



# TSDS UPGRADE PROJECT

Overview and Key Concepts

# KEY TERMS

Application Program Interface (API)
Data Management Center (DMC)
Individual Operational Data Store (IODS)
Landing Zone (LZ)

You can find the definitions to these key terms and more here:

[Link to Key Term Document](#)

# LEARNING OBJECTIVES

**By the end of this course, the learner will be able to explain:**

- The impacted components of the TSDS Upgrade Project.
- The key changes to how data will be loaded.
- Where the validations and filters will be executed and viewed.

# WHY IS THIS COURSE IMPORTANT

- To provide a foundation of knowledge and understanding for the upcoming TSDS Upgrade Project training.
- To ensure that you can effectively teach these key concepts to the LEAs to prepare them as we Go-Live.

# COURSE AGENDA

## GETTING STARTED

High Level Architecture

## Key Concepts

Data Loading, Promotion, Validation, Load Summary

## Training Activity

Demo and Knowledge Checks

## WRAP-UP

Key Takeaways, Resources, and Next Steps





# GETTING STARTED

High Level Architecture

# WHAT IS EXPECTED TO CHANGE?

## CURRENT TSDS

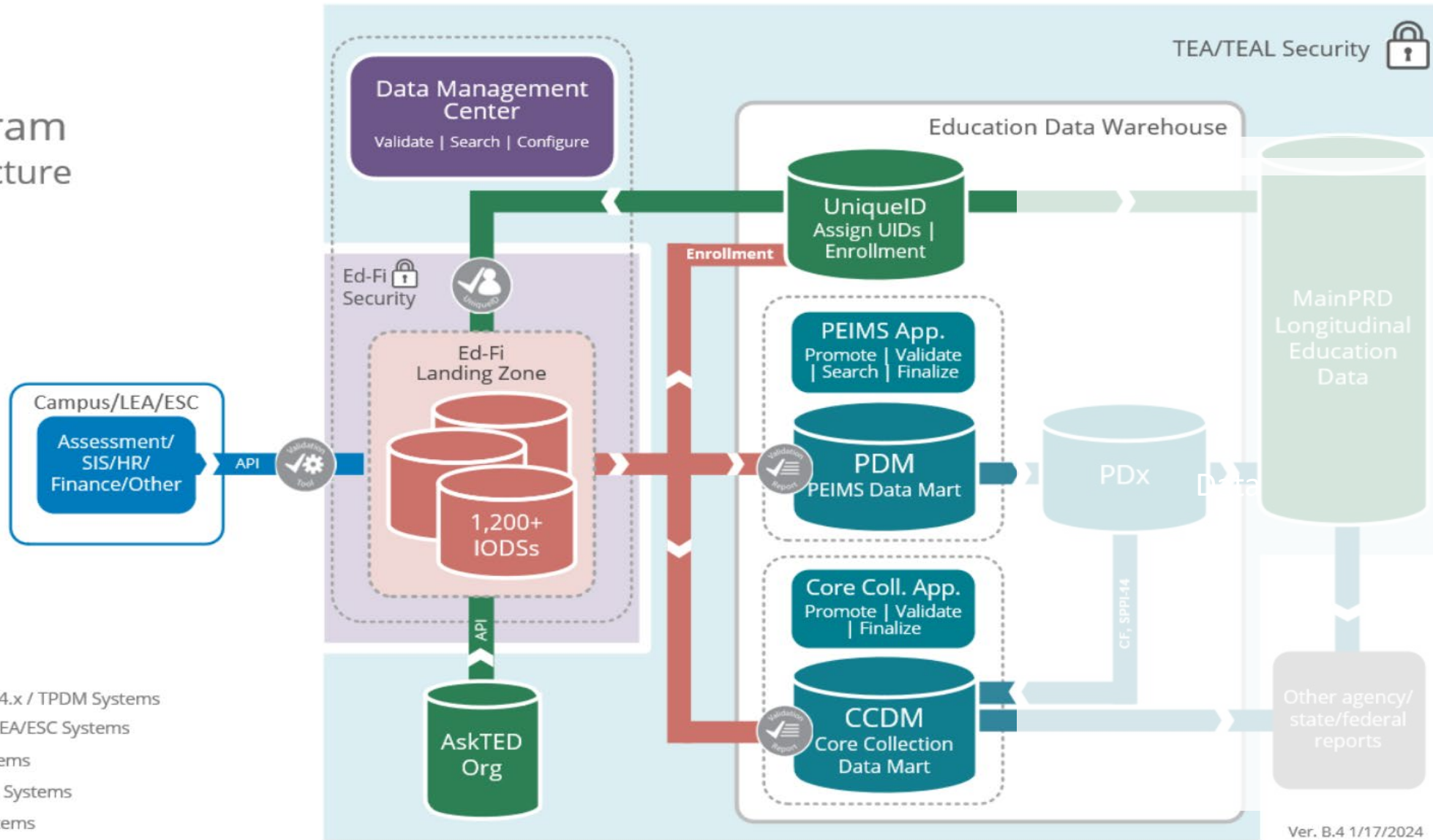
- eScholar Data Manager (eDM)
- Data loaded via XML
- Delete Utility
- Validation Tool, File Manager, and Batch Manager
- Most validations downstream

## TSDS UPGRADE

- Data Management Center (DMC)
- Data loaded via Application Programming Interface (API)
- Deletes and updates processed through API transactions
- More validations at local level
  - Level 1 Validations, Level 1.5 Filters, and Level 2 Validations
- Fewer downstream-only\* validations
  - Level 2 Validations (95%) and
  - Level 3 Validations (5%)\*

# HIGH-LEVEL ARCHITECTURE

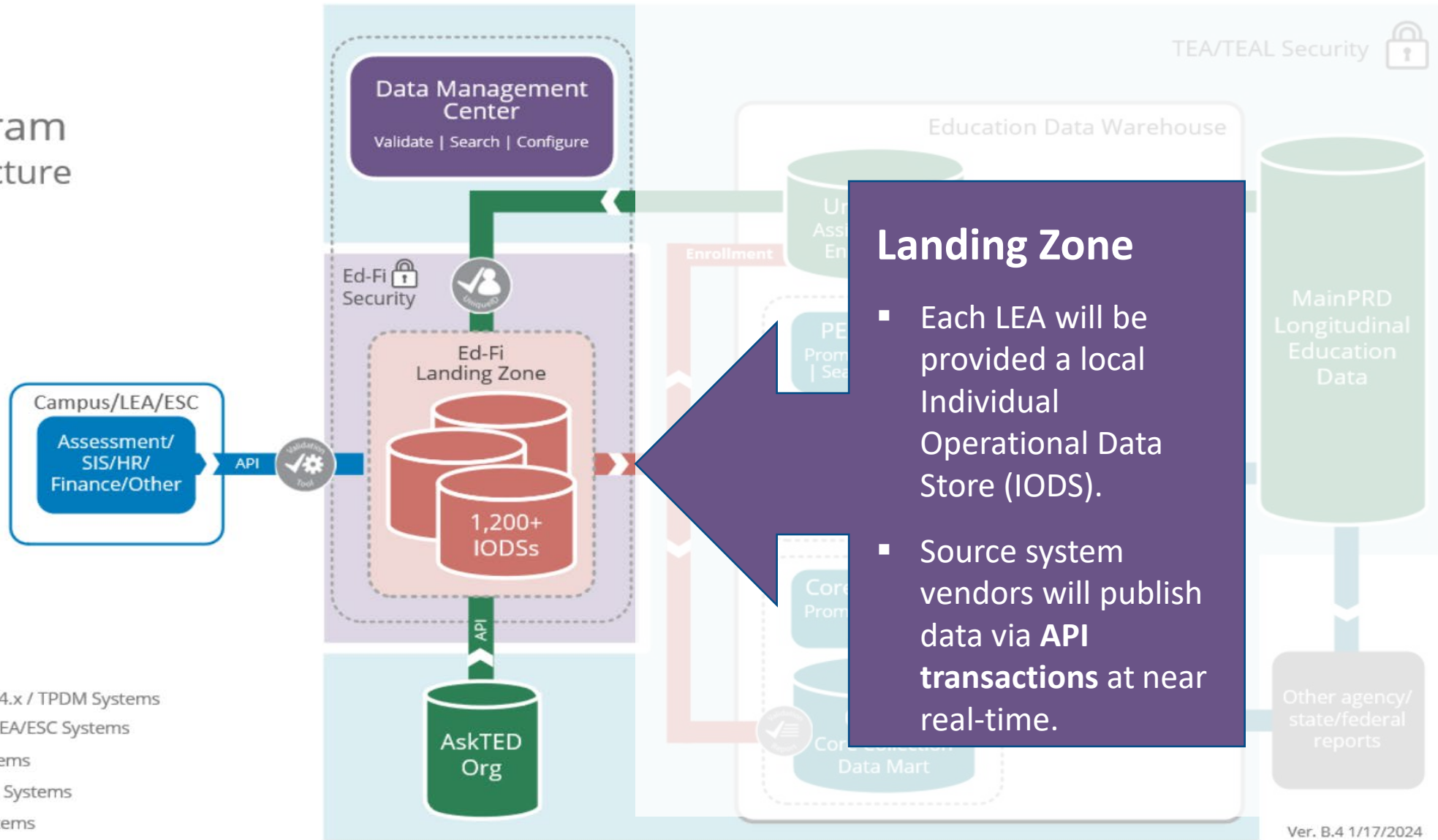
## Components Diagram TSDS Upgrade Architecture



- Client-side validations
- UniqueID validations
- Server-side validations
- New ODS 4.x / TPDM Systems
- Campus/LEA/ESC Systems
- TSDS Systems
- Other TEA Systems
- Other systems

# HIGH-LEVEL ARCHITECTURE

## Components Diagram TSDS Upgrade Architecture

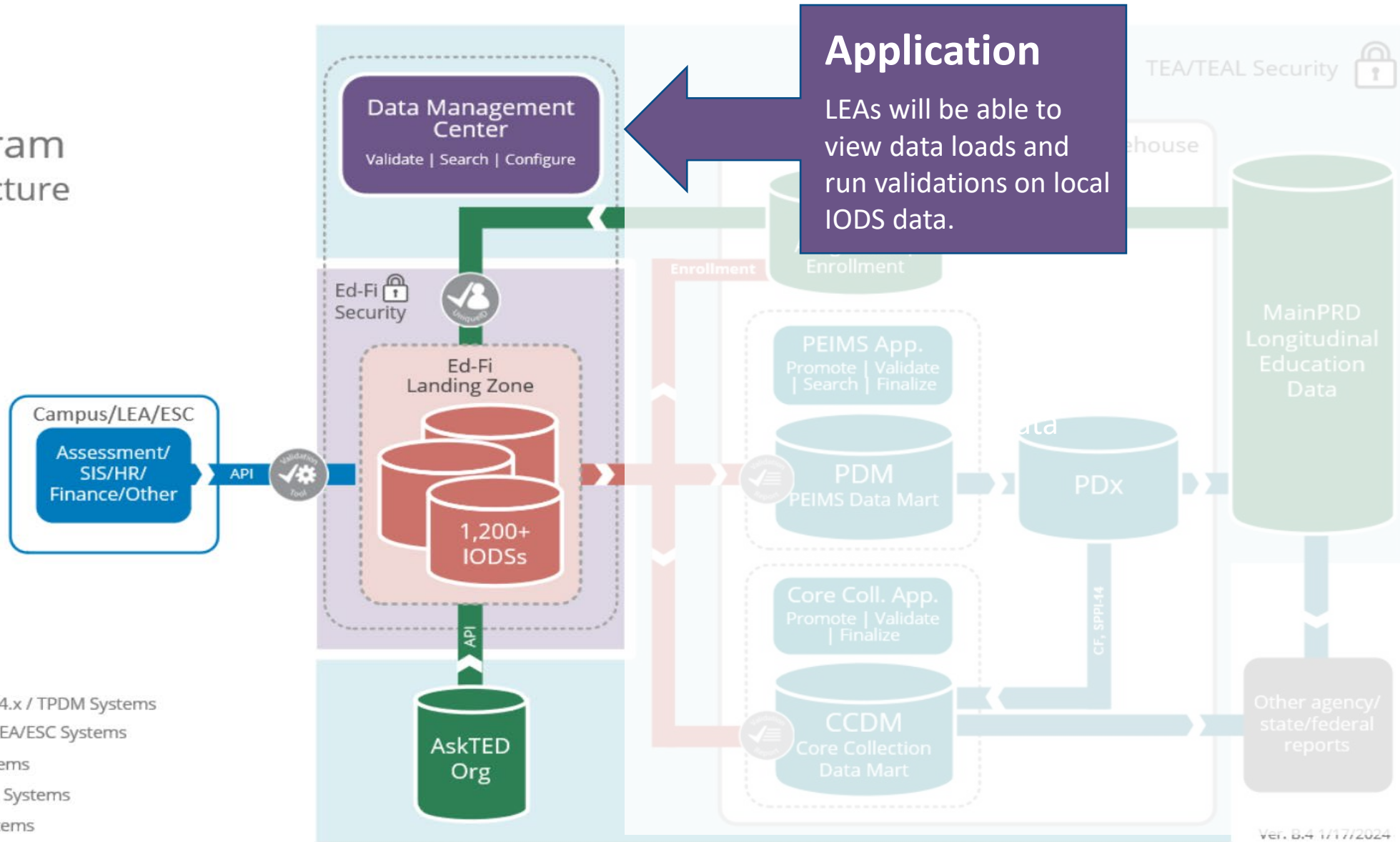


**Landing Zone**

- Each LEA will be provided a local Individual Operational Data Store (IODS).
- Source system vendors will publish data via **API transactions** at near real-time.

# HIGH-LEVEL ARCHITECTURE

## Components Diagram TSDS Upgrade Architecture



- Client-side validations
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# HIGH-LEVEL ARCHITECTURE

## Components Diagram TSDS Upgrade Architecture

**Unique-ID**

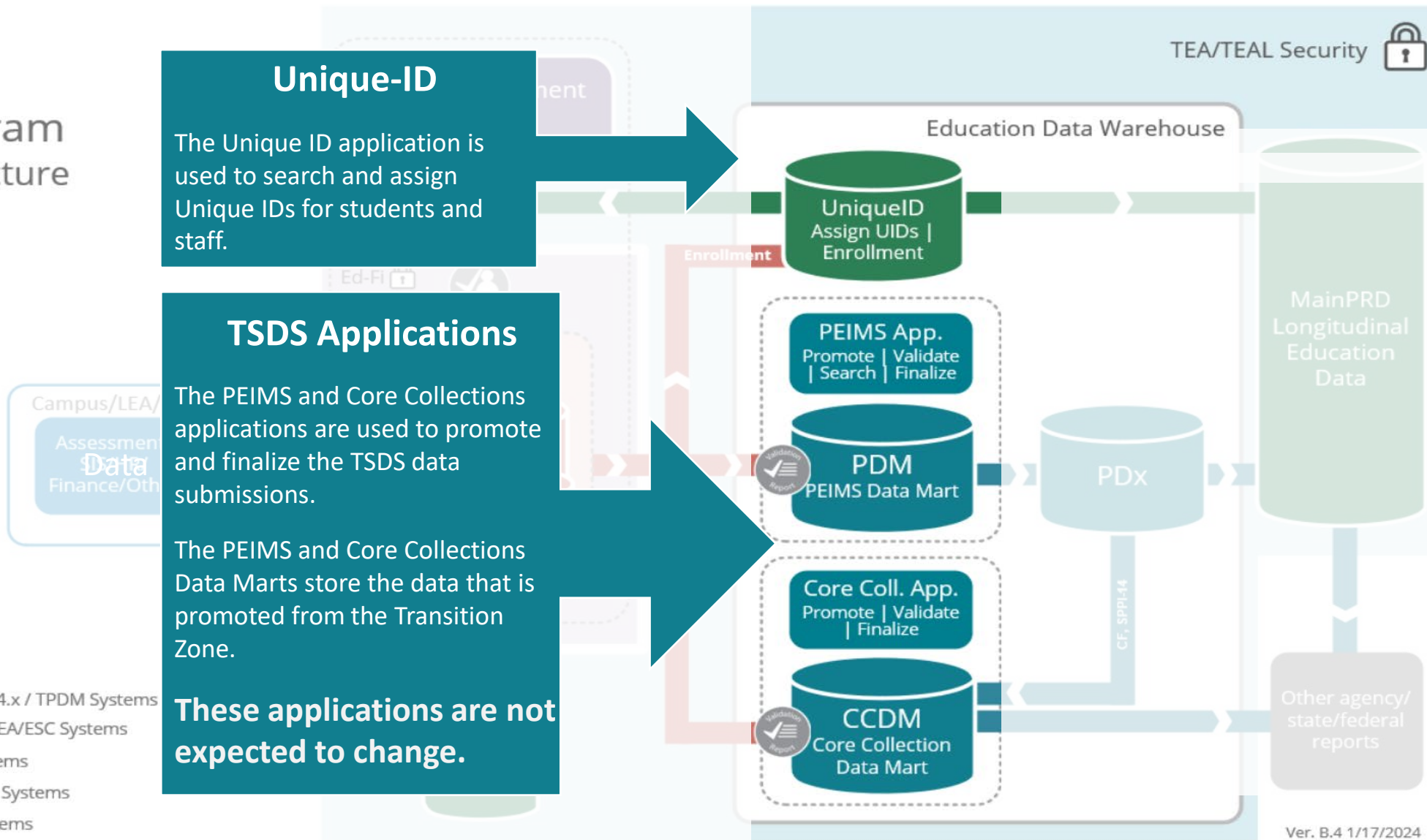
The Unique ID application is used to search and assign Unique IDs for students and staff.

**TSDS Applications**

The PEIMS and Core Collections applications are used to promote and finalize the TSDS data submissions.

The PEIMS and Core Collections Data Marts store the data that is promoted from the Transition Zone.

**These applications are not expected to change.**





# KEY CONCEPTS

Data Loading, Promotion, and Validation

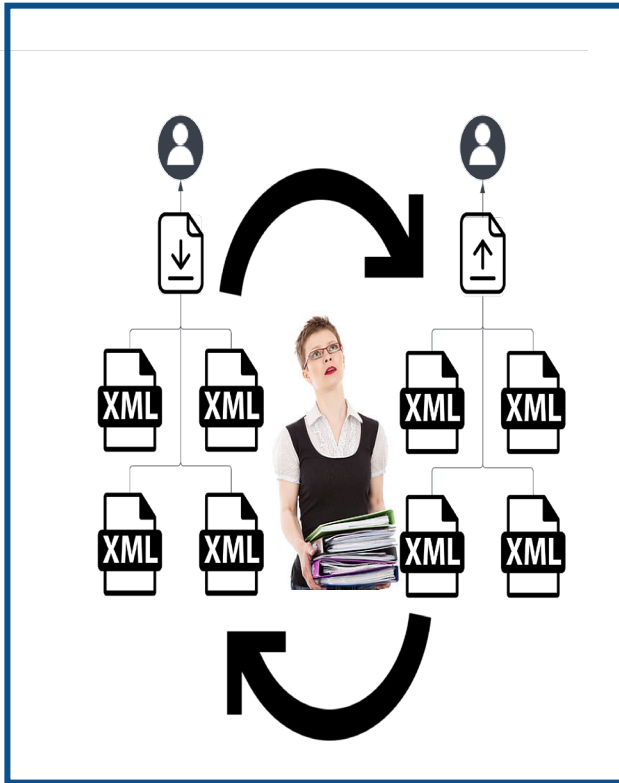
# KEY CHANGES TO DATA LOADING

## In the TSDS Upgrade Project:

- There is no need for extracting and loading XML files.
- There is one stream of singular transactional data published from the local source systems into the IODS at near-real time via API transactions.
- Data is seamlessly updated in the IODS to reflect updates and corrections the LEA makes in their local source systems.

# CHANGES TO DATA LOADING PROCESS

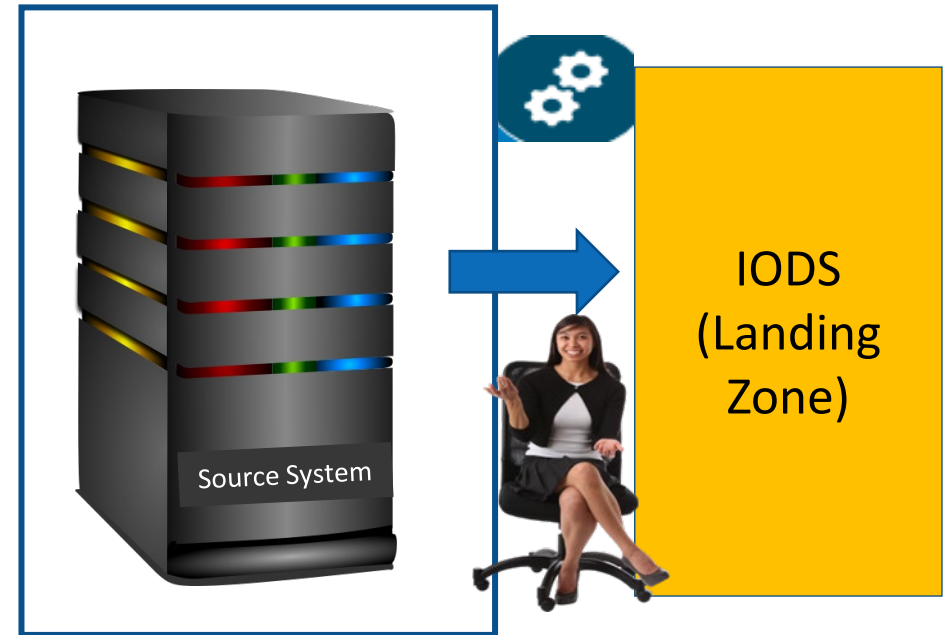
Currently XML files are manually extracted and loaded.



Current ODS

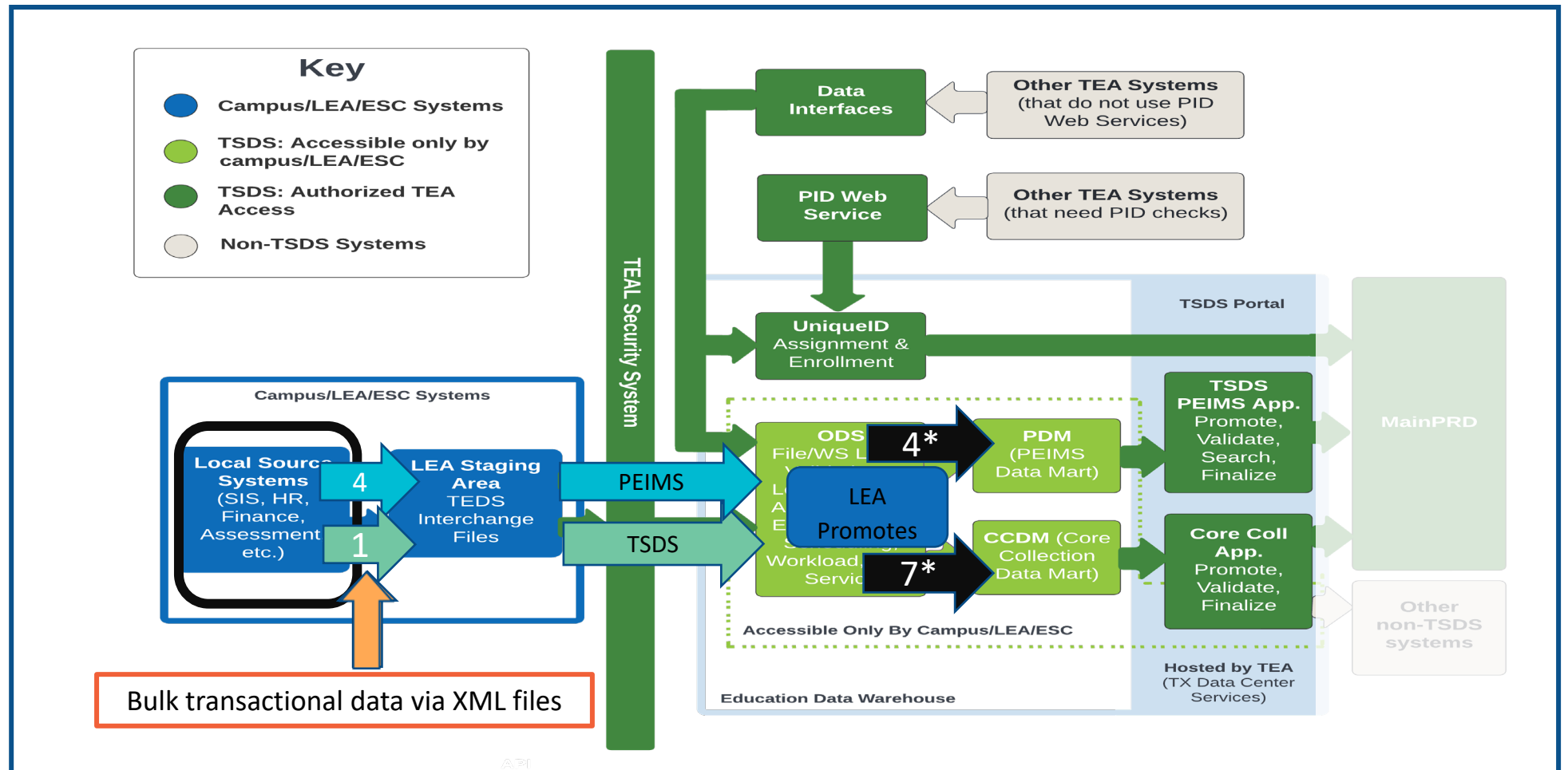
LEAs currently bulk load their data through XML files into the EDM.

After the upgrade, data will be automatically loaded via API transactions.



The vendors will publish the singular transactional data from the local source systems to the LEA's IODS via API transactions.

# HOW DATA IS CURRENTLY LOADED

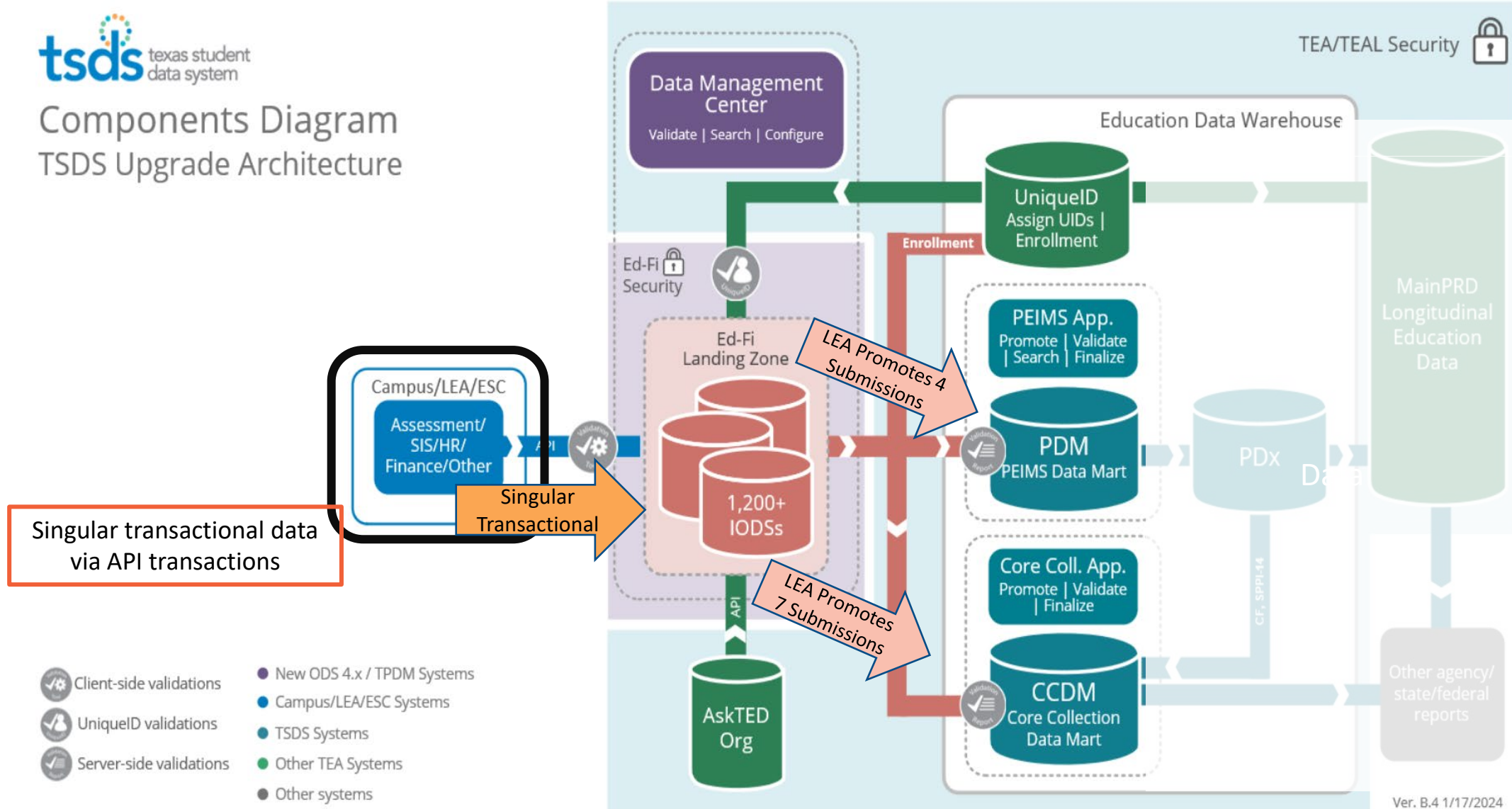


\*4 and 7 refer to the number of individual collections for PEIMS and Core

# HOW DATA WILL BE LOADED



## Components Diagram TSDS Upgrade Architecture



Singular transactional data via API transactions

- Client-side validations
- UniqueID validations
- Server-side validations
- New ODS 4.x / TPDM Systems
- Campus/LEA/ESC Systems
- TSDS Systems
- Other TEA Systems
- Other systems



# HOW DATA WILL BE PROMOTED

- The data submission deadlines will not change.
- Data promotions in TSDS will continue to be a manual process.
- Promotion logic and data field effective dates (i.e., begin/end dates) will be used to determine which data should be promoted for each collection and submission.

# BEGIN AND END DATES

In order to “effective date” some data elements, TEA will collect **Begin Dates** and **End Dates**. The TSDS system will determine for which collections and submissions date-sensitive data will be promoted based on the begin and end dates.

Begin date is the first instructional day upon which something is considered to take effect.

End date is the day after the last instructional day when something is considered to no longer be in effect.

Some data fields will require that the begin/end dates be updated yearly. i.e., Homeless Status

Other data fields do not require an end date unless the status changes. i.e., Emergent Bilingual Indicator

# GENERAL PROMOTION LOGIC

TEA is developing promotion logic to promote data for the different data submissions that is not date specific.

- For PEIMS Summer, we collect attendance data for all students and the general promotion logic is to promote all students who are enrolled and in membership at any time during the school year.
- For Residential Facility Tracker, the general promotion logic is to promote the data for students who are enrolled AND are receiving special education services AND reside in a residential facility at any time during the school year.

# BEGIN/END DATE EXAMPLE

How the begin and end dates can affect the data that is reported for different data collections.

- Mr. Smith is hired as an Educational Aide beginning on August 30. His StaffClassification is 033 with a **BeginDate** of **YYYY-08-30**.
- On November 10, Mr. Smith is promoted to teacher (087) with a **BeginDate** of **YYYY-11-10**.
- Mr. Smith's StaffClassification record will have these entries:
  - 033 BeginDate YYYY-08-30
  - 033 EndDate YYYY-11-09
  - 087 BeginDate YYYY-11-10

# BEGIN/END DATE EXAMPLE (continued)

How the begin and end dates will affect the data that is reported for Mr. Smith on PEIMS Fall and on Class Roster.

- Mr. Smith is reported on the **PEIMS Fall** Submission as an **033** (Educational Aide) since that was his StaffClassification on the **PEIMS Fall snapshot** which is the last Friday in October.
  - 033 BeginDate YYYY-08-30
  - 033 EndDate YYYY-11-09
- Mr. Smith was promoted to a teacher (087) effective November 10. He would be reported on the **Class Roster (CR) Submission** as an **087**. The Class Roster snapshot date is the last Friday in February.
  - 087 BeginDate YYYY-11-10

# LEVELS OF VALIDATIONS

## LEVEL 1

(Vendor Source System)

Includes basic data integrity checks that occur during the process of loading data via API transactions into the Individual Operational Data Store (IODS) in the Landing Zone. Data that fails Level 1 validations does not enter the IODS.

Prevents data from loading to IODS

## LEVEL 1.5

(DMC: DMC Data Monitor)

Includes filters that prevent invalid or non-TSDS data from being loaded into TSDS. These filters include Unique ID checks, descriptor value checks, Do Not Report flag checks, and Course ID checks.

Prevents data from loading to Transition Zone

## LEVEL 2

(DMC: DMC L2 Validations)

Business rules that are executed on the data destined for TSDS. Fatal, Special Warning, and Warning validation errors do not prevent data from being loaded to TSDS.

Does not prevent loading to TSDS.

## LEVEL 3

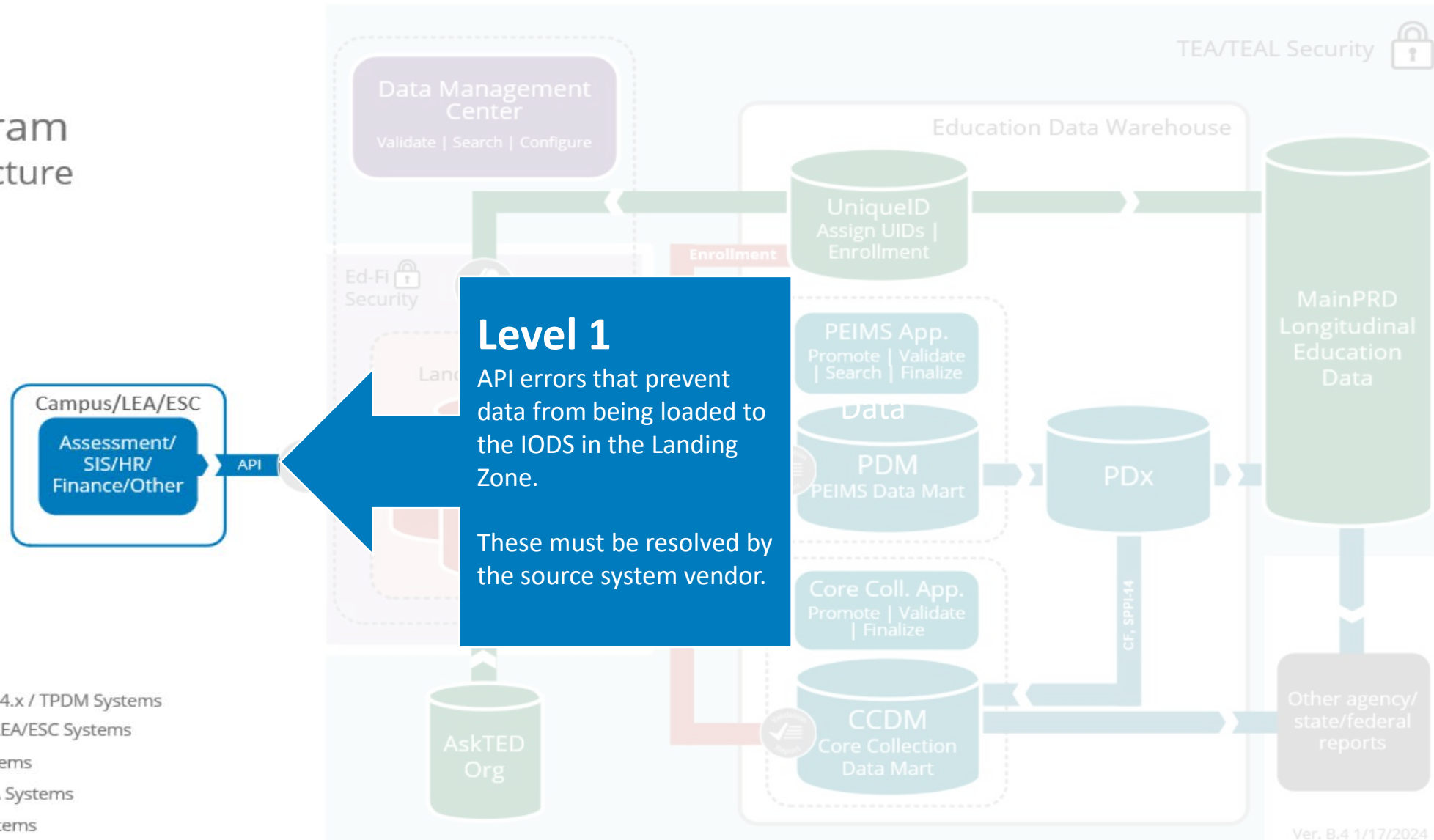
(PEIMS/Core: Existing TEAL Roles)

Business rules that are executed in TSDS. Level 3 validations contain all Level 2 validations, plus any additional validations required for the TSDS submissions. Fatal errors prevent TSDS submissions from being completed or finalized.

Fatals prevent from completing submission

# LEVEL 1 VALIDATIONS

## Components Diagram TSDS Upgrade Architecture



# LEVEL 1 VALIDATION EXAMPLES

1. {"message": "Authorization denied. The claim does not have any established relationships with the requested resource."}
  - This would be an issue with the claim set being used. The API is trying to access something it does not have access to.
2. Response from ODS: Unable to resolve value 'uri://tea.texas.gov/ibcVendorDescriptor#490' to an existing 'IBCVendorDescriptor' resource.
  - This type of error could come up for a non-valid descriptor value being supplied, indicating that a descriptor value is not defined in the namespace sent.
3. "Access to the resource could not be authorized. Are you missing a claim? This resource can be authorized by the following claims:"
  - This type of error could come up when the claim set being used is not granting access to the resource they're trying to publish to.

# LOAD SUMMARY REPORT

- **LOAD SUMMARY REPORTING IN DMC:**
  - Reports are available at both the LEA and ESC levels.
  - The report displays:
    - The number of **Domains loaded**, as well as a record **count** for each **Entity** within each Domain.
    - The ESC-level report separates LEAs with data loaded from those without any data loaded, allowing for **improved monitoring** of LEA activity.
  
- **TEAL Access Needed:**
  - Role(s): DMC LEA Data Monitor / DMC ESC Data Monitor
  - Privilege: DMC Summary Access to LEA Data

# LOAD SUMMARY REPORT – LEA

TEA Texas Education Agency

Data Management Center

Home Monitor Validations Admin View Reports

Home Load Summary

Welcome to the DMC

A red arrow points to the 'View Reports' menu item, and a red box highlights the 'Load Summary' link.

TEA Texas Education Agency

Data Management Center

Home Monitor Validations Admin View Reports

Home >> Load Summary

## View LEA Reports

Load Summary

Domains Loaded for 2023-2024 15

Entity	Records
Alternative and Supplemental Services	
GeneralStudentProgramAssociation	860
Program	2
StudentCTEProgramAssociation	291
StudentLanguageInstructionProgramAssociation	325
StudentSpecialEducationProgramAssociation	103
StudentTitleIPartAProgramAssociation	141
Discipline	
Education Organization	
Enrollment	
Prior Year Leaver	
Restraint Event	
School Calendar	
Staff	
Student Academic Record	

Red arrows point to the 'View Reports' menu, the 'Load Summary' link, and the 'Alternative and Supplemental Services' category. A red arrow also points to the total count '15'.

TEA - REG XXX Service Center (701950) ▾ 2023-2024 ▾ GO

## Data Management Center

[Home](#)
[Monitor Validations](#)
[Admin](#)

### View ESC Reports

#### Load Summary

Search Organization

⤴ **Organizations that have NO loaded data for 20XX-20XY** 2

- Greensboro ISD (666666)
- River City ISD (111111)

⤴ **Organizations that HAVE loaded data for 20XX-20XY** 1,198

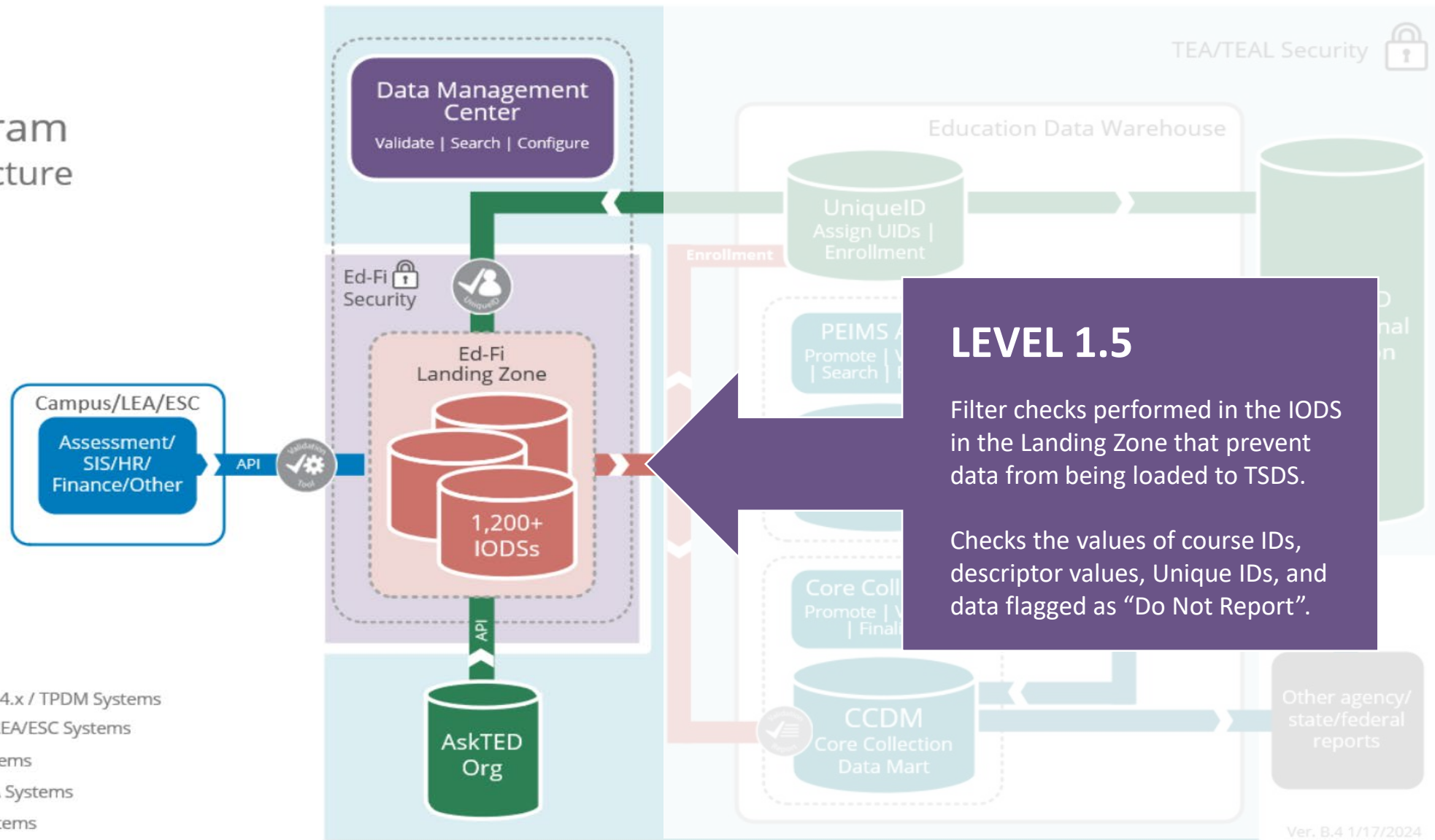
- ⤵ Bugscuffle ISD (888888)
- ⤵ Cream of Wheat (222222)
- ⤴ Frognot ISD (777777)
  - Domains**
  - ⤵ Alternative and Supplemental Services
  - ⤵ Assessment
  - ⤵ Staff
  - ⤵ Student Attendance
  - ⤴ Student Identification and Demographics

Entity	Records
Student	1,124
Parent	2,369
StudentParentAssociation	2,369
StudentEducationOrganizationAssociation	1,124

- ⤵ Greater Zulch (333333)
- ⤵ Region XXX (555555)
- ⤵ Twine Savannah (999999)


# LEVEL 1.5 FILTERS

## Components Diagram TSDS Upgrade Architecture



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# LEVEL 1.5 FILTER EXAMPLES


Data Management Center

Home
Monitor Validations
Admin

Home >> View L1.5 Filter Details

## Monitor Validations

View L1.5 Filter Details

Search Criteria

Type:

Verified:

**SEARCH BY TYPE**


Course ID, Descriptor Value, Do Not Report, Unique ID

NOTE: The data in this table will not be moved to TSDS.

Show  entries

Search Table:

Type ↑	Rule ↓	Message ↓	Verified ↓
UID - Student	40100-0099 : StudentUniqueId must match an entry in the TSDS Unique ID system.	<b>Entity:</b> Student  <b>Error Data:</b> <b>StudentUniqueId:</b> 100930444  <b>Identifying Info:</b> LocalEducationAgencyId: 701603, StudentUniqueId: 100930444, LocalStudentId: , LastSurname: Smith, FirstName: Brynn, BirthDate: 2007-06-18	<input type="checkbox"/>
UID - Student	40100-0099 : StudentUniqueId must match an entry in the TSDS Unique ID system.	<b>Entity:</b> Student  <b>Error Data:</b> <b>StudentUniqueId:</b> 100962517  <b>Identifying Info:</b> LocalEducationAgencyId: 701603, StudentUniqueId: 100962517, LocalStudentId: , LastSurname: Lee, FirstName: Delilah, BirthDate: 2012-12-16	<input checked="" type="checkbox"/>



**TEAL ROLE**

**DMC LEA Data Monitor**

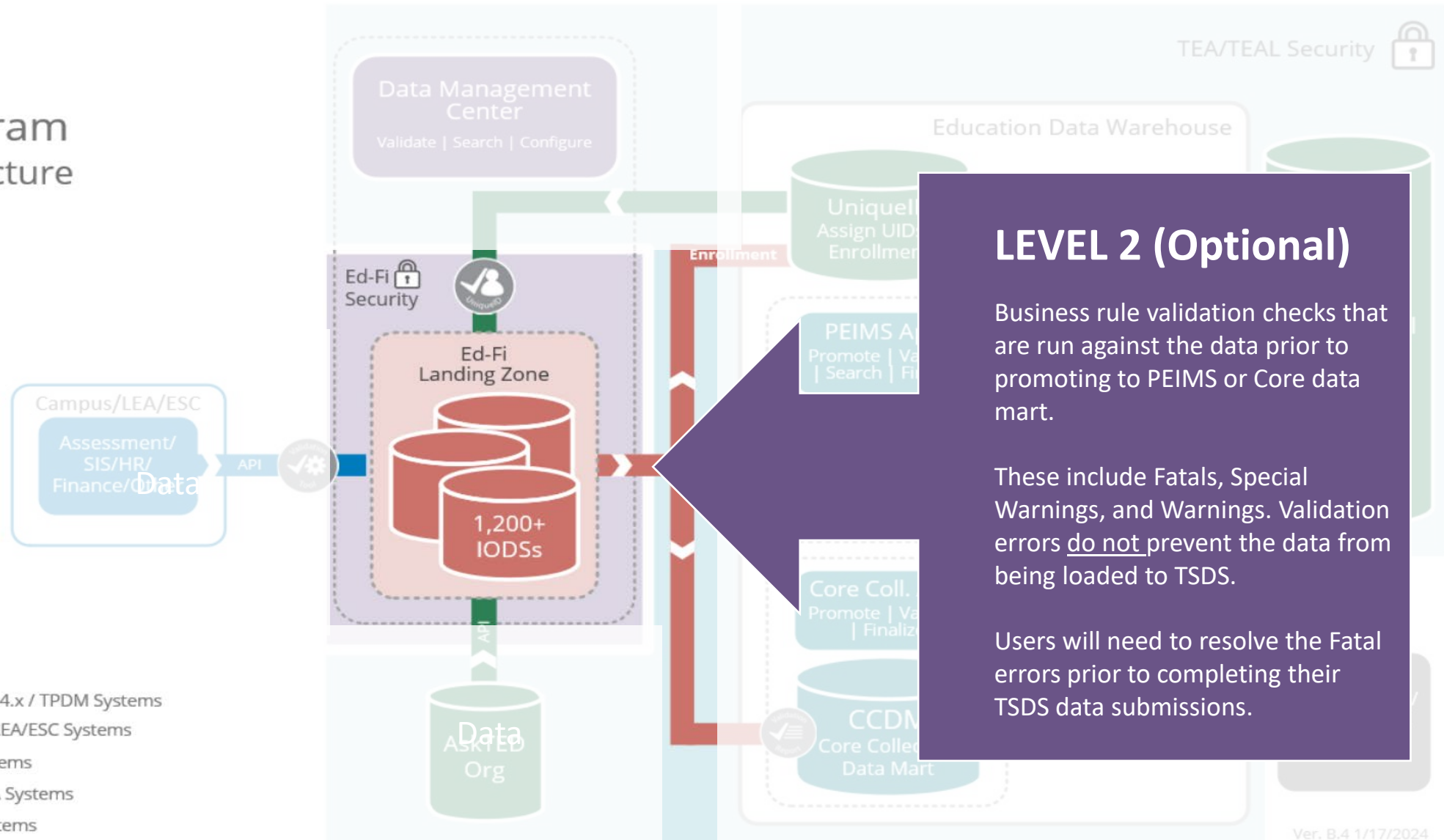
DMC L1.5 Filters Access

**VERIFY RESULT**

A result can be "verified" to assist future analysis


# LEVEL 2 VALIDATIONS

## Components Diagram TSDS Upgrade Architecture



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- Other systems

# LEVEL 2 VALIDATION EXAMPLES


Data Management Center

Home
Monitor Validations
Admin

Home >> View L2 Validation Summary

## Monitor Validations

View L2 Validation Summary

Collection:


Submission:

**RUN BY COLLECTION**

Select the TSDS Collection/  
Submission to validate

Show  entries Search Table:

Collection ↑	Submission ↓	Category ↓	Subcategory ↓	Last Successful Run ↓	Details	F ↓	S ↓	W ↓
CLASS ROSTER	FALL	Education Organization	Campus	04:55 PM 06/13/2023	<a href="#">View</a>	0	35	0
CLASS ROSTER	FALL	Staff	Teacher Class Assignment	04:55 PM 06/13/2023	<a href="#">View</a>	0	0	0
CLASS ROSTER	FALL	Education Organization	Local Education Agency	04:55 PM 06/13/2023	<a href="#">View</a>	0	0	0
CLASS ROSTER	FALL	Staff	Staff Basic Information	04:55 PM 06/13/2023	<a href="#">View</a>	0	0	0
CLASS ROSTER	FALL	Student	Student Section	04:55 PM 06/13/2023	<a href="#">View</a>	0	0	0
CLASS ROSTER	FALL	Student	Student Basic Information	04:55 PM 06/13/2023	<a href="#">View</a>	0	0	0



**TEAL ROLE**

**DMC LEA L2  
Validations**

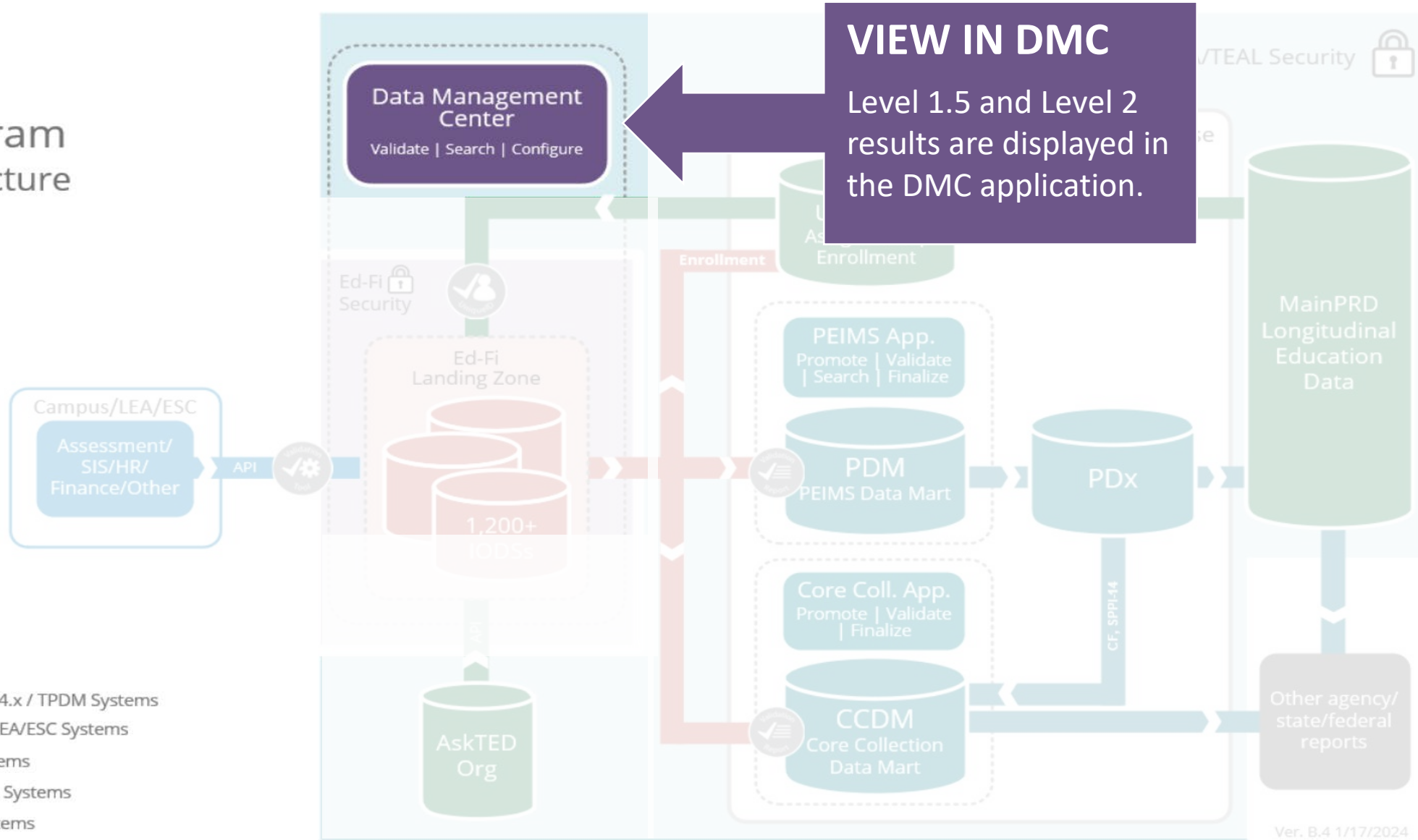
Class Roster Access

**SEVERITY LEVEL**

View Fatal, Special Warning, and Warning counts and results

# VIEWING LEVEL 1.5 AND LEVEL 2

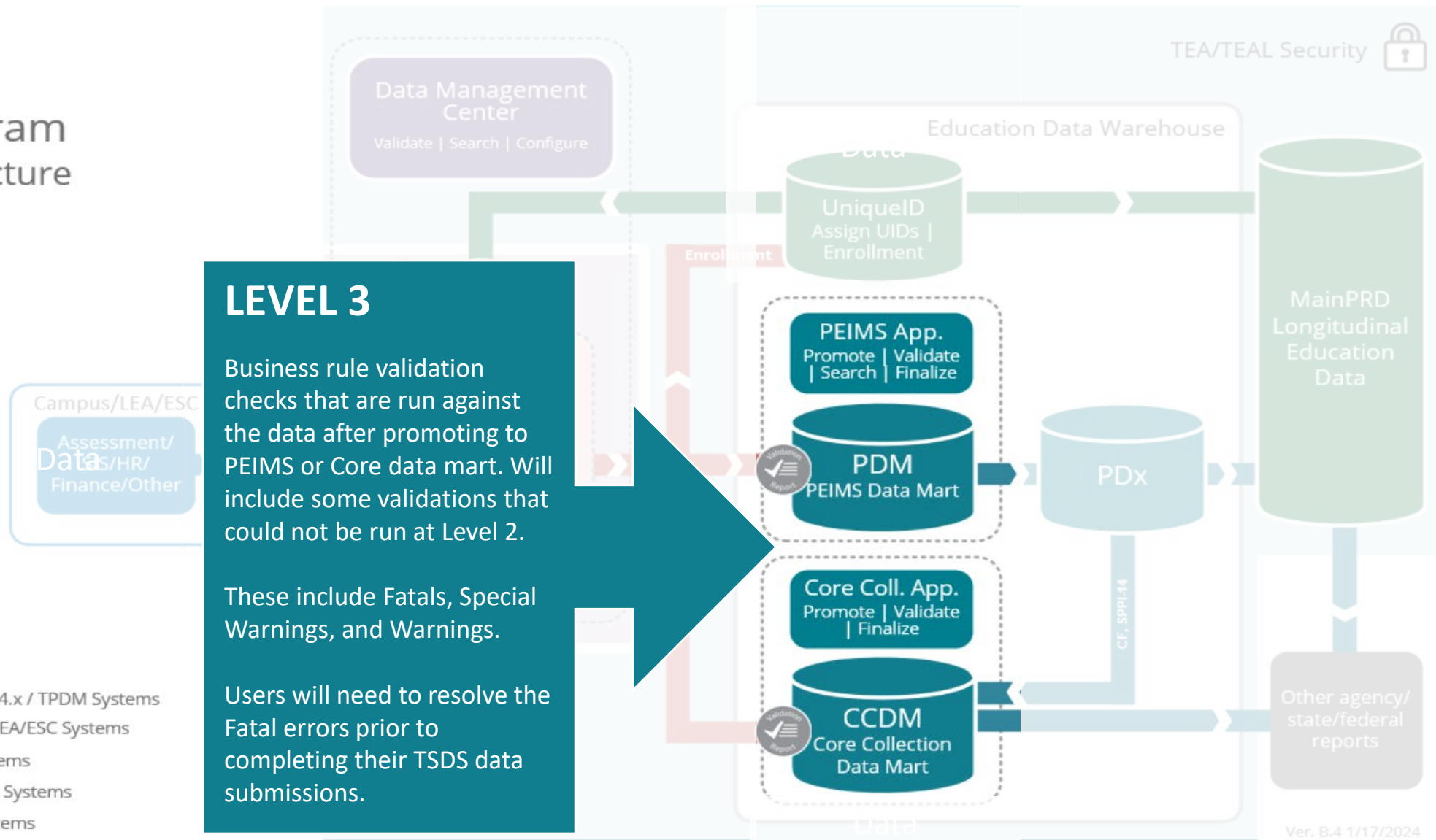
## Components Diagram TSDS Upgrade Architecture



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# LEVEL 3 VALIDATIONS

## Components Diagram TSDS Upgrade Architecture



### LEVEL 3

Business rule validation checks that are run against the data after promoting to PEIMS or Core data mart. Will include some validations that could not be run at Level 2.

These include Fatais, Special Warnings, and Warnings.

Users will need to resolve the Fatal errors prior to completing their TSDS data submissions.

- Client-side validations
- UniqueID validations
- Server-side validations
- New ODS 4.x / TPDM Systems
- Campus/LEA/ESC Systems
- TSDS Systems
- Other TEA Systems
- Other systems

Home » Search Validation Requests » Validation Errors by Job

## Validation Errors by Job

Show  entries

Search Table:

Org ID ↑	Category ↓	Subcategory ↓	Severity ↓	Message ↓
701603	Student	Course Completion	Fatal	43415-0064: Except for Texas Tech University K-12 (152504), for a course transcript, GRADE-LEVEL-CODE must be "03"-"12". <b>Data:</b> GRADE-LEVEL-CODE: 02 <b>Identifying Info:</b> 701603003, 701603003, 1121514839, 819856, KROMER, VANESSA, 03-DEC-1994, 02000000, 0000000000000007, 1, 31-DEC-2022
701603	Student	Course Completion	Fatal	43415-0064: Except for Texas Tech University K-12 (152504), for a course transcript, GRADE-LEVEL-CODE must be "03"-"12". <b>Data:</b> GRADE-LEVEL-CODE: 01 <b>Identifying Info:</b> 701603003, 701603003, 1121637175, 840664, DONACHIE, JEANA, 07-JUN-1996, 02000000, 0000000000000007, 1, 31-DEC-2022



# TRAINING ACTIVITY

Knowledge Checks

# DEMONSTRATION

1. Log in to the TSDS Portal.
2. Navigate to DMC.
3. Hover over View Reports. Click Load Summary.
4. Select the filter type in the Type dropdown to execute your search.
5. Review the number of Domains that have been loaded.
6. Under each Domain, click on the dropdown arrow to see the record count by entity.

# KNOWLEDGE CHECK

- 1. Which component in the TSDS Architecture diagram will allow the user to view Level 1.5 filters and Level 2 validations?**
  - A. Data Marts
  - B. IODS (Landing Zone)
  - C. Data Management Center
  - D. Vendor Source System

Note: The DMC is your new eDM.

**2. As we move into the TSDS Upgrade Project, data will be loaded into the LEA's IODS via:**

- A. XML files
- B. API transactions
- C. Comma delimited files
- D. None of the above

Note: No more XML files!

# KNOWLEDGE CHECK

**3. With the TSDS Upgrade Project, singular data transactions will ensure data entered in the LEA's source systems is being automatically published to the IODS.**

- A. True
- B. False

Note: Data will be seamlessly updated in the IODS to reflect updates and corrections the LEA makes in their local source systems.

# KNOWLEDGE CHECK

4. Which of the following describes the checks performed in the IODS (Landing Zone) that will prevent data from being promoted to TSDS?
- A. Level 1
  - B. Level 1.5
  - C. Level 2
  - D. Level 3

Note: The Level 1.5 filters will identify invalid course IDs, non-TSDS descriptor values, invalid or missing Unique IDs, and all data flagged as "Do Not Report".

## 5. Where can Level 2 validations be run and viewed?

- A. LEA's local source system
- B. Data Management Center (DMC)
- C. PEIMS Application
- D. Core Application

Note: The Level 2 validations can be run and viewed in the DMC. This will allow the LEA to begin making corrections to their data earlier in the process. These Level 2 validations will **not** stop the data from promoting to the TSDS Data Mart. The business rules executed at Level 2 will be run again as part as the Level 3 validations.

A low-angle, close-up photograph of a person's legs and feet walking on a paved path. The person is wearing dark blue jeans and black sneakers with white soles and red accents. The background is a bright, out-of-focus outdoor setting with green grass and a clear sky, suggesting a sunny day.

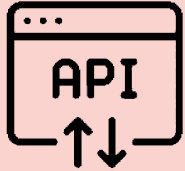
# WRAP UP

Key Takeaways, Resources, and Next Steps

# KEY TAKEAWAYS



This is a **system upgrade**, not a system replacement.



Vendors will send only **API transactions**. **XML will no longer be accepted.**



TSDS will utilize “**effective dating**” through **begin** and **end dates** to ensure the proper data is promoted.



There are levels of validation to include: **Level 1**, **Level 2**, and **Level 3**. There is also filtering that occurs at **Level 1.5**.

## TRAINING RESOURCES



### TSDS Upgrade Project

- Description and information on the project



### Key Terms and Terms and Definitions

# NEXT STEPS

## Plan to take additional trainings on:

- TEDS
- DMC
  - LEA TEAL Roles and Privileges
  - Administrative Features
  - Level 1.5 Filters
  - Descriptor Mapping
  - Level 2 Validations

**REMEMBER: THIS PROJECT IS A TSDS **UPGRADE PROJECT!****

**Much of what you know will stay the same with some upgrades to make TSDS even better.**

## In this training we talked about:

- The purpose of the new components of the TSDS Upgrade Project High Level Architecture.
- The key changes to data loading.
- TSDS validations and filters and where they can be executed and viewed.



# QUESTIONS