

Master Data Management: Person Domain Consulting Review

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Project Overview

Objective

- To review the reasonableness and effectiveness of the Matching and Mastering Rules for the Person Domain Demographic and Contact data.

Scope

- Person Domain Demographic and Contact Data Matching and Mastering Rules.

Background

Master Data Management (MDM)

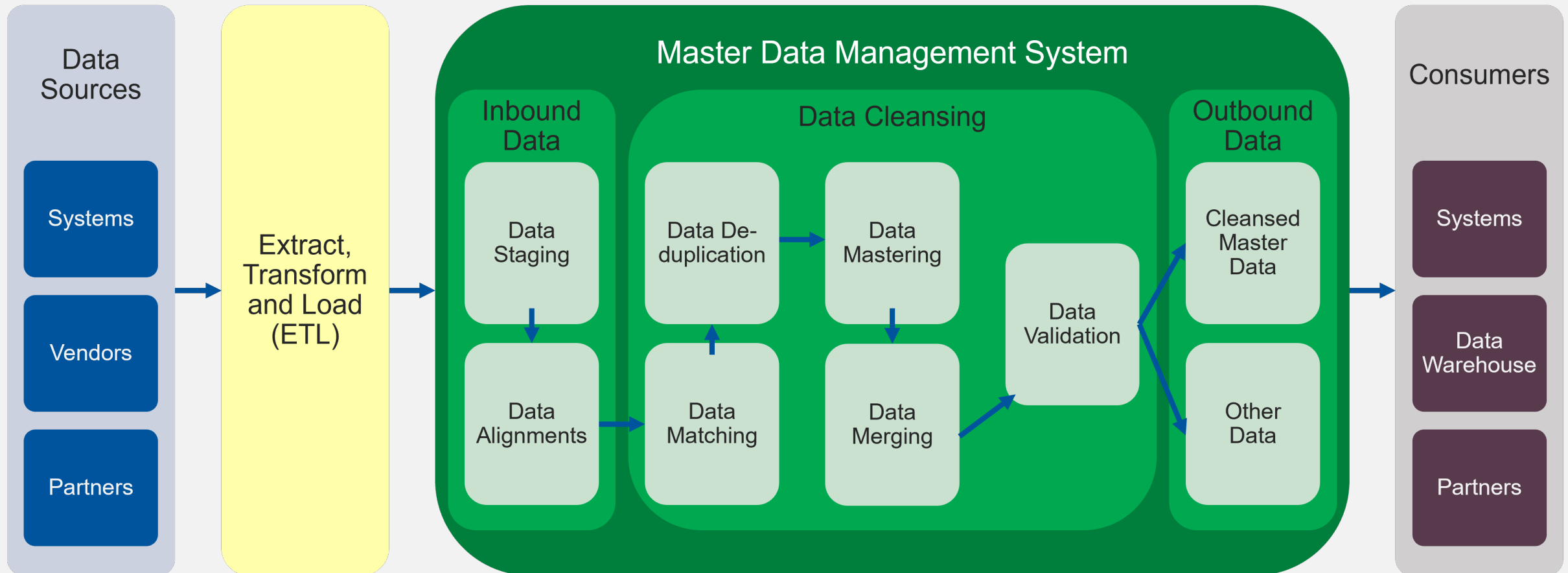
Purpose

- MDM supports ETF's implementation of data governance, data quality rules, and creates a **single source of truth** for information using an MDM tool.

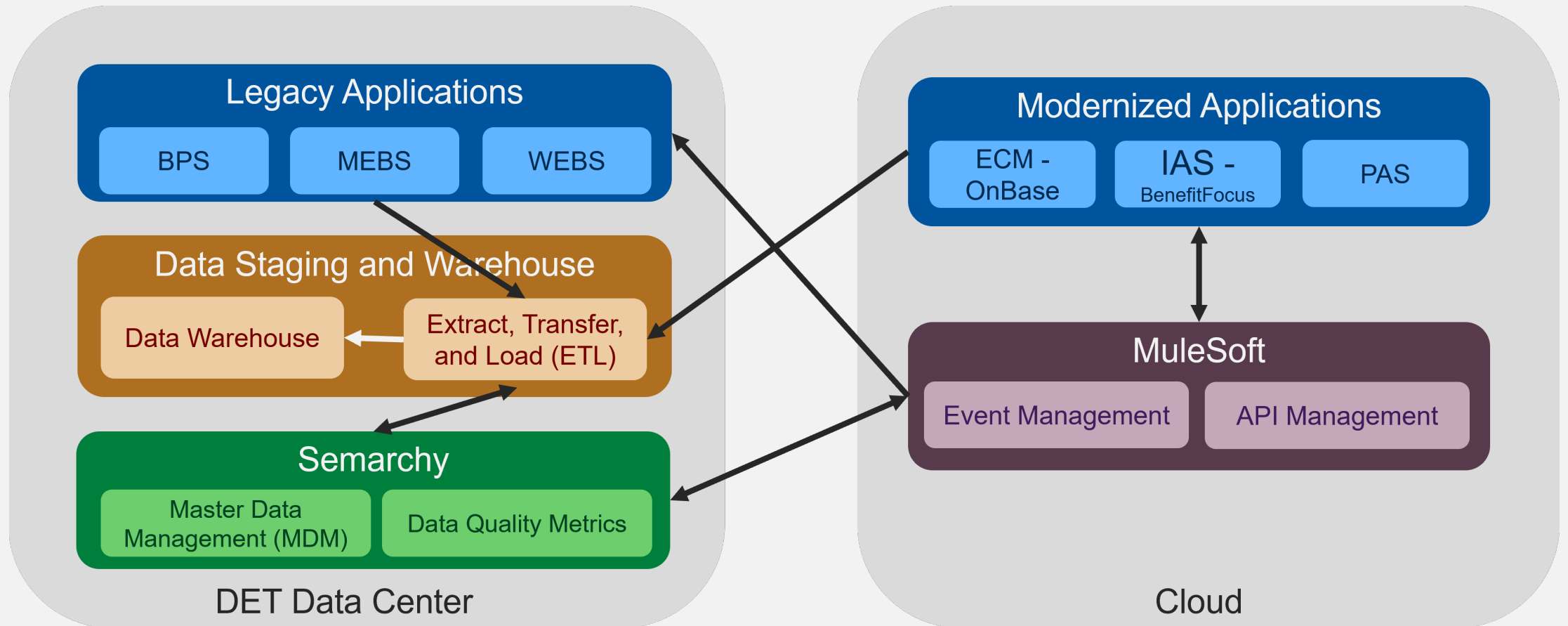
Overview

- The MDM takes the data from the source systems, uses Matching Rules to compare records from each source system to determine if they are for the same person, and then Mastering Rules are used to determine which source record should be used for the “Golden Record”. Once the “Golden Record” is identified, this data is fed into ETF’s modernized systems.

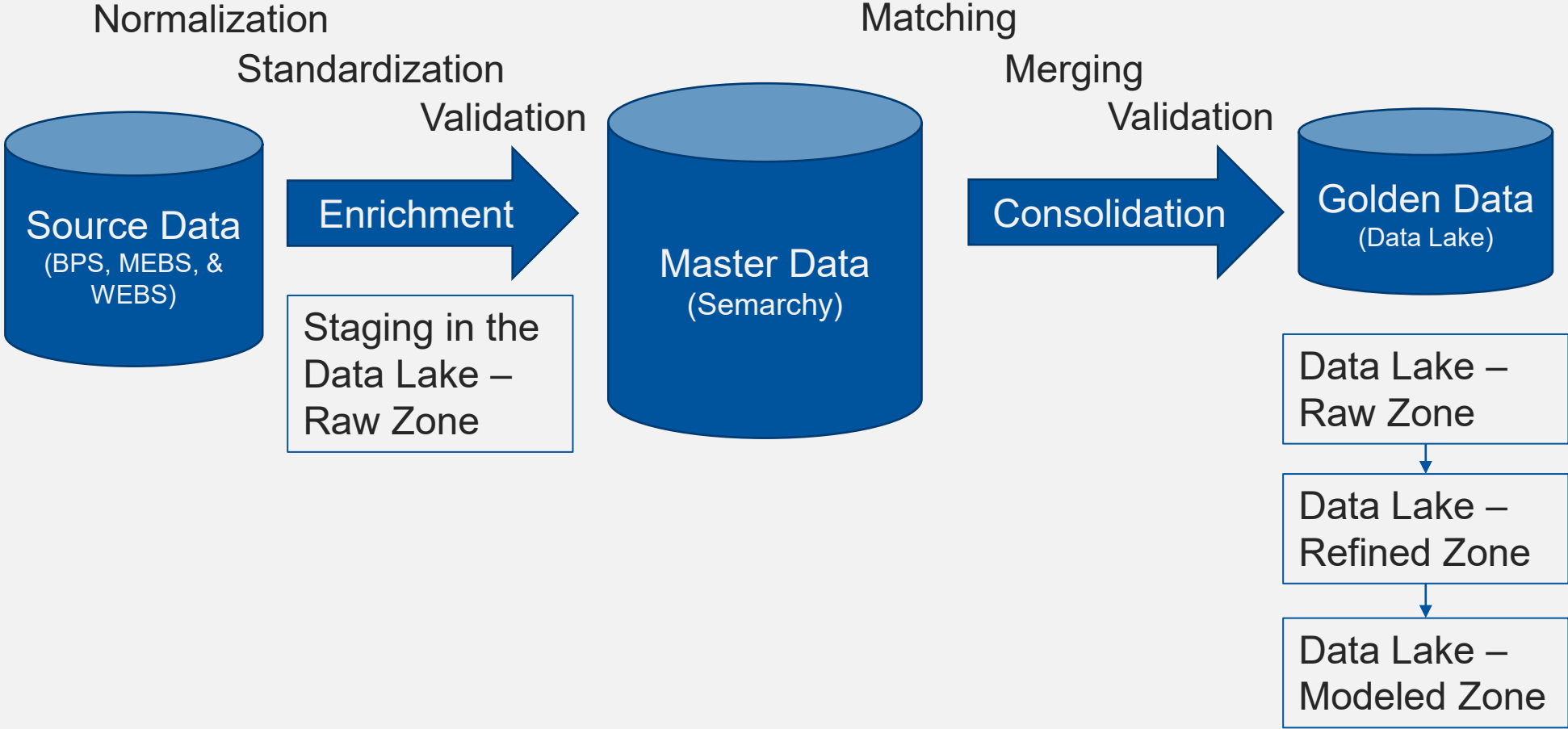
What does an MDM Do?



High-Level Architecture



Data Certification



MDM Tool: Semarchy

Phases of Implementation:

- Phase 1: Prepare ECM – OnBase for the MDM – COMPLETED
- Phase 2: ECM and Contact Information Modifications – COMPLETED
- Phase 3: Prepare IAS – BenefitFocus for MDM – IN PROGRESS

MuleSoft – Implemented November 2021; Project Completed March 2022

Matching & Mastering Rules

Definitions

Matching Rules

- The MDM compares records from each source system using predetermined Matching Rules to determine if they are for the same Person.

Mastering Rules

- The MDM compares the matched records for a Person and uses Mastering Rules to determine the “authoritative source system” by analyzing their metadata (i.e. scenarios). This provides the golden record based on the best information ETF has for that Person.

Matching Rules

Field Name	1	2	3	4	5	6	7
ETF Member ID	X	X	X	X		X	
SSN	X	?	X	X	F		?
First Name	X	X			F		X
Middle Initial	?						
Last Name	X	X			F		X
Prefix	?						
Suffix	?						
DOB	X	X	?		F		X
DOD	?						
Confidence Score	100%	99%	97%	76%	50%	20%	10%
Autoconfirm	Y	Y	Y	N	N	N	N

Note: Gender is a field within the Golden Record but is not used for matching records.

Legend:

Symbol	Meaning
X	Exact Match
F	Fuzzy Match
?	Exact Match or Null

Mastering Rules: Person Demographic Information

Includes:

- First Name
- Middle Initial
- Last Name
- Suffix
- Birth Date
- Death Date
- Gender
- SSN
- ETF Member ID

The “Golden Record” is selected based on a 12 Rule hierarchy that determines which Source System is to be used based on the person’s relationship with ETF.

Person Demographic Mastering Rules

Rule	Description	Source System
1	Person is paid a monthly benefit.	BPS
2	Person is a subscriber of active health insurance.	MEBS
3	Person is an employee/active WRS participant, or person has an alternate payee account.	WEBS
4	Person is a dependent with active health insurance.	MEBS
5	Person has a role in BPS, but not paid a benefit.	BPS
6	Person has a WRS account with a balance.	WEBS
7	Person receives a lumpsum benefit.	BPS
8	Person is an inactive subscriber of health insurance.	MEBS
9	<i>Not Used</i>	
10	<i>No Description</i>	BPS
11	<i>No Description</i>	MEBS
12	<i>No Description</i>	WEBS

Mastering Rules: Person Contact Information

Includes:

- Mailing and Payment Addresses
- Phone Numbers
- Email

The record most recently updated is used for the “Golden Record”.

Semarchy Tools

The MDM Tool provides several tools for staff to review and evaluate ETF's data:

- Search Function to lookup Person records
- Review Unconfirmed and Suggested Matches
- Review Records that have only one Source System
- Data Quality Reports for both Person Demographic and Contact data

Testing Performed Prior to Implementation

Staff performed several tests to validate the Person Golden Records within the MDM Tool, including:

- Sample testing of the demographic Mastering Rules
- User Acceptance Testing (UAT) of the Matching and Mastering Rules
- Script testing of the Contact Mastering Rules and limited script testing of the Matching and Demographic Mastering Rules

OIA Review

Review Focus

Reasonableness Review

- MDM Matching and Mastering Rule descriptions for Demographic and Contact data
- Sample Testing, UAT, and Script Testing performed by staff during implementation
- User access to the MDM application – Semarchy

Rule Effectiveness

- Reperform the Mastering Rules in ACL, the audit analytical software, to ensure the rules are working as expected

Overall Assessment

The MDM Person Domain Matching and Mastering Rules appear to be designed and operating effectively.

However, we provide a few recommendations for management consideration to improve the MDM system.

Reasonableness Review Assessment

Matching &
Mastering
Rules

Rules appear to be comprehensive and reasonable.

Implementation
Testing

Testing performed by staff during implementation was sufficient for improving the Rule logic prior to go-live.

User Access

User access appeared reasonable. Further assessment will be conducted by Janus in a separate IT audit.

Rule Effectiveness Assessment

Person Demographic Mastering Rules	Majority of the Rules were operating as expected.
	A few errors were identified and fixed by staff during OIA's review. However, the error rate was extremely low for over 1.4 million records in MDM.
	The Rules were within an acceptable range of effectiveness.

Person Contact Mastering Rules	No errors were found in the review of the Contact Mastering Rules for phones, addresses, and emails.
	The Mastering Rule for Mailing Addresses was not as described in the Functional Requirements. The WEBS "Address Change Date" was used instead of the "Last Update Timestamp".

Improvement Considerations

Script Testing

Script testing in an independent tool can provide a more comprehensive review of the Rules on the records and issues are more readily identified.

Due to the complexity of the Mastering Rule and the uniqueness of the Source System records, we recommend that script testing be utilized more in any future Rule implementations or updates.

Functional Requirements Documentation

As noted in the Person Contact Mastering Rule review, the WEBS address coding was not reflected accurately in the Functional Requirements Document.

We recommend that this documentation be updated to reflect how the Address Change Date field is used for the Mastering Rule.

Rule Complexity

During our review, we found that the complexity of the Person Demographic Mastering Rules can increase the risk of errors, but the impact was minimal since the members were inactive within ETF's systems.

We recommend that the complexity of the Person Demographic Mastering Rules be evaluated to determine whether the complexity adds value in identifying the Golden Record.



Questions?

Thank you



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