Presenters

George Laskaris, NJEdge
Ann West, Internet2
Shaun Abshere / Chris Liechty, WiscNet
Mark Beadles, OARnet
Scott Isaacson, Nebraska Educational Service Unit
Bernie A’cs, Illinois (NCSA) / Jim Peterson (IlliniCloud)
Mark Scheible, MCNC
2004: Internet2 pioneered identity and trust infrastructure, the InCommon Federation for the research and education community.

Started working with Regionals early how to scale

- 2004: Grant program – Great Plains Network
- 2007: CoSN Compendium Article on Federated Identity
- 2012: CoSN Federated Identity Roadmap
- 2012: Assembled group to determine how to reach out to K12
- 2013: Call for Pilots
Introduction & Background: Where We Started

- State & Regional Networks have a history of working with both Internet2 and a broader community of institutions
- Community colleges and K-12 are of particular interest to many regional networks
- Forging a collaboration between InCommon and the Regionals on identity services seems like a great way to scale and to extend advanced trust and identity solutions to K-12 and community colleges
Organizing Process: Working Groups Formed

Comprised of InCommon staff and interested R&E Network reps

– Brainstorm & strategize on how best to proceed

– Conducted workshops with the Quilt membership to develop a distributed framework for federation that would extend InCommon Federation services to K-14 institutions

– Followed workshops with a call for participation from regionals interested in participating in potential pilot efforts

– Working groups assembled an explanation of the pilot program along with supplementary information and diagrams and conducted con calls with interested R&Es to make suggestions for each potential pilot

– **Finalized pilot proposals** were requested following this process
Participating Pilot Projects

- Illinois – NCSA & IlliniCloud
- North Carolina – MCNC
- Maryland – MDREN
- Michigan – Merit
- Nebraska – ESUCC
- Ohio – OARnet
- Utah – UETN
- Wisconsin - WiscNet
Pilot Project Process

As the pilots were initiated the working group:

- Conducted bi-weekly conference calls with all pilots project members to provide additional information
- Received regular status updates from each pilot
- Invited outside speakers to join these calls to provide more detailed info on various topics to help pilots with their federation efforts
- Provided a supportive environment that encouraged learning from each other and sharing of materials between pilots
Pilot Project Process - Resources

White Paper – Summary of Pilots (PDF)

Quilt InCommon Federation Pilot Wiki
Pilot Project Process

Next we will have reports from four pilots:

• WiscNet – Shaun Abshere
• OARnet – Mark Beadles
• Nebraska – Scott Isaacson
• Illinois – Bernie A’cs

Followed by a discussion of the Steward Model being piloted by MCNC & InCommon from:

• Mark Scheible, MCNC
• Ann West, Internet2
InCommon/Quilt Pilot: Identity and Access Management
Identity Federation
WiscNet Explores IAM as a service
Finally a pilot!
Pilot Re-boot
Take Away
K-14 Federation Pilot

9 March 2016
Mark Beadles
Information Security Officer, OARnet
mbeadles@oar.net
Scope of OARnet Pilot in Ohio

• Potential scope of K14 educational community in Ohio:
  – 23 community college districts = 300,000 students
  – 700+ K12 districts = 1.64 million students

• Scope for this pilot:
  – 4 community colleges = 44,000 students
    • 2 large/very large urban/suburban colleges;
    • 2 medium/small rural colleges
Goals of OARnet Federation Pilot

• Pilot Goal:
  – Enhance classroom and online teaching in Ohio Community Colleges by increasing adoption of federated access to three key services:
    • Roaming Wireless Network Access
    • Library Access
    • Ohio Department of Higher Education Student Services

• Long-term Goal:
  – Extend the benefits of federation down to K12 in order to provide a seamless transition process to higher education
Approach of OARnet Federation Pilot

**IdP approach:**
- IdP implementation can be difficult & resource-demanding
- Investigate service partners and simplified packaging as alternate IdP implementation strategies
  - Service Partner: Fischer International Identity
  - Simplified Package:
    - VM-based appliance running Shibboleth/RADIUS based initially off Canarie/CAF package
    - Provide professional services via internal staff to help with install

**SP approach:**
- Focus on supporting three key SP’s in common use
  - Library Access via the OhioLINK library network
  - Roaming Wireless Network Access via eduroam (*non-SAML-based)
  - Web-based services from Ohio Department of Higher Education
Findings

- Institutional Adoption
  - Community colleges: Strong interest, satisfactory adoption
    - Adoption has been driven by the applications
    - Adoption constrained by resources (funds/personnel/tools/complexity)
  - K12 adoption: Difficult
    - Adoption: constrained by resources, governance, and services

- Service Adoption
  - Wireless access: strong demand.
    - Wireless access discussion often leads the way to further federation implementation.
  - Library: high value opportunity.

- Approach
  - Providing an IdP package that includes installation, implementation services, membership “shepherding” has shown greatest success
Nebraska Quilt/InCommon
K-12 Pilot

Growing Collaboration

March 9, 2016
Scott Isaacson
Technology Director
Educational Service Unit Coordinating Council
The Beginning

- Spring, 2013
- Previous Identity projects aimed to develop a uniform directory architecture statewide
- Could not agree on directory design
- Were not driven by strong enough use cases and agreement
- Results: some regional and school district-based single sign-on efforts were successfully in place
Vision, Needs and Use Cases

• Statewide projects in development could be better with federated identity (reduced complexity for users and system administrators)
• BlendEd education initiative envisioned seamless access to:
  – Learning Object repository
  – App Launch portal
  – Learning management systems
  – Educational applications and assessment tools
• Ed-Fi data project
  – Real-time, actionable data from multiple sources in the hands of teachers and administrators
  – Automated state reporting
• Purpose adopted by statewide tech planning group: To deliver secure, reliable, unified, user-friendly and comprehensive technological systems in support of teaching and learning in Nebraska
Identity Features Envisioned

• One identity/account per user
• Automatic, real-time application access/authorization provisioning
• Automatic, real-time authentication provisioning & user self-service
• Easy access to applications via portal & SSO
• Aggregated, secure, searchable statewide staff directory
Guiding Principles

• Meet districts where they are – use existing accounts and account management processes
• Release minimal attributes to applications – only what is needed to provide the optimal user experience
• Calculate attributes wherever possible – rather than storing and maintaining statically in a directory system
• Automate account management tasks using the ODS data in the future
• Don’t re-invent – use established open-source projects and partnerships where available
To-Date

• Contracted with Unicon to assist with implementation of SSO and Portal systems
• Single sign-on framework implemented using SimpleSAMLphp in limited production with 25 school districts and ESUs participating
• uPortal system in development and going into pilot districts Spring, 2016
• User community has listed 75 applications for integration
• Collaboration with partners in Nebraska, Illinois (IlliniCloud) and other states
Future

• Additional 15 early adopter districts plan to come onto the system in 2015-16 year

• Integrations with Canvas LMS, Learn360 LOR, EdReady and additional apps as quickly as possible

• Continued collaboration with

• About 45 more early adopter districts planned for 2016-17

• Statewide availability 2017-18
Illinois
Quilt/InCommon
K12 Pilot
March 9, 2016

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IlliniCloud Founder and Visionary
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IlliniCloud & NCSA Quilt/InCommon K12 Pilot and the Illinois Shared Learning Environment (ISLE)

In The Beginning – A Summary

inBloom Integration Model

Evolved into an Operator Model

ISLE Partner Apps:
- Educator Dashboard
- Illinois Open Education Resources

Three Pillars of Support:
- Data,
- Identity, &
- User Interface
K12 Federated Identity is Challenging:

– Wide range of operational requirements (for IDPs)
  • Multiple authoritative authentication sources
  • RDBM(s) and/or Directory Service(s)
  • Enterprise controls, policies, and compliance requirements

– Wide range of operational requirements (for SPs)
  • Protocol diversity and integration
    – SAML2, WS-Federation, OAuth2, & brokering AuthN
    – API Manager (Token, Keys, and Consent)
    – LEA/SP specific ETL requirements
  • Common General Purpose Attributes
    – SAML Attributes & OAuth Claims mappings
    – Terms of Use, User Consent, and LEA/SP Authorizations

– Cloud augmented enterprises (Google4Ed & Azure)
ISLE Partner Applications

ISLE Educator Dashboard
Classroom Teacher
Visualizations of Assessment and Performance data

ISLE Open Education Resources
Personalized Libraries of Learning Content, Content Tagging Tool for Learning Standards and Workforce Development code-library support, service is built-over the LR & LRMI technologies.
Federated Services Stack (FSS)

- IDP has many SP(s) with one to many LEAs
  - SP Metadata maybe shared across LEAs
  - SP Metadata maybe shared Federated IDP partners
- IDP/Proxy has many LEA tenant Organizations
  - Metadata related to delegation system is NOT shared
  - Metadata related to interrogation system is NOT shared
- LEA and SP self-service administrative interfaces
  - Contact & Organization Registration
  - Connectivity
  - Attribute Resolution Rules
  - Operational Partnerships and LEA/SP Relationships
K12 Federation Registry: Administrative Self-Service Interfaces

Service Provider - ISLE Dashboards Staging Environment

Federation Organizations

Register an Additional Data Source

Additional Data Source Details

Relationship between District 87 and App Launcher (Dev)
The K12 Federation: By K12 for K12

Ensure the FSS is something K12 districts can rely on year after year for their business to safely connect to the service provider ecosystem.

K12 operators have the unique legal responsibility of protecting students in our care - in loco parentis.

K12 is not only the entry point for early childhood, and the exit point for higher education and workforce, but also the point of integration for partnerships that involve students, parents, teachers and the like.

The K12 Federation grew quickly from a conceptual model to a model of practice, due to like minded organizations in multiple states with similar initiatives and varied approaches in federated identity, interoperability of data, open toolsets and the like.

The K12 Federation, open to any K12 operator, with contributions and/or need for collaborative tools and services.

The K12 Federation is organic and developing processes for operators, governance and the development / sustainability contributions.
Learner Projects

Continuing to build tools and build the community is an ongoing, never-ending project. In addition, there are some active projects already being fostered.

K12 Federation
The Steward Model: a Path to K-14 Federation
The Problem

The InCommon identity federation currently relies on organizations supporting their own connecting-trust infrastructures.

Most K-14 institutions don’t have the resources to support this infrastructure.

Fees to participate are affordable for higher education, but don’t fit state budgets with hundreds of school districts.

Costs escalate to an untenable level for InCommon to support legal and relationship management for state school systems each with possibly hundreds of districts.
How To Address the Problem

Recognize that support for joining and operating in the InCommon Federation is a key issue for schools and districts with limited resources.

InCommon must partner with nonprofit organizations with built-in relationships with K12 and Community Colleges.

Leverage their legal, outreach and technology know-how to provide trust basis and support.

Outsource non-scaleable pieces of the trust model to the partner, and conduct annual training to ensure their practices align with InCommon’s Federation Operator practices.
Current Status

What’s already happened…

• MCNC offered to work with InCommon on a Proof of Concept

• Held an initial face-to-face retreat to develop an overall approach and work plan, leading to:
  • Weekly conference calls over many months, resulting in:
    • Docs in support of the Steward Model, leading to:
    • Finalized term sheets and agreements
    • InCommon Legal structure almost complete

• MCNC completed a draft of the onboarding process for their Represented Constituents
Next Steps

• Complete legal review with MCNC’s legal
• Finalize MCNC’s onboarding process
• Solicit InCommon community for feedback
• Hold F2F training between InCommon Ops and MCNC
• Design and develop support structure
• Begin Proof of Concept (PoC) with MCNC
  • Test and refine the onboarding process
  • Update documents, training, etc. based on PoC
Questions?
IAM Online Evaluation

Please complete a short evaluation of today’s presentation

InCommon Shibboleth Installation Workshops

May 19 - 20, 2016 – University of Chicago
June 2-3, 2016 – University of New Mexico
June 23-24, 2016 – Rochester Institute of Technology, Rochester, NY

Details and registration at incommon.org/shibtraining