Agenda

- Today’s Objective
- Context
  - Internet2
    - Quick History
    - Programs and Services
    - Community
    - Drill Down – Community Needs
- The Gap
- Connection To ITANA
- Discussion
Why?

Jumping ahead…
Community Landscape is Increasingly Complex
Community Reach is Expanding
Institutional Skills Inherently Limited
  – Demands Are Complex
  – Not All Needs Prescribe Full Time Staff
Community Drives Community

**Assertion:**
ITANA Is A Community of Talent Sought and Needed By Broader Community
Internet2 Context

History and Relevance to Today
Internet2: Historical Context

1996 – Internet2 Project is formed by 34 university leaders
80 higher education members by year’s end

1998 – The Internet2 Abilene Network is announced at the White House with Vice President Al Gore

1998 – Internet2 launches Middleware Initiative
Internet2 Infrastructure for Research

- **480+** Internet2 members
- **7+** petabytes of traffic on the network every day
- **300+** U.S. universities
- **100,000+** community anchor institutions
- **30.4** Tb/s of optical capacity
- **7+** countries and research networks accessible on 100G links
- **100+** InCommon higher education and research participants
- **15,700** miles of dark fiber capacity or **17,500** miles optical fiber infrastructure
- **50+** Industry Partners
- **1,000+** Data moved every day over Internet2
- **61** National research and education network partners
- **50** states served through **34** State and Regional Network Partner Connectors
- **60** Government agencies
- **Nx100G+** Layer 2 and Layer 3 speed
- **300+** Network is equivalent to 350X the entire Library of Congress
Internet2 exists to...
facilitate collaborative effort of U.S. higher education institutions to design and provide selected mission-critical services required to advance all aspects of their academic and service missions.

Internet2 works by...
engaging mutual-interest collaboration across diverse communities to advance scholarship and accelerate discovery.

- higher education
- industry
- regional networks
- international networks
- government agencies
- research and cultural institutions
Internet2 Network Research Support Capacity

- Built on a new 17,500-mile national optical infrastructure equipped at 30.4 Tbps
- On-Demand Cloud Connect to Amazon, Microsoft & Google – Others available
- Flex-Grid Open Optical Line System supporting up to 800GE Wavelengths

- Software API’s allow dynamic L2/L3 networks from application layer
- 62 add/drop colo facilities, 44 router nodes, 300+ Ciena 6500 optical elements
Sampling of Internet2 Member Impact

GENOMICS
Clemson University, National Library of Medicine (NLM)
Scientists deeply engaged in genomics research with two new AL2S high-speed connections, resulting in 1500% transfer improvements of DNA sequence sets to NCBI.

TELEMEDICINE
University of Missouri
In-home physical therapy treatments conducted by remote practitioners via high-definition videoconferencing technology, resulting in more frequent and effective rehabilitation and health outcomes.

HIGH-ENERGY PHYSICS
California Institute of Technology
CA’s statewide R&E network, Large Hadron Collider Open Network Experiment (LHCONE), University of Florida, University of Illinois, University of Nebraska-Lincoln.

Gravitational-wave Astrophysics
LIGO Scientific Collaboration (LSC) consisting of over 1,300 collaborators at 112 institutions in 20 countries, Laser Interferometer Gravitational Wave Observatory (LIGO), California Institute of Technology, Massachusetts Institute of Technology, astrology.org-operated by the Leonard E. Parker Center for Gravitation, Cosmology and Astrophysics at the University of Wisconsin – Milwaukee.
LIGO collaborates with astronomers all over the globe who are looking at the sky at the same time, but with different types of instruments, and who need ways to share discoveries securely. It is a significant challenge to keep track of LIGO participants, their roles, and who has access to shared resources. To help with these daunting tasks, LIGO has employed many trust and identity tools created by the Internet2 community, which have become integral parts of LIGO’s daily operations.
The Internet2 Community: An Unparalleled Human Network

- Nearly 500 member institutions
- 100,000+ community anchor institutions
- Initiatives, working groups, program advisory committees, and community award programs
- International partners
Cloud Services: 38 Campuses using Cloud Connect via Internet2 and Regional Networks
The Internet2 Network and Next Generation Infrastructure (NGI)

Advanced network services separate from the commodity internet

- Support for Emerging Science
- Software-Driven Infrastructure
- Automated & Programmable
- Cloud Access Services
- Embedded Security
- Infrastructure Sharing
- Regional/National Integration
- Enterprise Support
- Global Reachability
- Measurement Services
- Research Data Services
- Resiliency
- Operational Economics & Scalability
- Secure Management
InCommon: Services and Software

InCommon®
THE TRUSTED SINGLE SIGN-ON PLATFORM

Includes Packaged SSO Software and Trust Registry
Designed For and By the Community
Enables Academic Collaboration AND Enterprise Cloud Access
Plugs into Regional, National, and Global Academic Collaboration and Research Access Environment

Secure, privacy-preserving trust fabric for research and education

1,000 members strong

COLLEGES AND UNIVERSITIES
FUNDING AGENCIES
COMMUNITIES
CORPORATE PARTNERS
LEVERAGING INCommon
REGIONAL CONSORTIUMS
CLOUD PROVIDERS
NON-PROFIT PARTNERS
RESEARCH PROJECTS
SCHOLARLY COLLABORATIONS
JOIN YOUR PEERS THAT ARE ALREADY PART OF THE INCommon COMMUNITY
Identity Management Locally, Nationally and Internationally

Seamless wireless connectivity for faculty, staff and student mobility throughout the U.S. and 89 other countries.
InCommon Trusted Access Platform
Proven R&E identity standard and academic enterprise can trust

Simplified access to global scholarly and scientific cloud and collaboration services

Web security with reduced operational complexity and higher efficiency—designed for the academic enterprise.

Wi-fi anywhere in the world, with your home institution’s credentials. No additional logins!

Easy-to-install identity and access management software suite, developed by and for research and education.
Internet2 Cloud Initiatives
Tailored Cloud capabilities for research and education

Cloud Connect
Simplified Direct Access to Cloud Providers

NET+
Customized & Integrated Cloud Services

InCommon®
Cloud Access with Secure and Trusted Single Sign-On

Supporting New Cloud Capabilities for Science
E-CAS EXPLORING CLOUDS FOR ACCELERATION OF SCIENCE
NET+ Cloud Service: Key Elements

Developed through a community led Service Validation Process
Reviewing services to ensure they meet higher education needs in areas such as functional, technical, security and compliance, business and legal, and other areas of importance.

Backed by a group negotiated Facilitation Agreement
Ensuring standard and differentiated higher education contract terms and conditions, and discounting for qualified institutions.

Supported and Maintained by a Service Advisory Board and Internet2 Program Manager
Convening the community in meaningful ways around cloud services while supporting ongoing management of the service offering.
A TRUSTED ECOSYSTEM of Tailored Top-Quality Cloud Solutions

Acquia
powered by AWS
Blackboard
canvas
Cisco Cloudlock
CODE42
D2L
Dropbox
Duo
DocuSign
Google Cloud
labarchives
LastPass
CenturyLink
Mitel
ORACLE CLOUD INFRASTRUCTURE
Panopto
servicenow
SKYSYNC
splunk
voyance
Zoom
Global Collaborations and Services Supporting Research

Network Infrastructure

Trust and Identity Framework

Collaboration & Participation

-----and more
Community Anchor Program

Unites 43 state and regional research and education networks, K-12 schools, public libraries, colleges and universities, health care facilities, museums, and other cultural and historic organizations—our nation's community anchor institutions—to explore how advanced broadband capabilities can serve formal and information learning, for everyone, no matter where they're located.
Engagement in a Community of Scholars, Scientists, Industry and Government

Convening leaders from around the world to drive innovation and global discovery in research and education

A premier annual global R&E technical event redefining the R&E technology landscape

Practitioners collaborating to build innovative, better-yielding networking, trust and cloud technologies
Connecting the Community

A Deeper Dive
The InCommon Academy Philosophy

➢ One-stop shop: Learn IAM basics to design to implementation.
➢ Join in where it makes sense for you.
➢ Learn from on-the-ground community implementers.
➢ Compare notes with your peers at similar organizations.
➢ Know you are implementing community practices.

InCommon
TRUSTED ACCESS PLATFORM

Community-designed identity and access management services and software connecting you to the world.
The InCommon Academy at a Glance

What’s this all about? Will it work for me?  
How can I learn the details?  
How can I get started?  
What are others doing?  
How can I influence the work?

June 2019  
Grouper School  
University of Wisconsin, Madison

August 2019  
BaseCAMP  
Milwaukee, WI

Fall 2019  
Component Training Workshops  
Sessions for midPoint, COmanage, Grouper, and Shibboleth

December 2019  
CAMP Advance CAMP  
Technology Exchange @ New Orleans, LA

January 2020  
Collaboration Success Program  
Kick Off

April 2020  
Collaboration Success Program  
Concludes and shares experiences
CAMP

Community Architecture and Middleware Planning
Go CAMPing
Community Architecture and Middleware Planning

01 BaseCAMP
Learn the basics of identity management, InCommon Federation, and InCommon Trusted Access Platform.

02 CAMP
Apply the basics to current and emerging IAM and access to services.

03 Advance CAMP
Community sharing, problem solving, and planning for tomorrow’s IAM and access to services.
BaseCAMP

Get started.

• **New** - just like its intended audience!

• **Learn the basics** of identity management, offering federated services, InCommon Federation, and Trusted Access Platform.

• Find out about **common practices** in community-lead sessions.

• Get a **Crash Course** in the Hands-on, Minds-on sessions.

• Leave with how to learn more and how to get help.

• Learn from a **mix of lectures, interactive, and mini-workshops** to keep attendees energized and engaged.

• **Register now** for our August workshop in Milwaukee.
  - August 13-15, 2019
  - [https://meetings.internet2.edu/2019-basecamp/](https://meetings.internet2.edu/2019-basecamp/)
InCommon TechEx Track: **CAMP**

Make Your Work Easier, Better.

- **Tracks drawn from your proposals.**
- Discover how your *production access management system* can better work for you by engaging with peers and experts from the community.
- Find out about *functionality and operations changes* slated for the next year.
- **Meet peers** with similar IAM challenges. Learn how they are solving them and share your ideas.
InCommon TechEx Track: AdvanceCAMP

Explore Broad Trends.

- Explore emerging **identity-related trends** common across research and education.

- Engage in **development topics** associated with broader community coordination.

- Collaborate to **develop common approaches** to identity challenges and open source software development.

- Learn about **international solutions**.

- Don’t miss the AdvanceCAMP **on-site agenda setting**. Last year’s agenda can be found here: https://spaces.at.internet2.edu/display/ACAMP/ACAMP+2018+Home
InCommon Component Training
Component Training Workshops

What to expect:

• Attend two-day sessions that mix lecture with hands-on training and discussion.

• Learn about configuration, integration, and production topics.

• Get experience with Docker containers in a virtual machine (VM) environment.

• Bring your questions and ask the community and staff trainers.

• Meet new friends from organizations across the country.
Component Training Schedule

- April 2019: Shibboleth
- June 2019: Grouper
- Fall 2019: Shibboleth
- Winter 2019: COmanage
- Spring 2020: Shibboleth
Implementation Help
Collaboration Success Program

[Logos of various universities and organizations]
Collaboration Success: Strength in Numbers

What is the Collaboration Success Program?

A four-month intense collaborative engagement to help you implement Trusted Access Platform software and services.

Why Join?

- Collaborate with a like-minded peer cohort.
- Direct access to subject matter experts for guidance.
- Program staff keep project plans in motion while removing blockers.
- Leave with knowledge and a completed project.
Collaboration Success 2020 Timeline
Draft

- **Sept 2019.** Project Proposals
- **Oct.** Cohort Announced
- **Oct. - Dec.** Component Training
- **Jan. 2020** Program Kick Off
- **Jan. - Mar.** Collaborate
- **Apr.** Wrap Up + Share
Jump in where it's right for you.

Implement.
January - April 2020
Get advanced training AND implementation help in the Collaboration Success Program.

Prepare.
Fall 2019
Ready to learn more? Enroll in Component Training. For those further along, consider CAMP and AdvanceCAMP.

Get Started.
Learn More.
August 2019
Join us at BaseCAMP.

Want to make sure we offer topics you want?
Please respond to our InCommon Academy Survey to be sent out next week!
Boiling It All Down

• Continue the success and momentum established initially by NSF and accelerated and amplified by the TIER Program.

• “Make the tent bigger.”

• Lower the bar for entry.

• “Professionalize” support.

• Train and teach a community.

• Ensure that the solutions continue to meet our unique needs.
Closing the Gap: ITANA’s Connection to Architecture

- Landscape is Increasingly Complex
- Community Reach is Expanding
- Institutional Skills Inherently Limited
  - Demands Are Complex
  - Not All Needs Prescribe Full Time Staff
- Community Drives Community

- Assertion: ITANA Is A Community of Talent Sought By Community
Exploring the Possibilities: ITANA and INTERNET2

- **Idea #1:** A Registry of Known Practitioners
  - Self-Asserted Skills in a “Who’s Who” Format
  - Community Members Seek, Qualify and Engage Independently As Skills Are Needed

- **Idea #2:** Program and Working Group Subject Matter Experts
  - Solicited by Working Groups: CACTI, TAC, BPLAAC, CSTAAC and more
  - Subject Matter Experts submit their willingness to participate in qualified Internet2 Community Working Groups and selected by WG Leaders for inclusion in Community Projects and Program Activities such as Collaboration Success Program, API and Data Structures working groups and more…

- **Idea #3:** A “Help Wanted” Program
  - Community members with active projects broadcast their needs
Discussion: Exploring the Possibilities

1. Present the idea to ITANA’s Board
2. Present the possibilities to ITANA Community
3. Collect and Synthesize ITANA Community Response
4. Identify Next Steps and Create Opportunities
See you at Global Summit!
Thank You!

Steve Zoppi
AVP, Services Integration and Architecture
szoppi@internet2.edu