

Activating Enterprise Intelligence: Unlocking Business Value with ChainSys dataZense - The Active Metadata Management Solution



Table of Contents

Chapter 1: Understanding Active Metadata Management	2
1.1 Definition of Active Metadata Management	2
1.2 How It Differs from Traditional Metadata Management	3
1.3 What Makes Metadata “Active”	3
1.4 How Active Metadata Operates as a Living Layer	4
1.5 What Active Metadata Management Is Not	4
Chapter 2: Types of Metadata in the Enterprise	5
2.1. Technical Metadata	6
2.2. Business Metadata	6
2.3. Operational Metadata	7
2.4. Governance and Compliance Metadata	7
Chapter 3: Understanding the Metadata Failure	8
3.1 Signals: What Enterprises Are Experiencing Today	8
3.2 Where Metadata Actually Lives	9
3.3 Symptoms of Fragmented Metadata	9
Chapter 4: The ChainSys Smart Data Platform in Action	10
4.1 What is Smart Data Platform?	10
4.2 Key Features and Benefits of Using ChainSys Smart Data Platform	11
4.3 How the Smart Data Platform Addresses Data Management Challenges	12
4.4 The ChainSys Active Metadata Management Approach	12
Step 1 - Metadata Centralization	13
Step 1.1 Source Systems Connectivity	13
Step 1.2 Metadata Extraction	15
Step 1.3 Metadata Repository Creation	19

Step 2 - Data Lineage Mapping	20
Step 2.1 Identify Data Flow	20
Step 2.2 Lineage Mapping	20
Step 2.3 Data Transformation Documentation	22
Step 2.4 Continuous Monitoring	22
Step 3 - Metadata Enrichment	23
Step 3.1 Business Glossary	23
Step 3.2 Metadata Tagging	24
Step 3.3 Attribute & Relationship Mapping	25
Step 3.4 Quality Metrics Integration	25
Step 4 - Governance, Security, and Compliance in Metadata Management	26
Step 4.1. Automated Policy Enforcement	26
Step 4.2. Access Control and Role-Based Access (RBAC)	26
Step 4.3. Change Management	28
Step 4.4 Compliance Monitoring	29
Step 4.5 Data Operations	30
4.5.1 Master Data Management	30
4.5.2 Data Migration	30
4.5.3 Data Catalog	30
4.5.4 Data Archival & Purging	30
4.5.5 Data Quality Management	30
Chapter 5: Intelligence in Motion – Features that Define ChainSys AMM	31
5.1 Continuous Metadata Harvesting	31
5.2 Real-Time Data Lineage Visualization	33
5.3 Metadata Quality and Validation	34
5.4 Metadata-Driven Data Discovery	36

5.5 Dynamic Access Control and Role-Based Visibility	37
5.6 Metadata Collaboration and Workflow Management	40
5.7 Metadata Enrichment and Integration	43
5.8 Insights Dashboard: Metadata Health, Compliance, and Utilization Analytics	44
Chapter 6: ChainSys Implementation Framework	46
6.1. Discovery & Assessment-Understanding What You Have Before You Organize It	46
6.2. Proof of Value (PoV)-Showcasing Tangible Results with Your Real Data	47
6.3. Phased Rollout Strategy-Scaling Smartly with Agility and Impact	48
6.4. Change Management & Training-Driving Adoption Through Empowerment and Enablement	48
6.5. Post-Deployment Governance-Keeping Your Metadata Active, Accurate, and Aligned	49
Chapter 7: Real-World Case Studies	50
7.1 Centralizing all metadata from 30+ applications across the enterprise in 12 Weeks	50
Chapter 8: Your Next Steps with ChainSys dataZense	53
8.1. Assess Your Metadata Maturity with ChainSys Experts	53
8.2. Implement our 90-Day Quick Start Plan-From Metadata Chaos to Data Confidence	54
8.3. What Comes Next? Scaling and Innovation	55
Chapter 9: ChainSys – A Strategic Partner, Not Just a Vendor	56
9.1 Decades of Data Management Expertise	57
9.2. Deep Integration with Oracle, SAP, Salesforce, Snowflake, and More	58
9.3. Trusted by Fortune 500 Companies and Government Agencies Globally	

Executive Summary

Enterprises are flooded with data, but real insight comes from understanding it. Most already hold valuable metadata scattered across systems, yet struggle to connect and activate it in real time. That's where Active Metadata Management (AMM) changes everything. AMM isn't just a catalog; it's a living system that continuously captures, enriches, and operationalizes metadata to drive governance, compliance, and innovation.

ChainSys dataZense powers this shift with automated harvesting, AI-driven lineage mapping, rule-based governance, and real-time integration—turning data visibility into true data activation. This guide shows how ChainSys dataZense helps you move from disconnected silos to an intelligent ecosystem where every metadata change sparks insight and every decision is backed by living context.

Compelling insights - Why an Active Metadata Management Solution is essential for modern enterprises?



According to IDC, analysts spend 80% of their time finding, cleaning, and organizing data rather than analyzing it.

(IDC)



According to the study, 91% of companies are non-compliant with CCPA, and 94% are unprepared for GDPR.

(Spiceworks)



Gartner estimates that bad data costs businesses \$12.9 million annually due to incorrect analytics, misinformed decisions, and operational inefficiencies. (Gartner)



An Accenture study reveals that 90% of business leaders are leveraging AI to improve aspects of operational resilience, which includes data-driven capabilities. (Accenture)

Chapter 1: Understanding Active Metadata Management

1.1 Definition of Active Metadata Management

Active Metadata Management is the practice of continuously collecting, connecting, enriching, and operationalizing metadata so it can automatically inform, govern, and control data across its lifecycle.

In practical terms, this means metadata is used to:



1.2 How It Differs from Traditional Metadata Management

Capability Area	Traditional (Manual / Passive)	Active Metadata Management
 Metadata Capture	 Periodic, tool-specific extraction	 Continuous, system-wide ingestion
 Lineage Visibility	 Partial or inferred	 End-to-end, cross-platform
 Change Impact Analysis	 Manual, time-consuming	 Automated, real-time
 Governance Enforcement	 Policy documentation only	 Embedded and enforced

Capability Area	Traditional (Manual / Passive)	Active Metadata Management
 Business Context Mapping	 Manually curated	 Automatically enriched
 Data Quality Awareness	 Reactive issue detection	 Proactive monitoring
 Compliance Readiness	 Point-in-time audits	 Continuous compliance
 AI Explainability	 Limited traceability	 Full lineage and context

1.3 What Makes Metadata “Active”

Metadata becomes active when it stops functioning as background documentation and starts influencing how data is built, moved, and governed. Instead of being consulted after an issue occurs, active metadata is present during execution, providing context and control at the moment decisions are made. It continuously reflects the current state of the data ecosystem and helps prevent problems rather than explain them after the fact.

Metadata is considered active when it:



Detects change automatically:

Recognizes schema updates, pipeline modifications, and configuration changes as they happen.



Understands relationships and dependencies:

Maintains awareness of how datasets, transformations, reports, and systems are connected.



Influences operational decisions:

Feeds impact and risk information into approvals, validations, and change workflows.



Applies governance rules in real time:

Enforces policies, quality checks, and access controls without manual intervention.



Surfaces risk before execution:

Provides foresight into downstream impact so issues are addressed early.

1.4 How Active Metadata Operates as a Living Layer

Active Metadata Management introduces a layer that continuously sits across the enterprise data landscape. This layer is not tied to a single system or tool. Instead, it stays aware of how data is structured, transformed, governed, and consumed across platforms. As data changes, this metadata layer evolves with it, maintaining a current and shared understanding of how the data ecosystem operates.

As a living layer, active metadata:



Spans across systems and platforms



Continuously updates with change



Maintains real-time lineage and context



Bridges technical and business perspectives



Supports governance and operations simultaneously



Adapts as the data ecosystem evolves

1.5 What Active Metadata Management Is Not

Active Metadata Management is often mistaken for familiar tools or practices. The table below clarifies where AMM stops and where other approaches begin.

Common Misconceptions vs Reality

 A Data Catalog	Catalogs describe metadata. AMM uses metadata to drive decisions and actions.
Documentation	AMM is continuously updated and event-driven, not static or manual. 
 Governance Paperwork	AMM embeds rules into operations instead of relying on manual reviews.
A Reporting Layer	AMM influences outcomes before execution, not just visibility after. 
 A platform Replacement	AMM works across existing systems rather than replacing them.
A one-time Setup	AMM evolves continuously as data and systems change. 

Chapter 2: Types of Metadata in the Enterprise

Metadata is not a single concept. In an enterprise data landscape, metadata exists in multiple forms, each serving a distinct purpose. These metadata types are created at different stages of the data lifecycle and are used by different teams. Understanding these types is essential to building effective data governance, analytics, and operational control.

This chapter explains the primary types of metadata found in enterprise environments and why they must work together.

2.1. Technical Metadata

Technical metadata describes the structural and system-level characteristics of data. It is generated automatically by databases, applications, and integration platforms as data is created, stored, and transformed. This type of metadata is essential for understanding how data is physically organized and how it moves across systems.

Who Uses It

Data engineers
Integration teams
Platform and infrastructure teams

What It Includes

Tables, columns, and data types
Schemas and file structures
Source-to-target mappings
Transformation logic
System and application dependencies

2.2. Business Metadata

Business metadata provides meaning and context to data by translating technical structures into business-friendly language. It ensures that data is interpreted consistently across reports, dashboards, and analytical models.

What It Includes

Business definitions and terminology
KPIs, metrics, and calculations
Data ownership and stewardship
Usage guidelines and interpretation rules

Who Uses It

Business users
Data stewards
Product and operations teams

2.3. Operational Metadata

Operational metadata captures how data behaves during processing and usage. It reflects runtime activity and performance, helping teams monitor data reliability and identify issues quickly.

Who Uses It

- Data operations teams
- Platform support teams
- Reliability and monitoring teams

What It Includes

- Job execution status
- Load schedules and frequencies
- Processing times and data volumes
- Error logs and alerts
- Data freshness indicators

2.4. Governance and Compliance Metadata

Governance and compliance metadata define the rules and controls that determine how data should be accessed, used, retained, and protected. It plays a critical role in managing regulatory requirements and organizational policies.

What It Includes

- Data classifications and sensitivity labels
- Access and entitlement rules
- Retention and archival policies
- Regulatory and audit requirements

Who Uses It

- Data governance teams
- Compliance and risk teams
- Security teams

Chapter 3: Understanding the Metadata Failure

3.1 Signals: What Enterprises Are Experiencing Today

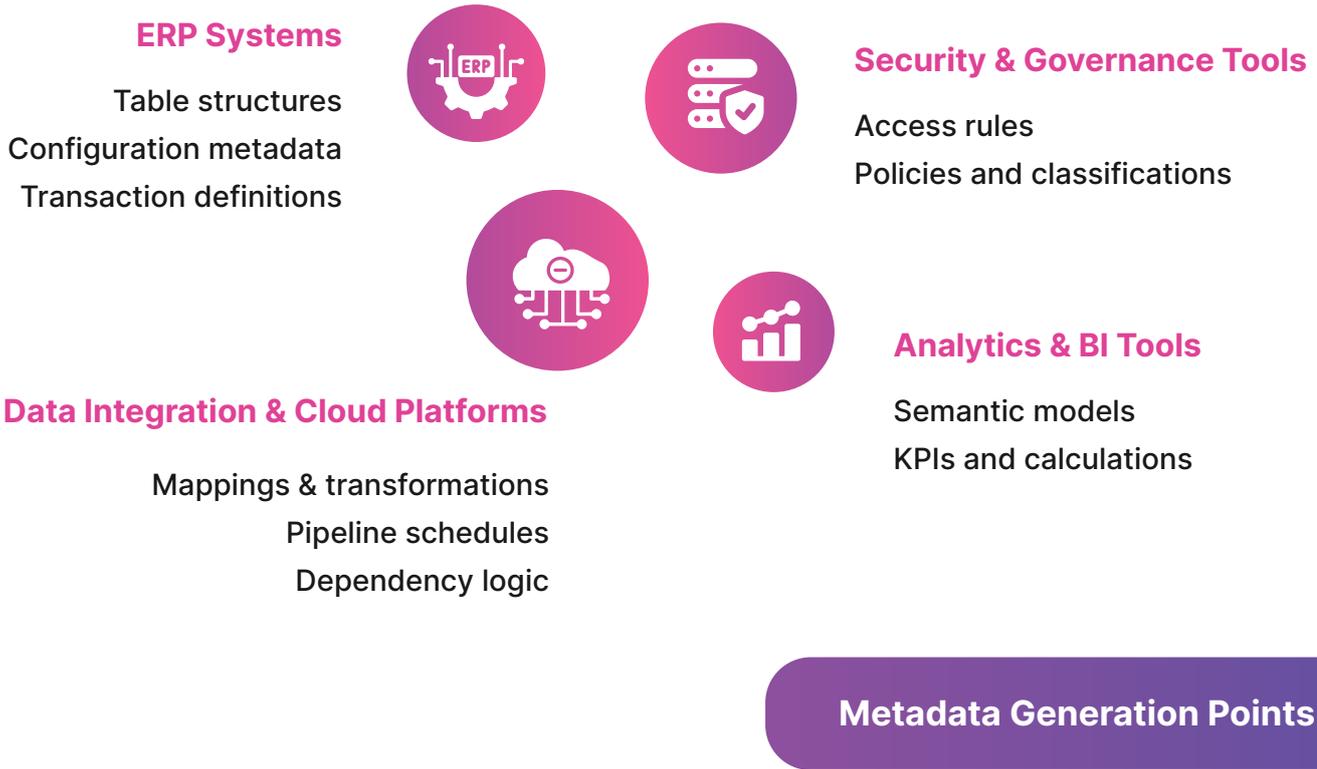
Common Signals Observed Across Enterprises

- **Difficulty answering basic lineage and impact questions**
- **High dependency on manual documentation**
- **Conflicting definitions across reports and systems**
- **Slow response to regulatory or audit inquiries**
- **Low confidence in analytics and AI outputs**

What These Signals Indicate

- **Metadata exists, but is fragmented**
- **No enterprise-wide metadata authority**
- **Governance is disconnected from operations**

3.2 Where Metadata Actually Lives



3.3 Symptoms of Fragmented Metadata



Chapter 4: The ChainSys Smart Data Platform in Action

4.1 What is Smart Data Platform?

The ChainSys Smart Data Platform is an advanced, all-in-one solution designed to manage, integrate, govern, and analyze enterprise data across diverse systems, including Oracle, SAP, and other major ERP platforms. With a suite of intelligent tools and pre-configured templates, the platform empowers organizations to harness the full potential of their data while ensuring compliance, accuracy, and security. Whether it's data quality management, data integration, or advanced analytics, the Smart Data Platform provides a comprehensive and scalable framework to support your enterprise data initiatives.

- Simplified & Rapid ETL/ELT
- Smart Migration
- Seamless Data Ingestion
- Comprehensive Data Governance
- Top-notch Data Quality Management
- Multi-Domain MDM Implementation
- Scalable Data Discovery & Cataloging
- Customized Visualization
- ~~Visual Platform~~ → Analytics
- ~~On-Site Platform~~ → Analytics to Security



4.2 Key Features and Benefits of Using ChainSys Smart Data Platform:

Unified Data Management



The platform consolidates data management processes into a single, unified solution. This includes data integration, data quality, master data management (MDM), data governance, and analytics, providing a holistic view and control over your enterprise data.

Pre-Built Templates and Adapters



With over 9000 smart data adapters, the Smart Data Platform simplifies complex data management tasks. These templates cover setups, master data, transactions, and analytics, accelerating project timelines and reducing the need for custom development.

Advanced-Data Governance



The platform includes powerful data governance tools that ensure compliance with industry standards and regulations. Automated workflows, audit trails, and data lineage tracking help maintain data integrity and transparency across all systems.

Scalable Data Integration



Designed to handle the integration needs of both small businesses and large enterprises, the platform's scalable architecture can manage data from a few thousand records to billions of records. It ensures seamless data flow across multiple applications and platforms, regardless of their complexity.

Comprehensive Data Quality Management



The Smart Data Platform includes robust data profiling, cleansing, and enrichment tools, ensuring that high-quality data is maintained throughout the organization. By addressing data quality at the source, the platform minimizes errors and inconsistencies, leading to more reliable business insights.

Real-Time Analytics and Reporting



The platform offers real-time analytics and reporting capabilities, providing instant access to actionable insights. Customizable dashboards and reports enable organizations to monitor key performance indicators (KPIs) and make informed decisions based on accurate, up-to-date data.

4.3 How the Smart Data Platform Addresses Data Management Challenges:

Complex Data Environments



Managing data across various systems, applications, and databases can be daunting. The Smart Data Platform's integration capabilities streamline data flow across diverse environments, reducing complexity and ensuring that all data sources are harmonized.

Data Quality Issues



Poor data quality can lead to inaccurate reporting and decision-making. The Smart Data Platform's data quality management tools proactively address data issues, ensuring that only clean, validated data is used in critical business processes.

Compliance & Regulatory Requirements



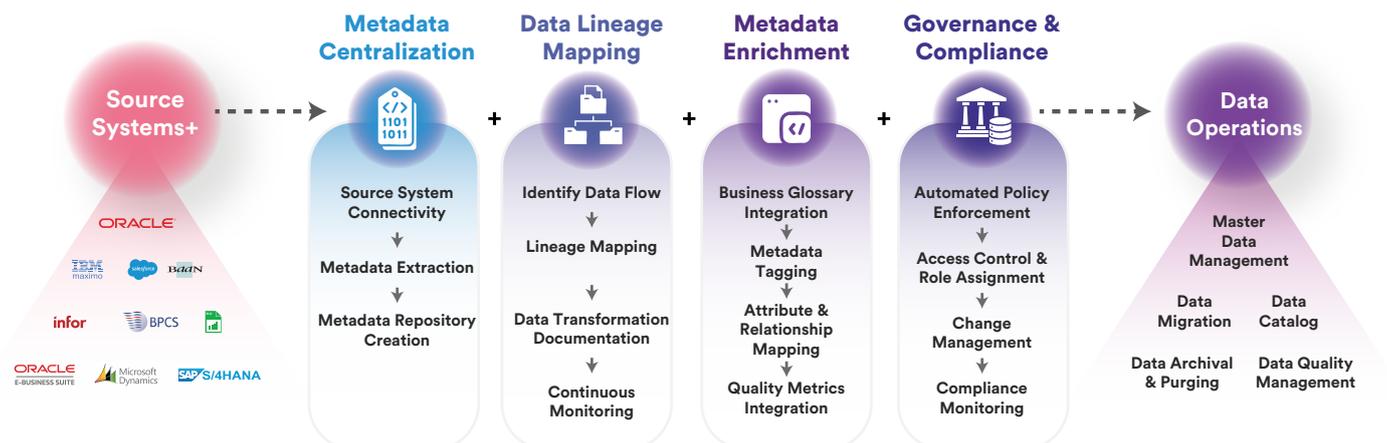
Organizations face stringent data governance requirements. The platform's advanced governance features ensure compliance with industry regulations, offering features such as data masking, role-based access control, and automated audit trails.

Data Silos



Data silos can hinder enterprise-wide data initiatives. The Smart Data Platform breaks down these silos by providing a unified data management approach, enabling seamless data sharing and collaboration across departments.

4.4 The ChainSys Active Metadata Management Approach



Step 1 - Metadata Centralization

Metadata centralization begins with building a clear, factual understanding of source data before any governance or execution steps are applied. This process relies on data profiling and pattern recognition to examine structures, values, formats, and distributions, making issues such as missing data, duplicates, invalid values, inconsistencies, and sensitive information immediately visible. By understanding how data behaves and where quality gaps exist, organizations can accurately classify data, define rules, and determine cleansing requirements at the source, ensuring only reliable, well-understood data progresses further. Below are the steps carried out.

Step 1.1 Source Systems Connectivity

Source systems connectivity establishes the bridge between enterprise data platforms and the data profiling environment. It ensures secure, reliable, and scalable access to data across diverse technologies.

1.1.1 Endpoints and Supported Data Sources

Endpoints represent the source locations from which data resources originate. They act as the gateway to accessing different data systems within an organization. By configuring an endpoint, users can quickly connect to a new data source and begin retrieving data for profiling, analysis, processing, or governance.

Commonly supported endpoint types include:

Big Data platforms

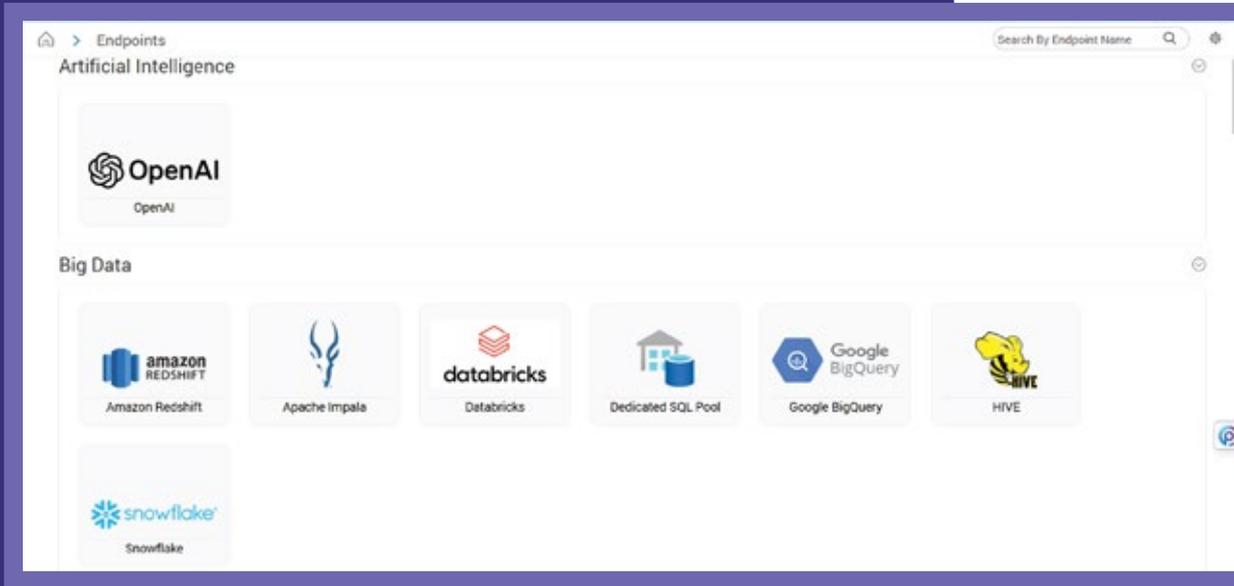
Cloud storage drives

Enterprise applications

Enterprise storage systems

Relational Database Management Systems

Web services and APIs

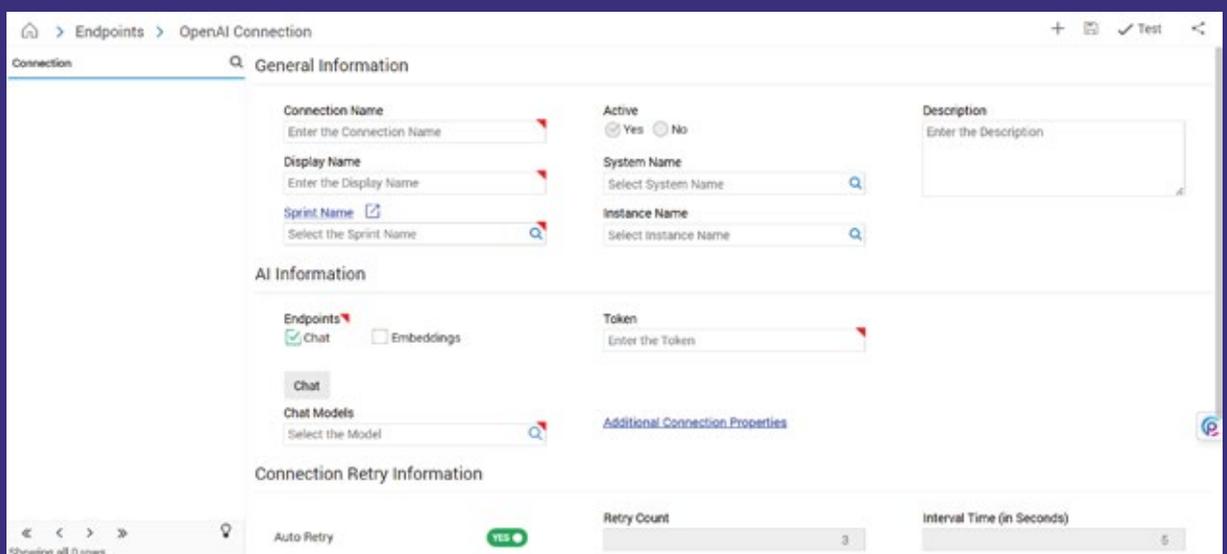


1.1.2 Connection Configuration and Validation

Connections operationalize endpoints by supplying authentication, network, and configuration details required for access. A connection ensures that data can be securely read from source systems and, when required, written to target systems.

Key characteristics of connections include:

- Secure credential management
- Validation to ensure availability and access rights
- Reusability across multiple profiling and integration workflows



Connection Configuration-A product View

The screenshot shows the 'OpenAI Connection' configuration page. It is divided into several sections:

- General Information:** Includes fields for 'Connection Name', 'Display Name', and 'Sprint Name'. It also has radio buttons for 'Active' (Yes/No), a 'System Name' dropdown, and an 'Instance Name' dropdown. A 'Description' text area is also present.
- AI Information:** Features a dropdown for 'Endpoints' with 'Chat' selected and 'Embeddings' unselected. There is a 'Token' input field and a 'Chat Models' dropdown. A 'Chat' button and a link for 'Additional Connection Properties' are also visible.
- Connection Retry Information:** Shows 'Auto Retry' as 'YES' with a green indicator. It includes a 'Retry Count' field set to '3' and an 'Interval Time (in Seconds)' field set to '5'.

The interface includes navigation arrows, a search icon, and a 'Test' button in the top right corner. The bottom left corner indicates 'Showing all 0 rows'.

Step 1.2 Metadata Extraction

Metadata extraction is the point where data access turns into data understanding. After connectivity is established, source systems are systematically scanned to capture metadata that explains what the data is, where it resides, how it is structured, and how it relates across the enterprise. Automating this step removes manual documentation and creates a consistent, trusted inventory of data assets.

The primary objectives of metadata extraction are to create enterprise-wide visibility into data assets, capture structural and technical metadata in a standardized manner, and lay the foundation for profiling, lineage, governance, and data discovery. Metadata extraction not only captures static information such as tables, columns, and data types, but also prepares the environment for deeper, dynamic insights generated through data profiling.

Key objectives of metadata extraction include:



Enabling data discovery and reuse



Creating visibility into enterprise data assets



Capturing structural and technical metadata consistently



Establishing the foundation for profiling, lineage, and governance

1.2.2 Data Profiling as Part of Metadata Extraction

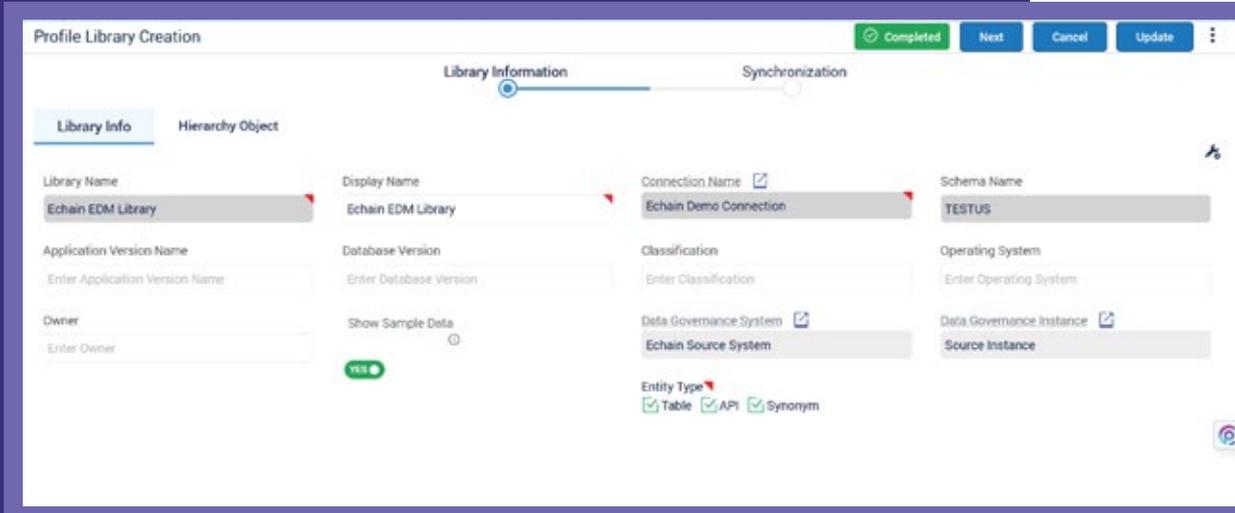
Data profiling is a core capability within metadata extraction that transforms extracted metadata into actionable intelligence. It analyzes data content to assess quality, structure, patterns, and relationships, enabling organizations to move beyond knowing where data exists to understanding how it behaves and whether it can be trusted. Profiling applies across structured, semi-structured, and unstructured data, enriching metadata with operational and analytical context. Below are the steps carried.

1.2.3 Configure Your Library for Smarter Data Insights

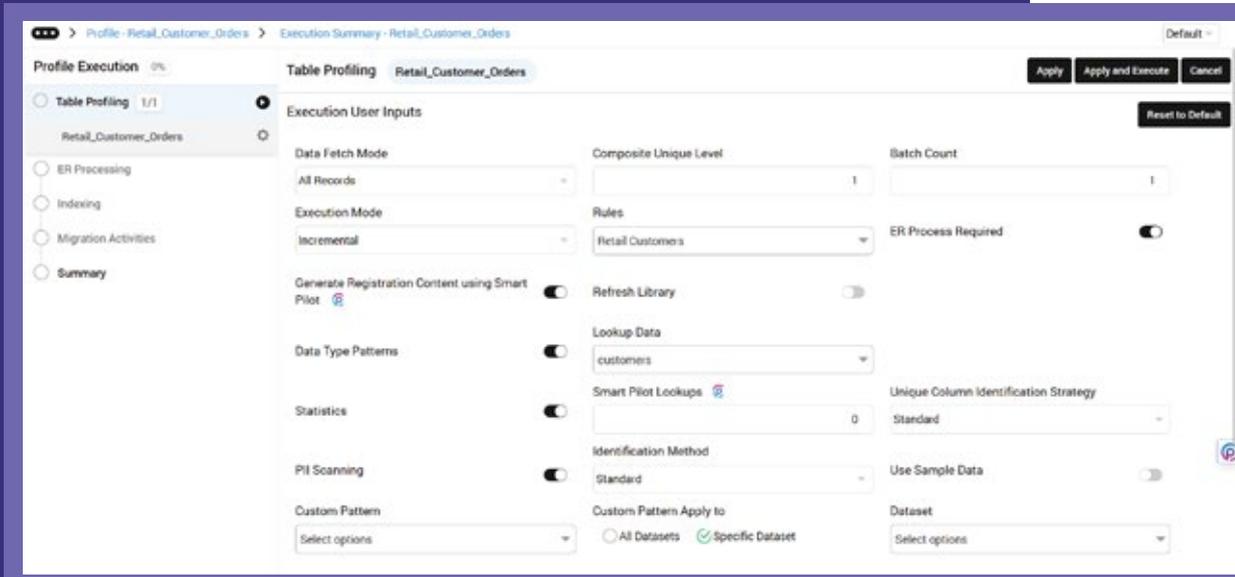
Data profiling begins with creating a library, which acts as a centralized repository for storing metadata and profiles. The library provides the foundation for profiling and cataloging activities.

Start your data profiling by creating a powerful, centralized library that brings all your metadata and profiles under one roof. Once your library is ready, a synchronization process automatically gathers all relevant data assets, ensuring your library is current, comprehensive, and ready for profiling. With this foundation, your data is prepared for deeper insights.

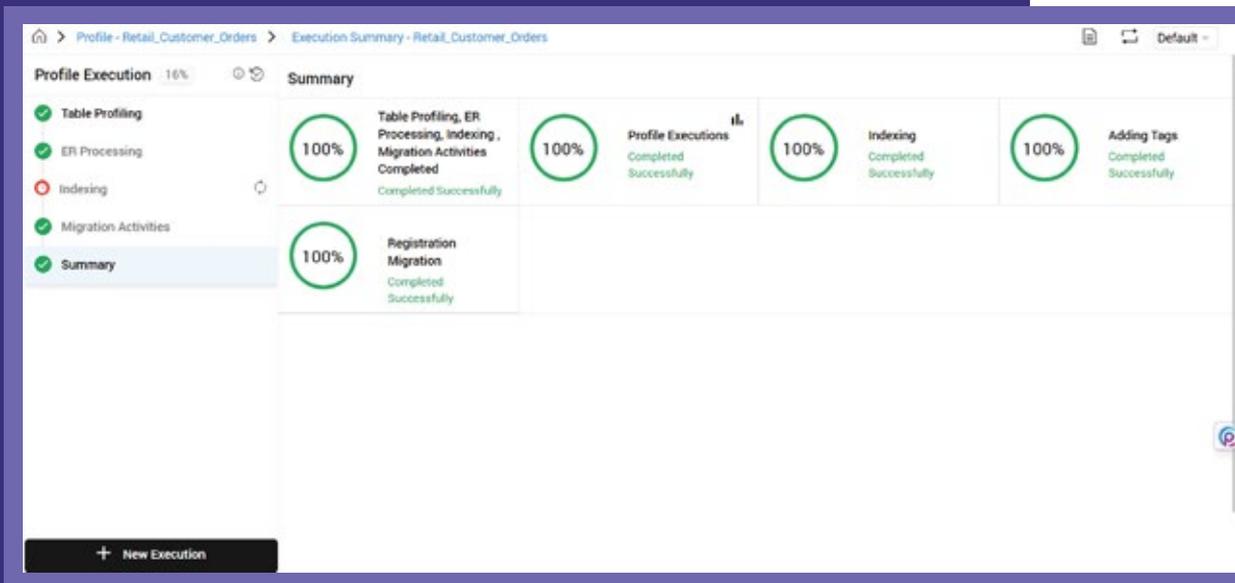
Profile Library
Creation - A
Product View



Profile
Execution - A
Product View



Profile Summary
- A Product
View



Advanced Profiling Options:

Identifying Patterns

Understand your data at a deeper level. This option detects data type patterns and unique fields during profiling, highlighting trends and structures while ignoring irrelevant columns for precise analysis.

Indexing

Make your data instantly discoverable. By inserting profiling results into an indexing server like Solr, search and retrieval become faster and more efficient, empowering teams to find the right data when they need it.

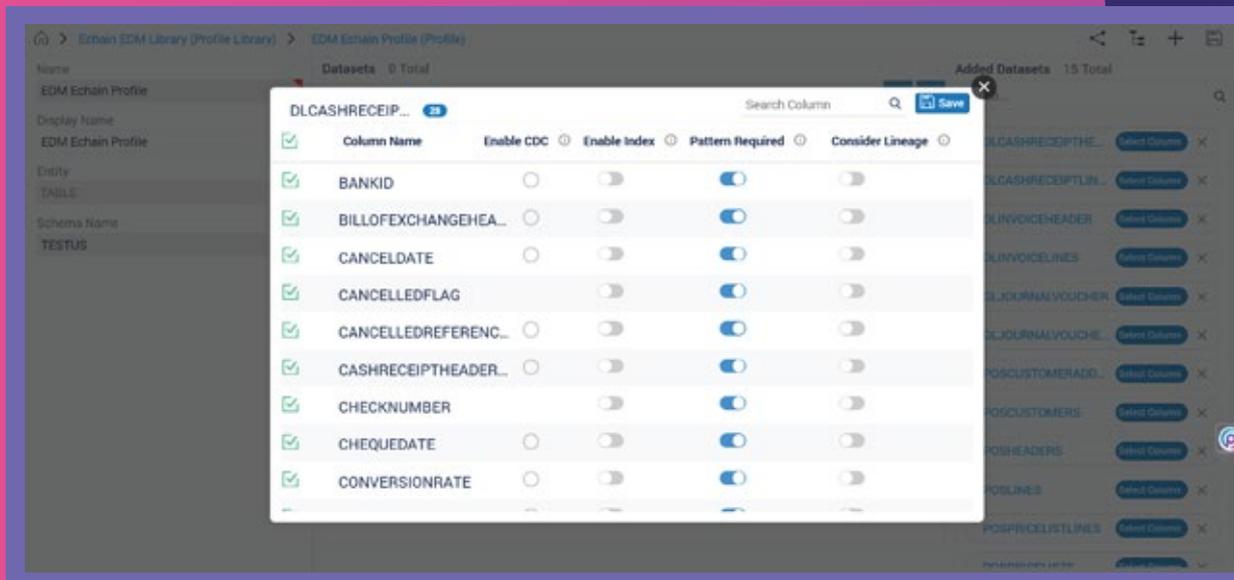
Change Data Capture (CDC)

Stay ahead of the curve by capturing incremental changes in your data sources. CDC ensures that your table data is always up to date, even when running incremental profiling, so you never miss critical updates.

Considering Lineage

Gain a complete view of how your data moves and transforms across systems. With meta and tag lineage, you can visualize both unique and non-unique relationships, uncovering hidden connections and ensuring data integrity.

Advanced Profiling Options - A Product View



Step 1.3 Metadata Repository Creation

A metadata repository serves as the enterprise's single source of truth for data knowledge. It consolidates metadata, profiling insights, lineage, and governance information.

Catalog profiling transforms individual profiles into a searchable, governed metadata repository.

The catalog enables:

Centralized data discovery- semantic

Self-service access for business and technical users

Improved collaboration and trust in data

By aggregating multiple profiles, the catalog provides a holistic view of enterprise data assets, supporting informed decision-making and governance at scale.

A structured approach encompassing source systems connectivity, metadata extraction, data profiling, and metadata repository creation enables organizations to unlock the full value of their data.

Document
Search-A Product
View

The screenshot displays the ChainSys Data Catalog interface. The main window is titled "Document Search" and features a search bar with the text "Search here". To the right of the search bar are buttons for "Semantic", "x", and a magnifying glass icon. A "Smart Plot Assistance" window is open on the right side, showing a search for "total sales invoice". The window displays a detailed summary of the search results, including a list of invoices and their amounts in USD and AED. The summary text reads: "The total sales invoice amounts found in the provided documents are as follows: 1) Prezi Invoice: \$228.00 USD. 2) Snowflake Invoices: \$877.82 USD, \$2,090.24 USD, \$47.79 USD, \$79.64 USD, \$120.03 USD, \$2,117.76 USD, \$509.69 USD, \$774.57 USD (all in USD). 3) Morton Lifelock Invoice: \$140.39 USD. 4) Gulf Ship Services Invoice (for Abu Dhabi Ship Building): 142,500 AED. Steps: 1) Extracted 'Total', 'Total Amount Due', or 'Invoice Total' per invoice document. 2) Summed separately by currency. 3) Totals: USD Invoices sum to \$6,903.69 USD (228.00 + 877.82 + 2,090.24 + 47.79 + 79.64 + 120.03 + 2,117.76 + 509.69 + 774.57 + 140.39), AED Invoices sum to 142,500 AED. 4) No other explicit sales invoice totals found in the context."

Step 2- Data Lineage Mapping

Understanding the flow and relationships of data is critical for effective metadata management. Lineage and Entity Relationship (ER) processing provide visibility into how data moves across systems, how entities are connected, and how transformations occur. These processes enhance data governance, impact analysis, and overall trust in enterprise data.

Lineage processing detects data transformations across systems by tracking similarities in data across profiles within the catalog. This helps identify interrelationships based on column names, tags, and data patterns.

Step 2.1 Identify Data Flow

This step identifies how data moves across systems, pipelines, and processes. It captures ingestion paths, integration flows, batch processes, and real-time data exchanges. Data flow identification establishes the foundation for understanding dependencies across the enterprise data ecosystem.

Step 2.2 Lineage Mapping

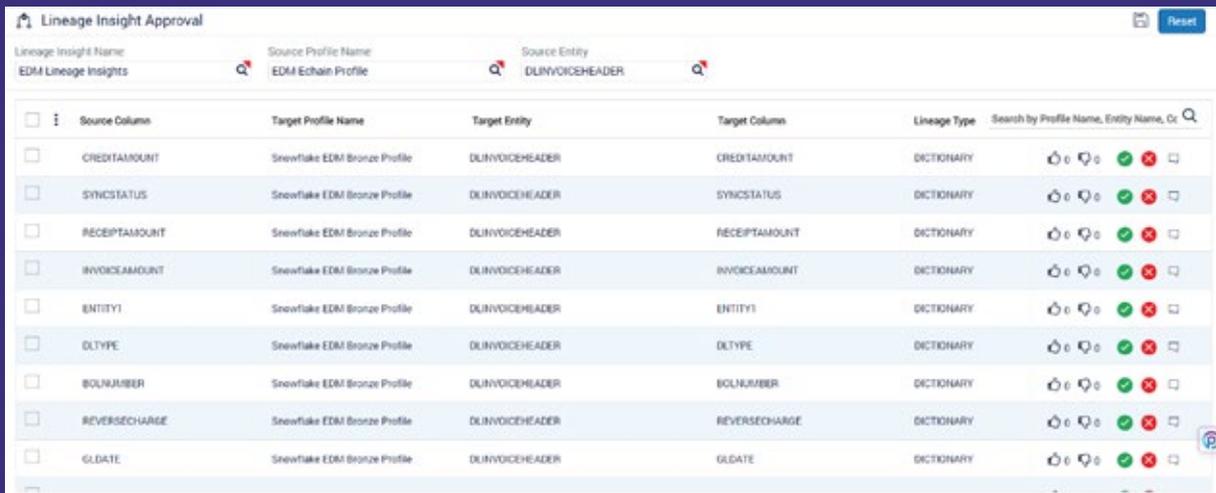
Lineage mapping visually and logically traces data from its origin through intermediate stages to its final destination. It documents relationships across systems, tables, columns, and reports, creating a complete end-to-end view of data movement and dependencies.

Below are a few Lineage Visualizations:

2.2.1 Meta Lineage

The Meta Lineage option is used to fetch column-name relationships between tables in selected profiles. It identifies the mapping between source and target columns, providing insight into how data moves and transforms across different datasets.

Meta Lineage-A Product View



The screenshot shows the 'Lineage Insight Approval' interface. At the top, there are search filters for 'Lineage Insight Name' (EDM Lineage Insights), 'Source Profile Name' (EDM Echain Profile), and 'Source Entity' (DLINVOICEHEADER). Below the filters is a table with the following columns: Source Column, Target Profile Name, Target Entity, Target Column, Lineage Type, and a search bar. The table lists several source columns and their corresponding target columns, all of which are identified as 'DICTIONARY' type. Each row includes icons for actions like like, dislike, and delete.

Source Column	Target Profile Name	Target Entity	Target Column	Lineage Type
CREDITAMOUNT	Snowflake EDM Bronze Profile	DLINVOICEHEADER	CREDITAMOUNT	DICTIONARY
SYNCSTATUS	Snowflake EDM Bronze Profile	DLINVOICEHEADER	SYNCSTATUS	DICTIONARY
RECEIPTAMOUNT	Snowflake EDM Bronze Profile	DLINVOICEHEADER	RECEIPTAMOUNT	DICTIONARY
INVOICEAMOUNT	Snowflake EDM Bronze Profile	DLINVOICEHEADER	INVOICEAMOUNT	DICTIONARY
ENTITY1	Snowflake EDM Bronze Profile	DLINVOICEHEADER	ENTITY1	DICTIONARY
DLTYPE	Snowflake EDM Bronze Profile	DLINVOICEHEADER	DLTYPE	DICTIONARY
BOLNUMBER	Snowflake EDM Bronze Profile	DLINVOICEHEADER	BOLNUMBER	DICTIONARY
REVERSECHARGE	Snowflake EDM Bronze Profile	DLINVOICEHEADER	REVERSECHARGE	DICTIONARY
GLDATE	Snowflake EDM Bronze Profile	DLINVOICEHEADER	GLDATE	DICTIONARY

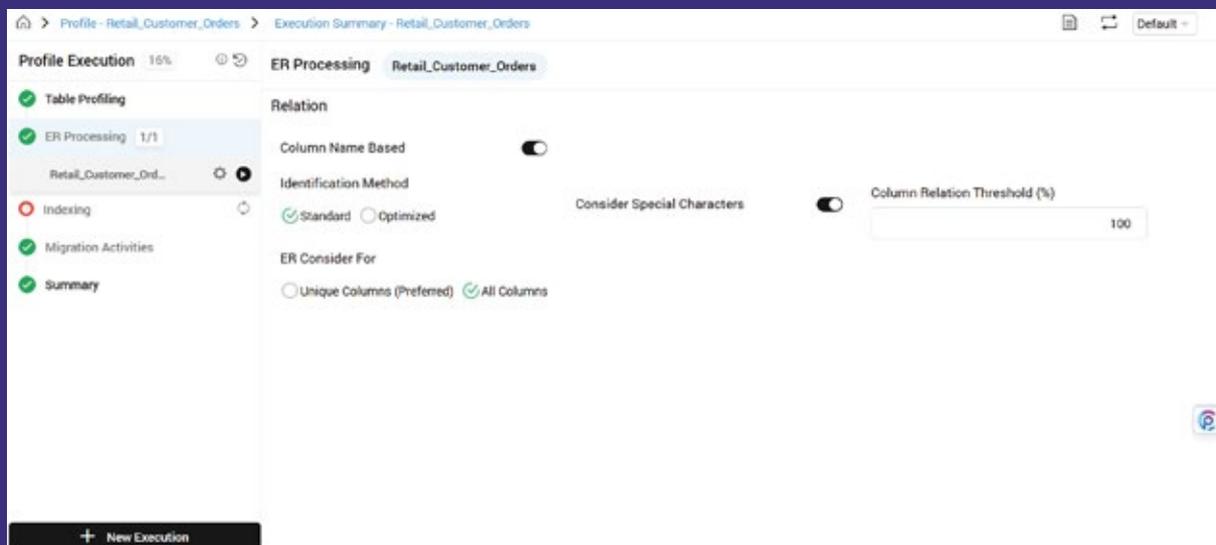
2.2.2. Tag Lineage

Tag Lineage identifies similarities between entities' tags. This allows organizations to recognize semantically related entities even if their column names differ. Matching entities must meet a defined similarity threshold to establish lineage.

2.2.3. Entity Relationship (ER)

Entity Relationship processing ensures that entities are accurately identified and linked across different data sources, resulting in a coherent and organized catalog.

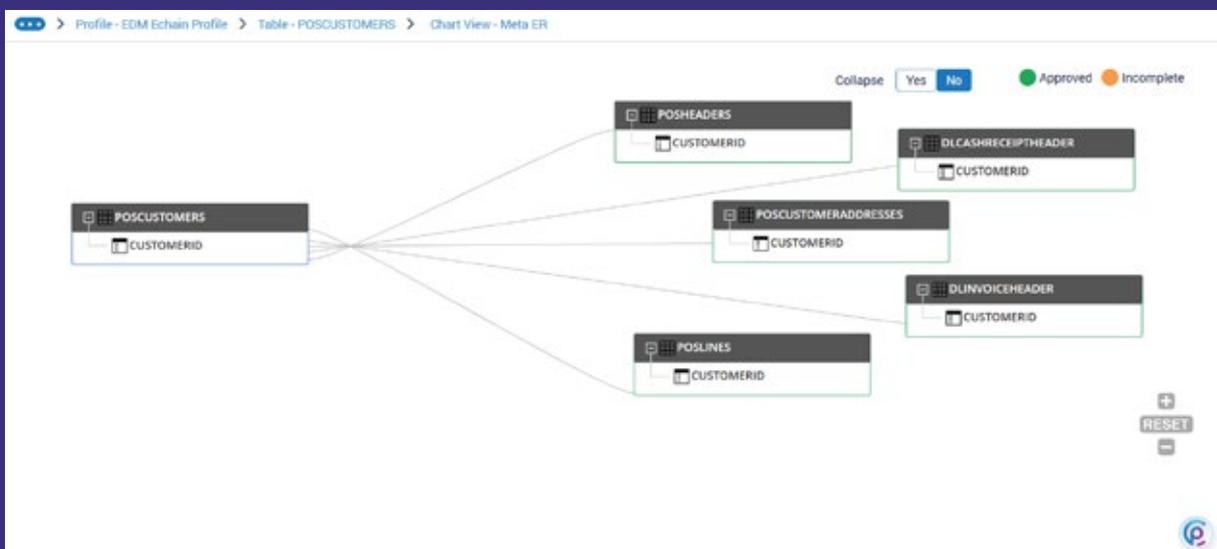
Entity Relationship (ER)-A Product View



The screenshot shows the 'ER Processing' configuration interface for 'Retail_Customer_Orders'. The left sidebar shows a list of activities: Table Profiling (checked), ER Processing (checked, 1/1), Retail_Customer_Ord... (checked), Indexing (unchecked), Migration Activities (checked), and Summary (checked). The main area is titled 'ER Processing' and contains the following settings:

- Relation: Column Name Based (checked)
- Identification Method: Standard (checked), Optimized (unchecked)
- Consider Special Characters: (unchecked)
- ER Consider For: Unique Columns (Preferred) (unchecked), All Columns (checked)
- Column Relation Threshold (%): 100

Source Column	Target Entity	Target Column	Match(%)	Status
CUSTOMERID	DLCASHRECEIPTHEADER	CUSTOMERID	100	Approved
CUSTOMERID	DLINVOICEHEADER	CUSTOMERID	100	Approved
CUSTOMERID	POSCUSTOMERADDRESSES	CUSTOMERID	100	Approved
CUSTOMERID	POSHEADERS	CUSTOMERID	100	Approved
CUSTOMERID	POSLINES	CUSTOMERID	100	Approved



Step 2.3 Data Transformation Documentation

This step captures the transformation logic applied to data as it moves through pipelines. It documents calculations, filters, joins, aggregations, and business rules implemented within ETL, ELT, or integration processes. Transformation documentation preserves logic that is often embedded in code or tools.

Step 2.4 Continuous Monitoring

Continuous monitoring tracks changes in data flows, transformations, and dependencies over time. It detects modifications to schemas, pipelines, or logic and updates lineage automatically. Monitoring ensures lineage remains accurate as systems and integrations change.

Step 3 - Metadata Enrichment

Metadata Enrichment adds business meaning by linking technical metadata with business glossary terms, tags, attributes, and relationships. This is where data becomes understandable to both technical and business users, enabling shared definitions, improved trust, and better collaboration across teams.

Step 3.1 Business Glossary

A Business Glossary serves as a structured repository of business terms and definitions, enhanced through glossary objects. A glossary object is a collection of customized fields designed to meet specific business requirements. These fields capture essential business, regulatory, or operational information during the registration process.

The fields defined in a glossary object are used to collect user input at the time of registration. Whether these fields appear in the registration workflow depends on the assignments configured in the glossary object assignment. This flexibility allows organizations to tailor the registration experience based on data type, domain, or governance needs.

Creating a glossary object involves customizing the required fields and associating them with predefined value sets. These value sets ensure consistency, accuracy, and standardization of the information entered. Once configured, the customized glossary fields function as additional metadata attributes during registration, enriching the catalog with meaningful business context.

Together, registration and the Business Glossary play a vital role in strengthening data governance by ensuring data is well-classified, secure, and aligned with business definitions and policies.

Business Glossary-A Product View

Entity Registration

Profile Name: EDM Echain Profile
Table Name: POSCUSTOMERS

Area of Business: Customer Relationship Management
Data Domain: Customer Master
Consent Type: Select Consent Type
Functional Description: The **POSCustomers** table is a central repository for storing detailed information about customers who interact with the Point-of-Sale (POS) system. This table is designed to capture a wide range of...
Business Description: This table helps businesses capture and maintain customer details that are essential for transaction processing and customer relationship management at the point of sale. It supports...
Contact Name: Enter Contact Name
Contact Email: Enter Contact Email
Company Name: Enter Company Name
Owner Name: Enter Owner Name
Owner Phone Number: Enter Owner Phone Number
Owner Email Address: Enter Owner Email Address
Administrator Name: Enter Administrator Name
Administrator Phone Number: Enter Administrator Phone Number
Administrator Email Address: Enter Administrator Email Address
Administrator Responsibilities: Enter Administrator Responsibilities

Glossary Objects Assignment

Name	Is Default	Description
Aero_glossary_assign	No <input type="checkbox"/> Yes <input type="checkbox"/>	

Display Name: Aero_glossary_assign

Profile Glossary: Assign glossary - Profile

Source Glossary: Assign glossary - Source

Field Glossary: Assign glossary - Field

File Glossary: Assign glossary - File

Step 3.2 Metadata Tagging

Tags are labels or keywords that help users quickly discover and identify relevant data within a catalog. By assigning tags to metadata fields, organizations can provide meaningful context that makes data easier to understand, search, and use effectively.

Tags enhance data accessibility by allowing users to locate related datasets based on common themes, business concepts, or technical attributes. They also support collaboration by enabling users to follow specific tags and stay informed about updates or changes to the associated data assets.

In addition to improving discoverability, tags play an important role in data governance. They help organize data consistently, promote shared understanding across teams, and simplify data management processes. By using tags strategically, organizations can ensure their data remains well-classified, accessible, and aligned with business objectives.

Metadata Tagging-A Product View

The screenshot displays the ChainSys Tag Master interface. The top section shows a table with columns: Subject Area, Subject Level, Conceptual Area, Conceptual Level, Module Name, Entity, Entity Level, and Column Name. The table lists various data elements such as 'Customer M...', 'Manufactur...', 'Financial ...', and 'Order Mana...'. To the right of the table is a 'Tag Creation' form with fields for Subject Area, Subject Area Level, Conceptual Area, Conceptual Area Level, Module Name, Entity, Entity Level, and Column Name. Below the table, there is a 'Showing all 48 rows' indicator.

The bottom section shows the 'Profile - EDM chain Profile' for the 'POSCUSTOMERS' table. It includes tabs for Overview, Fields, Meta ER, Tags, and Comments & Ratings. The 'Tags' tab is active, showing a 'Saved Tag List' with columns: Subject Area, Conceptual Area, Module Name, Entity, Friendly Name, Description, and Ratings. A single tag is visible: 'Order to Cash' with a rating of 5 stars and a description: 'It defines the category of a contact type'.

Step 3.3 Attribute & Relationship Mapping

This step defines relationships between data elements across systems and domains. It connects related attributes, keys, and entities, revealing how data elements correspond and interact across applications. Relationship mapping supports cross-system consistency and domain-level understanding.

Step 3.4 Quality Metrics Integration

Quality metrics integration associates data quality rules, measurements, and scores directly with metadata. It embeds visibility into data accuracy, completeness, consistency, and timeliness at the attribute and dataset level, allowing quality insights to travel with the data.

Step 4 - Governance, Security, and Compliance in Metadata Management

With enriched metadata in place, governance becomes actionable. Policies are automatically enforced, access controls are applied, and changes are tracked over time. This layer ensures compliance with internal standards and external regulations while continuously monitoring data usage, ownership, and accountability.

Step 4.1. Automated Policy Enforcement

Automated policy enforcement ensures that all metadata management activities adhere to organizational rules and regulatory requirements. Key features include:



Implementation of predefined policies for data usage and access.



Real-time enforcement of standards for data quality, lineage, and classification.



Automatic alerts and actions when policy violations occur.

Step 4.2. Access Control and Role-Based Access (RBAC)

By enforcing access based on roles and responsibilities, RBAC ensures that users can access only the data relevant to their job functions, minimizing the risk of unauthorized access, data exposure, or misuse. This approach strengthens data governance, enhances compliance with security policies, and supports the principle of least privilege.

of least privilege across the metadata management platform. Roles such as Data Steward, Analyst, and Administrator are configured with specific access rights that determine what actions users can perform and what metadata they can view or manage. For example, data stewards may have permissions to curate and classify metadata, analysts may be granted read-only access for discovery and analysis, while administrators retain full control over system configuration and governance.

RBAC enables secure and controlled access to metadata based on user roles:



Assign roles such as Data Steward, Analyst, or Administrator with specific permissions.



Control visibility of sensitive datasets and metadata objects.



Ensure users can access only the data relevant to their responsibilities, reducing security risks.

Access Control and Role-Based Access (RBAC)-A Product View

Note: Both the Object and Responsibility list show only the top 1,000 entries. To see the remaining entries, use the Search option

System Name	Object Name	Object Type	Requested By	Requested On	Status	Actions
Echain Source System	EDM Echain POSCUSTOMERS	Profile	vasuscsp@emo.com	31-OCT-2025 00:01	Approved	
Echain Source System	EDM Echain POSCUSTOMERS	Profile	businessuser@capemo...	30-OCT-2025 19:27	Approved	
Echain Source System	EDM Echain POSCUSTOMERS	Profile	businessuser1	30-OCT-2025 08:22	Approved	

Step 4.3. Change Management

Change management tracks and controls modifications to metadata and related data assets:

Long Name	Short Name	Type	Tech Type
Echain Source System	Source		

Instance Name	Description	Created By	Created On	Last Modified By	Last Modified On
Source Instance		praveenkumar.m@cpemo...	23-SEP-2025 05:23	praveenkumar.m@cpemo...	23-SEP-2025 05:23
DEV		praveenkumar.m@cpemo...	23-SEP-2025 05:22	praveenkumar.m@cpemo...	23-SEP-2025 05:22

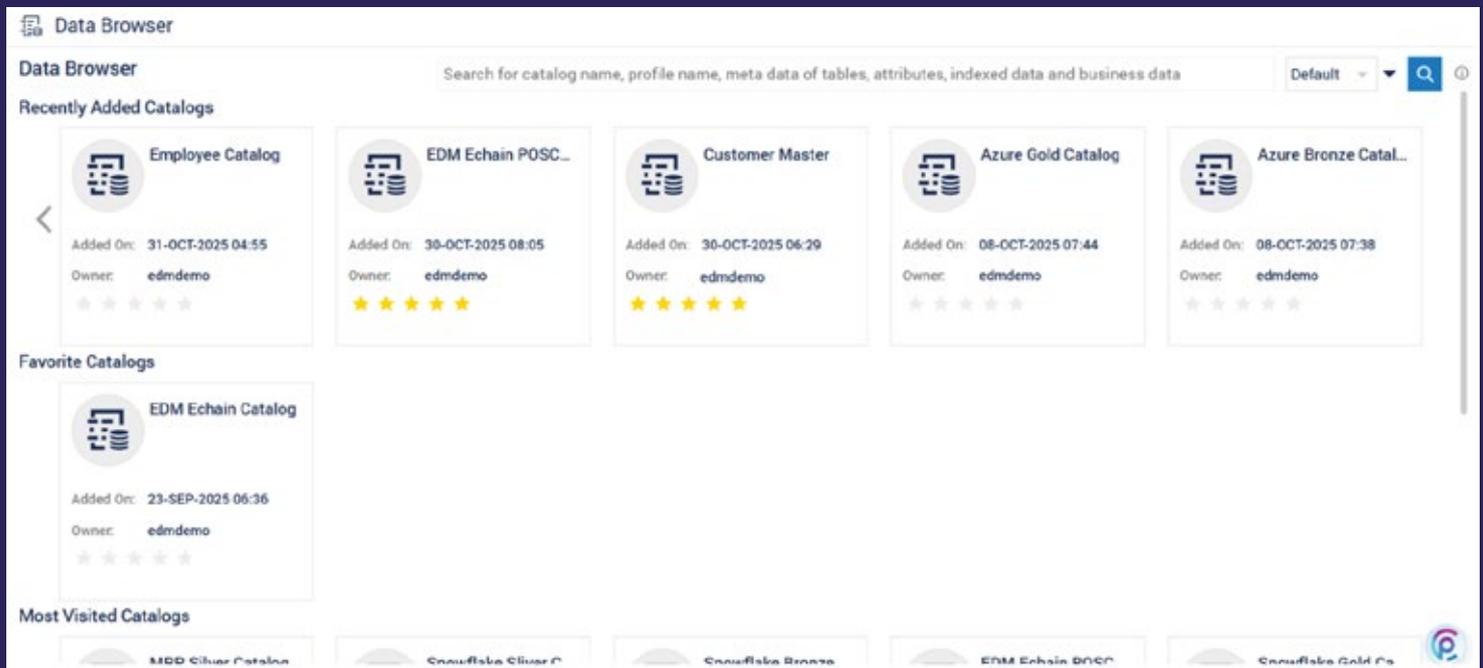
Captures updates to data profiles, catalogs, lineage, and entity relationships.

Maintains version history for audit and rollback purposes

System	Long Name	Short Name	Parent Name	Business Type	Tech Type	Created By	Created On	Last Modified On
AE EDM Gold	PG Gold					praveenkumar.m@cpemo...		
AE EDM Silver	PG Silver					praveenkumar.m@cpemo...		
AE EDM Bronze	PG Bronze					praveenkumar.m@cpemo...		
ZoneData Silver System	Silver					praveenkumar.m@cpemo...	23-SEP-2025 05:26	praveenkumar.m@cpemo...
ZoneData Bronze System	Bronze					praveenkumar.m@cpemo...	23-SEP-2025 05:24	praveenkumar.m@cpemo...
Echain Source System	Source					praveenkumar.m@cpemo...	23-SEP-2025 05:22	praveenkumar.m@cpemo...

Message	By	Last Modified On
Success: Bulk meta access request approval praveenkumar.m@cpemo...		
Success: You are assigned as stakeholder to th...		
Success: The file SUMMARY_LV82X44WH8q123...	rm@cpemo...	06-NOV-2025 04:05
Success: Meta Access For the object fPOS-IEA...	rm@cpemo...	06-NOV-2025 04:04
Success:	rm@cpemo...	06-NOV-2025 04:03

Supports approval workflows and notifications to ensure controlled and transparent changes.



Step 4.4 Compliance Monitoring

Compliance monitoring continuously evaluates data assets and processes against regulatory and internal compliance requirements. It maintains audit trails, evidence, and compliance status, supporting ongoing regulatory adherence and audit readiness.





4.5 Data Operations

4.5.1 Master Data Management

Master data management uses metadata to define authoritative records, relationships, and governance rules for core business entities. It ensures consistency and alignment of master data across systems and operational processes.

4.5.2 Data Migration

Data migration leverages metadata and lineage to map source-to-target structures, validate transformations, and track dependencies. This enables controlled movement of data between systems while preserving accuracy and traceability.

4.5.3 Data Catalog

The data catalog presents curated metadata in a searchable, user-friendly interface. It enables users to discover, understand, and access data assets along with their definitions, lineage, and quality context.

4.5.4 Data Archival & Purging

Metadata-driven archival and purging identify data eligible for long-term storage or removal based on age, usage, and regulatory rules. This supports system performance, compliance, and cost optimization.

4.5.5 Data Quality Management

Data quality management uses metadata to define, monitor, and enforce quality rules across datasets. It tracks issues, trends, and remediation status, integrating quality control directly into data operations.

Chapter 5: Intelligence in Motion – Features that Define ChainSys AMM

5.1 Continuous Metadata Harvesting

Continuous metadata harvesting automates the collection of metadata from multiple sources, including databases, cloud applications, and enterprise storage systems. It ensures that the metadata repository remains up-to-date, capturing incremental changes and new data assets. Scheduled harvesting and real-time updates help organizations maintain a comprehensive view of their data landscape.

Continuous Metadata Harvesting Process - A Product View

The screenshot displays the 'Entities' view for the 'EDM Echain Profile'. The interface includes a search bar and a table listing various entities with their respective field counts, record counts, and sizes.

Entity Name	No of Fields	Record	Size
DLCASHRECEIPTHEADER	28	11126	4 MB
POSSCHEDULES	39	14980	3 MB
DLINVOICELINES	27	43417	10 MB
DLINVOICEHEADER	54	24837	9 MB
POSCUSTOMERS	44	711	192 KB
POSPRICELISTS	28	15	64 KB
POSSALESPERSONS	14	8	64 KB
POSPRICELISTLINES	25	99	64 KB
POSCUSTOMERADDRESSES	58	811	320 KB

The screenshot displays the 'Profile Report' for the 'EDM Echain Profile'. The report provides a comprehensive overview of the profile's metadata, including source and field details, PII details, and entity relation details.

PROFILE: EDM Echain Profile

- Source Count: 15
- Field Count: 613
- Entity Relation Count: 20
- PII Field Count: 30

Source Overview Details

Source Name	Field Count	Record Count	Pattern Count	Table Size
DLCASHRECEIPTHEADER	28	11,126	7,944	4 MB
DLCASHRECEIPTLINES	13	30,141	75	3 MB
DLINVOICEHEADER	54	24,837	13,939	9 MB
DLINVOICELINES	27	43,417	15,583	10 MB

Field Overview Details

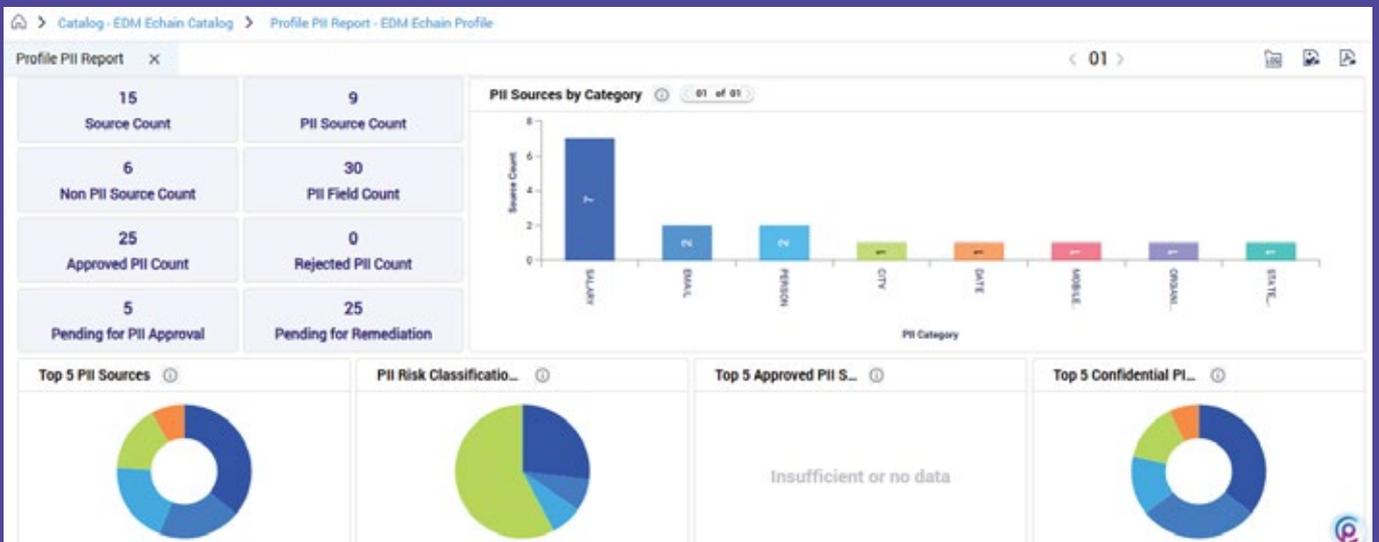
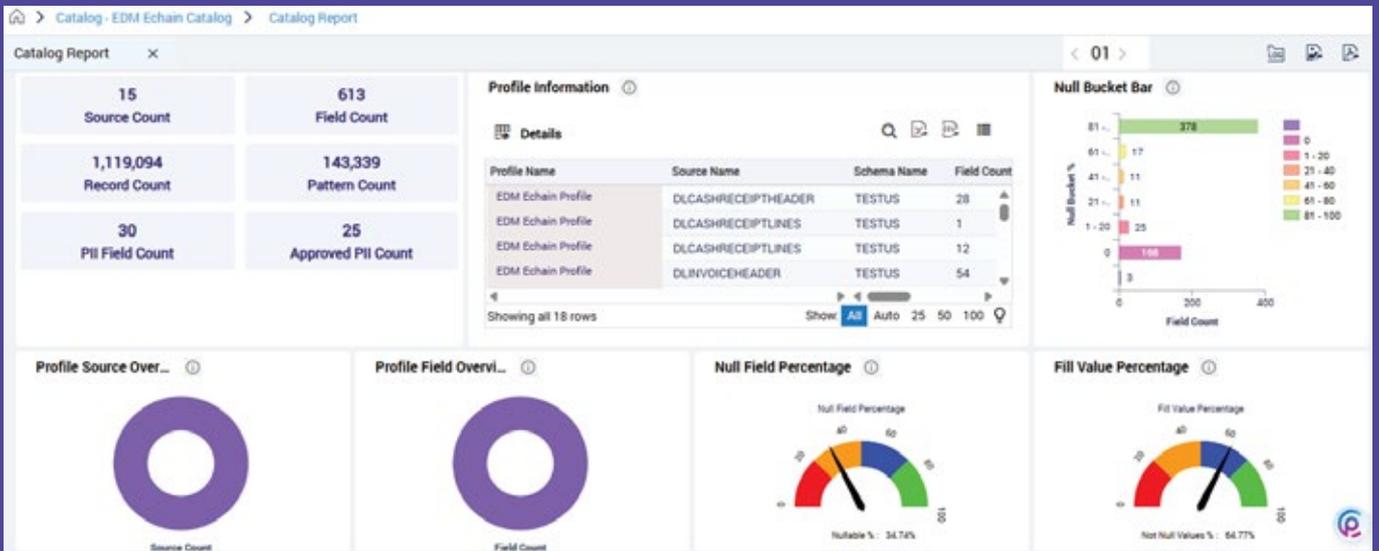
Source Name	Field Name	Datatype	Record Count	Pattern Count
DLCASHRECEIPTHEADER	BANKID	Short	11,126	1
DLCASHRECEIPTHEADER	BILLOFEXCHANGEHEAD	Short	11,126	1
DLCASHRECEIPTHEADER	CANCELDATE	Date	11,126	1
DLCASHRECEIPTHEADER	CANCELLEDFLAG	String	11,126	1

PII Details

Source Name	Field Name	Possible Category	User Accepted Category
DLCASHRECEIPTHEADER	BANKID	PII	PII

Entity Relation Details

ER Type	Source Table	Target Table	Source Field	Target Field	Source Area
1:1	DLCASHRECEIPTHEADER	DLCASHRECEIPTLINES	BANKID	BANKID	DLCASHRECEIPTHEADER



Profile - EDM Echain Profile > Table - POSCUSTOMERS

POSCUSTOMERS

1 Ratings 1 Customer

Overview Fields Meta ER Tags Comments & Ratings

Field Summaries

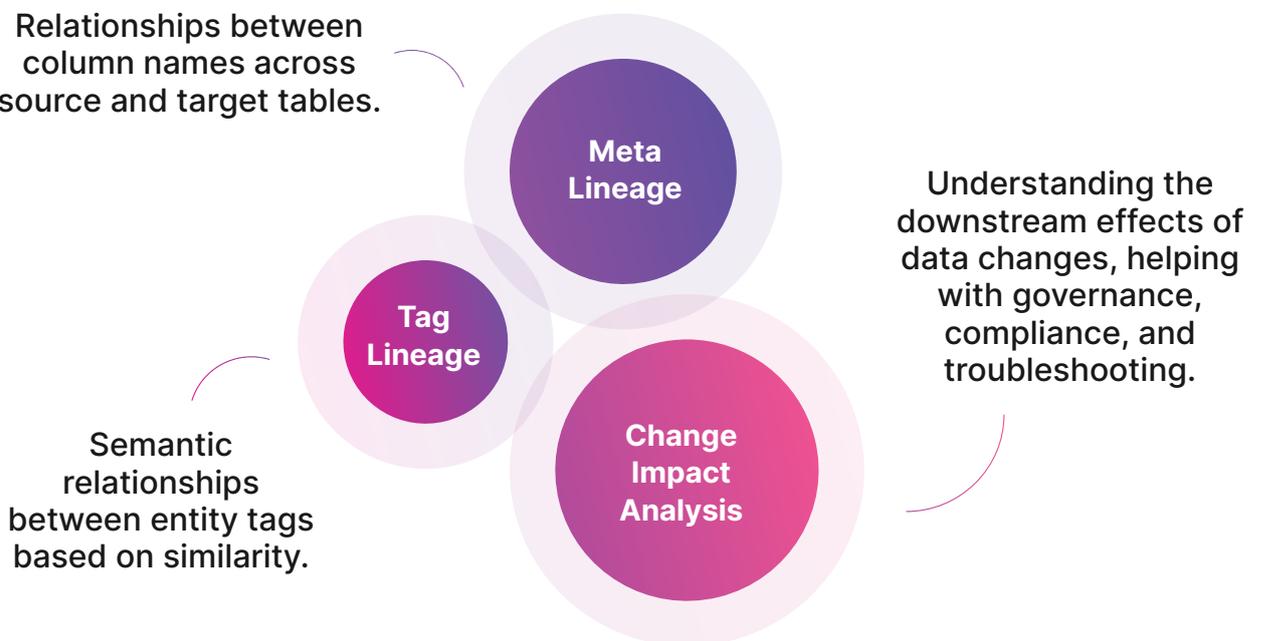
	Field Technical Name	Friendly Name	
All Fields			
Primary Field	ALTERNATECUSTOMERNAME	Alternate Customer Name	Details Register
Reference Field	BANKID	Bank Identifier	Details Register
Constraints	CFS_CUSTOMER_TYPE		Details Register
Unique	CONTACTEMAIL	Contact Email Address	Details Register
Unique Composite	CONTACTFAXNUMBER	Contact Fax Number	Details Register
Composite Primary	CONTACTFIRSTNAME	Contact First Name	Details Register
Composite Foreign	CONTACTLASTNAME	Contact Last Name	Details Register
	CONTACTPHONE	Contact Phone Number	Details Register
PII Fields	CREDITCHECK	Credit Check Status	Details Register

Field Technical Name	Friendly Name	
CONTACTFIRSTNAME	Contact First Name	Details
CREDITCHECK	Credit Check Status	Details
CREDITLIMIT	Customer Credit Limit	Details
CURRENCYID		Details
CUSTOMERACTIVEFLAG		Details
CUSTOMERCATEGORYID	Customer Category ID	Details
CUSTOMERCLASSID		Details
CUSTOMERID	Customer Identifier	Details
CUSTOMERNAME	Name of Customer	Details
CUSTOMERNUMBER	Contact Number	Details

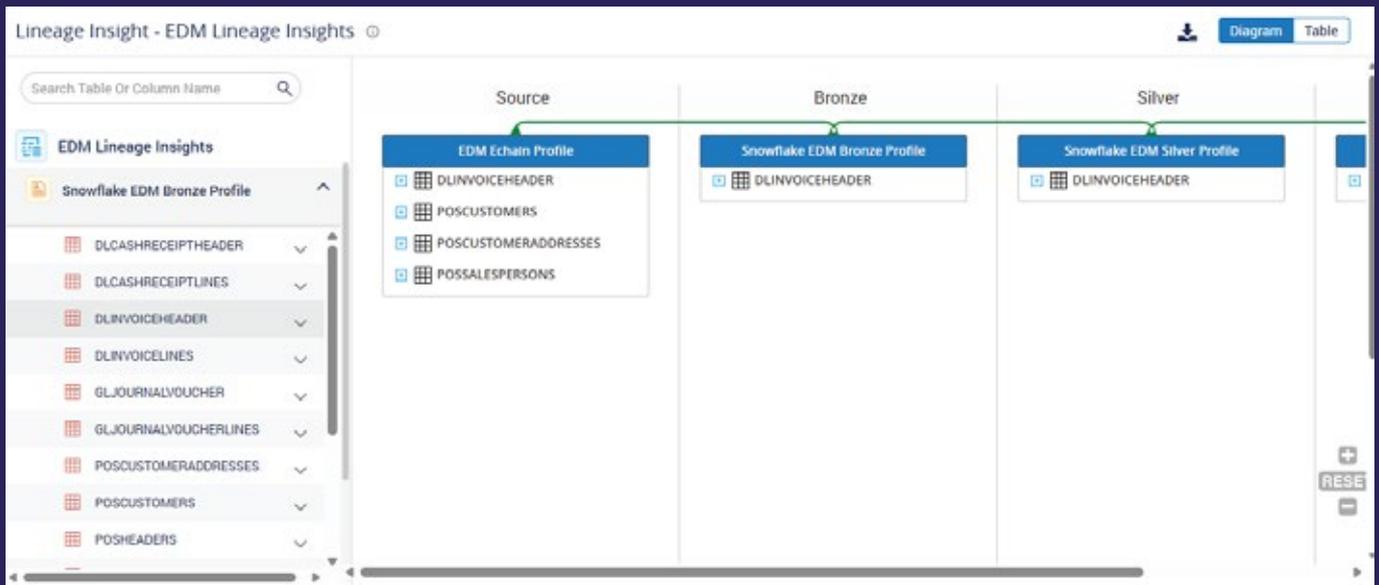
5.2 Real-Time Data Lineage Visualization

Real-time data lineage visualization enables tracking of data flow and transformations across systems. It provides:

Relationships between column names across source and target tables.



Real-Time Data Lineage Visualization-A Product View



5.3 Metadata Quality and Validation

Automated metadata quality checks ensure data integrity and consistency. This includes:

- Rules and standards for validating metadata completeness and accuracy.
- Detection of anomalies or inconsistencies in datasets.
- Integration with profiling insights to identify issues proactively.

Metadata Quality and Validation-A Product View

The screenshot displays the 'Rule Configuration' interface. It includes fields for Rule Name (SALESFORCE_CRM), Description (SALESFORCE CRM for country), Rule Type (Completeness), and Category Name (ORDER CRM). The Entity field is SFDC_SW_PG_ORDER_DO and the Column Name is Billing_Country. A 'Conditions' section on the left lists 'ORDER COUNTRY', 'ORDER NULL', and 'ORDER STRING'. A 'Condition' panel on the right shows 'Condition Group' (ORDER COUNTRY), 'Condition Name' (ORDER NULL), 'Category' (Statistics), and 'Sub Category' (is Null). An 'Add' button is located at the bottom of the Condition panel.

Profile Output Report

Schema Details

Scheme Name : bi_analytics
 Host : 192.168.57.70 Port : 5432
 DataBase Type : POSTGRESQL

Table Details

Entity : Payment fact test
 No of Columns : 49 No of Rows : 1000

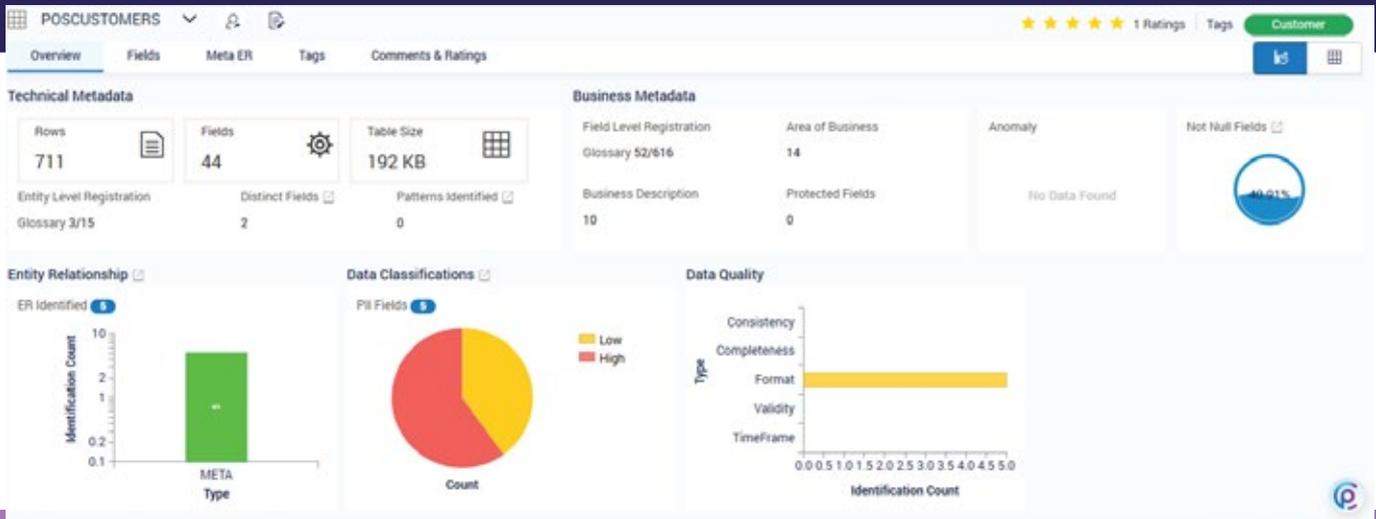
Anomaly Data Report

Anomaly Percentage : 7% Non Anomaly Percentage : 93%

Constraints Details

Column Name	Description	Not Null	Null	Empty	Contain Zero Values	Unique	Primary	Reference	Constant
accts_pay_code_combination_id	accts_pay_code_combination_id								
address_line1	address_line1								
aging_classification	aging_classification								
amount	amount								
amount_paid	amount_paid								
amount_remaining	amount_remaining								
attribute7	attribute7								
attribute8	attribute8								
avg_invoice_amount	avg_invoice_amount								
city	city								
country	country								
creation_date	creation_date								

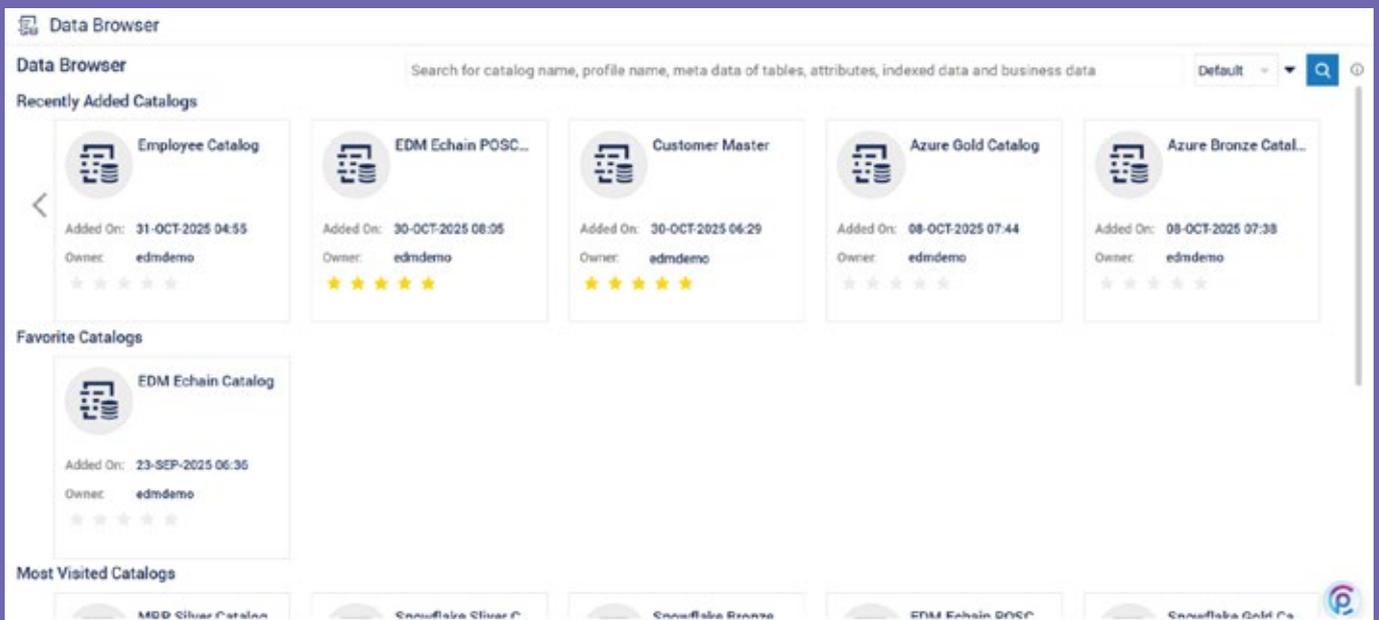
Page 1



5.4 Metadata-Driven Data Discovery

The data browser is a comprehensive search tool designed to locate any object, including catalogs, profiles, tables, and metadata details. By using tags and the business glossary integrated within the catalog, it streamlines the search process. This functionality allows users to efficiently navigate the extensive data repository and quickly retrieve relevant information from the Solr database.

Metadata-Driven Data Discovery-A Product View



5.5 Dynamic Access Control and Role-Based Visibility

Metadata Security and Governance

- **Effective metadata management goes beyond organizing and cataloging data—it also requires robust security, controlled access, and governance mechanisms to protect sensitive information, ensure compliance, and maintain trust in the organization’s data assets. Our solution addresses these needs through structured role-based management and access control.**

Role-Based Access Management

- **Stakeholder Assignment defines the ownership hierarchy for a created system, ensuring clear accountability and governance. The process designates a System Owner, who holds primary responsibility for the system.**
- **Only users with System Owner privileges can be assigned as a System Owner.**
- **The designated System Owner has the authority to assign Data Owners and Data Stewards, ensuring proper delegation and management of data responsibilities.**
- **This structured assignment ensures that roles are clearly defined, promoting accountability, compliance, and efficient metadata governance.**
- **By enforcing role-based assignments, Stakeholder Assignment ensures that responsibilities are appropriately distributed and that the system’s metadata and data assets are effectively managed.**
- **Role-Based Access Control (RBAC) ensures that users can access only the metadata and functions necessary for their responsibilities. By defining roles such as System Owner, Data Owner, Data Steward, and Analyst, organizations can enforce a principle of least privilege. This prevents unauthorized access, reduces security risks, and ensures that sensitive metadata is handled appropriately by the right stakeholders.**

Role-Based Access Management-A Product View

Project - EDM

Project Information: 31-08-2025 Start Date

EDM: Drafted | Owner: edmdemo

Workstream List

Workstream Name	Description
1. Metadata Profiling	Metadata Profiling
2. Data Ingestion	Data Ingestion
5. Data Integration	Data Integration
6. Data Governance	Data Governance
7. Data Analytics	Data Analytics
9. Document Digitization	Document Digitization

Showing all 6 rows

Assign User And Role To Workstream - EDM

Assigned: 0 | Unassigned: 4

Users: 29 | Role: 39

Search: []

Administrator
AppAdmin
BotsAdmin
BotsDevelopmentAssociate
BotsDevelopmentLead
BotsDevelopmentManager
Business Lead
Business Manager
Business User
Development Associate
Development Lead
Development Manager

Workstreams: 6

Search: []

1. Metadata Profiling	Assign
2. Data Ingestion	Assign
5. Data Integration	Assign
6. Data Governance	Assign
7. Data Analytics	Assign
9. Document Digitization	Assign

Project - Master Data Management

Project Information | Phase | Workstream

General Information

Name: Master Data Management | Owner: sba_admin | Parent Project: []

Life Cycle: In Development | Start Date: 06-11-2025 | End Date: 20-11-2029

Status: Active | Description: Enter the Description

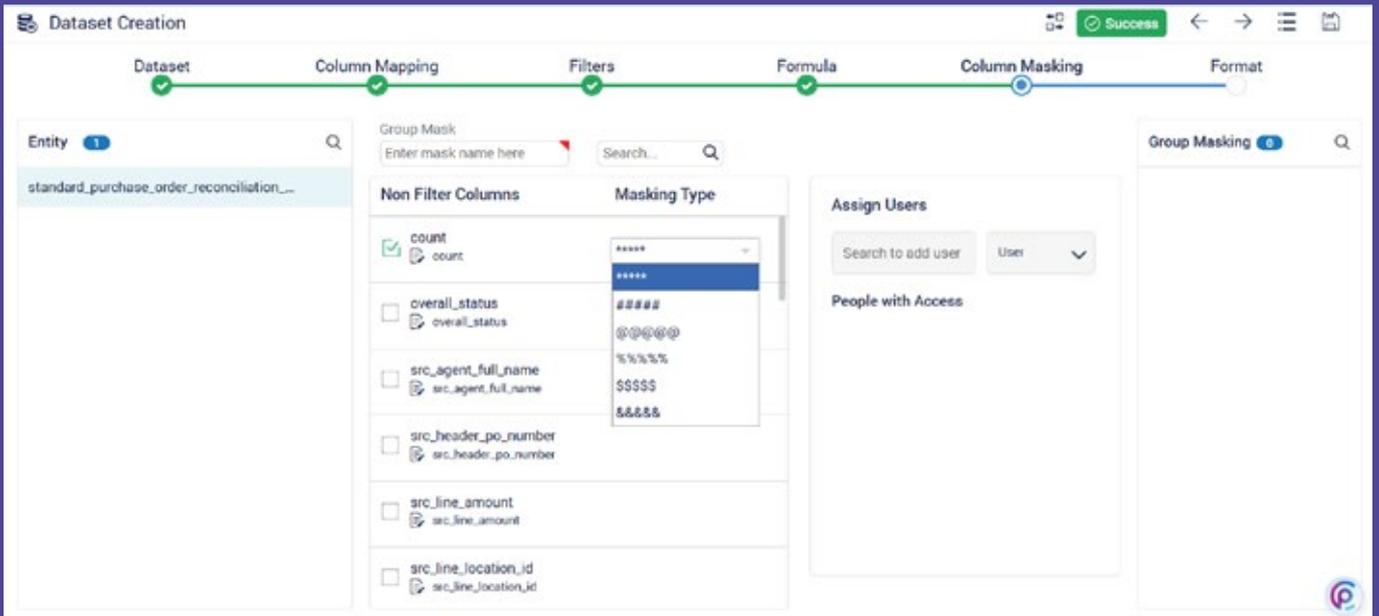
Add Project Members

Project Members	Role	Assigned Date	Unassigned Date
domain_admin	Business User	06-11-2025	[]
sba_admin	Business User	06-11-2025	[]
domain_architect	Development M...	06-11-2025	[]

Data Masking and Security Policies

- Sensitive metadata, such as personally identifiable information (PII) or proprietary business data, must be protected from exposure. Data masking techniques and security policies ensure that restricted data is hidden from unauthorized users while remaining usable for permitted operations. These policies can include encryption, conditional masking, or role-based visibility, safeguarding both compliance and operational integrity.

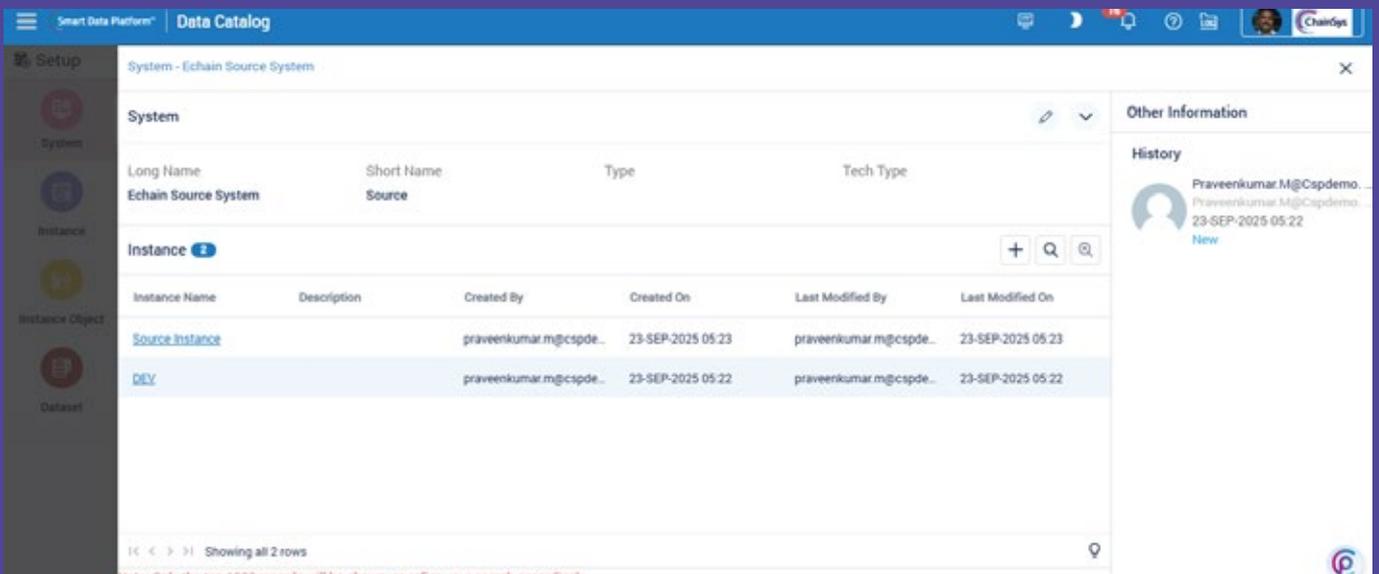
Data Masking and Security Policies-A Product View



Auditing and Change Tracking

- Maintaining a comprehensive audit trail is critical for governance and regulatory compliance. Every change to metadata-whether creation, modification, approval, or deletion-is logged with details such as the user, timestamp, and type of change. This not only supports accountability but also enables organizations to track the evolution of metadata, perform impact analyses, and roll back changes if needed. Auditing also helps meet regulatory requirements for data handling, reporting, and compliance.**

Auditing and Change Tracking-A Product View



Benefits

By integrating RBAC, data masking, and auditing:

- Organizations can control who sees and modifies metadata, reducing the risk of accidental or malicious exposure.
- Compliance with data protection regulations such as GDPR, CCPA, or internal governance policies is streamlined and auditable.
- Teams can collaborate securely, knowing that sensitive information is protected and that all actions are tracked.
- In combination, these security and governance practices ensure that metadata remains trustworthy, secure, and compliant, enabling effective collaboration and informed decision-making across the enterprise.

5.6 Metadata Collaboration and Workflow Management

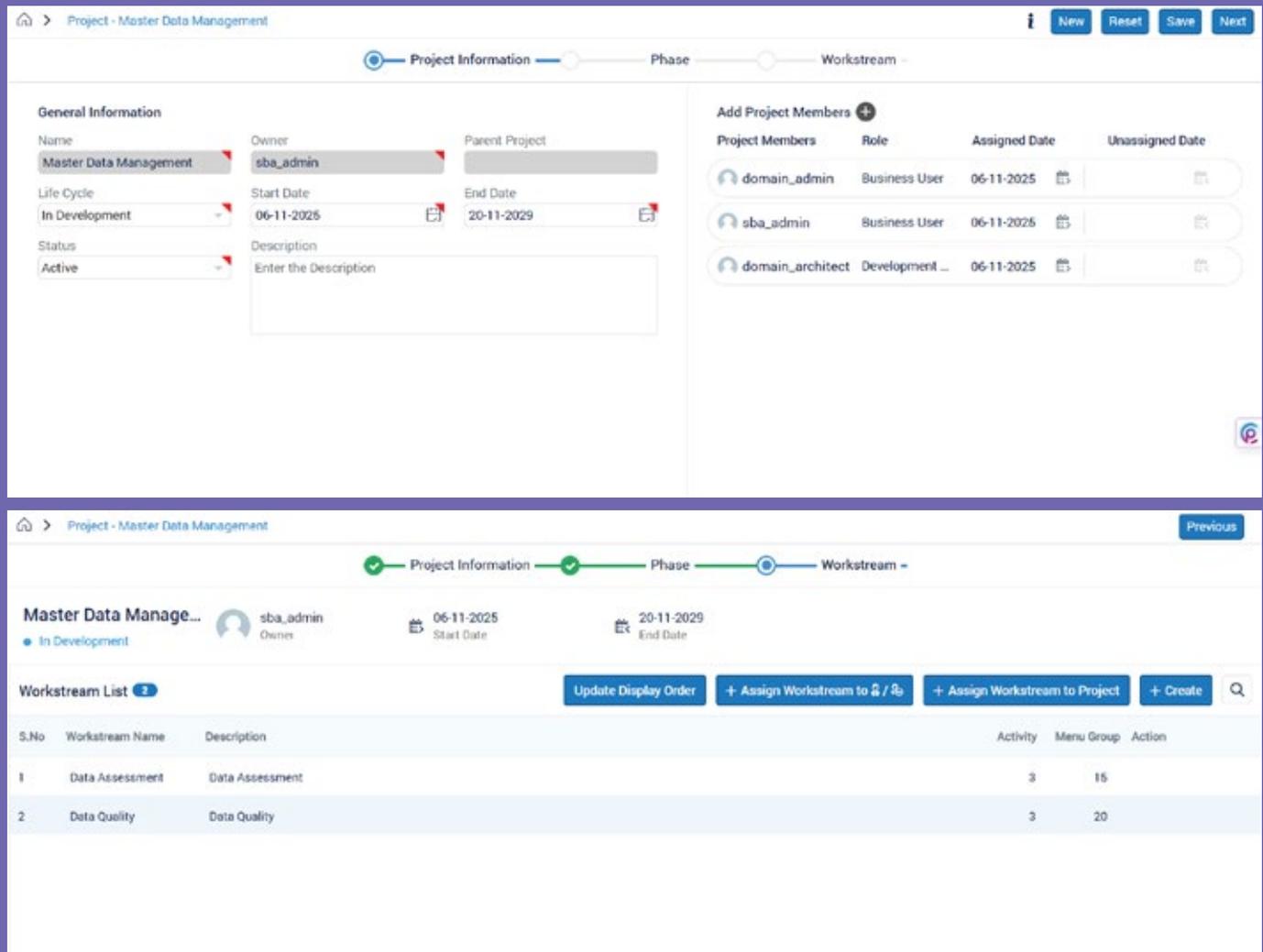
Effective metadata management requires strong collaboration, clear ownership, and well-defined workflows. Metadata Collaboration and Workflow Management provide a structured framework that enables teams to work together efficiently while maintaining governance, transparency, and control across the metadata lifecycle.

At the core of this framework is the Project, which acts as a centralized workspace representing a complete business or technical data initiative. A Project brings together all metadata and ETL-related activities—such as configuration, transformation, execution, monitoring, and validation—into a single, cohesive workflow. This approach simplifies complex initiatives by organizing them into logical, goal-driven structures that are easy to understand and manage.

Within each Project, Workstreams define distinct phases or functional areas of work, such as data integration, migration, or transformation. Workstreams provide role-based views, contextual menus, and guided activities that help users focus on their specific responsibilities. By presenting only relevant tasks and information, Workstreams reduce complexity and enable users to move through the process with confidence and clarity.

To further streamline execution, Initiatives are used within Workstreams to manage specific objectives or milestones. This layered structure—Project, Workstream, and Initiative—ensures alignment between day-to-day tasks and broader business goals, while offering full visibility into progress and dependencies.

Metadata Collaboration-A Product View



Streamlining Approvals and Assignments

Collaboration is strengthened through built-in governance capabilities, including approval workflows for metadata updates, version control, and automated notifications. These features ensure that changes are reviewed, tracked, and communicated effectively, reducing risk and maintaining data integrity. By enabling seamless teamwork between metadata managers, analysts, and IT teams, this framework supports controlled, transparent, and scalable metadata operations across the enterprise.

The Approval Workbench is a centralized feature designed to provide comprehensive visibility and control over metadata governance processes. It offers critical insights into the status of tags, relationships, access requests, and object ownership, helping organizations track approvals and assignments efficiently.

Key capabilities of the Approval Workbench include:

Approval Tracking

Displays percentages for approved, pending, and rejected items, giving a clear overview of the current approval status.

Ownership Management

Shows assigned and unassigned percentages for object ownership, ensuring that every data asset is properly accounted for.

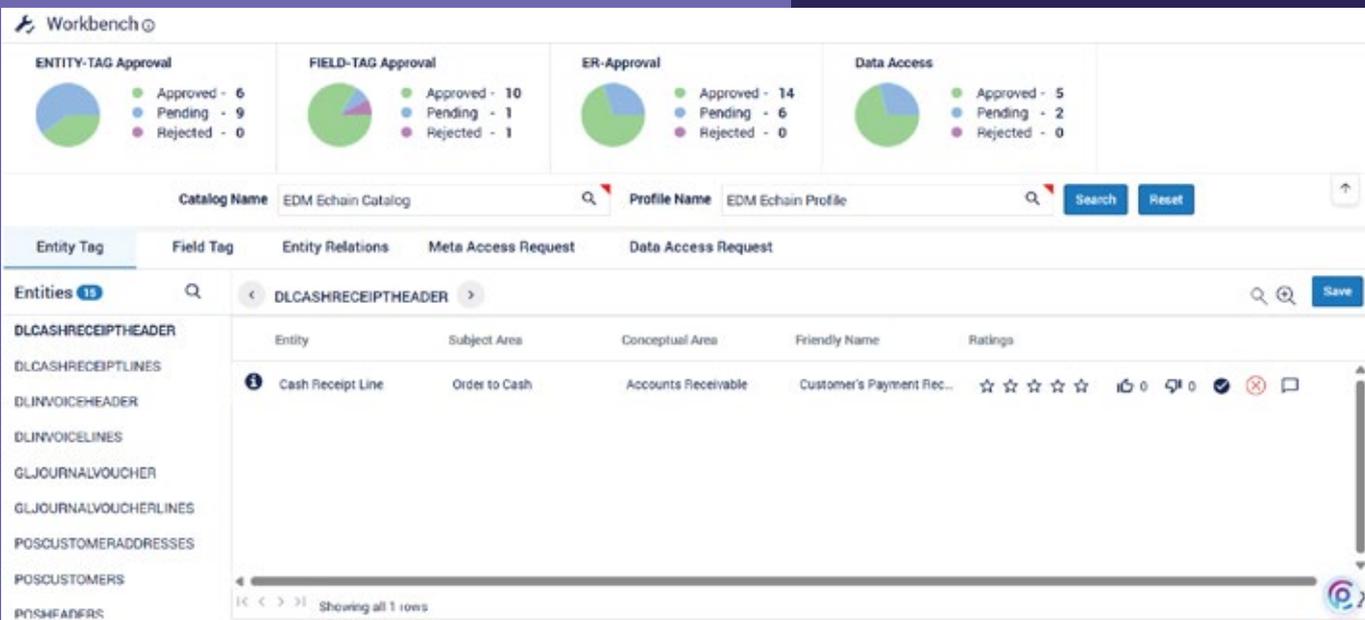
Consolidated Workflow

Combines multiple approval processes and owner assignments into a single interface, enabling streamlined management and oversight.

By centralizing approvals and ownership assignments, the Approval Workbench ensures that all necessary approvals are obtained and that metadata objects are assigned to the appropriate owners. This functionality strengthens governance, promotes accountability, and improves operational efficiency across data initiatives.

Approval Workbench-A Product View

The screenshot displays the 'User Notification' configuration interface. On the left, a navigation menu includes 'Information', 'Files Input', 'Attribute Analyser', 'Dat lake Mapping', and 'Notifications Setup'. The main content area is titled 'User Notification' and features a 'Message Type' section with 'Text' selected and 'Email Template' unselected. Below this is a 'Subject' field containing 'AWS Usage Tracker Update'. The 'Mail Content' field contains the text 'AWS Usage Tracker New Mapping has been updated. Please review it.'. A 'Recipients' section on the right has a dropdown menu currently showing 'User' and 'User Group', with an 'Add' button next to it. A 'Save' button is located at the bottom center of the form.



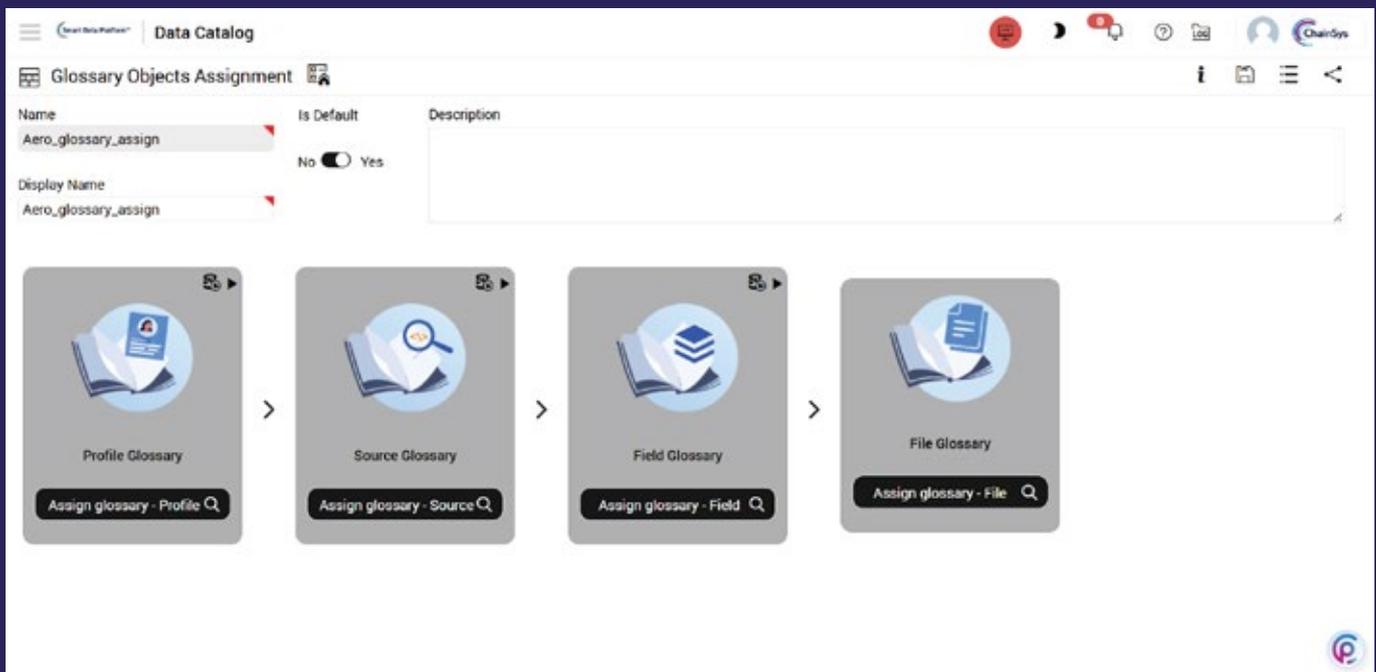
5.7 Metadata Enrichment and Integration

Metadata can be enriched and integrated with external resources:

Integration with external glossaries, catalogs, and knowledge bases.

Enrichment using AI models or external datasets to add context and business relevance.

Linking metadata to business processes and operational systems.



5.8 Insights Dashboard: Metadata Health, Compliance, and Utilization

The Execution Summary provides a high-level overview of the execution status of the entire catalog, encompassing all four key steps in the workflow. It displays completion percentages for each step as well as the overall progress, giving users a clear snapshot of the catalog's execution status at a glance.

The Profile Report summarizes the outcomes of profiled data for a selected profile, presenting the results in an intuitive dashboard with tables and charts. These visualizations help users quickly understand data quality, patterns, and distribution across the dataset.

The summary section enables stakeholders to:



Track Progress:

See how much of each step has been completed and identify any pending tasks.



Monitor Workflow Health:

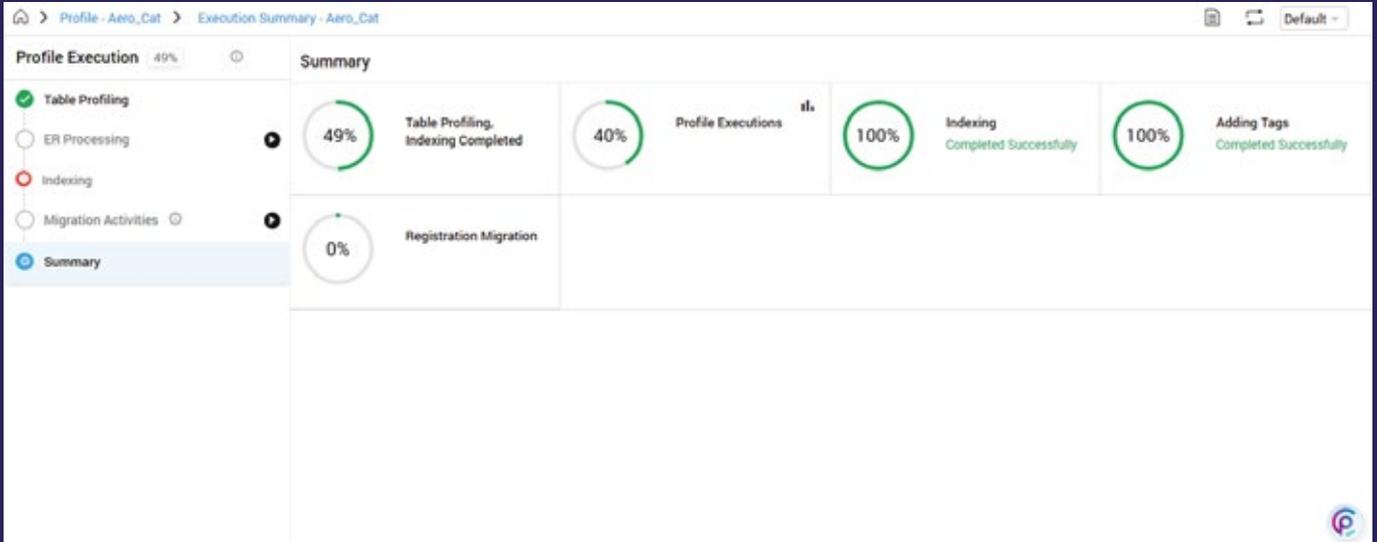
Quickly assess the overall execution status of the catalog to ensure processes are on track.



Support Decision-Making:

Use completion metrics to prioritize actions, allocate resources, or address bottlenecks efficiently.

Execution Summary - A Product View



In addition, specialized dashboards such as Entity Reports and PII (Personally Identifiable Information) Reports provide focused insights:

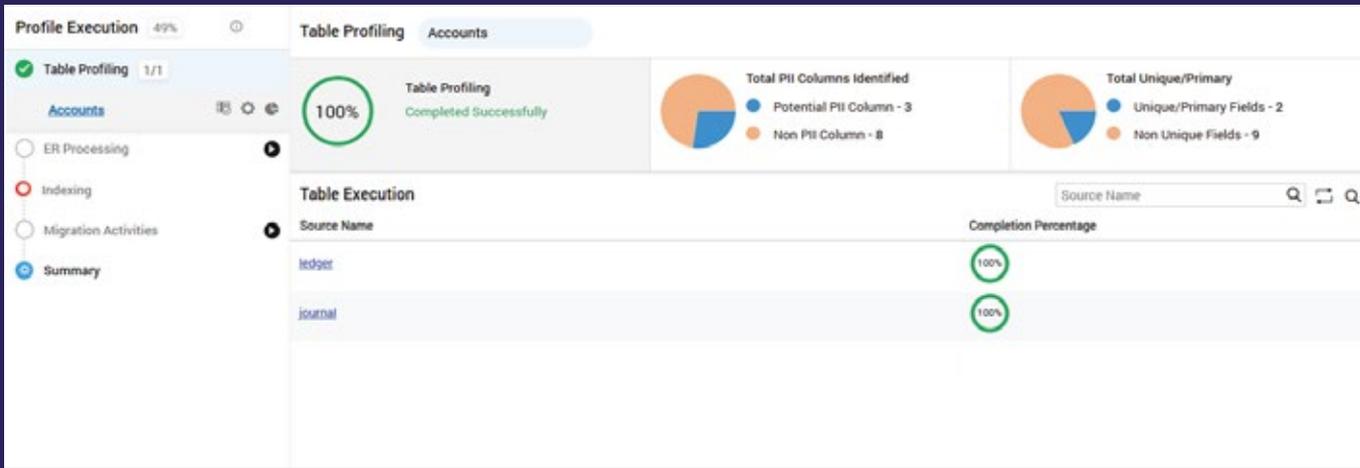
Entity Reports

Highlight relationships, classifications, and attributes of data entities.

PII Reports

Identify and track sensitive data to ensure compliance with privacy and regulatory requirements.

Table Profiling - A Product View

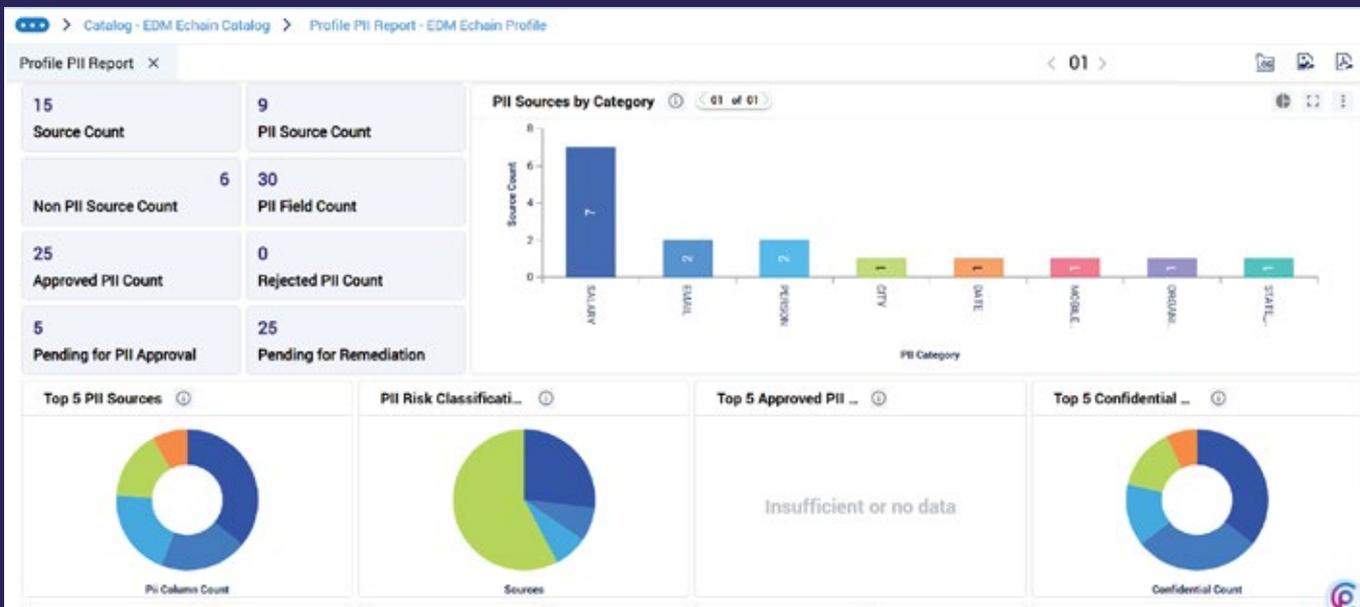


Charts and graphical elements in these dashboards make complex data easier to interpret, enabling teams to:

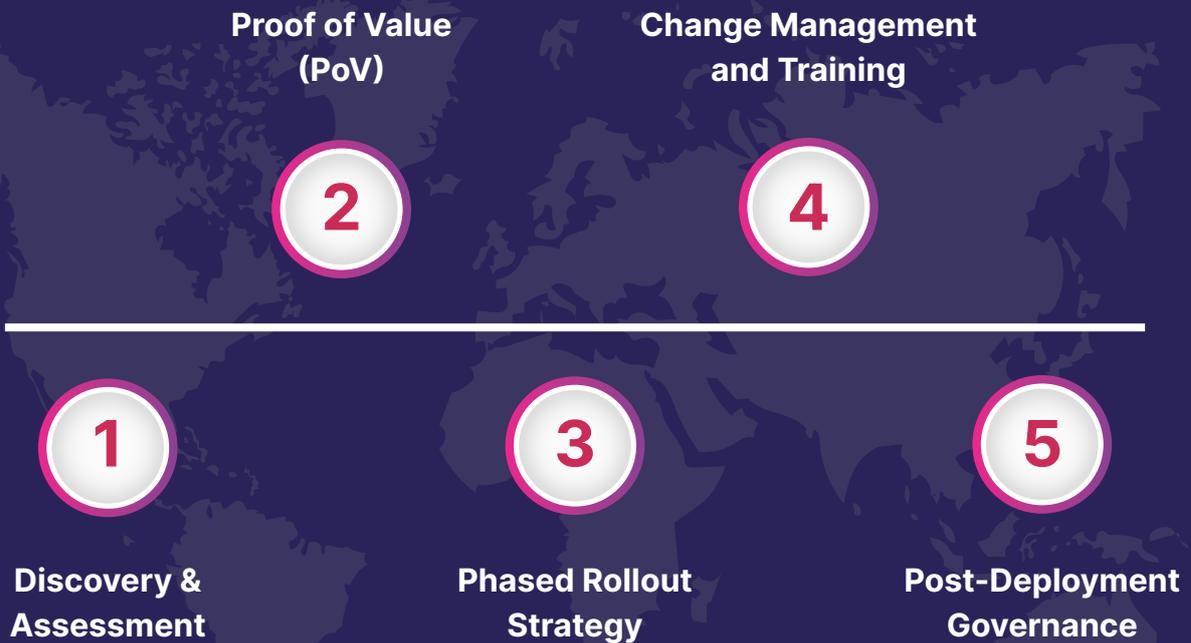
- Detect anomalies, inconsistencies, or gaps in the data.
- Monitor sensitive data handling for governance and compliance.
- Take informed actions to improve data quality and operational efficiency.

By consolidating profiling results into interactive, visual dashboards, these reports turn raw metadata into actionable insights for data stewards, analysts, and governance teams.

Profile PII Report - A Product View



Chapter 6: ChainSys Implementation Framework



6.1. Discovery & Assessment-Understanding What You Have Before You Organize It

The journey begins with visibility. ChainSys connects to your enterprise systems, cloud, on-premises, hybrid, and auto-discovers metadata, data relationships, and data quality insights. This includes structured and unstructured data across applications, data warehouses, and file systems.



This phase also includes stakeholder interviews and current-state analysis to ensure we align with your business context and regulatory needs.

Outcome

A clear map of your data ecosystem and a strategic implementation plan for the active metadata management solution.

6.2. Proof of Value (PoV)-Showcasing Tangible Results with Your Real Data

Before rolling out across the enterprise, we deliver a focused Proof of Value (PoV) using a subset of your data sources. This ensures stakeholders can experience dataZense capabilities firsthand, searching metadata, viewing lineage, evaluating data quality, and navigating the business glossary.

We demonstrate

Improved data discoverability

Reduced time spent searching for data

Automation of stewardship workflows

Real-time lineage visualization

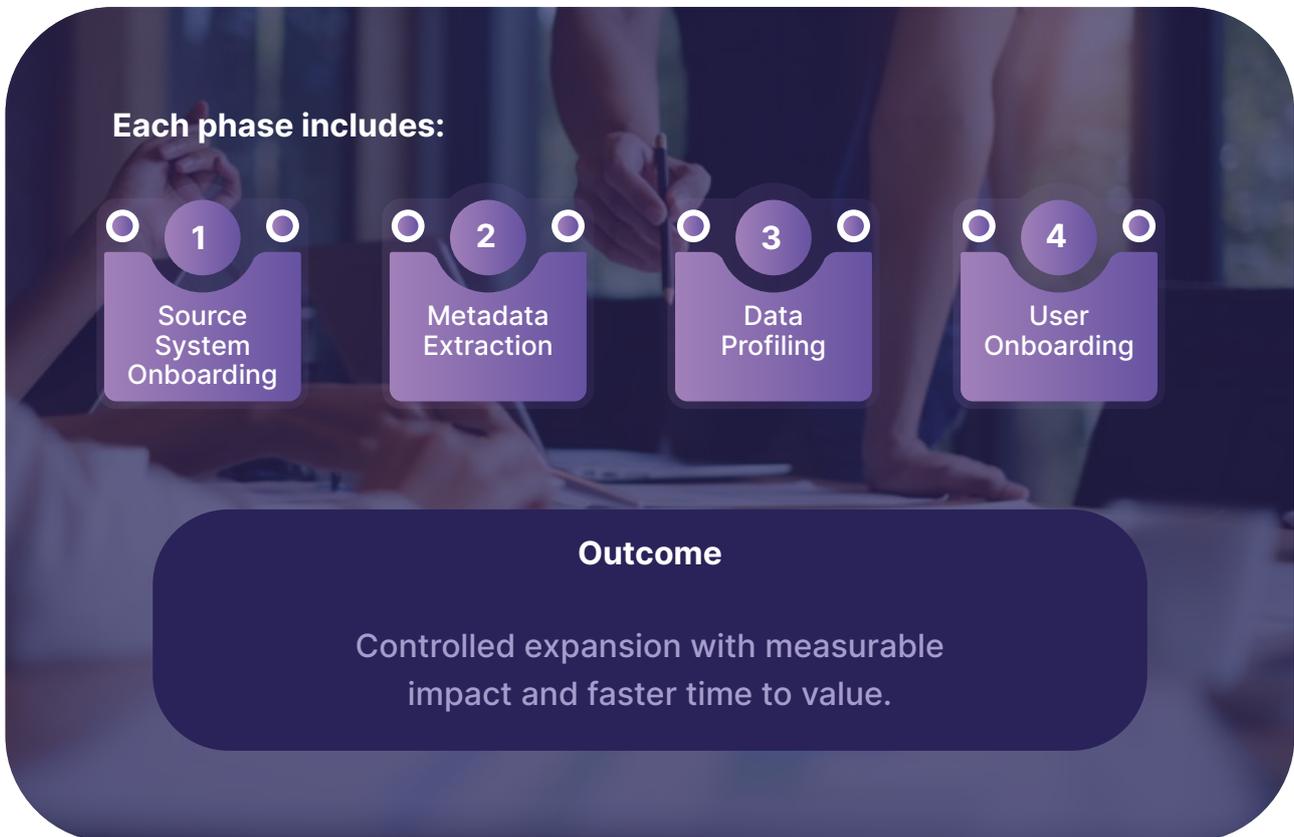


Outcome

Accelerated buy-in from business and IT, and a clear demonstration of ROI potential.

6.3. Phased Rollout Strategy-Scaling Smartly with Agility and Impact

A big-bang rollout can cause disruption. Instead, we adopt a phased approach, beginning with high-impact domains or business units. We scale in waves, reusing configurations, templates, and learnings from the PoV.



6.4. Change Management & Training-Driving Adoption Through Empowerment and Enablement

Technology success depends on user adoption. ChainSys offers robust change management, user enablement, and communications support to help your teams embrace the metadata.

We provide

Role-based training for business users, data stewards, and analysts

Practical workshops and on-demand learning resources

Ongoing support for onboarding, troubleshooting, and knowledge sharing

Outcome

Confident users, stronger data ownership, and a growing data-driven culture.

6.5. Post-Deployment Governance - Keeping Your Metadata Active, Accurate, and Aligned

Once deployed, governance is key to keeping the metadata up-to-date and trusted. ChainSys enables automated metadata refreshes, stewardship workflows, and data quality monitoring.

We help you:



Establish stewardship roles and responsibilities



Define curation and certification workflows



Monitor usage and improve search relevance



Align the catalog with evolving compliance needs

Outcome

A self-sustaining, governed metadata that evolves with your business.

Chapter 7: Real-World Case Studies

7.1 Centralizing all metadata from 30+ applications across the enterprise in 12 Weeks



Client Overview

An Ohio-based global provider of power, cooling, and IT infrastructure solutions for data centers and critical facilities, operating across cloud and edge environments, faced major data visibility challenges during its enterprise-wide digital transformation. Following a merger of two major infrastructure businesses and a shift from legacy mainframes to Oracle EBS and Oracle Cloud in a hybrid global setup (APAC, Americas, and EMEA), business users struggled to locate, assess, and trust data across the organization. The lack of data discoverability, poor visibility into data quality and content, and duplicated efforts in recreating existing data sets significantly hindered operational efficiency and decision-making.

Project Scope

Integration of Heterogeneous Systems into a Centralized Data Lake



Consolidate data from 30+ legacy and modern applications into the client's Cloudera Hadoop-based data environment (Development, Production, and DR clusters), ensuring proper authorization via LDAP, Kerberos, and Sentry for secure access and control.

Data Catalog Implementation for Discovery and Trust



Deploy a comprehensive Data Catalog solution to centralize metadata from all integrated systems, enabling business users to search, explore, and evaluate data sets with improved visibility into content, quality, and relevance.

Support for Hybrid Architecture Across Global Regions



Ensure seamless support for hybrid environments where legacy and new systems coexist across APAC, EMEA, and the Americas, maintaining data consistency and accessibility post-migration to Oracle EBS and Oracle Cloud.

Silver and Gold Layer Enablement for Trusted Reporting



Validate, cleanse, and enrich data into curated Silver and Gold layers within the production data lake, enabling standardized and trusted reporting using enterprise-grade BI tools.

Optimization of Data Usage and Elimination of Redundancy



Streamline business user access to reliable data, reducing time spent locating, validating, and duplicating data sets, enhancing operational efficiency and decision-making agility.

Solution

Robust Data Catalog for Unified Visibility

The ChainSys Data Catalog served as the backbone of the solution, centralizing all structured and unstructured metadata while offering automated insights like data statistics, patterns, and potential PII, making data more discoverable and trustworthy across the enterprise.

Automated Metadata Enrichment

The solution automatically generated valuable metadata insights, such as data statistics, patterns, and probable values, enabling a deeper understanding of data assets.

Intuitive Data Discovery:

Users gained a powerful, searchable interface that simplified navigation across the data landscape, improving data accessibility and usability organization-wide.

Enterprise-wide Data Dictionary & Business Glossary

The implementation of a standardized data dictionary and business glossary promoted consistency, transparency, and collaboration across departments.

PII Detection for Compliance

The catalog enabled automated scanning and identification of Personally Identifiable Information (PII), supporting privacy compliance and improving risk management.

Chapter 8: Your Next Steps with ChainSys dataZense

8.1. Assess Your Metadata Maturity with ChainSys Experts

A successful Data Management initiative begins with a deep understanding of your existing metadata landscape. ChainSys offers a comprehensive Metadata Maturity Assessment, which helps you identify your current state and plan the necessary steps to get where you want to go.

Key Components of Our Metadata Maturity Assessment:

Data Inventory Analysis:

We evaluate the completeness of your metadata across systems, ensuring that all business-critical data is captured and categorized.

Governance Gap Identification:

Our experts review your existing data governance model to uncover any weaknesses or inefficiencies in how data is managed, tracked, and secured.

Process Evaluation:

We assess your current data processes, such as data classification, tagging, data lineage, and stewardship, to ensure they align with best practices for compliance and operational efficiency.

Technology Integration Check:

We analyze your technology stack to ensure seamless integration with dataZense, focusing on connectivity, scalability, and adaptability.

Benchmarking:

Using industry-leading benchmarks, we compare your organization's metadata maturity against peers, identifying areas for improvement and innovation.

Benefits of the Assessment:

Customized Roadmap:

Gain a personalized plan for achieving greater metadata maturity, with milestones, deliverables, and timelines.

Risk Mitigation:

Identify potential data governance and security risks before they become problematic.

Cost-Effective:

Address inefficiencies early on to avoid high remediation costs later in the process.

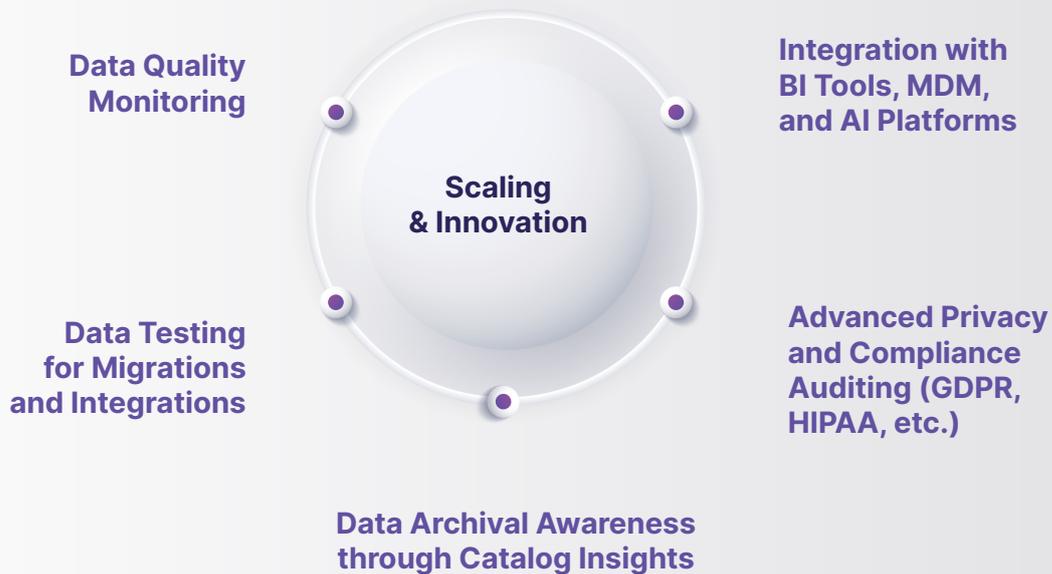
With ChainSys's expert guidance, you'll have a clear, actionable roadmap for enhancing your metadata practices and achieving optimal governance and transparency.

8.2. Implement our 90-Day Quick Start Plan-From Metadata Chaos to Data Confidence

Duration	Focus Area	Outcomes
Days 1-15	Discovery & Inventory	Connect systems, auto-harvest metadata
Days 16-30	Classification & Glossary	AI-driven tagging and defining business terms
Days 31-45	Lineage & Relationships	Map dependencies, visualize impacts
Days 46-60	Stewardship Setup	Assign roles, review policies
Days 61-90	Governance Launch	Monitor usage, enforce policies, and scale cataloging

8.3. What Comes Next? Scaling and Innovation

After your first 90 days, most customers expand usage into areas like



Chapter 9: ChainSys – A Strategic Partner, Not Just a Vendor

Empowering Your Data Transformation with Expertise, Integration, and Trust

At ChainSys, we believe that the key to success is collaboration. We are more than just a technology provider, we are your strategic partner. Our goal is to empower your organization with the tools, expertise, and support you need to harness the full potential of your data. Here's why companies across industries choose ChainSys as their trusted partner for data management, integration, and governance:

9.2. Deep Integration with Oracle, SAP, Salesforce, Snowflake, and More

In a world of disparate systems, your data needs to flow seamlessly across multiple platforms. ChainSys offers deep integration capabilities that make this a reality. Whether you are using Oracle, SAP, Salesforce, Snowflake, or other enterprise systems, we ensure your data is unified, accurate, and accessible.

Our Integration Capabilities Include:

Oracle: Seamless integration and migration capabilities for Oracle applications, databases, and cloud environments.

SAP: Robust data integration for SAP ERP, S/4HANA, and SAP SuccessFactors, ensuring smooth transitions during digital transformation projects.

Salesforce: Effortless syncing of Salesforce data with other business systems for a 360-degree view of customer and operational data.

Snowflake: Accelerating data transformation and analytics with Snowflake's cloud data platform, ensuring scalability and speed.

Custom Integrations: ChainSys can integrate with virtually any system, providing tailored solutions based on your specific requirements.

How This Benefits Your Organization:

Unified Data Ecosystem: Bring together data from multiple sources for a single source of truth.

Increased Efficiency: Eliminate silos and redundancies, allowing teams to work more collaboratively and efficiently.

Real-Time Data Access: Enable data-driven decisions with near-instantaneous access to the most up-to-date information.

9.3. Trusted by Fortune 500 Companies and Government Agencies Globally



GE Healthcare



GE APPLIANCES



Fortune Brands
A home and security company



دائرة التمكين الحكومي
DEPARTMENT OF GOVERNMENT ENABLEMENT



World's leading
Brand

Trust

Our Data Solutions

When it comes to choosing a data partner, trust is paramount. ChainSys has earned the confidence of some of the world's largest corporations and government agencies, thanks to our track record of excellence, reliable delivery, and commitment to compliance.

Why Trusted Organizations Choose ChainSys:

Proven Track Record at Scale:

From Fortune 500s to government agencies, ChainSys solutions have powered over 300+ successful enterprise implementations worldwide. Our platforms manage billions of records across complex ecosystems, ERP, CRM, cloud, legacy, and more, demonstrating scalability, speed, and success in high-stakes environments.

End-to-End Data Intelligence, Not Just a Catalog

ChainSys dataZense goes beyond traditional metadata management by offering a complete data intelligence suite, including data profiling, lineage tracing, quality scoring, access controls, and usage analytics all in one unified platform. That means fewer tools, faster implementation, and deeper insights.

AI-Powered Automation

Manual tagging and governance are a thing of the past. ChainSys brings AI and ML-driven automation to metadata discovery, classification, sensitivity tagging, and relationship mapping. This enables faster onboarding, better compliance, and smarter decision-making.

Enterprise-Grade Governance & Security

With robust role-based access, customizable approval workflows, and end-to-end lineage tracking, ChainSys helps organizations stay audit-ready and compliant with evolving global regulations-GDPR, HIPAA, CCPA, and more.

It's time to manage metadata smarter, govern better, and act faster-with ChainSys dataZense.

Let's Turn Your Data Into an Asset

-  **Talk to a ChainSys Expert**
-  **Request a Live Demo of dataZense**
-  **Explore More Use Cases and Customer Stories**

**Your data deserves clarity. Your teams deserve confidence.
Let ChainSys help you deliver both.**

Authors



Amarpal Nanda

President of EDM
amarpal.nanda@chainsys.com



Suresh Rajput

Director of Data solution. Marketing
suresh.rajput@chainsys.com



Aruna Devi

Lead Technical Writer
arunadevi.meiyappan@chainsys.com



Vishal S

Solution Consultant
vishal.sridhar@chainsys.com



US HEADQUARTERS

USA-MICHIGAN

CHAIN-SYS CORPORATION
325 S. Clinton St., Suite 205,
Grand Ledge, MI 48837

517-627-1173

Global Development Center

INDIA-MADURAI

CHAIN-SYS SOFTWARE
EXPORTS PRIVATE LIMITED
ELCOT IT Park, SEZ-2
Vadapalanji,
Madurai-625 021

US Solutions and Support HQ

USA-CALIFORNIA

CHAIN-SYS CORPORATION
500 Menlo Drive, Rocklin,
CA 95765

517-627-1173 Ext: 2

Solutions and Development Center

MIDDLE EAST

CHAIN SYS MIDDLE EAST FZCO
2E 401, Fourth Floor,
DAFZA, Dubai, UAE
PO Box no. 371425

+971 042578847

Europe Solutions and Support Center

EUROPE

CHAIN-SYS EUROPA B.V.
Jan Pieterszoon Coenstraat
7
The Hague 2595 WP
The Netherlands

Global Center Of Excellence

INDIA-CHENNAI

CHAIN-SYS (INDIA) PRIVATE
LIMITED
#85, Ponnamman Nagar,
Ayanambakkam,
Chennai-600095

+91 (44) 69244100