



# Welcome!

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**Ed-Fi** →

**Technical  
Congress**



# Ed-Fi Certification

Ed-Fi Technical Congress 2018

Phoenix , AZ

# Open Questions?



# Certification: History to Present Day



# SIS Certification Inputs – Market Practice

Org / Standards	Product Cert?	Basis	Fee?	Org cert?	Basis	Fee?	Developer / Indiv Cert?	Basis	Fee?
EDU ORGS									
IMS - CC, LTI	Yes	Product conformance test suite	No	Yes	Customer references for projects. Tiered model.	No	No		
A4L - SIF	Yes	Product conformance test suite; narrative application	Yes - \$1250 initial/\$750 update; \$250 renewal	No			No		
STANDARDS ORGS (ones that do offer cert - most do not)									
HL7 - CDA standard (Heathcare records)	No, but community-driven model	NIST provides tools that seem intended for use in implementations. See: <a href="http://cda-validation.nist.gov/cda-validation/">http://cda-validation.nist.gov/cda-validation/</a> There is also <a href="http://gazelle.ihe.net/">http://gazelle.ihe.net/</a>		No			Yes	By exam	Yes
OpenGIS Consortium - OpenGIS Standard	Yes	Product conformance test	Sort of - the test is free, but use of the "certified" mark requires a fee	No			No		
OpenNetworking Foundation - OpenFlow standard (device certification)	Yes	Product conformance test via approved 3rd party	Yes, set by auditors	No			Yes	By exam	Yes
ISO (in areas of wide success like ISO9000/9001)	No			Yes	Audit via a approved 3rd party	Yes, set by auditors	No		
LXI - LAN Extensions for Instrumentation (device certification)	Yes	Via product conformance test, but has to be supervised by LXI or approved 3rd party.	No	No			No		
Khronos Group (non-profit industry association) - OpenGL	Yes	Downloadable product conformance test (unsupervised) plus application	Yes, \$10-25K Members - \$15-30K	No			No		

# SIS Certification Input – SIS Module Analysis

Student demographics	y	y	y	y	y
Student enrollment	y	y	y	y	y
Attendance data	y	y	y	y	y
Behavior and discipline management	y	y	y	y	y
Special education systems/IEP system	y	y	y - separate product	y	n
ELL system	n	n	n	y	n
Intervention tracking	y	n	y - separate product	n - some evidence of KY work	y
HR/Staff system	y - separate product	n	n - limited features	y - addl module	n - credentials only
Parent info management	y	y	y	y	y
Grades and gradebook	y	y	y	y	y
Report cards and transcripts	y	y	y	y	y
Course and bell schedules	y	y	y	y	y
District and school calendars	y	y	y	y	y
Facilities data and facilities scheduling	y	n	n	n	n
Blended or online learning systems (large or enterprise-level only)	n	n	n	n	n
Additional student program participation (athletics, clubs, afterschool program, etc.)	?	?	?	?	?
Learning standards management (for					

# SIS Certification Input – State Ed-Fi Certifications

API Resource	WI - difference	Tennessee and Nebraska - difference	Arizona (1.0)	Arizona (2.0)
Student			U	
Parent			U	
StudentParentAssociation				
StudentSchoolAssociation			U	
StudentSectionAssociation			U	
StudentEducationOrganizationAssociation				
StudentProgramAssociation			U	
StudentSpecialEducationProgramAssociation				
StudentTitleIPartAProgramAssociation				
StudentMigrantEducationProgramAssociation				
CalendarDate		includes CalendarDateEvents		
GradingPeriod				
Session		includes SessionAcademicWeeks and SessionGradingPeriod	UD	
BellSchedule		optional		
CourseOffering			UD	
Section		includes all entities		
StudentProgramAttendanceEvent		optional		
StudentSchoolAttendanceEvent	attendance is handled via local extensions		D	
SectionAttendanceTakenEvent				
DisciplineIncident				

# SIS Certification Current State

- Certification of 35 API resources covering domains including: student & student demographics, enrollment, grades, attendance, discipline, transcript and program participation
  - [Student Information Systems for ODS / API v2](#)
- Based on Ed-Fi API v2.0 (on ODS)
  - Plans to switch basis to the [Core Student Data Management API](#) standard
- Assessments are good for one year
- A product line or edition is certified, not a version
  - Didn't seem to make sense given “continuous release” common today
  - A version number is *recorded* so it can be referenced by vendor customers and others



# Assessment Certification History

- Key problem: diversity of assessment providers and outcomes in the market!
- How to both
  - Recognize and account for that diversity
  - Provide a certification that is simple to use (e.g. correctly referenced in procurement/RFPs)
- Process:
  - Research project comparing and classifying 108 different vendor score reports, noting practices like standards and objective alignment, item results publication, score report structure
  - Get started! Learn from the real world! Be agile!
- Solution: a certification with 5 designations

	Ed-Fi Assessment Outcomes Mgmt API Designation	Assessment Score and/or Performance Level per Reporting Method	Objective Assessment			Assessment Item		Student Assessment	Student Objective Assessment	Student Assessment Item
			Objective Assessment Score and/or Performance Levels	Objective Assessment Learning Objective	Objective Assessment Learning Standard	Assessment Item	Assessment Item Learning Standard	Student Assessment Score Result and/or Performance Level Met	Student Objective Assessment Score Result and/or Performance Level Met	Student Assessment Item Response
Summative	<b>Designation 1. Summative with Overall Outcomes</b>	Required	Optional	Optional	Optional	Optional	Optional	Required	Optional	Optional
	<b>Designation 2. Summative with Category-Level Outcomes</b>	Required	Required	Optional	Optional	Optional	Optional	Required	Required	Optional
Interim	<b>Designation 3. Interim with Category-Level Outcomes</b>	Required	Required	Required	Optional	Optional	Optional	Required	Required	Optional
Formative	<b>Designation 4. Formative with Category-Level Outcomes</b>	Conditional	Required	Optional	Required	Optional	Optional	Conditional	Required	Optional
	<b>Designation 5. Formative with Category-Level and Item Outcomes</b>	Conditional	Required	Optional	Required	Required	Required	Conditional	Required	Required

Note that designations were made a part of the specification:

<https://techdocs.ed-fi.org/display/EFDSRFC/ED-FI+RFC+8+-+ASSESSMENT+OUTCOMES+MANAGEMENT+API>



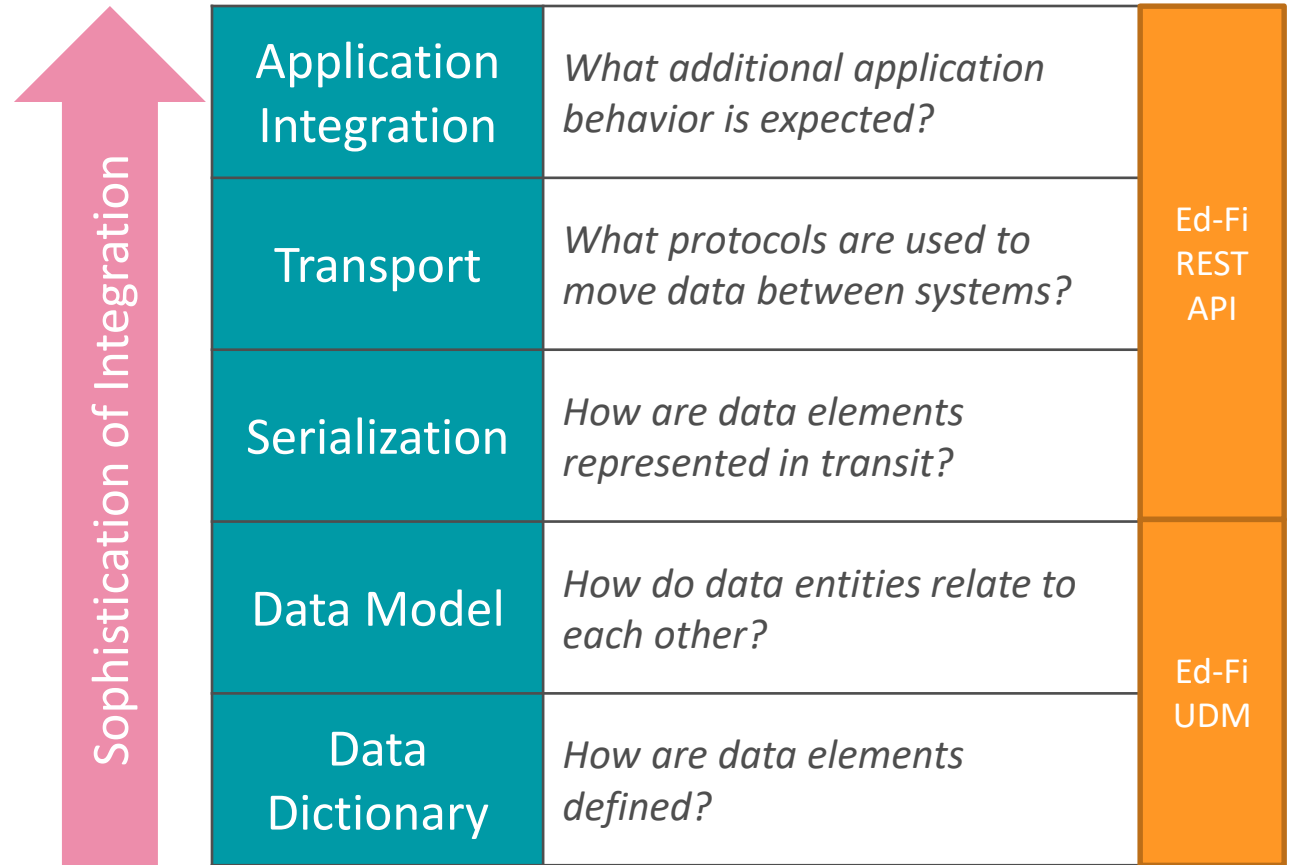
# Plans and Questions for the Future

Community Input Needed!



# Increasing Application Level Expectations

- Application-level behavior is critical to interoperability
- Consider scenarios like
  - if and how systems retry after errors
  - recover from synchronization problems
  - correctly identify and surface errors to administrators



API Standards

Application behavior is already in the assessment certification requirements...

### **Additional Certification Requirements**

The provider / API client must be able to perform the following actions:

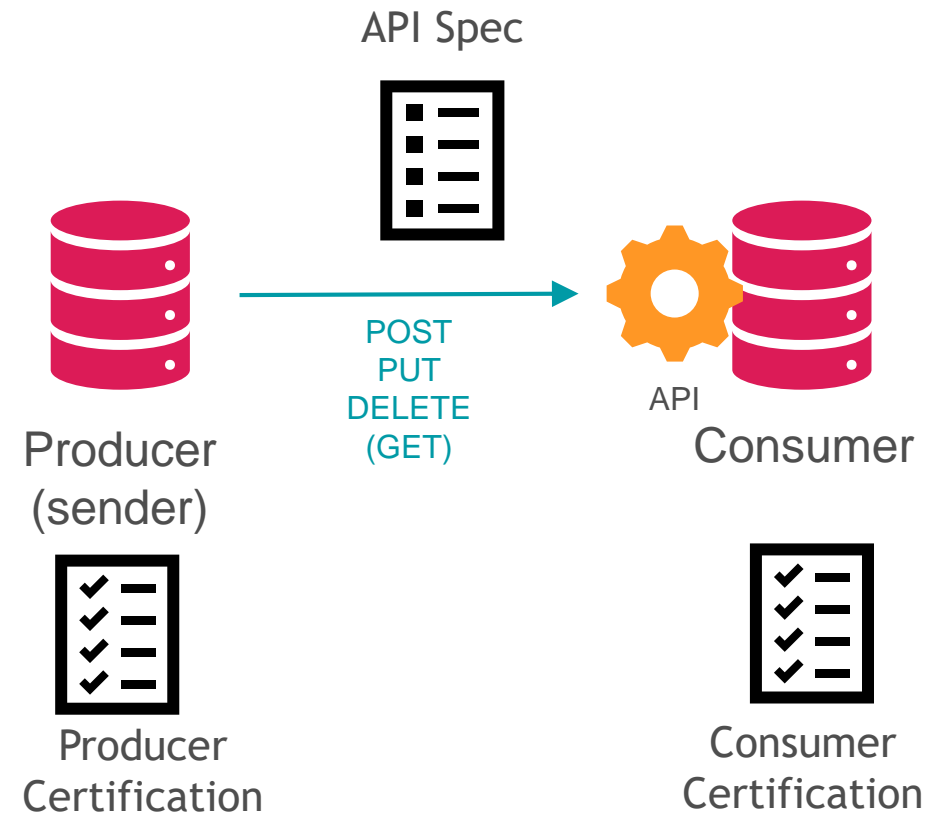
- Capture and log transport errors, including all HTTP errors.
- Re-attempt delivery of API resources updates following failed transmissions.
- In the event that repeated delivery fails for the same resource update, surface the error to a system user.

Field work within the Ed-Fi community has revealed that this application behavior is a necessary condition of system interoperability. Accordingly, the test scenarios may include situations in which an API resource (or resources) will be made unavailable to the client, or in which the API reports other errors due to resource availability (e.g. HTTP 500 error). The client is expected to be able to successfully handle such situations.

<https://techdocs.ed-fi.org/display/EDFICERT/Assessment+Outcomes+Management+API+Certification>

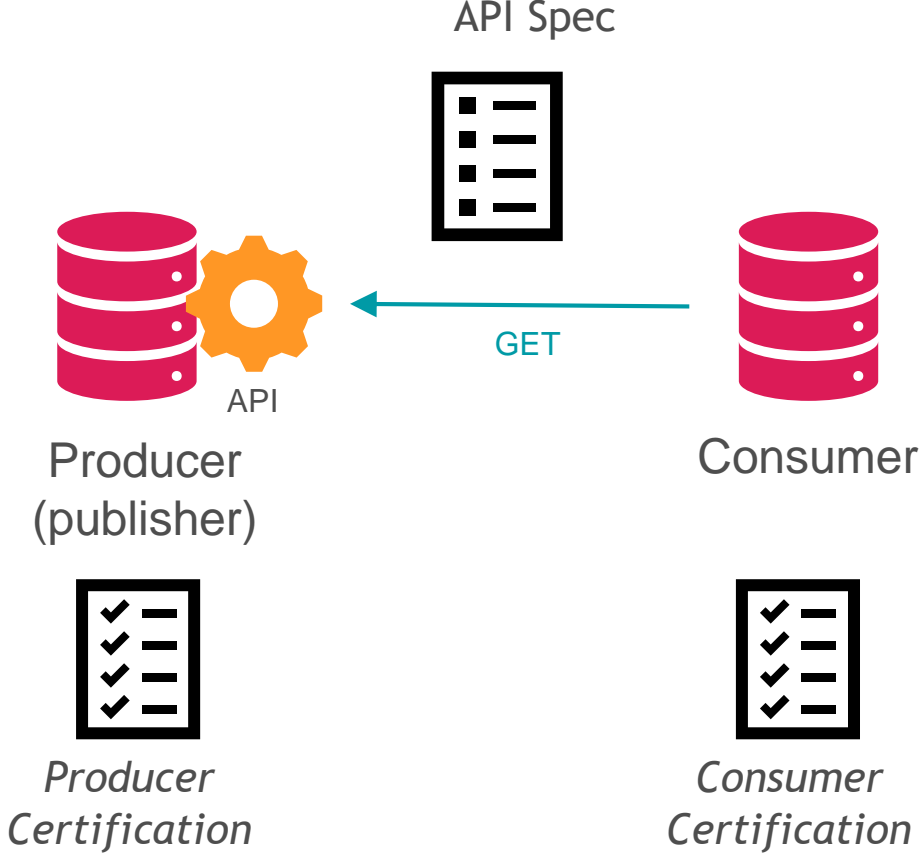
# Two Certifications for Each API Standard

- The goal will be to offer two certifications for each standard we publish
  - Each technical API standard represents a data exchange contract, where data moves from one system to another.
  - One certification will be for the provider (sends or publishes the data) and one for the consumer of the data (receives the data)
  - These certifications may not be offered at the moment a standard is published, and they may not be released at the same time.
    - The ODS API may be the only realistic provider/consumer in the short term



*1 API spec, 2 certifications*

# Also Possible



*Location of API switched, still 2 certifications*

# Domain-based Certification for SIS Systems

- We have had a few requests to break the SIS certification into smaller certifications
  - One benefit is that this could assist in SEA usage
- We have also received warnings that a more granular certification
  - Can open up market misunderstandings (i.e. is less usable), as it complicates usage in RFPs and other procurement activity
  - Is a danger into which previous standards have fallen



# Assessment Specific Questions

- Role in assessing alignment of results to standards
  - What learning standards GUIDs or identifiers? (current answer: any documented one, which could include one very loosely managed)
  - What standards? (current answer: vendor must show ability to align outcomes, via outputs aligning to one standard)
- Diversity of metadata: should a vendor be required to publish all metadata available in comparable reports (current answer: yes)
- Can vendors publish their own metadata, and if so for which entities?
  - Simple example: AssessedGradeLevel
  - Complex example: AssessmentReportingMethod