

Credentials? Not Before the Data!



Digital Credentials Start with Data: Why Structure Comes Before Scale

**Building Trustworthy Credential
Ecosystems from the Ground Up**

Presenters



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Why This Conversation Matters

We are at another inflection point:

- Digital credentials are accelerating across states, institutions, and workforce systems
- The focus has largely been on issuing credentials and getting them in the hands of learners and workers
 - Not on the origin of the data
- Many credential initiatives struggle or stall due to:
 - Incomplete data
 - Inconsistent standards application
 - Unclear ownership and governance about the source of truth

The Hard Truth: Credentials Are Only as Good as the Data Behind Them

Credentials are an output, not a starting point. Without clean, structured data:



Credentials lose trust



**Portability
becomes
theoretical**



**Interoperability
breaks**

“ Garbage in, garbage out” but at SCALE.



The Real Starting Point for Credentialing

- Data collection methods
- Data validation and quality controls
- Alignment to standards
- Governance and ownership
- Interoperability across systems

Before credentials, **there must be clarity**

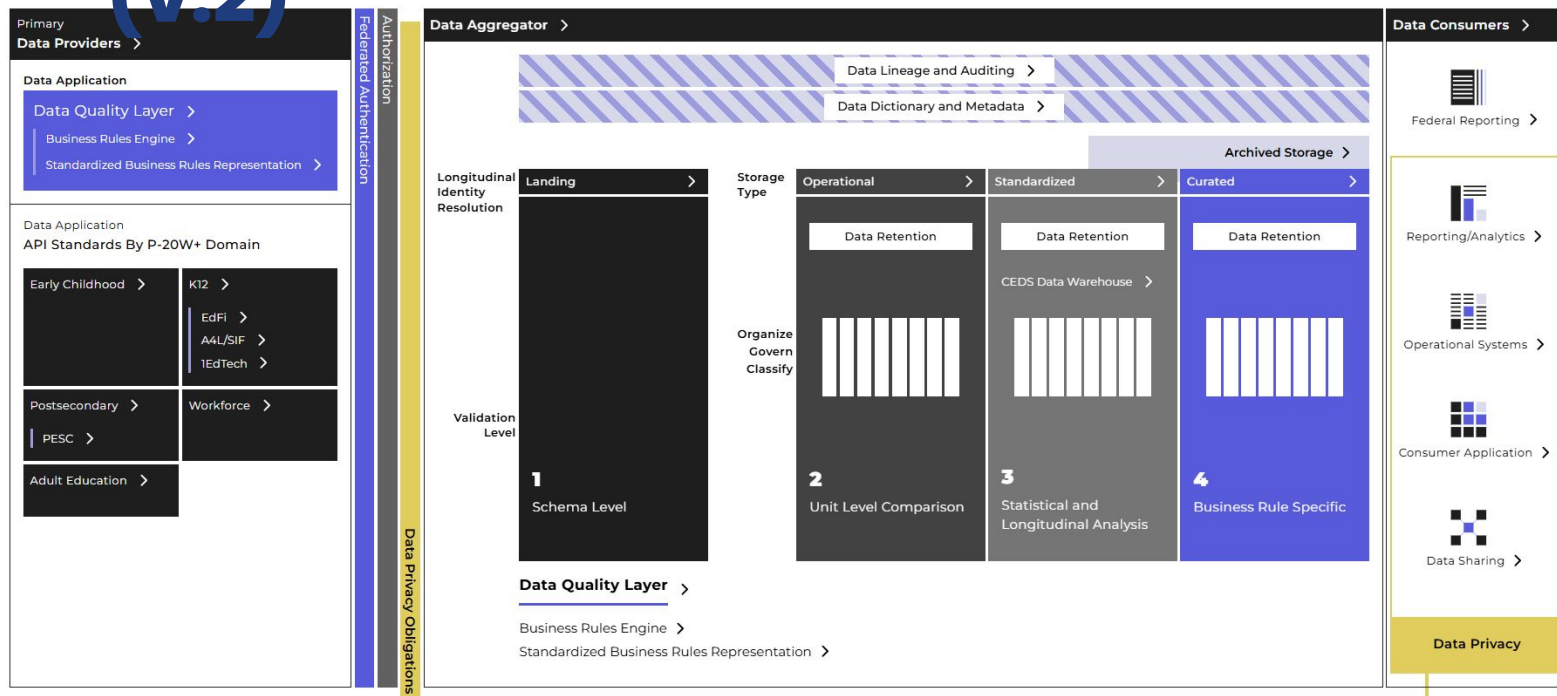
A woman with long brown hair, wearing a tan baseball cap, a plaid shirt over a green tank top, and green overalls, is standing in a river. She is holding a black hair dryer in her right hand and pointing her left hand forward with an open mouth, as if shouting or calling out. The background is a dense forest with green trees and foliage.

Let's talk about...
Consistent Identifiers

Credentialing Technical Overview



Credentialing Technical Overview (v.2)



CCSSO Community of Innovation P-20W+ Reference Architecture

Micro Scale: Where the Data Actually Lives

Data is:

- Incomplete/Inaccessible
- Inconsistent (naming, formatting, and definitions)
- Manually maintained
 - Staff turnover creates knowledge loss
- Unstructured
- Siloed
- Spreadsheets, PDFs, local databases

**Key takeaway:
Most credentialing
pain originates
here**

The Data Gap Between Macro and Micro

Where Credentialing Efforts Break Down

- Enterprise systems require/expect clean, standardized inputs
- Frequently those systems clean the data but just for reporting.
- The source systems remain “wrong”
- Data must be “right”
 - Complete, accurate
 - Timely
- System of Record Governance



The Ripple Effects of Data Decisions

Impacts:

- Credential trust
- Employer adoption
- Portability across states
- Analytics & reporting
- Policy credibility
- Bad data decisions scale faster than good ones



A Better Way: Credentials as the Output

Old Model:

- Start with credentials
- Backfill data later

Flip the Model

Better Model:

- Start with data governance
- By design data structure
- Validate inputs
- Align to standards

Issue credentials
with confidence

Characteristics of a Strong Data Foundation

- Structured, validated source data
- Clear ownership and governance
- Standards-aligned (not custom)
- Designed for reuse, not just reporting
- Supports automation and scaling
- **Creates a Virtuous Cycle**



What We've Learned Working with States

Talking Points:

- Start smaller than you think
- Fix inputs before building outputs
- Standards help—but only when applied consistently
- Credentialing succeeds when tied to existing workflows
- The hardest work is often upstream



Standards as Enablers, Not Constraints

Talking Points:

- Provide shared language
- Enable portability
- Reduce custom integrations
- Support long-term sustainability
- Only effective when paired with good data practices

A Practical Roadmap

**How to Approach Credentialing
the Right Way**

Step 1: Understand your data landscape

Step 2: Normalize and validate inputs

Step 3: Align to standards

Step 4: Pilot with real use cases

Step 5: Scale credentials with confidence

Three takeaways:

- Trusted credentials are only as believable as the data behind them
- Data foundations come before credential frameworks
- Sustainable credentialing requires alignment—not acceleration



“The future of credentials isn’t about issuing more of them—it’s about trusting the data that creates them.”

Thank you!

We love that you are interested in thinking about **data plumbing**!

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