TIER PROGRESS: WHAT IT MEANS FOR YOUR CAMPUS

Kevin Morooney, Penn State
Ann West, Internet2
Steve Zoppi, Internet2
Agenda

• What is TIER?
• Why We Need TIER
• Who is Involved?
• Program Process
• Outcomes to Date
• Projects Underway and Planned
• Questions and Discussions
What is Trust and Identity and Education and Research?
It’s About Getting Identity Right

TIER is about
• Enabling the individual
• Aligning HE identity and access
• Creating pluggable identity “network”
• Leveraging what we have done together
• Building to create a suite of services and software
  – HE deployment
  – Corporate partner integration
Why We Need TIER: Enable the Academy

Current Approach

TIER Approach

Personal Centric
Why We Need TIER: Enable Complexity

One person, many digital personas

Federated Groups allow for instant roles affiliation

Time and Attribute based Roles
Why We Need TIER: Enable Flexibility

Locally-hosted, Cloud hosted, Corporate Pluggable
Who is Involved in TIER: Investing Campuses

Arizona State University • Baylor University • Carnegie Mellon University • Case Western Reserve University • Clemson University • Cornell University • Duke University • Harvard University • Indiana University • Lafayette College • Louisiana State University • MIT (Massachusetts Institute of Technology) • New York University • Northwestern University • Ohio State University, The • Oregon State University • Penn State (Pennsylvania State University, The) • Purdue University - Main Campus • Rice University • Stanford University • Tulane University • University of Arizona • University of California - Berkeley • University of California - Merced • University of Chicago • University of Florida • University of Illinois - Urbana-Champaign • University of Iowa • University of Maryland - Baltimore County • University of Maryland - College Park • University of Michigan - Ann Arbor • University of Missouri - Columbia • University of Nebraska - Lincoln • University of North Carolina - Chapel Hill • University of Notre Dame • University of Oregon • University of Pittsburgh - Pittsburgh Campus • University of Southern California • University of Utah • University of Virginia • University of Washington • University of Wisconsin - Madison • Virginia Polytechnic Institute and State University • Washington University - Saint Louis • Yale University

46 Committed
4 Pending Slots
Who is Involved? TIER Community Investor Council

Klara Jelinkova  Rice University, InCommon
Dennis Cromwell  Indiana University, InCommon
Eric Denna  University of Maryland (also Kuali)
Tracy Futhey  Duke University
Chris Holmes  Baylor University, InCommon
Ron Kraemer  University of Notre Dame
Kevin Morooney  Penn State University (also Kuali)
John O’Keefe  Lafayette College
Kelli Trosvig  University of Washington (also Kuali)
Melissa Woo  University of Oregon, InCommon
Shel Waggener  Internet2
TIER Program Process

Move quickly- not a build once effort, will work quickly to deliver best practices, code and everything that happens through the process.
Known Constituent Project Domains

Identity

- IdP (CommIT)
- Consent (Privacy Lens)
- Directory Engine (Pick Any)
- InCommon Federation

Authentication

- Web Application (Shibboleth)

Authorization

- Group • Role Management (Grouper)
- Organization Admin (CoManage)
- (De)Provisioning (???)
2015 Program Plan with Representative Projects

- Program Scope Preliminary Complete by April 2015
- Distilled Stories Requirements:
  - Policy
  - Technology
  - Campus Readiness
- Component Map
- Individual Project Pilots:
- National IdP (CommIT)
- Aligned Packaging of Existing Components
Outcomes to Date: Workshops At A Glance
(141 Contributors / 119 Members / 49 Institutions)

Workshop Participant by Role

- **Senior Identity Architect**
  - Role 1: 20
  - Role 2: 14
  - Role 3: 14

- **Other Institutional Identity Needs**
  - Role 1: 10
  - Role 2: 12
  - Role 3: 16

- **CIO or CIO Delegate**
  - Role 1: 25
  - Role 2: 13
  - Role 3: 17
Outcomes to Date: Stories and Requirements
Projects Underway and Planned

• Timeline
QUESTIONS AND DISCUSSIONS

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Steve Zoppi, Internet2 – szoppi@internet2.edu
What is InCommon and TIER Relationship?

- Both are part of overall “Trust and Identity” strategy
- InCommon
  - A Service (Federation) with Policy and Legal Framework
  - National R&E Inter-Organizational • International Cloud Infrastructure
  - Campus Practice Implications
- TIER
  - A Program
  - Campus and Individual Connections to National Trust Fabric
  - Federation Support and Service Implications
- Complimentary Governance Roles
  - TIER Community Investor Council
  - InCommon Steering Committee
Cost Efficiency Dynamics in Software Engineering

How much can we afford to sustain?

- **Total TIER Program Investment**
- **Required TIER Investment**
- **Investment in New Features**
- **Current Investment**
- **Sustainability “Debt” (20% Min)**

16 Years
New Requirements Show
Engineering Alone Won’t Meet the Needs

- Ongoing Community Work
  - Workshops
  - Documentation
  - Third-Party Collaboration
  - Consulting
  - Webinars
  - Assessments

- Ongoing Campus Work
  - Policy
  - Technology
  - Adoption
  - Deployment

... And More
## Engineering Staffing Plan

<table>
<thead>
<tr>
<th>Role</th>
<th>Status</th>
<th>% of Resource Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary Project Manager</td>
<td>On Board</td>
<td>20% Growing to 100%</td>
</tr>
<tr>
<td>TIER Sr. Technology Architect</td>
<td>Position Under Dev Posting 5/1</td>
<td>100% FTE 36 months</td>
</tr>
<tr>
<td>UI/UX Lead Engineer</td>
<td>Position Under Dev Posting 5/1</td>
<td>100% FTE 36 months</td>
</tr>
<tr>
<td>Core Components Lead Engineer</td>
<td>Position Under Dev Posting 5/1</td>
<td>100% FTE 36 months</td>
</tr>
<tr>
<td>Middleware Lead Engineer</td>
<td>Position Under Dev Posting 5/1</td>
<td>100% FTE 36 months</td>
</tr>
<tr>
<td>Engineering Services Providers</td>
<td>TBD: Late Q2 Early Q3</td>
<td>External Contracted (Internet2 Managed Resources)</td>
</tr>
<tr>
<td>Assigned Engineering Resources From Campus Members</td>
<td>20% to 70% Assigned</td>
<td>On Board (Continuing)</td>
</tr>
</tbody>
</table>
Design Bias and Drivers

- Bias Expresses the Primary, Secondary, etc. considerations and preferences when making architectural choices.
Design Bias Examples for TIER Components

Campus [On Premise] (Existing Functionality)
- High Transaction/Low Latency
- Functional Richness
- (Backward) Compatibility
- Local Scalability and Control

Core Enhancements / Refactoring
- Reduction of Technology Diversity
- Reduce Future Debt
- Enable Maximum Reuse

When delivering Functionality that has THESE attributes
- Deployment Target For New Functionality Wherever Possible
- Enable Rapid Deployment and Adoption of New Functionality
- Location Independent Functionality

We are *likely* to put them in THESE containers...
Challenge: Scope of Program (& Priorities)

Investor Council Approach
1. TIER Team Gathers Input From Investing Institutions
2. TIER TEAM Recommends Scope and Priorities to TCIC
3. TCIC Reviews, Discusses, Advises Program Team
4. Individual Projects delivery based on Program Team Action

Community Approach
1. TIER Team Gathers Input from Investing Institutions
2. TIER TEAM Recommends Scope TCIC
3. Key Priority Decisions are put out to community for vote
4. TCIC Reviews Community Vote
5. Individual Projects delivery based on Program Team Action

Benefit: Speed
Risk: Adoption

Benefit: Adoption
Risk: Speed
# Communications Matrix – Discussion on approach

<table>
<thead>
<tr>
<th>CONTENT types and communications tactics</th>
<th>TIER Investor Council (investing members)</th>
<th>Non-Investing Internet2 members</th>
<th>Non-Investing InCommon Participants</th>
<th>Internet2 leadership and staff</th>
<th>(Public)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project charter</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>TIER webpages on Internet2 website</td>
</tr>
<tr>
<td>Project plan</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>TIER webpages on Internet2 website</td>
</tr>
<tr>
<td>Functional requirements</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>TIER webpages on Internet2 website</td>
</tr>
<tr>
<td>Technical specifications</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>TIER webpages on Internet2 website</td>
</tr>
<tr>
<td>TIER presentations and webinars archive</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>TIER webpages on Internet2 website</td>
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<tr>
<td>Upcoming events announcements, info, registration</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>same access</td>
<td>TIER webpages on Internet2 website</td>
</tr>
<tr>
<td>Campus IAM maturity assessment model</td>
<td>TIER Investor Council Box folder</td>
<td>(Need to Know)</td>
<td>(Need to Know)</td>
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<td>Budget and financial reports</td>
<td>TIER Investor Council Box folder</td>
<td></td>
<td></td>
<td></td>
<td>(Need to Know)</td>
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**Color key:**
- **Public information**
- **Privileged information**
Challenge: Campus Adoption Structure

- Far More Than A Technology Program
- Many Campus Policies Must Change and Evolve
- Cloud inclusion CHANGES this dynamic, and how we must govern the program
Challenge: What Grade of Software Do Want to PAY FOR?

Prototype Grade

- Usually contains a lot of “ideas” (not all of them are good)
- Responds to a finite set of needs
- Not generally of “scalable quality”
- Generally no or poor User Interface or User Experience in mind

Community Grade Software

- Done on Spare Time
- Shared among “tribes”
- Enthusiast-Evolved
- User Interface • User Experience is from the ENGINEER or CONTRIBUTOR’S perspective
- Slow to evolve (Iteration is slow • unpredictable) • Adoption is Discretionary
- Hard to support (no “One Throat to Choke”)

Commercial Grade Software

- Leverages Constant Contact with Existing and Target Market (Investment in Customer Support)
- Has Service Levels and Defect Remediation Response Times
- Follows Established Release Cycles and Nomenclature (Version: Alpha, Beta, Release a.b.c.d)
- Has Support Infrastructure and Response Time Commitment (System and Security Software Response)
- Has HIGH Up-Front Investment requirements with payback over MANY years.
- Continuous Features Added, Enhancements to Existing and Ongoing Development
- Iteration is Rapid (For system software, this is NOT necessarily true)
- Adoption may be COMPULSORY (you won’t get support if …)
- Usually has an ecosystem (Think “Salesforce • AppExchange”)
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“Goldilocks Zone”
- Somewhere between Community and Commercial Quality
- Vendor • ➤ Community Solution
High Level Program Composition

Programs of this scale include

- Many Projects Which Follow the Same General Steps
- A Single Scope Or Master Set of Deliverables
- Many Product Deliverables
- Can Be A Combination Of Ongoing Support Activity In Addition To Deliverables
- Usually Focuses On Business Objectives And Delivering Value
- Benefit Management
- Projects may be serialized or concurrent within a Program Context
Program Process

Characteristics of A Successful **Program**
- Deliverables with a **strategic** intent
- **Business** Change
- Significant change in the organization
- Success criteria including growth, productivity gains, and improvement in the market
- There are **significant risks**
- Externally **imposed environmental change**
- Longer in duration than constituent projects
- Benefits are achieved **throughout duration of program**
Status: TIER Participation in Mailing Lists
(90 Institutions Engaged)
The TIER Vision – Why We Need IT

- Identity at the individual level
- Multiple role concept - no superior role
- Identity must end up having aspects that are a service - Identity as a service
- Must be available to download locally - embrace commercial pieces of this
- Move quickly - not a build once effort, will work quickly to deliver best practices, code and everything that happens through the process