NETS Directory Redesign

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Links: Project Site, Project Wiki
The goal of this project is to provide accurate, up to date directory information. In addition to bringing together disparate elements not previously linked together in one place, we also hope to reduce or eliminate the current manual, often redundant, steps involved in the manipulation of directory information.

We will emphasize secure solutions and work to keep directory data in formats that can easily be exported and shared both now and in the future with other systems.

This effort will address issues specific to NETS at this time and not larger, organization-wide issues (though pieces of this effort may be adopted for that purpose later). One initial project assumption is that NETS will be the UCAR authoritative source for room number and extension.
Project Phases

- Phase I – Develop NETS authoritative data, use for local data integrity verification, and send to HR

- Phase II – Incorporate data into NETS databases
Data, Data, Where is it?

- Many data sources
- Who is the owner?
- What are the processes to access it?
## Authoritative Data Sources

<table>
<thead>
<tr>
<th>Human Resources</th>
<th>NETS</th>
<th>CISL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person ID -- Employee Number (unique)</td>
<td>Extension</td>
<td>Login Name -- User Name</td>
</tr>
<tr>
<td>Person GUID -- System ID</td>
<td>Building</td>
<td>Scientist Number (Unique)</td>
</tr>
<tr>
<td>Legal First Name</td>
<td>Room</td>
<td></td>
</tr>
<tr>
<td>Legal Middle Name</td>
<td>Mail Stop</td>
<td></td>
</tr>
<tr>
<td>Legal Last Name</td>
<td>Nick Name*</td>
<td></td>
</tr>
<tr>
<td>Start Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>End Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position Code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization Name (Laboratory/Program/Division)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appointment Number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nick Name (Populated by NETS)*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Data Import

<table>
<thead>
<tr>
<th>Human Resources</th>
<th>NETS</th>
<th>CISL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import all data</td>
<td>Import room and building from port list</td>
<td>Import user ID/login name</td>
</tr>
<tr>
<td>Select fields as</td>
<td>Import users, extension and phone MACS</td>
<td>Scientist number</td>
</tr>
<tr>
<td>required</td>
<td>from Call Manager</td>
<td></td>
</tr>
</tbody>
</table>
Program Internals

- Java, PostgreSQL, JSP, SOAP, AXL, MS SQL Server, Oracle
- Multiple tables to compare new to existing data
- Data rules/corrections are allowed for all tables
- Timestamps for creation, modification, verification
NETS – People Data Outline – v8

**DataGroups**
- Identifies the custom data groups or tables such as HR, NETS, CISL, etc. data.

**CM-Users**
- AXL SOAP to Cisco CM Users & Details

**PortList**
- netserver CSV port list detail file with Layer 2 info

**Phone Store**
- Develop last locations & people for phones

**MS SQL Serv.**
- F&A iVantage query on their Microsoft SQL Server database

**Divisions**
- CSV file containing division codes to text conversion

**Oracle Int.**
- Oracle query on CISL DB server to get latest data

**CM-Users**
- XRL SOAP to Cisco CM Users & Details

**PortList**
- netserver CSV port list detail file with Layer 2 info

**Phone Store**
- Develop last locations & people for phones

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**Data-NETS**
- Holds group specific data items for easy data import, export, modification.

**Data-Phones**
- Holds final phone list and locations for all people which may include multiple locations for individuals.

**Data-HR**
- Holds group specific data items for easy data import, export, modification.

**Data-CISL**
- Holds group specific data items for easy data import, export, modification.

**Data-CISL**
- Holds group specific data items for easy data import, export, modification.

**PersonTags**
- Identifies the DataGroups each person belongs to.

**DbRules**
- Defines what data between tables is needed and in what order.

**PersonPtrs**
- Main people data pointer table. All custom tables will reference this table.

**System Logging**
- Log all system events in an automatic web structure for simple searching / viewing.

**Notification System**
- Email, system, other notification options for data import, export, comparison functions.

**Users**
- Folks or systems who have access to people data.

**UserAccess**
- Defines which custom groups a user may view or modify.

**Mail Stops**
- CSV file containing mail stops by office location

**Preferences / Setup file**
- Setup program functions, runs, notification, etc.

**Comparison Engine**
- Links data based on userid, logname, lastname, firstname, etc. and performs exception handling. Outputs changed data info, data errors encountered, missing data in the data sources.

**Auto Execution Engine**
- Run imports, exceptions, comparisons, exports based on the defined preferences.

**PeopleData**
- Defines which custom groups a user may view or modify.
Data Matching Process

- Obtain raw data from all sources
- Perform any data corrections on the raw data
- Execute the name matching
- Notify of any changes or data integrity issues
Three Way Match

- HR, CISL and NETS data all matches
- Confirm data hasn’t changed
- Create a log message if data has changed
- Update database if source is authoritative for changed data
Two Way Match

- CISL/NETS match, but HR does not
  - Is employee inactive?
  - HR User ID correct or missing?

- CISL/HR match, but NETS does not
  - Has phone been assigned yet?
  - Service extension, out of state or casual employee?
  - Short term visitor?

- NETS/HR match, but CISL does not
  - System admin. has not created a login for the user yet?
  - UCAS account hasn’t been created yet?
  - Changed User ID, that hasn’t been updated by NETS or HR yet?
Business Rules Exceptions – NETS

- If the last name in call manager is admin, do not import data.
  ◦ Used for specific system accounts
  ◦ Examples: Emergency Responder, Route Points, etc.

- If MAC address is zero, do not import data
  ◦ User record does not have a phone associated
  ◦ Incomplete phone record
  ◦ Must be fixed by NETS
Business Rules Exceptions – NETS

- Users without records
  - Service extensions
  - Currently NETS accepts the phone number from HR as correct for these specific extensions
    Examples: Staff in computer room, cafeteria, shuttle drivers, machine shop, mailroom, etc.

- Multiple records (phones) for staff
  - One extension should be configured per employee, however they may have multiple phones if they have offices at more than one campus or in different divisions
  - Working to show the Primary office as the location (Bldg/room) for user
Nick Name/A.K.A.

- NETS is considered authoritative source for nick name fields.
- No correlation with CISL nick name. This could change as update mechanisms are defined.
- Data is added/updated from NETS to HR.
- Only proper nick name is acceptable, or should be approved by division, supervisor or TSPOC.
Business Rules Exceptions – HR

- If building is listed as OOS (out-of-state) or CSL (casual) do not log if no matches on data.

- Clear room number if building is listed as OOS or CSL
Business Rules Exceptions – CISL

- No business rule exceptions at this time.
Security

- No sensitive data will be held in the database
- Search criteria
- Limited Access
Import of the HR, CISL, Cisco CM, Port List, Mail Stops, etc. can all be scheduled for execution
Email Notification

- Along with daily logging, email notification is available
  - Auto Runs
  - Security Events
  - Logins
  - Logouts
  - Program Startups
Phase I – Completion, Fall 2008

- People coming & going – logic/Business rule (ACCIS/HR issue)
- Person's Primary Location Identification
- Production Operation on Server
- Confirm Security – Limited Access
- Confirm Name Data – Clean up HR, CISL, NETS data
- Final Step – Push Data to HR
Questions?