Student UID System:
Web Service Integration and Matching Process
Intended Audience

• Staff who regularly work with student enrollment records or use student IDs in PowerSchool

• PowerSchool Data Managers

• PowerSchool LEA Coordinators

• DPI support staff
Objectives

Participants will be able to:

• Describe UID functionality that can be accessed via web services

• Describe the criteria used by UID in the matching process

• Describe the match decision process, including exceptions
UID WEB SERVICE INTEGRATION
PowerSchool Enrollment
Training Materials

• Navigate to the webpage linked below for detailed training materials related to use of PowerSchool.

Web Services
ID Assignment

• The Web Services are designed to allow designated application (i.e. PowerSchool) to communicate with the UID.

• These Web Services allow the UID system functionality to be used for:
  – Assigning or retrieving UIDs
  – Requesting a list of near matches
  – Submitting near match decisions
  – Searching by student or batch
UID Numbering Scheme

• Student UID system **assigns** IDs
  – IDs created by Student UID are 10 digits
  – IDs less than 10 digits were created during the NC WISE era (pre-2012)

• Student UID is integrated into PowerSchool
  – The NC Enroll New Student screen **connects to the UID Student system**
  – **Student demographics updates are sent to UID** when First Name, Last Name, DOB and/or Gender are updated.
Web Services Student Enrollment Best Practices

1. Search Student UID
   - PowerSchool should **not be used as a student search tool**

2. Enroll student in the application (i.e. PowerSchool) using UID search results
   - Fields to use to ensure proper enrollment of student in web services applications:
     - First Name (Required)
     - Middle Name (if available)
     - Last Name (required)
     - DOB (required)
     - Gender (required)
UID MATCH PROCESS
Note:

Currently, LEAs and Charter Schools do not process near match resolution in the UID system. This feature has been requested and will be implemented soon. However, users are responsible for resolving presented near matches when enrolling and updating in PowerSchool.
ID Assignment Process

DATA SUBMISSION OPTIONS
- File Upload
- Online Entry

ASSIGNMENT AND MATCHING PROCESSES

Data Submission → Submission Validation
- no errors
- errors → Rejected
- errors → Record(s) Canceled

Data Validation
- no errors
- errors...

Matching / Assign IDs
- near matches
- resolved near matches
- no near matches

Download IDs / Consume IDs

User Resolves Near Matches
Matching Process: Input Record

1. Input Record
   - Jose R. Martinez
     MALE 04/01/12
     SUBMITTED FOR MATCHING

2. Index & Search Candidates
   - Joe Martinez
     MALE 04/29/12
   - Martinez Jose
     MALE 04/29/12
   - Joseph R. Martinez
     MALE 04/29/12
   - Joey Z. Martinez
     FEMALE 04/15/10

3. Match Scores & Decision
   - Score 88
   - Score 87
   - Score 91
Matching Process: Index and Search Candidates

- System searches master repository.
- Generates an Index of data based upon combinations of the name.
Matching Process: Matching Information

- Last name, first name, birth date, gender are required fields for matching.
- Middle name, SSN, alternate last name will be used if provided.
Matching Process: Examples of Exceptions

Errors in spelling: Tomas instead of Thomas
Nicknames: Bill or William
Mixed usage: John Thomas or Thomas John
Multi-part names: Anderson-Lott or Lott
Uncommon Names: Leniency on misspellings
Punctuation: Removes punctuation

• Matching engine accounts for exceptions.
• This is only a partial list.
• Matching engine employs 300 different algorithms to catch exceptions.
Based upon the search results, the system generates a Match Score.
## Matching Process: Match Decision Factors

### FACTORS ON DECISION

**Thresholds (88-92):** Provides fewest false positives, false negatives, and human errors.

**SSN Rule:** Forces a Near Match when a No Match is found but the SSNs are the same.

**Twins Rule:** Forces a Near Match when a Match is found and district information is the same but the local ID is different.

**Multiple Matches:** Forces a Near Match when multiple records match the input record.

### Match Scores & Decision

<table>
<thead>
<tr>
<th>Score</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>MATCH</td>
</tr>
<tr>
<td>92</td>
<td>NEAR MATCH</td>
</tr>
<tr>
<td>88</td>
<td>NO MATCH</td>
</tr>
<tr>
<td>0-87</td>
<td>NO MATCH</td>
</tr>
</tbody>
</table>

Scores are weighted and probability-based using matching info.

- Match decision determined by comparing match score to thresholds.
- Special rules can force a near match.
Match Decision: Match

Input Record:
Jose Martinez
Male 04/01/2012

Master Record:
Jose Martinez
Male 04/11/2012
Match Score = 96

- If the system finds a Match it assigns the ID of the matching student to the input record.
- If demographics are different between the input record and the master record, and the input record comes from an authoritative source, the information contained in the input record updates the master record.
- Previous Master record gets moved to the ID history.
If the system finds no matching student it will assign a new UID to the submission record and the process will end.
System can not determine whether or not these students are the same.

Near matches require human intervention to resolve.
Multiple Matches

- If two or more potential matches are found above the lower threshold for a match, the system forces a near match.
- System does not simply assign the potential match with the highest score.
SSN Rule: Same SSNs

- If no match is found but the SSN submitted is the same as an existing record, the system forces a near match.
Near Match Example in PowerSchool

- PowerSchool will present near match results from the UID system
- Select the student with the highest match percentage
- Once the appropriate student has been selected, click confirm
- Message: *The changes have been recorded* will be shown after successful update of the student in the UID system
RESOURCES AND SUPPORT
Resources

• **Student UID (System, and supporting documentation)**
  http://www.ncpublicschools.org/cedars/uniqueid/student/training/

• **NC SIS Admission and Withdraw information:**
  http://www.nc-sis.org/admit_withdraw.html

• **Webinar Recording:**
  http://www.nc-sis.org/recordings.html
  - Presentation and supporting documents:
    http://www.nc-sis.org/presentations.html

• **NC SIS What’s New?:**
  http://www.nc-sis.org/what's_new.html

• **NC SIS e-bulletins (communications archive):**
  http://www.nc-sis.org/e-bulletins.html
Support

• Enrollment & Duplicate Students:
  919-807-HELP or https://nc-myit.us.onbmc.com

  Please ensure the appropriate personnel in your LEA contact the Support Center

• NCID
  Contact your LEA NCID Administrator