Reinventing Our User Database in SirsiDynix Unicorn

March 5, 2010

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National Institute of Standards and Technology
U.S. Department of Commerce

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INFORMATION SERVICES DIVISION

Who We Are

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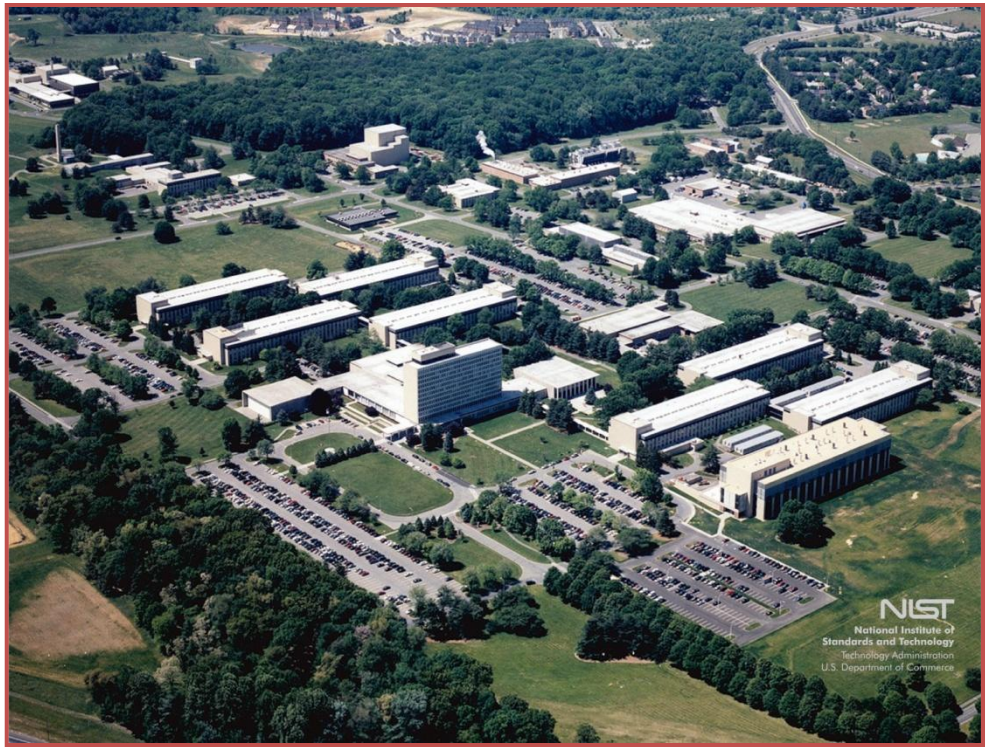

Gaithersburg Campus

NIST's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

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Our Customers, Ourselves

Our Customers

- Primarily, the researchers in the NIST laboratory programs at the Gaithersburg location
- Approximately 1,500 NIST researchers
- Approximately 1,700 guest researchers and post-doctoral students
- Physical, chemical, and engineering scientists

Our Customers, Ourselves

Ourselves

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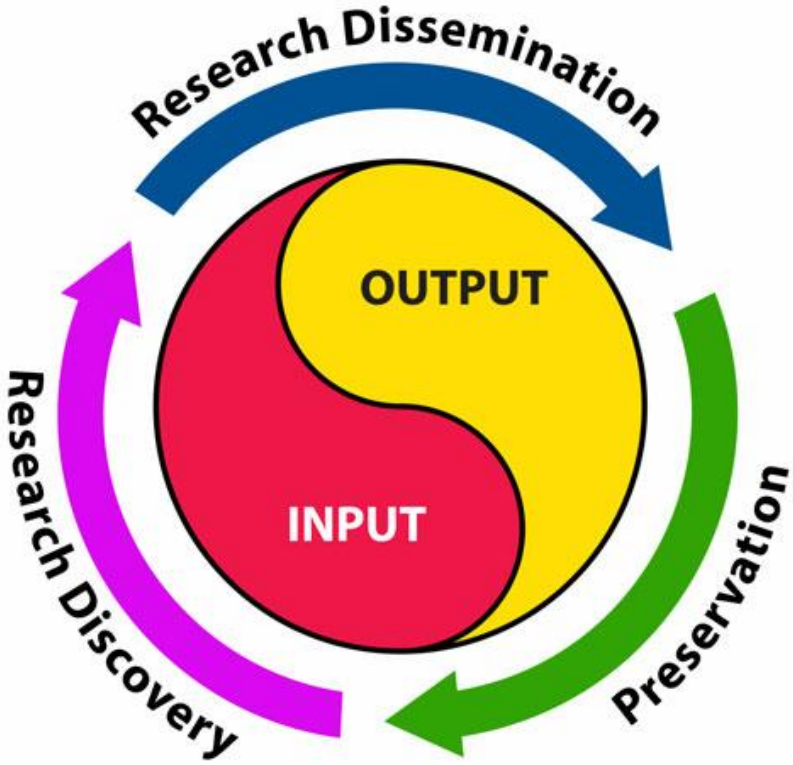
- Research Library and Information Group
  http://nvl.nist.gov
- Electronic Information and Publications Group
- NIST Museum and History Program
  http://museum.nist.gov



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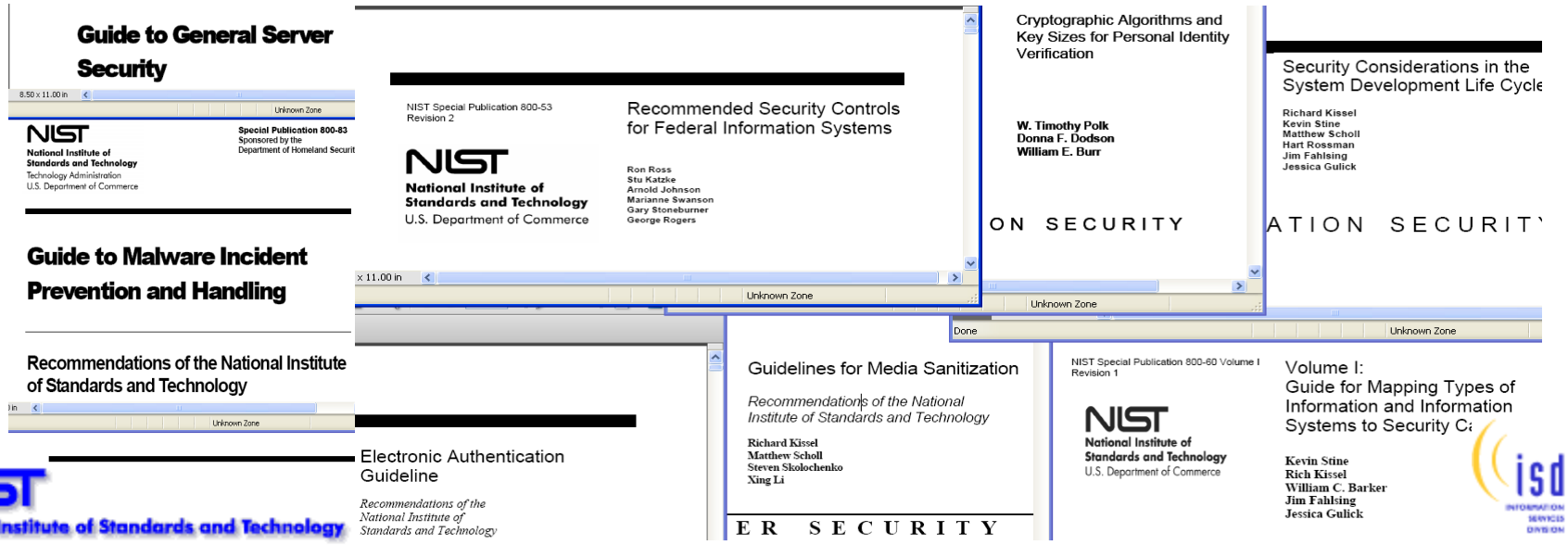
NIST and Cyber Security

NIST is charged with developing information security standards and guidelines for non-national security federal information systems.



Implementing Security at NIST

1. Categorization: determine the need to protect information stored on a system based on requirements to maintain confidentiality, integrity, and availability
2. Selection of controls: determine the appropriate security controls based on that need for protection
3. "Continuous monitoring"

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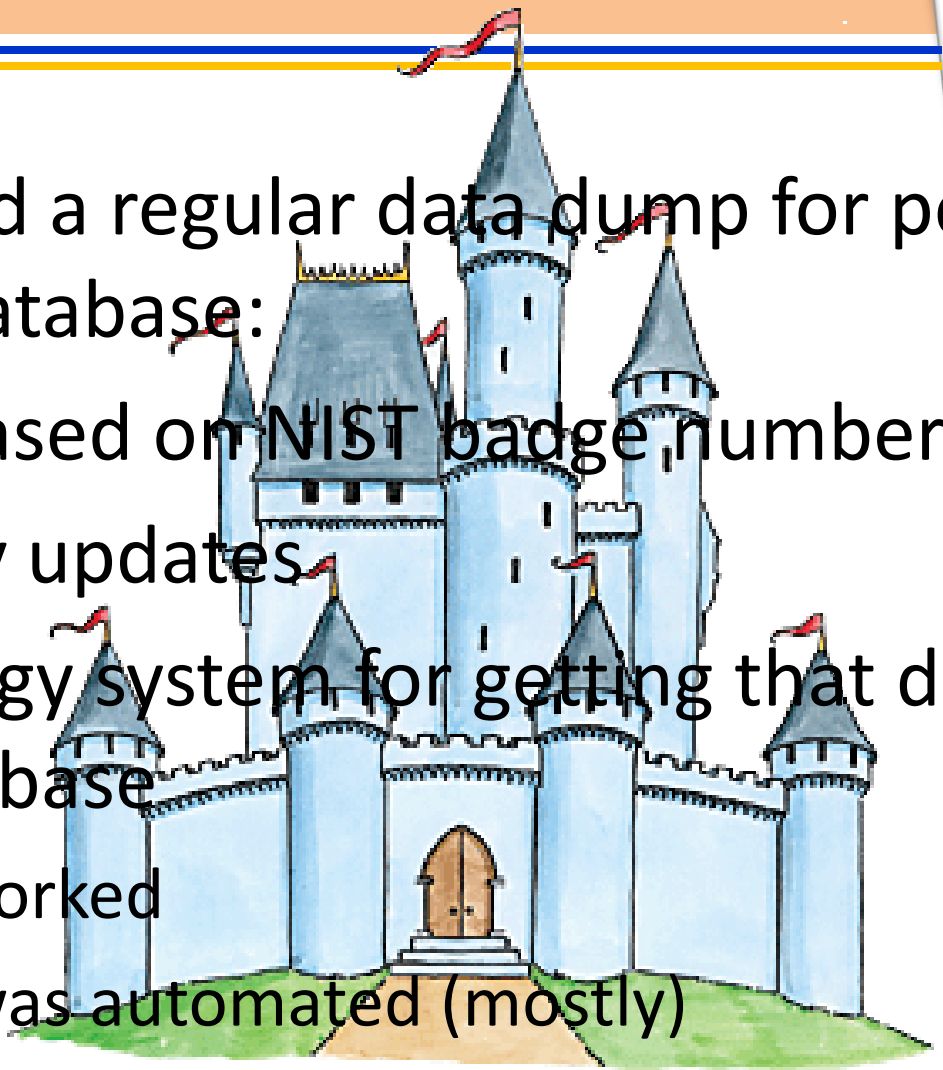
How This Impacts Us

- Need to be careful about what information lives on our ILS
- Maintaining our certification to be on the public network requires continuous effort

Once Upon A Time



We received a regular data dump for populating our user database:

- UserID based on NIST badge number
- Bi-weekly updates
- Very kludgy system for getting that data into the user database
  - But it worked
  - And it was automated (mostly)

When All of a Sudden…

As concerns about physical security heightened, our security office stopped providing us badge information.

Hobbling Along

An increasingly manual process

- Users created and updated on the fly
- Badges (and badge numbers) replaced periodically
- Format of badge numbers constantly changing so users are no longer sure which number to use
- Numbers on badges are not barcoded (can not be scanned into ILS)

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Waiting for LDAP

We kept waiting for LDAP

(Lightweight Directory Access Protocol)

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Our LDAP story

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Self-Checkout Woes

- Began with a 3M system in the late 90's (big improvement at the time…)
  - Became increasingly unreliable
  - Communication with Unicorn server via telnet
- Moved to a stripped down Workflows workstation (big improvement at the time…)
  - Too easy to enter wrong user ID
  - Java client much less amenable to this role

Reinvention

We needed to rethink our whole approach

Chapter 1: Define the Issues

- Data source
  - Identify a new source for our data
  - Devise method for importing data
- User-friendly user IDs
  - Base user IDs on something that stays constant
  - Provide means for customers to scan user IDs during self-checkout
  - Make user IDs easy to type when customers don't have a scanner (in their offices)
- User-friendly self-checkout station

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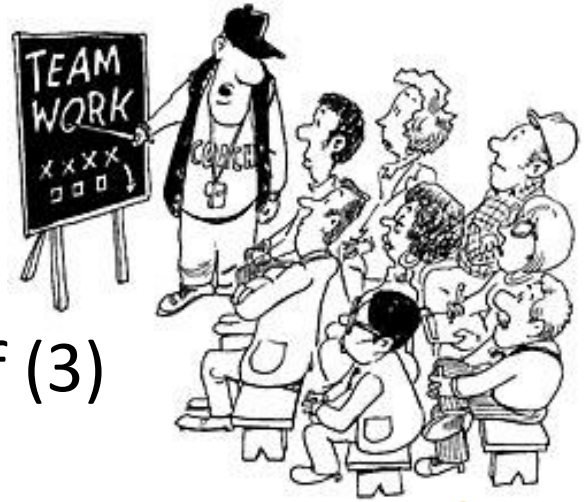
Chapter 2: Find Solutions

Begins with teamwork!

We used a cross functional group which brought together staff from across the Information Services Division:

- System Administration (2)
- Public Services (4)
  - Current and former circulation staff (3)
  - Reference Librarian (1)



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Team Tasks

- Select a new self check-out system
- Assist with migration to new user database
- Design procedure for creating passwords
- Determine means for distributing to customers their user ID as a barcode
- Train front-end staff on new procedures
- Market new equipment and procedures to customers

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Selecting a System (1)

Requirements

- Fully supported by SirsiDynix (from setup to regular maintenance)
- Reliable scanner that easily reads barcodes that are not in consistent areas on objects
  - No moving parts
  - Linear scanner
  - Stationary and trigger activated

Selecting a System (2)

Requirements (cont.)

- Touch screen monitor (ability to enter user IDs)
- Hardware that can be configured to NIST's "secure desktop" requirements
- Easily customizable
- Ability to add hardware for future needs (e.g. card readers)

Systems Considered

- Envisionware
- 3M SelfCheck BCS system
- ITG Apex XpressCheck

System comparisons….

Unit	Physical options	Scanner: linear or moving	Reads differently placed barcodes	SirsiDynix supported	Touch Screen	Ease of use	Easy to customize	Customer Service	Other
EnvisionWare	Free standing, counter top, or no furniture	Linear	Yes	Yes	Yes	Has static screens to guide user	Can customize with html	Good- been around longest	Uses remote messaging; store and forward app.
ITG Apex XpressCheck	Free standing, counter top, or no furniture	Linear- trigger or stationary	Yes	Yes	Yes	Uses animations	Customize with point and click apps	Good	
3M BCS	Free standing, counter top, or no furniture	Has moving parts- fixed scanner	Yes	Yes	Yes	?	?	Good	

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Chapter 3: Implement the Solutions

Simultaneous activities:

- Implement new self-checkout
- Load the new user database
- Inform our customers

Implement Self-Checkout Station

- Configure hardware to NIST “secure desktop” settings
- Make customization decisions
- Install software (done remotely by SirsiDynix)
- Distribute library cards to customers

Populating Our User Database

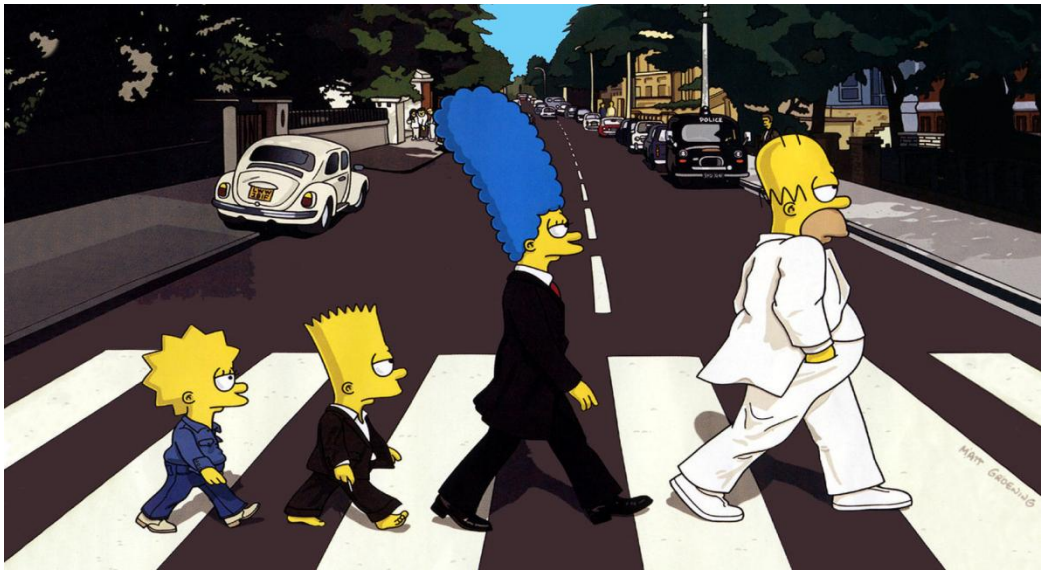
We needed to find a data source for our user database

Clean Up Existing User Database

- Use reports to remove as much as possible (e.g. outdated requests)
- Manually remove any checkouts and charge items to missing
- Run report to remove expired users

Crosswalk the Data

- Identify fields that will move directly from NIST's people database to ILS user database
- Identify what data requires an interpretation process before moving it into ILS user database



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Match Up the Data

- Use API tools to extract user data from Unicorn
  - All data required to load records (user ID, library, user profile, name)
  - All potential match points
- Drop ILS user data and NIST people data into Access database
- Run queries to find sure matches
- Manually examine non-matching records

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Prepare Data for Loading

- Manually add data where automated queries are inconclusive
- Use Access reports to create required format for loading into ILS

  (see **Record Formatting Guide**, rec_format_guide_GL33.pdf, Client Care site)

Load User Data

- Copy file to Xfer directory on Unicorn server (/s/sirsi/Unicorn/Xfer)
- Run Load Users Report

Chapter 4: Maintaining the User Database

- NIST people database will be updated bi-weekly
- Data will be extracted by querying the Oracle people database
- Script will be run to format data for Load Users Report

Epilog: Lessons Learned

It's Complicated!

- Self-checkout software
- Physical security requirements
- IT security requirements
- NIST databases
- Database handshaking
- Customer convenience
- Self-checkout hardware
- Circulation staff preferences
- ILS requirements

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Moral of the Story

Thank You!

Questions?

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