Agenda

• A few IAM-related data points gathered from 40 of the early site interviews
• An update on our Proof-of-Concept plans
• Initial Identity data gathering efforts
• Our interest in follow up site visits
• Q&A
## IAM Working Group Members

<table>
<thead>
<tr>
<th>Region</th>
<th>Name</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1</td>
<td>Jeff Smith</td>
<td>Pitt County Schools</td>
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<td>Region 2</td>
<td>Wayne Beasley</td>
<td>Craven County Schools</td>
</tr>
<tr>
<td>Region 3</td>
<td>Walter White</td>
<td>Wake County Schools</td>
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<td></td>
<td>Chris Withrow</td>
<td>Warren County Schools</td>
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<td>Mel Cherry</td>
<td>Northampton County Schools</td>
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<td>Region 4</td>
<td>Janice Harliss</td>
<td>Montgomery County Schools</td>
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<td>Jordan Walsh</td>
<td>Moore County Schools</td>
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<tr>
<td>Region 5</td>
<td>Mike Ingram</td>
<td>Thomasville City Schools</td>
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<td></td>
<td>Lee Cummings</td>
<td>Rockingham County Schools</td>
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<td></td>
<td>Betty Weycker</td>
<td>Winston-Salem/Forsyth County Schools</td>
</tr>
<tr>
<td></td>
<td>Candace Hosey</td>
<td>Alamance-Burlington County Schools</td>
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<td>Region 6</td>
<td>Michael Stocks</td>
<td>Cabarrus County Schools</td>
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<td></td>
<td>Susan Manning</td>
<td>Charlotte-Mecklenburg Schools</td>
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<td>Region 7</td>
<td>Marty Sharpe</td>
<td>Catawba County Schools</td>
</tr>
<tr>
<td></td>
<td>Robert Lane</td>
<td>Mooresville Graded Schools</td>
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<td>Region 8</td>
<td>Michael Thompson</td>
<td>Rutherford County Schools</td>
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<tr>
<td>Charter</td>
<td>Celest O'Brien</td>
<td>Union Academy</td>
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<tr>
<td>At Large</td>
<td>William Haney</td>
<td>NC Information Technology Services</td>
</tr>
<tr>
<td>At Large</td>
<td>Chanin Rivenbark</td>
<td>North Carolina Virtual Public School</td>
</tr>
<tr>
<td>At Large</td>
<td>Robin Burley</td>
<td>NC Department of Public Instruction</td>
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</table>
A few IAM-related data points gathered from 40 of the early LEA site interviews

NOTE: These are preliminary and as yet incomplete sample numbers that may not be representative of all the LEAs – there’s more data to come!

• Directory Environments Deployed in your district:
  • Active Directory: 52.5%
  • eDirectory: 37.5%
  • OpenLDAP: 7.5%
  • Multiple: approximately 10-15%

• What username/password administration software do you use?
  • Active Directory: 62%
  • eDirectory: 43%
  • OpenLDAP: 13%
  • Other: 9 ManageEngine AD Self Service
    21 Workgroup Manager (WGM) on the Mac
    35 AD Manager Plus

• 67.5% of PreK-K5 Students have unique usernames in the system
### Examples of data captured in Directory or Database

**NOTE:** These are preliminary and as yet incomplete sample numbers that may not be representative of all the LEAs – there’s more data to come!

<table>
<thead>
<tr>
<th>What data do you capture/store for students in your LDAP directory or database?</th>
<th>Response percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>100%</td>
</tr>
<tr>
<td>First Name</td>
<td>100%</td>
</tr>
<tr>
<td>Last Name</td>
<td>100%</td>
</tr>
<tr>
<td>Graduation Year</td>
<td>37.5%</td>
</tr>
<tr>
<td>Grade Level</td>
<td>56.25%</td>
</tr>
<tr>
<td>Date of Birth</td>
<td>18.75%</td>
</tr>
<tr>
<td>SSN</td>
<td>0%</td>
</tr>
<tr>
<td>Phone Number</td>
<td>3.13%</td>
</tr>
<tr>
<td>NCWise Number</td>
<td>78.13%</td>
</tr>
</tbody>
</table>

### STUDENTS

<table>
<thead>
<tr>
<th>What data do you capture/store for staff in your LDAP directory or database?</th>
<th>Response percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>100%</td>
</tr>
<tr>
<td>First Name</td>
<td>100%</td>
</tr>
<tr>
<td>Last Name</td>
<td>100%</td>
</tr>
<tr>
<td>Graduation Year</td>
<td>0%</td>
</tr>
<tr>
<td>Grade Level</td>
<td>2.78%</td>
</tr>
<tr>
<td>SSN</td>
<td>2.78%</td>
</tr>
<tr>
<td>Phone Number</td>
<td>11.11%</td>
</tr>
<tr>
<td>HRMS Number</td>
<td>8.33%</td>
</tr>
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</table>

### STAFF
Tentative IAM Timeline

• **Summer 2011**: Build prototype/proof of concept(s) to show stakeholders and use as a tool to refine requirements and specifications for RFPs

• **Fall 2011**: RFPs awarded and then Build / Test / Setup Central IAM System and Engage in LEA Pilot interest

• **Spring 2012**: Formal Pilots of IAM System

• **Summer 2012**: Transition to Production

• **Fall 2012**: Deploy in Production Mode with Phased LEA adoption
An update on our Proof-of-Concept plans

- Develop initial proof-of-concept’s to better understand problem and vendor offerings
  - Gather and/or generate (real or fake) input data
  - Store data into registry
  - Populate directory
  - Knobs to adjust authorized settings
  - Authenticate to a directory, from (TBD):
    - NC VPS?
    - Google?
    - Microsoft Live@EDU?
  - Central -> Local AD-sync
    - Authenticate from Local App
    - Federation
- Tentative Timeline: May 11 – August 11
Initially targeted Central Administrative Functions (the “knobs”)

- **Examples:**
  - Password-reset (by admin and self-service)
  - User management
  - Group Management
  - Etc.

- **Please continue to share your ideas on desired functions, here and/or by email.**
Initial Identity Data Gathering Efforts

• IAM Cloud Team met with DPI
  • Goal: obtain NCWISE and HRMS data
  • Have initial “heartbeat” set up with DPI’s Managed File Transfer Service (MFTS), but do not have access to real data yet
  • In addition to “real” data, we seek sample/dummy data that could be shared with others (e.g. vendors)

• Sammie has set up a data generator process
  • Can be used to generate some basic simulated student data, until DPI issues are resolved
  • Based on open-source tool from generatedata.com
## Creating Simulated Data Using the Data Generator Process

### Data Generator Table

<table>
<thead>
<tr>
<th>Order</th>
<th>Column Title</th>
<th>Data Type</th>
<th>Examples</th>
<th>Options</th>
<th>Help</th>
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<tbody>
<tr>
<td>1</td>
<td>PUPIL_NUMBER</td>
<td>Number Range</td>
<td>No examples available.</td>
<td>Between 000 and 999</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>LAST_NAME</td>
<td>Name</td>
<td>John Roberts</td>
<td>Surname</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FIRST_NAME</td>
<td>Name</td>
<td>First name – any gender</td>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>SECOND_NAME</td>
<td>Name</td>
<td>First name – any gender</td>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>LAST_NAME_SUFFIX</td>
<td>Custom List</td>
<td>Please Select</td>
<td>Exactly</td>
<td>At Most</td>
</tr>
<tr>
<td>6</td>
<td>BIRTH_DATE</td>
<td>Date</td>
<td>Please Select</td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td>SIN_NUMBER</td>
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<td>Between 000 and 999</td>
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<tr>
<td>8</td>
<td>PHYSICAL_STREET_ADDR</td>
<td>Street Address</td>
<td>No examples available.</td>
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<td></td>
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<tr>
<td>9</td>
<td>APARTMENT</td>
<td>Alpha-numeric</td>
<td>Please Select</td>
<td></td>
<td></td>
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</table>

### Data Table

<table>
<thead>
<tr>
<th>PUPIL_NUMBER</th>
<th>LAST_NAME</th>
<th>FIRST_NAME</th>
<th>SECOND_NAME</th>
<th>LAST_NAME_SUFFIX</th>
<th>BIRTH_DATE</th>
<th>SIN_NUMBER</th>
<th>PHYSICAL STREET ADDRESS</th>
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<tbody>
<tr>
<td>7033831605</td>
<td>Lopez</td>
<td>Mark</td>
<td>Gwenodlyn</td>
<td></td>
<td>10/12/1987</td>
<td>502126855</td>
<td>360-1740 Tempor St.</td>
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<tr>
<td>360110081</td>
<td>Beasley</td>
<td>Chadwick</td>
<td>Melinda</td>
<td>II</td>
<td>01/10/1972</td>
<td>239566219</td>
<td>2010 Sodales Avenue</td>
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<tr>
<td>53215704</td>
<td>Compton</td>
<td>Wayne</td>
<td>Tallulah</td>
<td>Jr.</td>
<td>05/26/1970</td>
<td>691692848</td>
<td>P.O. Box 114, 7944 Mi Avenue</td>
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<tr>
<td>250454870</td>
<td>Davis</td>
<td>Edward</td>
<td>Tanya</td>
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<td>10/18/1999</td>
<td>757120601</td>
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<td>829920209</td>
<td>Cunningham</td>
<td>Bruce</td>
<td>Ulysses</td>
<td>II</td>
<td>07/30/1981</td>
<td>855345387</td>
<td>Ap #779-8605 Porta Avenue</td>
</tr>
</tbody>
</table>
How Do You Get NCWISE and HRMS User Info from DPI?

- Sammie had posed this question to the group in early May

- We received some feedback from several members of this group
  - Walter White @ Wake County Schools
  - Wayne Beasley @ Craven County Schools
  - Marty Sharpe & Lee @ Catawba County Schools (from when Steve attended the Catawba site visit)

- Continue to share any other examples?
  - Please share them here, and/or by email
  - Its very helpful to us
Site Interviews

- We’ve joined site interviews at 5 LEAs so far
- Sammie
  - Alamance-Burlington School System
  - Granville County Schools
- Steve
  - Catawba County Schools
  - Durham Public Schools
  - Mooresville City Schools
Our Interest in Follow Up Site Visits

• We’re seeking 2 volunteer LEAs to host IAM-related site visits

• Would like to better understand your processes to consume identity data & use it to provision local identities and accounts

• Perhaps this would entail 2-3 hours looking over your shoulder, asking questions, etc.

• If you’d like to host a visit, could you please let us know?
Open Q&A
Thank you!

• Web site—place for FAQ, Guidelines, Presentations, Organization, Team members, news, links to DPI & others: http://cloud.fi.ncsu.edu

• See this link for the 5/17/11 slides from the IAM Webinar for Tech Directors:

• IAM Email List is cloud-iam@lists.ncsu.edu

• Sammie Carter, swcarter@ncsu.edu, 919-513-8513

• Steve Thorpe, thorpe@mcnc.org, 919-248-1161
REST OF SLIDES ARE ON THE BACK BURNER
• More Vendor Communications
• Continue Stakeholder Communications
• IAM working group activities
  • Want to create a thorough list of central administrative functions needed by local LEAs (password reset, user and group management, etc.)
IAM Working Group Formed

• **Formed March 29**
  • Initial call was April 1
  • Expect follow-on calls every month or two

• **Purpose and Role of IAM Working Group:**
  • Establish a communication model for exchanging ideas, concerns, and feedback between IAM Architects and local LEA representatives
  • Review and integrate information collected in the site interviews
  • Gather functional and non-functional requirements for developing a sustainable statewide IAM system
  • Define specifications about required technologies and system processes
Vision: "Every student, teacher/staff member, parent/guardian, and school community member has a single unique username/password to access learning resources in North Carolina"

Challenges (Problem Statement):
1. Too many accounts for current services
2. Cumbersome manual process of updating account information from NCWISE to disparate local systems and services
3. Need solid foundation for K-12 cloud solutions growth
• Draft White Paper: “Developing an Identity and Access Management Architecture for North Carolina Education Cloud”. Latest version is at:

http://cloud.fi.ncsu.edu/private/20110401.nc.rttt.iam.whitepaper.draft.pdf

• The paper describes the IAM components (shown in the earlier, “Big Picture” slide) in greater detail
Identity and Access Management (IAM) System has 3 Major Components

1. **Central Data Repository**
   - The central repository will be comprised of relevant user data from various authoritative data sources.

2. **Central Directory Service**
   - The central directory will contain all user IDs, passwords, and other identity information. It will serve as master authentication and authorization point for all cloud-based services and allow syncing to LEAs.

3. **Federation Software**
   - The federation software security extends identity information to cloud-based services providing end users with single sign on experience.
User Account Provisioning

**Step 1**
NCWISE and HRMS Coordinators manage user information as normal.

**Step 2**
Student and HR data is propagated to IAM system.

**Step 3**
User accounts are provisioned in IAM System and granted access to new Cloud Services and current LEA services.
Local LEA and IAM Directory Integration

Local users log into devices and authenticate against Local LEA Directory Service as normal.

Local LEA Directory Service can sync to Central Directory Service for global user accounts.

Central Directory Service gets provisioned from Authoritative Data Sources.
Local LEA and IAM Directory Integration

Local Users

Local LEA Directory Service

Local LEA Directory Service could be Open Directory, Active Directory, or eDirectory

Synced Global Users from Central Directory Service
- Local Users
- Local Applications
- Local Printers
- Local Workstations
- Local Servers
- Other local stuff

Local users log into devices and authenticate against Local LEA Directory Service as normal.