating challenges for integration and interoperability.

Isolated systems do not communicate with one another.

Local administrators and educators - especially those in low resource LEAs serving disadvantaged populations do not have access to real-time data.

Supporting real-time analysis of data with legacy systems is difficult.

data interoperability

— NOUN [/dae-tuh ˌin(t)ərˌäp(ə)rəˈbilədē/]

The seamless, secure, and controlled exchange of data between applications.


SIS Data
API
Assessment Data
API
Finance Data
API
The Ed-Fi Operational Data Store (ODS)
API
Data Visualization

That’s great, where do I start?

SEA Implementation Playbook

YOU ARE HERE

What's in the Playbook?

1. Overview of Ed-Fi Standards and Technology
2. Why adopt Ed-Fi Data Standard?
3. How to get a Ed-Fi license and access to Ed-Fi tools?
4. Ed-Fi Implementation Project Plan (DRAFT)
5. Elements of an Ed-Fi Architecture
6. Ed-Fi Installation Environments
7. Hardware and Software Recommendations
8. Overview of Ed-Fi Data Domains
9. Developing SEA Data Specifications
10. Ed-Fi API Overview
11. Sandbox Installation Guide
12. SEA Best Practices for coordinating with Vendors
13. Staging and Production Deployment

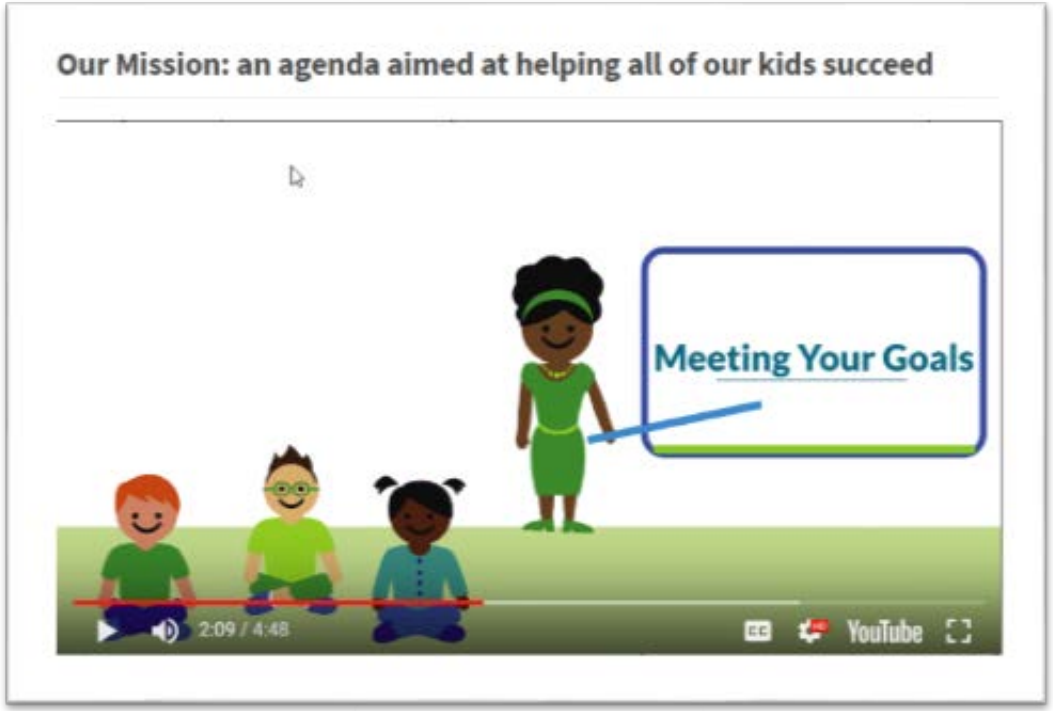
Let’s start at the very beginning

A very good place to start

- Dough! A budget you need a budget.
- preREquisites and maybe some barriers
- Mi will need to identify timeline
- Fa . . That's a lot of work, we'll need staffing and project team
- So . . . Develop a project plan
- La-t's of work means we need our vendors and contracts on board, determine how they will be included in all steps and tasks
- Ti up a communication plan for internal and external stakeholders
- Do, and keep do-ing to create a plan for knowledge transfer and capacity building

Set a Vision Beyond Compliance

- What is your state's strategic vision?
- Tie your interoperability needs to that vision!



Roles and Responsibilities

- Executive Leadership
- Customer Services – provide training and support
- Technical Services – focus on infrastructure and source code
  - Build your Scrum Team
    - Product Owner/Scrum Master
    - Developers
    - Quality Assurance Analyst
    - Systems Analyst/Business Analyst (SME)
- Communications
- Governance

Technical Skillset and Knowledge

- C#/.NET Framework
- ASP.NET/MVC
- Microsoft SQL Server
- JSON
- XML/XSD
- ETL
- Powershell
- Design and Development of Web Services using REST architectural style
- Database design and modeling

Job Recruitment - Sample

- Minimum 7 years of software development experience, with an emphasis on backend/platform
- BA/BS degree in Computer Science, or equivalent experience that includes strong fundamentals in computer science and software engineering
- Thorough, recent, hands-on experience with the following technologies: C#/.NET Framework, ASP.NET/MVC, Microsoft SQL Server, JSON, XML/XSD, and design and development of web services using the REST architectural style
- Proven skills in database design and modeling
- Prior experience in a lead development role
- Practical experience using agile processes, including story development, sizing, prioritization, and scrums (based on MS's needs)
- Proven ability to prioritize and execute on multiple projects
- Ability to synthesize input from multiple stakeholders into concrete specifications and designs.
- Demonstrated willingness to own the total problem and drive to resolution regardless of responsibility
- Strong written and verbal communication skills
- Experience writing specifications and architecture documents
- Experience contributing to and/or managing open-source projects

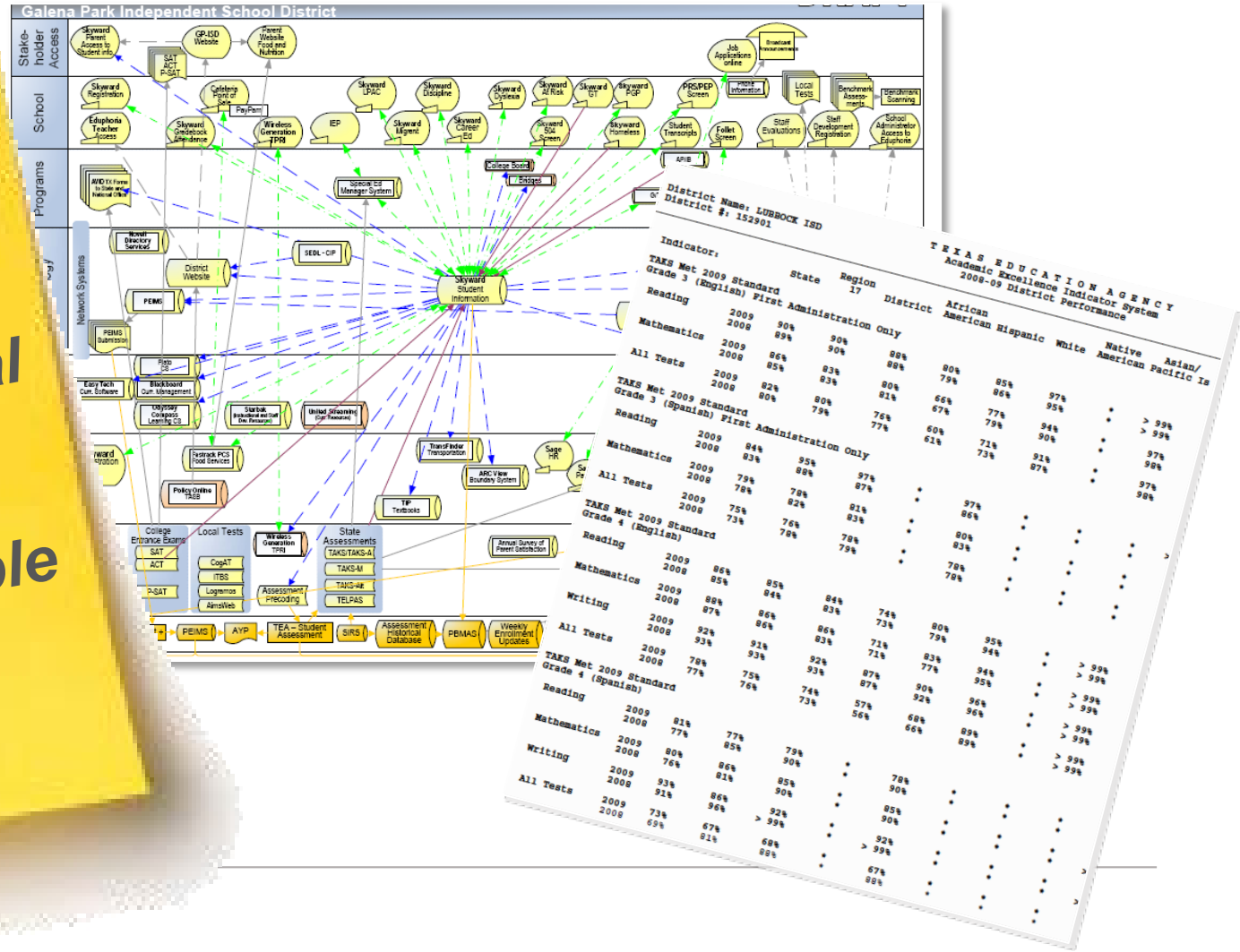
Define your first use case

Create a Use Case

- What is the problem?
- Who are the actors?
- What is the story?
- What is the current state?
- What is the future state?

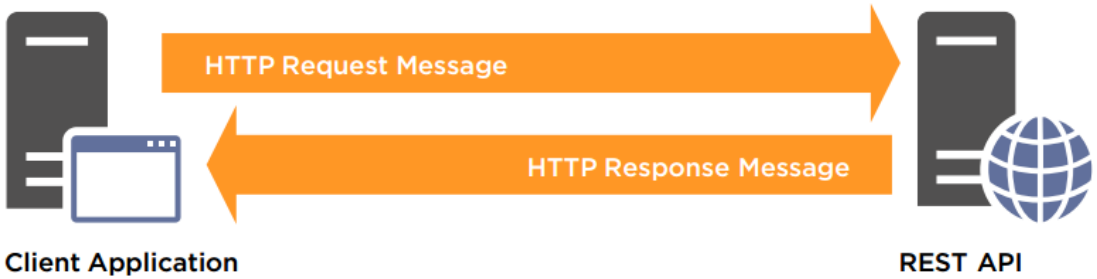
State Reporting: Current State

Our state has 513 districts using 7 different SIS systems – 5 major players and 2 locally developed. They submit data at several points through the year using CSV uploads. Our data quality is questionable at best and the system is combursome.



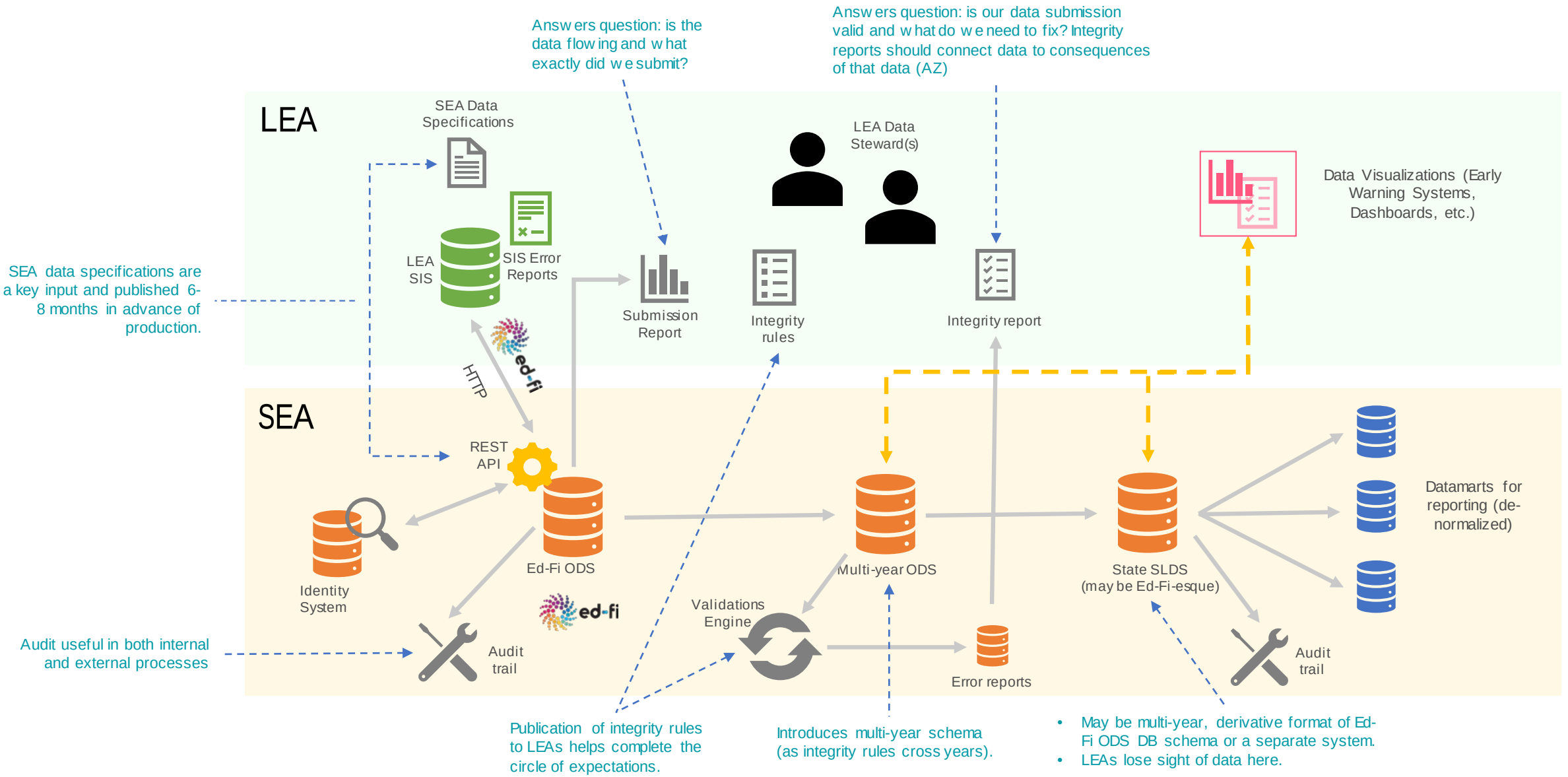
State Reporting: Future State

All our 513 districts submit data via the Ed-Fi API. Both the 5 national SIS systems and the locally developed SIS have met our bar for certification of the base Ed-Fi and our state extensions. Data comes in near real time and errors are fixed at source dramatically improving our data quality.

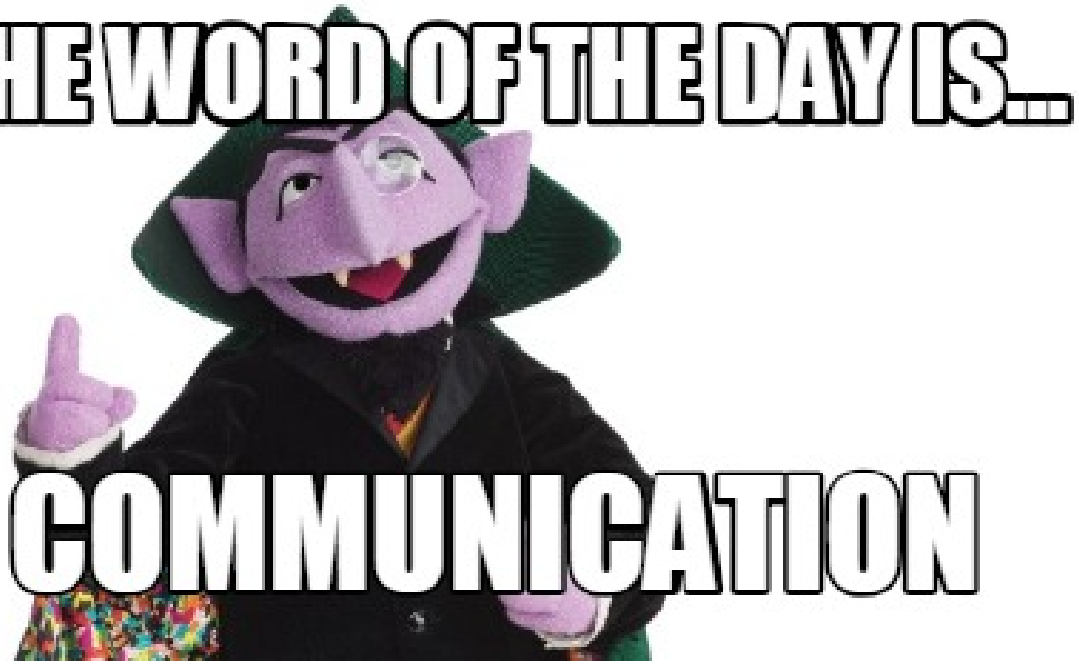


Current Ed-Fi State Architecture

Successful state architectures look similar in terms of technical processes, but they also share communications and governance processes often not obvious at first glance.



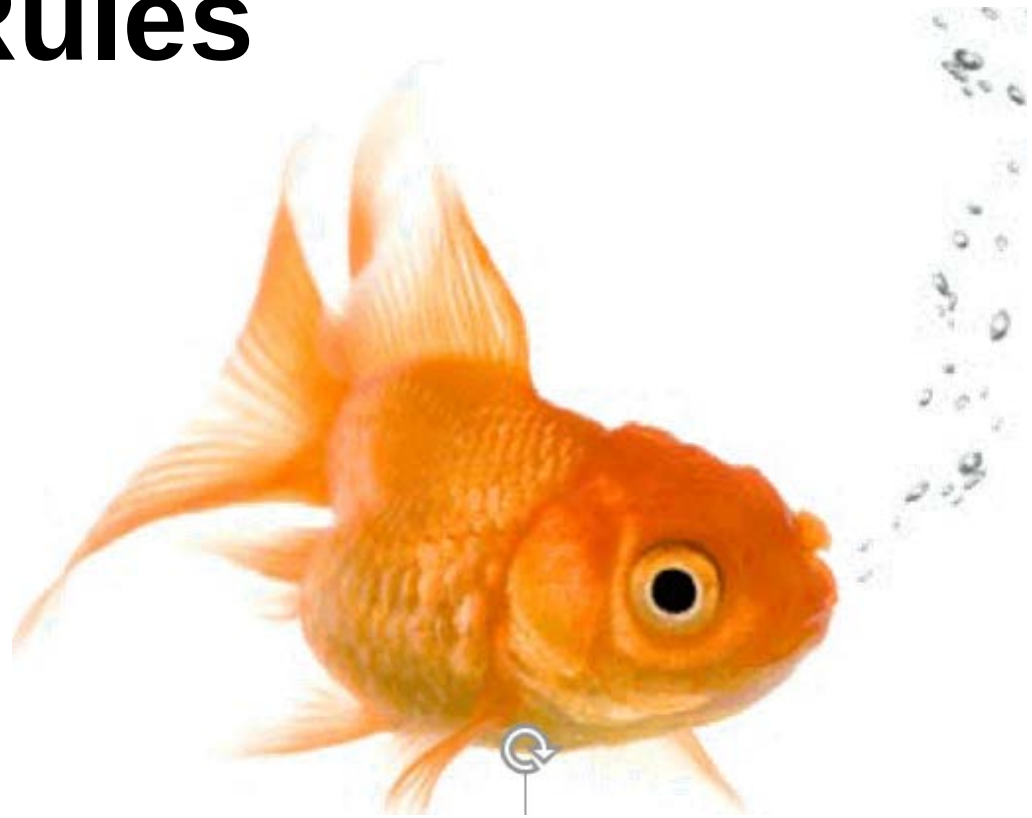
Communicate with your districts



Simple PowerPoint Rules

10-20-30 Rule

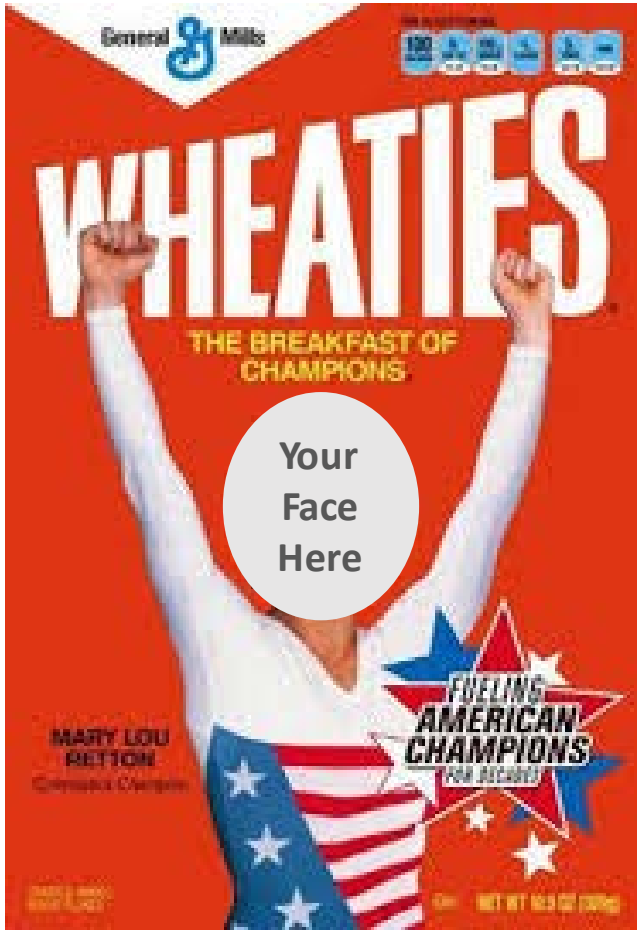
- 10 slides
- No more than 20 minutes
- No font smaller than 30 point



Human attention span=8 seconds

Goldfish attention span=9 seconds

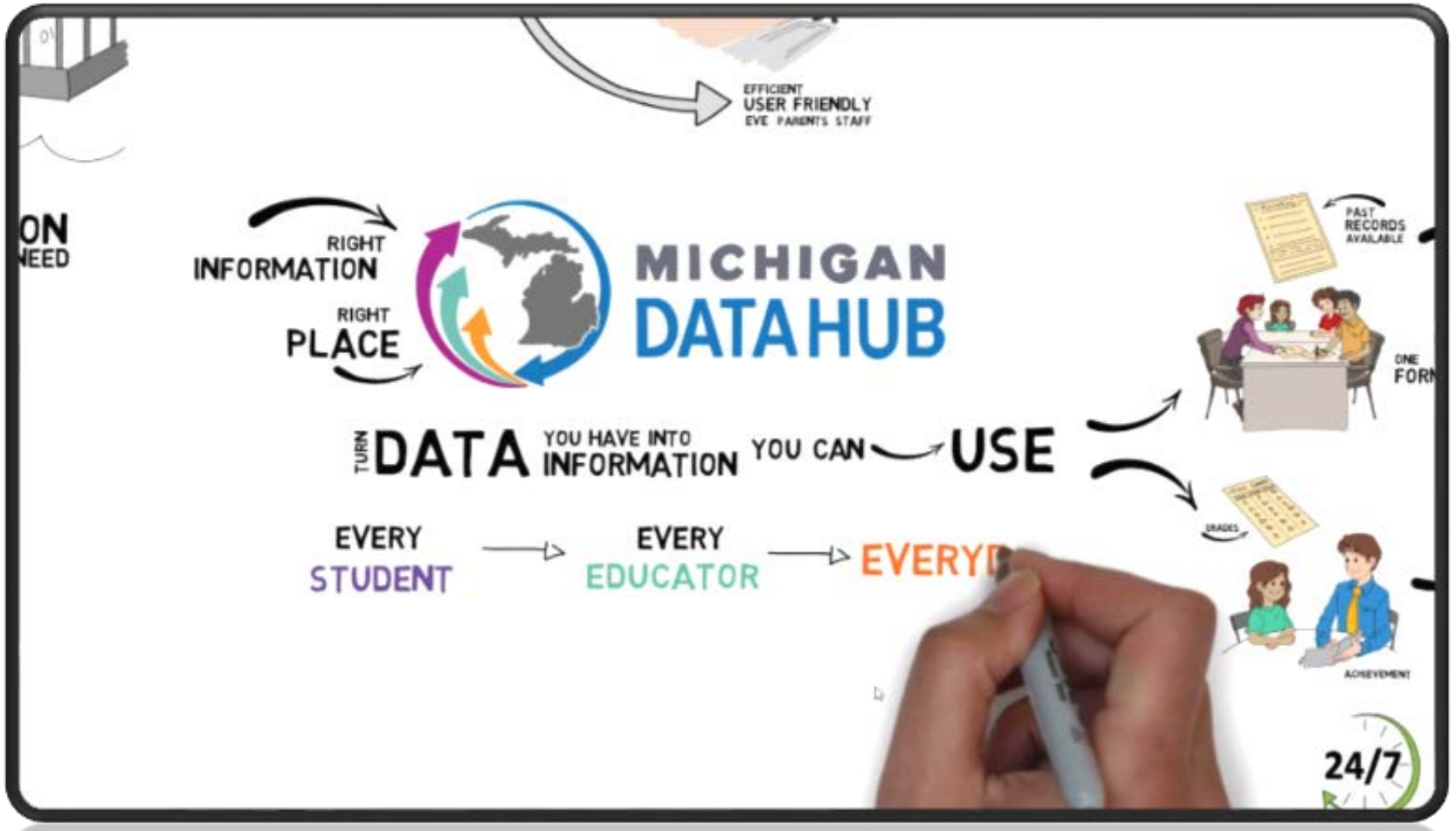
Create Champions



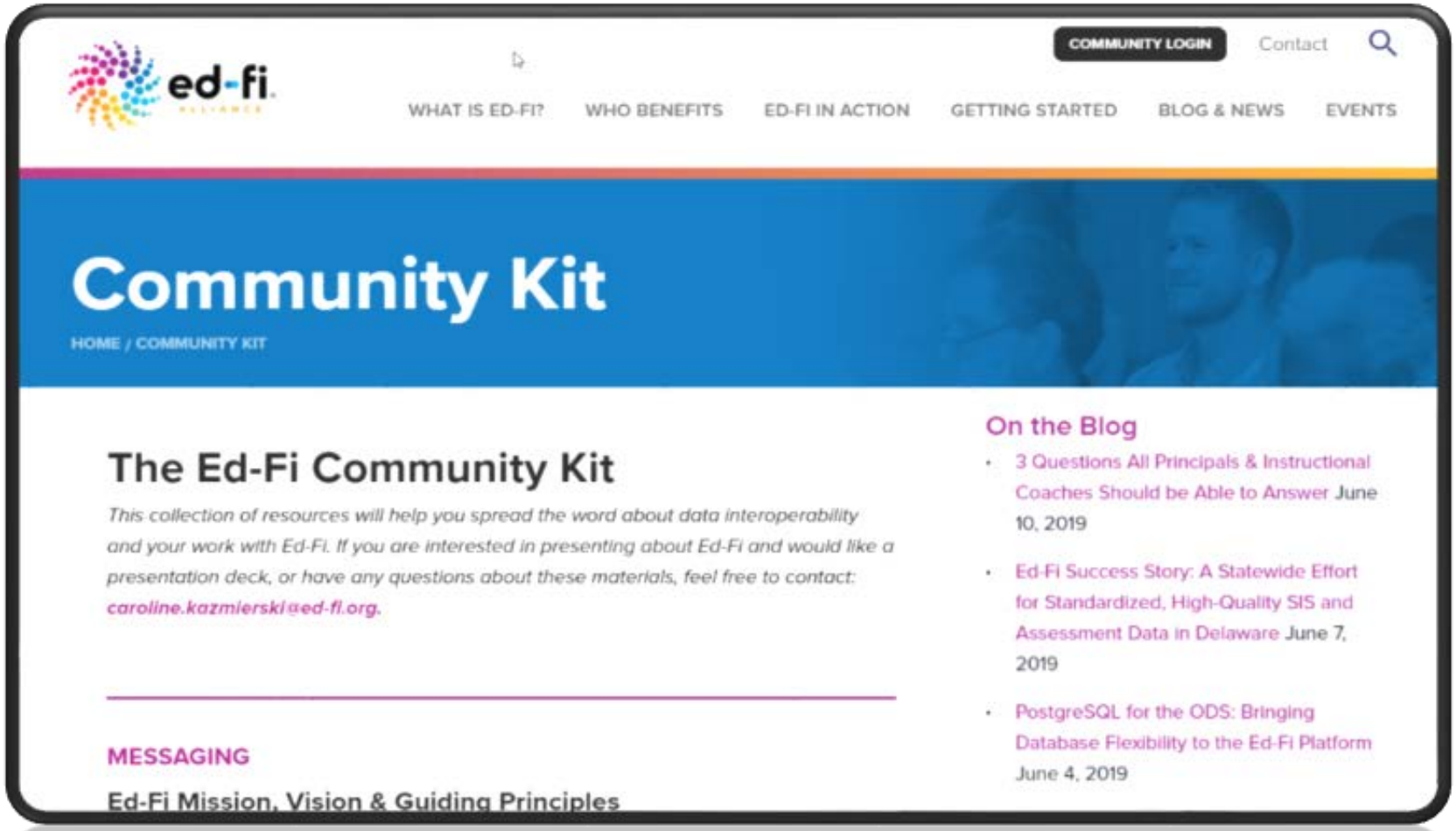
Collaborate and Engage

- Know your channels
  - Principal/Administrator/Teacher Associations
  - District organizations and Educational Service Units
- Find your champions
- Engage your detractors
- Governance, governance, governance

Tell your story



Use our Resources



Ongoing work with your vendors

*Above slides review you should.

Have a Targeted Ask – Own Your Data

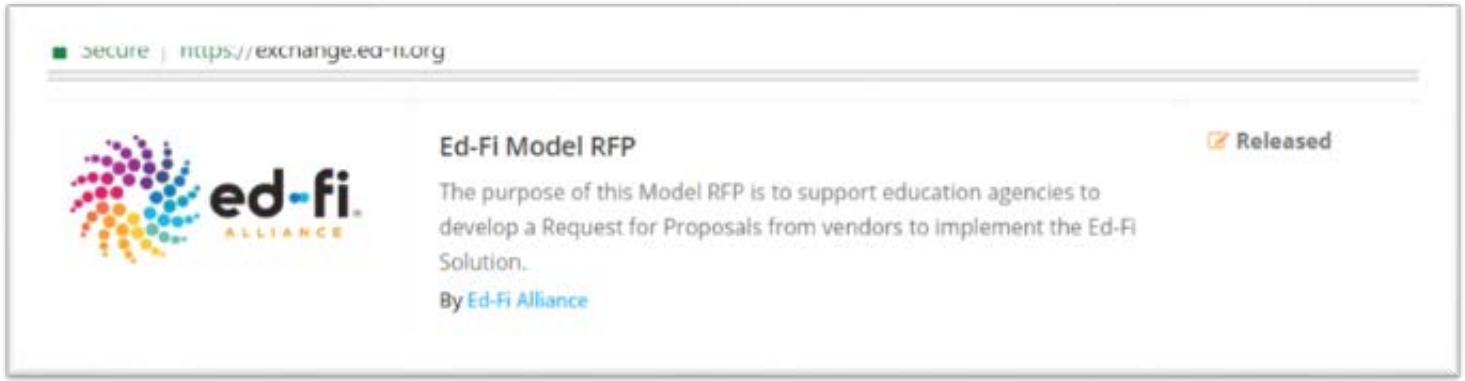
- Vendors need specific targeted requests
  - Request Certification of SIS and Assessment Vendors
  - What data do you need from the vendor
  - No – “Please do all of The Ed-Fi”
- Know your versioning and your Ed-Fi aligned partners
  - Who are your Certified SIS and Assessment partners
- Share your plan for their data output (YOUR DATA)

Give Your Vendors the Why

- Spell out your individual use cases
- Know how their products and services can be improved through the use of a native Ed-Fi API integration
  - Outline the timing/cost savings to your district
- Sell them on the idea of a stronger relationship
  - Be a customer reference site for others
  - More likely renewal with that vendor

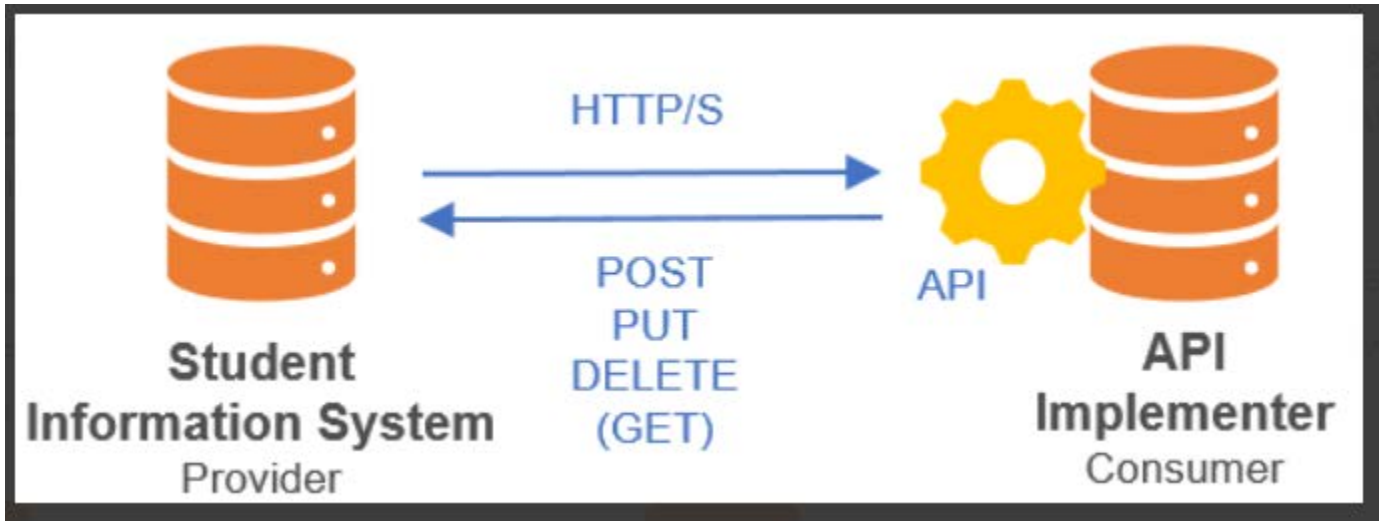
Ed-Fi Certification and Model RFP

Ed-Fi certifications allow product developers to demonstrate a product's fidelity to Ed-Fi standards and guidelines, and for purchasers or users to be confident that a product conforms to those same Ed-Fi standards and guidelines.



Student Information System V3 Certification

- The Ed-Fi Student Information Systems API v3 verifies that a Student Information System (the source system, or "provider") can manage a core set of data on a target system (the "consumer") using a set of RESTful APIs defined by ED-FI RFC 16 - CORE STUDENT DATA API.

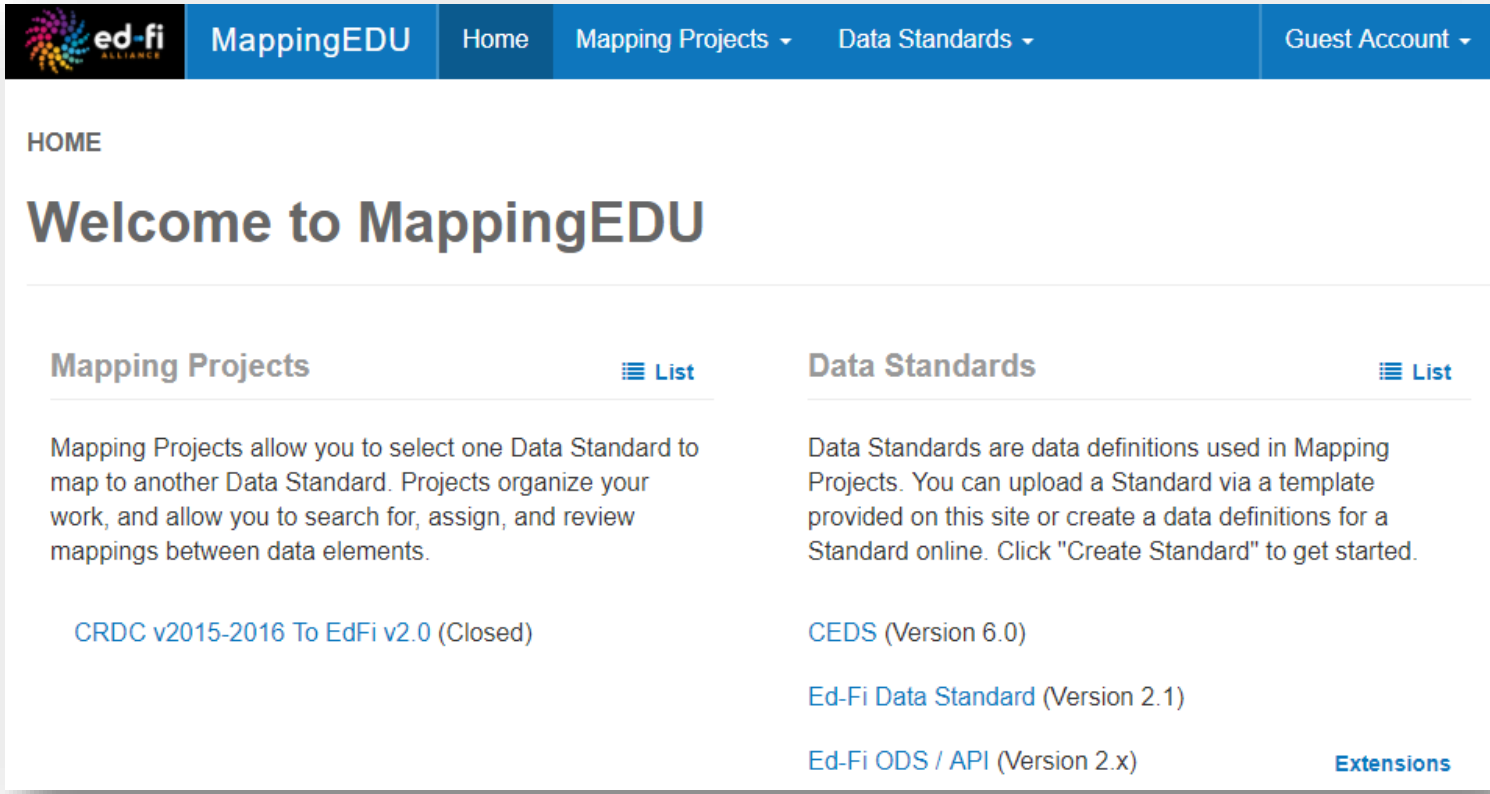


SEA's often do their own certifications

- Ed-Fi Certification is aimed at covering "Ed-Fi Core" – with LEA adoption as the core use case
- SEA's often implement their own validation/certification process for LEA/SIS integration, e.g.
  - Wisconsin DPI: https://dpi.wi.gov/wisedata/ed-fi-integration
  - Arizona DOE: https://www.azed.gov/aelas/azeds/developers/
  - Indiana DOE: https://www.doe.in.gov/link/data-exchange

MappingEDU

A Web-based tool for mapping any data standard to another data standard



https://mappingedu.ed-fi.org

Which version do I start with?

- “Core” products are those listed in the Technical Suite Version Matrix
  - https://techdocs.ed-fi.org/display/ETKB/Ed-Fi+Technical+Suite+Version+Matrix
  - The Matrix also lists out-of-support releases
- Pro Tip: Start with the latest version!

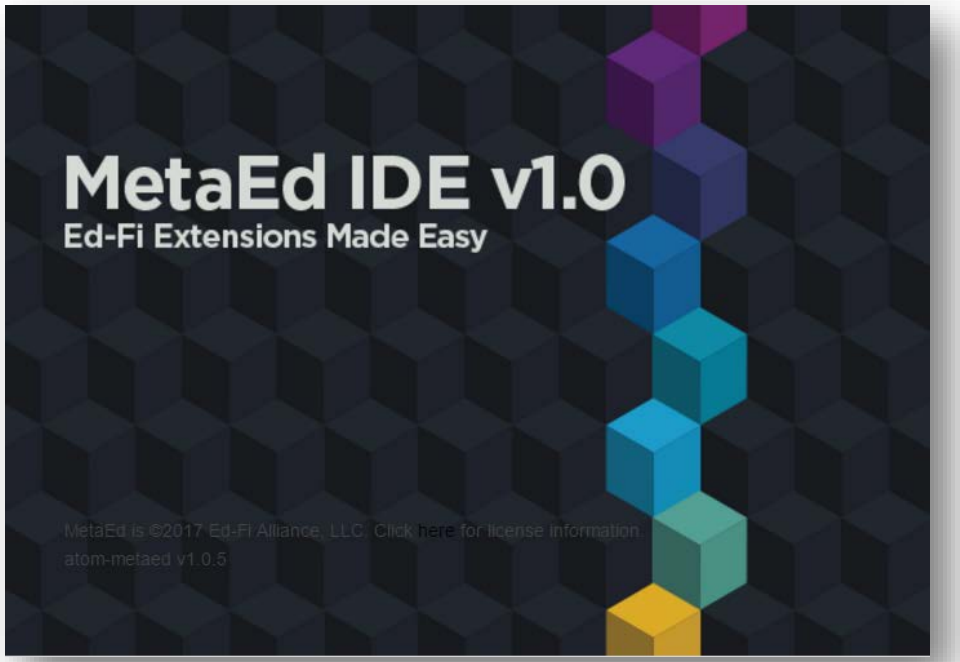
Technical Suite Three

Product	Supported		Out of Support
Ed-Fi Data Standard	v3.0		v2.1
Ed-Fi ODS / API	v3.0		
Ed-Fi Dashboards			
MetaEd	v1.3	v1.2.x	
MappingEDU	v1.0		
Sample Data Generator	v1.0		

Extensibility

- Ed-Fi standards are extensible, meaning that individual agencies can add new entities, attributes and associations*
- Extensibility is the opposite of standardization, so why support it?
  - K12 is full of diverse data mandates and no single standard can capture this diversity
  - Extensibility allows the community to try new models and exchanges, which can grow the standards
    - Teacher Prep
    - Finance Domain
- Extensibility is a power and also a responsibility
  - It **should not** be used to duplicate existing data elements
  - It **should not** be used to aggregate existing granular data already in the model
  - It **should** be done by consulting community on possible existing extensions

MetaEd and MetaEd IDE



- Captures extensions to the Ed-Fi data model in a simple domain specific language
- Removes the need to write complex SQL and data definitions in XML for extending the Ed-Fi ODS and API
  - MetaEd handles the hard stuff
- Comes with an IDE based on the Atom text editor

You are not a lone and you have help!

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