

Unlocking Interoperability: Foundations for the Privacy-Conscious

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Poll

Please respond in the chat:

What immediately comes to mind when you hear the word “interoperability”?

What is interoperability?

“The ability of different systems, devices, or applications to connect, communicate, and exchange data effectively.”

- It's about more than just data formats—it's about shared meaning
- Four key levels:
 - **Technical** (Can they talk?)
 - **Syntactic** (Can they structure data the same way?)
 - **Semantic** (Do they mean the same thing?)
 - **Organizational** (Do they agree on how and when to share?)

Privacy vs Interoperability



But...

- Schools simply cannot function without some form of data interoperability
- Well-designed interoperability is safer for data privacy and security

Imagine...

- You are an IT director for a mid-sized K-12 district...
- One morning, the food service system stops exchanging updates with the Student Information System
- You had 113 new students start today across 10 buildings, and none of them are in the food service POS system
- You discover this issue when a food service employee leaves a panicked voice mail
- Lunch begins in 45 minutes

How can interoperability support privacy?

- Today's focus:
 - Foundational principles of interoperability
 - Establishing best practices in interoperability
 - These principles are essential to a secure ecosystem
- First in the webinar series

Remember our scenario?

How might we have solved the issue?

- A. Hand enter 113 students' information, free/reduced lunch status, and meal balances into the food service and SIS systems
- B. Email an updated file to the food service system vendor, asking them to upload it
- C. Proactively establish a strong, secure system of data interoperability, so this wouldn't have happened in the first place

Think about...

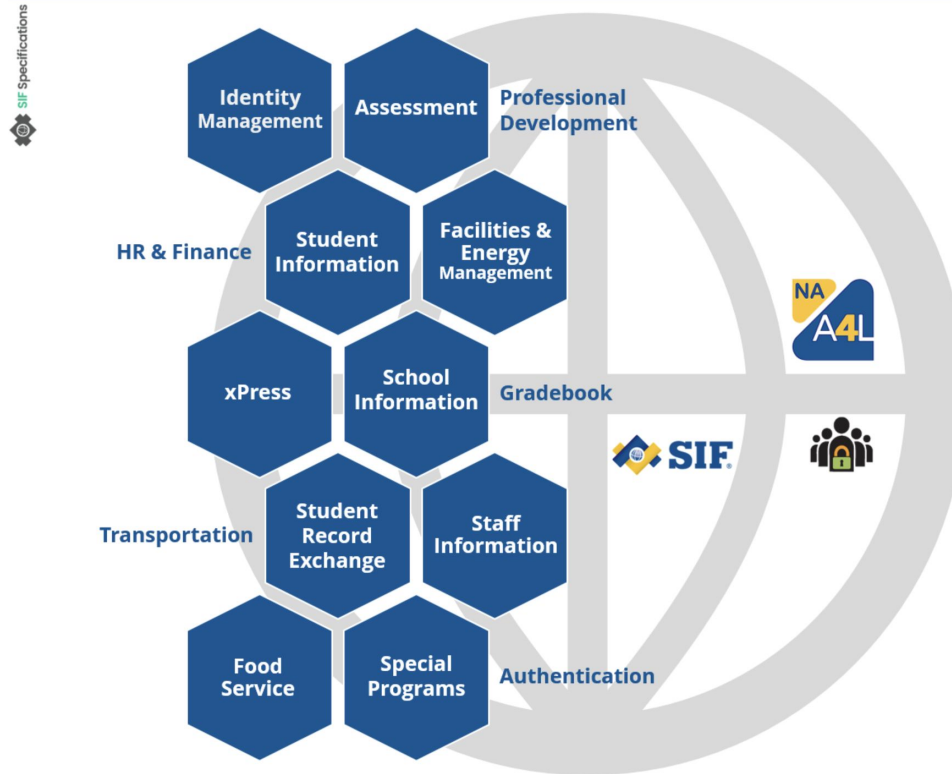
How would you handle a parent rights request to review records? What would make this easier?

How do you track whether your organization's privacy policies are being followed in practice? What are the barriers to tracking this efficiently?

Building Blocks of Interoperability

- Data Model
- Vocabulary
- Infrastructure Model
- Protocol / Format (e.g., JSON, XML)
- Governance

Data Model



Data Model



Appendix G: Index of Objects

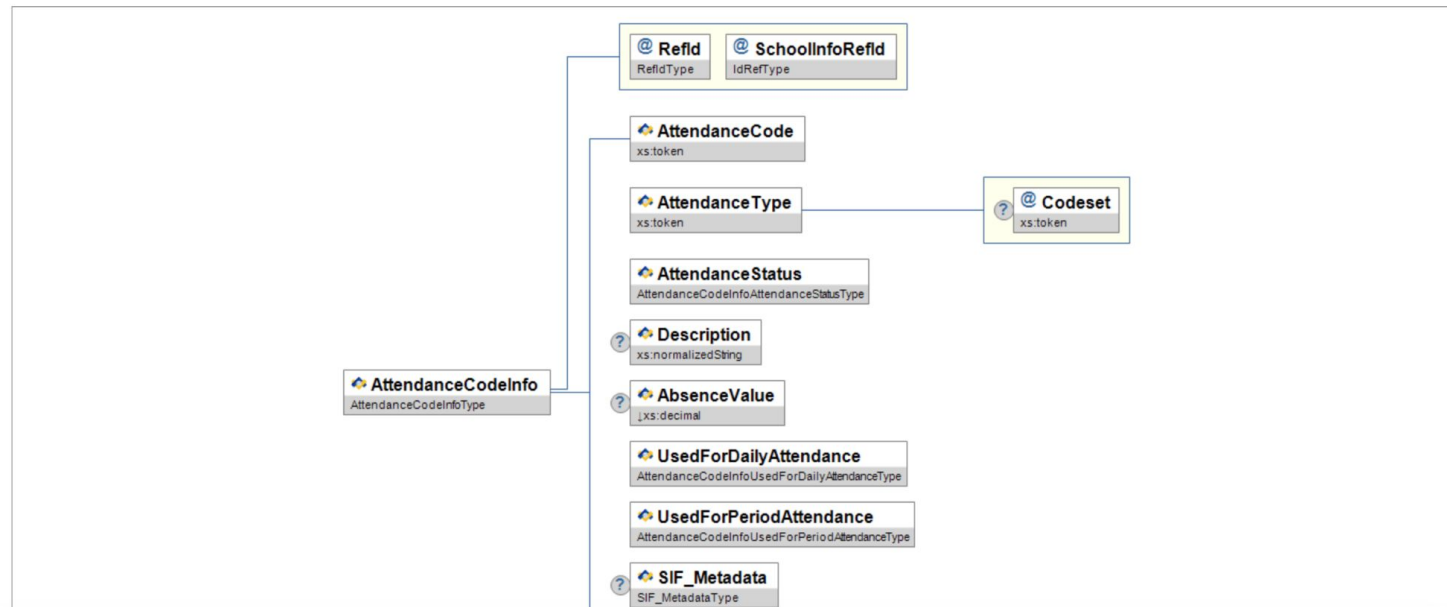
AccountingPeriod	3.8.1
Activity	3.11.1
ActivityProvider	3.14.1
Address	3.16.1
AggregateCharacteristicInfo	3.4.2
AggregateStatisticFact	3.4.3
AggregateStatisticInfo	3.4.1
Assessment	3.2.1
AssessmentAdministration	3.2.2
AssessmentForm	3.2.3
AssessmentItem	3.2.4
AssessmentPackage	3.2.5
AssessmentRegistration	3.2.6
AssessmentSubTest	3.2.7
Assignment	3.11.2
AttendanceCodeInfo	3.16.2
Authentication	3.10.1
BellSchedule	3.16.3
Billing	3.8.2
BusEquipment	3.18.1
BusInfo	3.18.2

Data Model

3.16.2 AttendanceCodeInfo

This object provides information about a particular attendance code, allows applications to synchronize each other's attendance code tables, or provides a dynamic list of attendance codes.

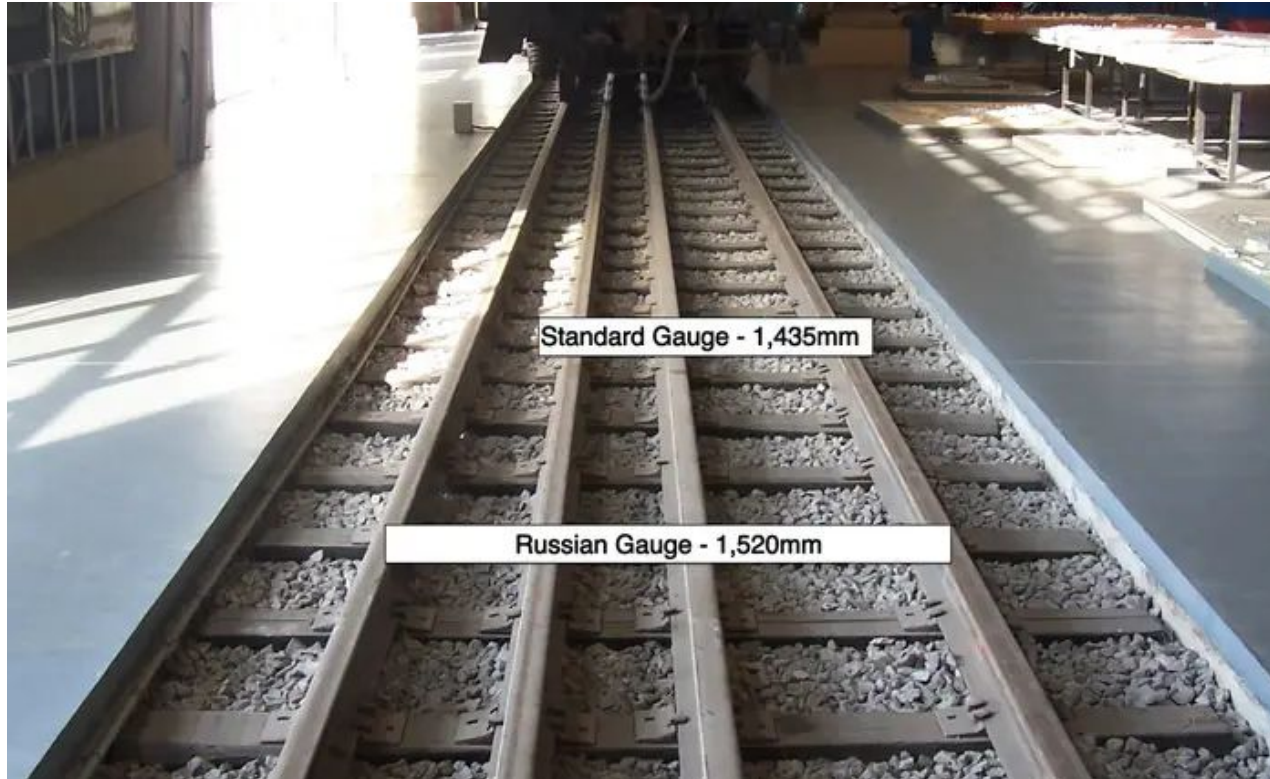
SIF_Events are reported for this object.



Vocabulary

- Common codes
- Approved set of values
- SIF maintains a common vocabulary with CEDS

Infrastructure



Infrastructure

- Common mechanism for communicating data (e.g., specified REST API)
- Good infrastructure model builds in security
- Safer to have a single, thoroughly tested infrastructure
 - One thing to maintain
 - Software developers don't have to juggle multiple methods

Governance

- Agreements for data sharing
- MOUs
- Roles & Responsibilities

What decisions need to be made about the data, and who makes them?

Interoperability: What is it good for?

- **Efficiency:** Reduce redundant data entry, manual file transfers
- **Accuracy:** Lower risk of conflicting or stale data
- **Scalability:** Add tools or partners more easily
- **Transparency:** Understand where data comes from and where it goes
- **Foundation for Trust:** Good interoperability enables responsible data sharing

The Role of Standards



Standards create...

- Predictability from these building blocks of interoperability
- A single, secure, tested approach
- A common “language” for data

Benefits of SIF

- Comprehensive yet flexible data model
- Common vocabulary with CEDS
- Infrastructure model separate from data model
- Flexible to format
- Highly secure

What we hear about interoperability

Misconception:

- It's something IT just handles for us
- Interoperability creates unsafe data sharing
- Standards take away flexibility

Reality:

- Requires participation of all stakeholders
- When done properly, interoperability *improves* privacy and security
- Well-designed data standards provide flexibility within a secure ecosystem

The Evolution of Interoperability

- It's not a product, it's a process
- No “plug-and-play” solution
- Requires **alignment** of tools, people, and policies
- Often a journey: From point-to-point to scalable ecosystems

A Note on Privacy

- Interoperability *enables* privacy
- Interoperability $\neq$ openness by default
- Good interoperability allows:
 - More precise data flows
 - Better audit trails
 - Easier enforcement of privacy rules

Remember these questions?

- Parent rights request to review records
 - A well-designed system of interoperability can help you easily track all the places a student's data are shared
- Are your organization's privacy policies being followed?
 - PODs are metadata designed to ensure privacy obligations are communicated when student data are shared

Looking Ahead...

What's next in the series?

- **Webinar 2:** Data Breaches & Interoperability: What Privacy Leaders Need to Know (Wednesday, Oct. 8th 1-2pm ET)
- **Webinar 3:** Interoperability Meets AI: Navigating Privacy in the Age of Automation (Wednesday, Nov. 12th 1-2pm ET)
- Optional mini-tracks on APIs, data governance, AI readiness
- Stay tuned for more information about these events!

Poll

Please respond in the chat:

What questions do you still have about interoperability?

Q&A

- <https://a4l.org/>
- Email Penny Murray to add someone to the mailing list for this webinar series: pmurray@a4l.org
- Thank you!