August 11, 2020

# What's New in Enterprise Data Catalog 10.4.1

Keshav Ramarao



## Housekeeping Tips









- Today's Webinar is scheduled for 1 hour
- > The session will include a webcast and then your questions will be answered live at the end of the presentation
- > All dial-in participants will be muted to enable the speakers to present without interruption
- > Questions can be submitted to "All Panelists" via the Q&A option and we will respond at the end of the presentation
- The webinar is being recorded and will be available to view on our INFASupport YouTube channel and Success Portal.
  The link will be emailed as well.
- Please take time to complete the post-webinar survey and provide your feedback and suggestions for upcoming topics.



# Feature Rich Success Portal



Bootstrap trial and POC Customers



Enriched Customer Onboarding experience



Product Learning Paths and Weekly Expert Sessions



Informatica Concierge with Chatbot integrations



Tailored training and content recommendations



## More Information



**Success Portal** 

**Communities & Support** 

https://success.informatica.com https://network.informatica.com

**Documentation** 

https://docs.informatica.com

**University** 

https://www.informatica.com/in/servic es-and-training/informaticauniversity.html



## Safe Harbor

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Statements made today are based on currently available information, which is subject to change. Such statements should not be relied upon as a representation, warranty or commitment to deliver specific products or functionality in the future.



# Agenda

- New Features in 10.4.1
- Demo
- Q&A







Enabling the next frontier of meta-data connectivity

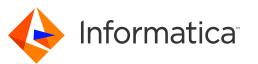


# Informatica + Compact Solutions

## Informatica Acquires Compact Solutions to Extend Industry Leading Enterprise Data Catalog

Industry's first and only catalog of catalogs across all enterprise data with the broadest metadata connectivity

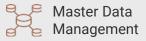
- Extends the industry's most comprehensive and detailed data lineage (i.e. no "black boxes")
  to understand the provenance of all enterprise data and impact of changes as companies
  digitally transform and modernize.
- Expands the industry's broadest metadata connectivity to catalog all types of data in support of analytics, data governance and privacy, customer experience, and data warehouse modernization initiatives.
- Establishes the industry's only single vendor metadata management solution to simplify procurement, deployment, maintenance and support.



# The Catalog of Catalogs



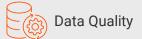












## Open APIs, Full Access

- Discovery
- Profiling
- Lineage
- Impact Analysis
- Semantic Search
- Domain Discovery
- Similarity Clustering
- Business Term Association



**Enterprise Data Catalog** 

- Relationships
- **Business Context**
- Glossary Integration
- Custom Annotations
- Reviews/Ratings
- Questions/Answers
- Data Certifications
- Change Notifications

Knowledge Graph + AI/ML

**CLAIRE** 

## Breadth of Active Metadata







Data Lakes



File **Systems** 



Code and Scripting



Statistical & BI Tools



**Analytics** Apps



On-prem/ SaaS Apps



**ETL** 



Mainframes



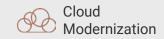
Platform as a Service

# The Catalog of Catalogs: One Vendor, One Solution



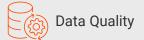






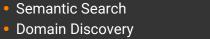


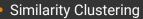




## Open APIs, Full Access

- Discovery
- Profiling
- Lineage
- **Business Term Association** Impact Analysis









**Enterprise Data Catalog** 

+ Compact Solutions

- Relationships
- **Business Context**
- **Glossary Integration**
- Custom Annotations
- Reviews/Ratings
- Questions/Answers
- Data Certifications
- Change Notifications

Knowledge Graph + AI/ML

CLAIRE

## Breadth of Active Metadata



On-prem **Databases** 



Data Warehouses



**Data Lakes** 



File Systems



Code and Scripting



Statistical & BI Tools



**Analytics** Apps



On-prem/ SaaS Apps



ETL



Mainframes



Platform as a Service

# Broadest and Most Complete Metadata Connectivity

#### File Formats

CSV | Delimited | XML | JSON | Avro | Parquet | MS Excel | Adobe PDF | Flat File | MS PowerPoint | MS Word

#### Big Data

HIVE (Cloudera, Hortonworks, MapR, IBM BigInsights, EMR, HDI) HDFS | MapRFS | Cloudera Navigator | Atlas

#### **Cloud Platforms**

AWS S3 | AWS Redshift | AWS Glue | Azure SQL DB | Azure SQL DW | Azure ADLS | Azure Blob | ADLS Gen 2 | Google BigQuery | Google Cloud Storage | Snowflake



#### Business Intelligence

Tableau | IBM Cognos | QlikView | MSFT Power BI SAP BusinessObjects | MicroStrategy | OBIEE

#### Databases

Oracle | DB2 | DB2 for z/OS SQL Server | Sybase | Teradata Netezza | JDBC | SAP HANA

#### Other

Erwin Models | Power Designer | Custom Scanner Framework

#### **EDC Advanced Scanners**

#### Code and Scripting

- Oracle
- SQL Server
- Teradata
- Netezza
- DB2
- Sybase

#### **ETL Tools**

- IBM Datastage
- Microsoft SSIS

#### **Mainframes**

- COBOL
- JCL

#### Statistical and BI Tools

- SAS
- Microsoft SSAS
- Microsoft SSRS

## EDC Advanced Scanners General Availability

Available
NOW!
in EDC 10.4.1





# Informatica EDC 10.4.1 (Summary)



## **User Experience**

- Data Asset Analytics
- Walkthrough On-line Contextual Tutorial
- Field sort by position in source system
- Execution contextual lineage support



#### CLAIRE

- Domain Discovery Rule Enhancements
- Business Term Association enhancements



## Deploy at Enterprise Scale

- Resource Configuration Permissions
- Hot Backup\*
- Rest API based log aggregation\*



## Scanners/Connectivity

- SAP BW & SAP BW/4 HANA (GA)
- SAP ECC & S/4 HANA\*
- SSIS detailed lineage
- DataStage (GA)
- ETLs: Field level lineage for Flat files
- IICS: File lineage on Cloud storage
- Partitioned File Support
- Parquet Profiling on S3 and ADLS
- New MDM Scanner
- MicroStrategy enhancements
- ADLS Gen 2 profiling
- Cassandra Profiling
- Reference object for Hive and MS SQL Server



## Data Asset Analytics

Industry's first data asset analytics solution

Optimize data asset value by using analytics on data asset inventory, enrichment, usage, and user collaboration in your Enterprise Data Catalog





Analyze



Optimize

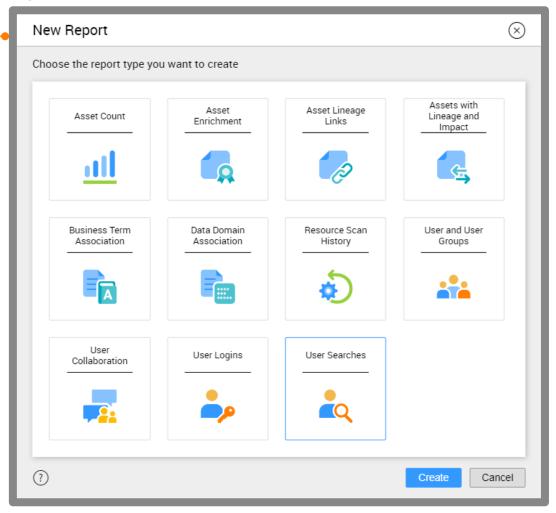


# Data Asset Analytics (DAA)

## Highlights

## Comprehensive Report Types

- Predefined event (audit) history datasets
- Preview and download event history data
- Access event datasets directly from BI Tools





Discovery

# Data Asset Analytics (DAA)

## Highlights

## **Out-of-Box Data Asset Analytics Dashboards**

- Instant visibility to data asset usage, inventory, enrichment, collaboration, and data value
- Near real-time key metrics and trends
- Quick analysis with built-in filters
- Storytelling for data assets





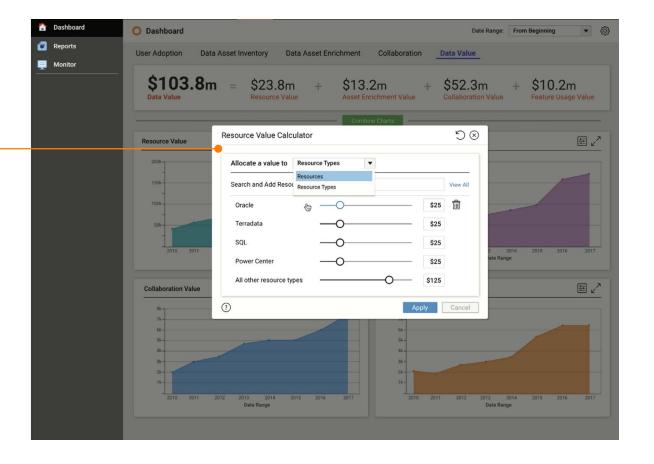


# Data Asset Analytics (DAA)

Highlights

## **Automated Data Value** Calculator

- Allows an enterprise to estimate the data value
- Takes into account four key metrics:
  - Resource value
  - Asset enrichment value
  - Collaboration value
  - Feature usage value\*







# Key Benefits



## Gain Insight into Data Usage and User Adoption

- Insight into what data asset is in demand by which group of user
- Visibility into who are the top contributors, influencers and subject matter experts
- Spot trends and uncover usage patterns to ensure relevant data assets are available



## Identify and Socialize Best Practices to Empower Data-Driven Decision Making

- Identify data usage best practices, and socialize them across functions
- Diagnose and remedial instances of low data usage and adoption
- Catalyst to empower and expand data-driven decision making



## Understand and Maximize Data Asset Value

- Understand the value of any data asset within the catalog
- Focus organizations on their most valued assets
- Drive greater data value with data knowledge, collaboration, and usage



# Data Asset Analytics: Opening Door to New Possibilities

Visibility to data asset usage, inventory, enrichment, collaboration and data value















## **Answers to Questions**

- Who is using, what asset, what feature, and when?
- What is the catalog adoption rate?
- What are the top searches, and average searches per user?
- What is the most access catalog module or assets?
- Who is doing DG and curating asset?
- What is % of objects with lineage, owner, description, bus. term?
- Who are the top contributors and SME inferred from collaboration activities?
- Which user groups, datasets need more attention and why?
- Who modified and scanned sensitive data sources?
- How to grow data asset value?





# DAA: License, Installation, Configuration

## License

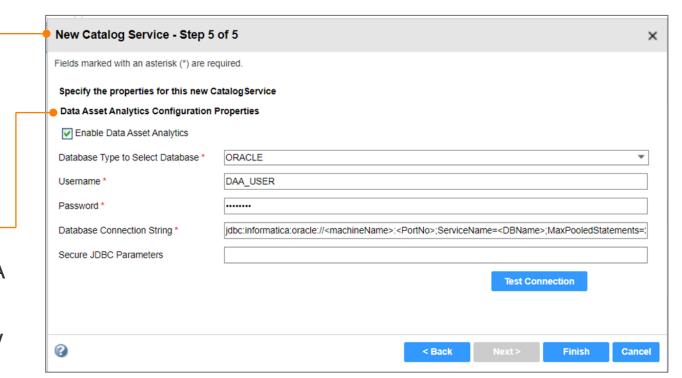
DAA is included as of part EDC

## Installation

 DAA is part of Catalog Service (CS) configuration in the INFA Admin Console

## **DAA Configuration**

- For new EDC 10.4.1 install, by default DAA is enabled
- For upgrade from EDC 10.4.0 to 10.4.1, by default DAA is disabled
- DAA configuration can be modified post EDC 10.4.1 installation or upgrade





# DAA: Privileges

## Three new privileges are added into existing CS privileges

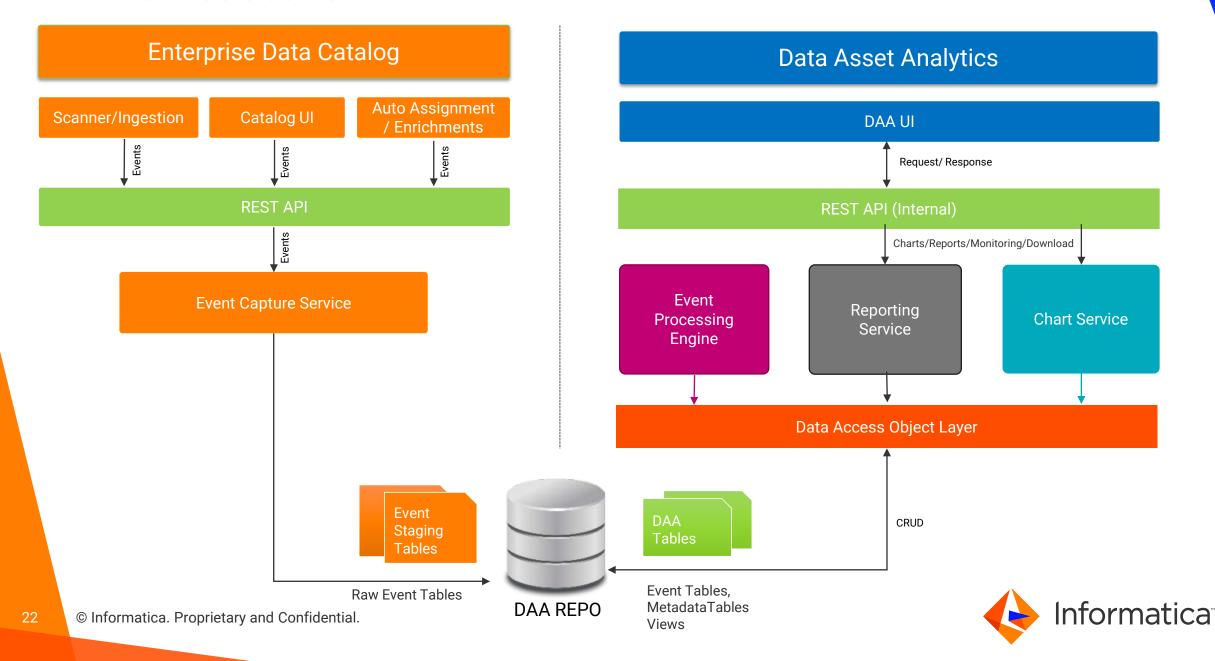
DAA Privileges: > Permissions: v	Dashboard Management: Visualize	Report Management: View and Download Raw Data	Admin Management : Configuration
View Dashboards	Υ	Υ	Υ
Download Dashboard Chart Data	N	Υ	Υ
Create Reports & Download Report Data from Monitor tab	N	Y	Υ
Edit Asset Value Calculator	N	N	Υ
DAA application configuration	N	N	Υ

#### Note:

By default, Native "Administrator" User or user having system defined "Administrator" group or role will have access to everything in Analytics Tab



## DAA Architecture



## Recommendations

- It is highly recommended to enable DAA always
- Separate & Dedicated Schema is recommended in Oracle and PostgreSQL. Similarly, separate and dedicated Database for MS SQL Server
- As a best practice, better to create dedicated Table Space/File Group for DAA schema/Database
- Minimum Disk space requirement on the Database Server:
  - For 10 Million Assets: 15-20 GB
  - For 20 Million Assets: 30-40 GB
  - For 30 Million Assets: 40-50 GB
  - Similarly, Database hosting server should have minimum of 24GB RAM and 16 CPUs/Cores, if server is hosting only the Database
- Run the Table Statistics on periodic basis for optimum performance





# Demonstration

Data Asset Analytics



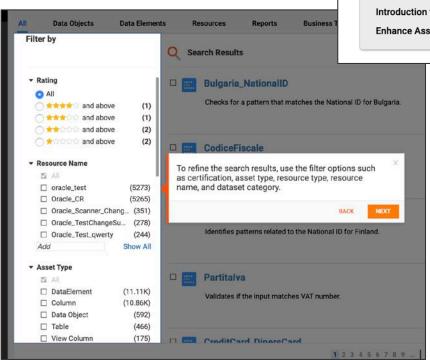
## Reference to Useful DAA Resources

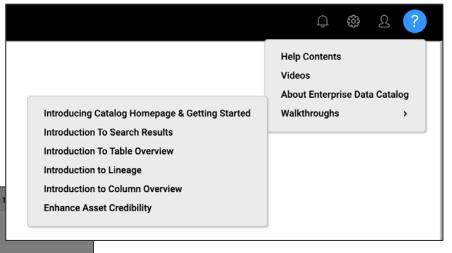
 All documentation (User Guide, Admin Guide, Sizing Guidelines, etc.): <a href="https://docs.informatica.com/data-catalog/enterprise-data-catalog/10-4-1.html">https://docs.informatica.com/data-catalog/enterprise-data-catalog/10-4-1.html</a>

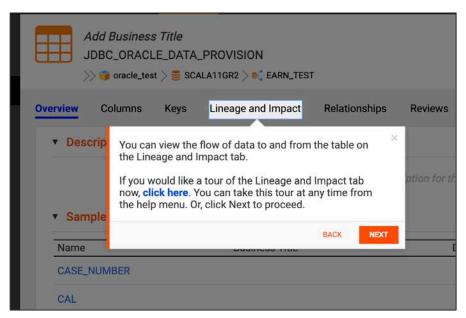


# WalkThroughs

- On-demand, Context-based, in app product walkthroughs
- New "Walkthroughs" option added to help menu
- Teach users about:
  - 1. Homepage
  - 2. Search Results
  - 3. Tables & Columns
  - 4. Lineage
  - 5. Asset Enrichment



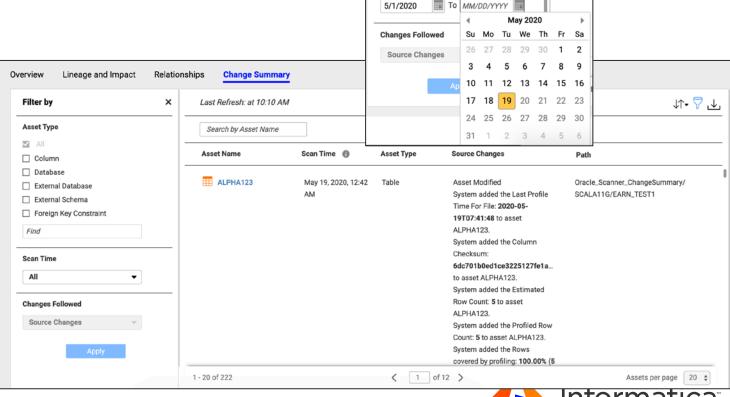






# Change Summary Enhancements

- Key Enhancements:
  - All changes displayed chronically by default
  - 2. Filter by asset name, asset type, and scan time (now allows for time periods)
  - 3. Enhanced sorting capabilities
  - 4. User can now export change summary into Excel



Filter by

Asset Type

☐ Column
☐ Database

External DatabaseExternal SchemaForeign Key Constraint

✓ All

Find

Scan Time Custom ×

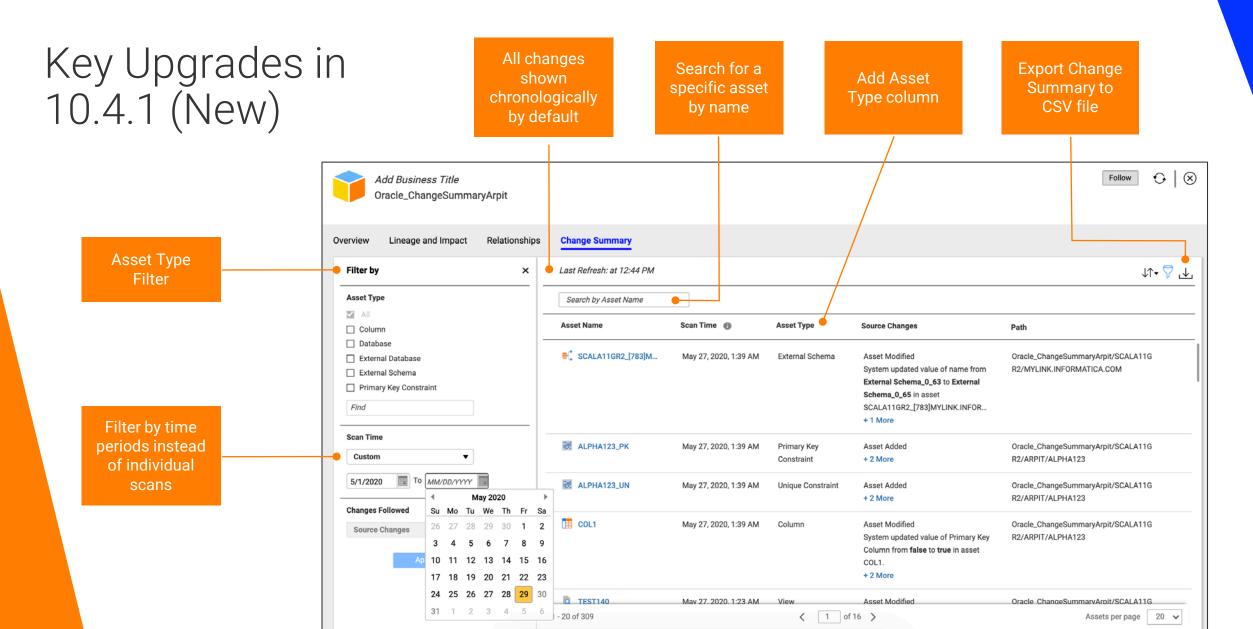
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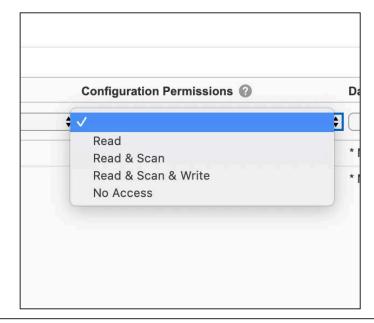


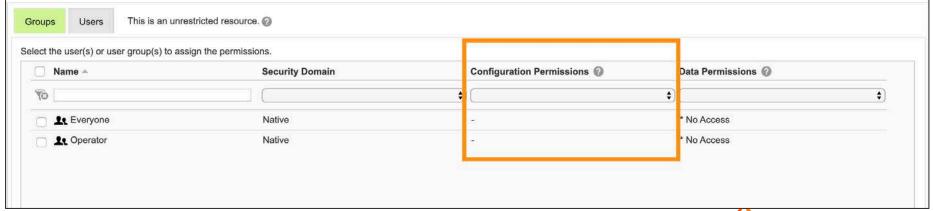




# Resource Configuration Permissions

- Edit permissions on Resources can now be set at the user level
- New "Configuration Permissions" column in Security library
- Creator of resource will get all permissions by default







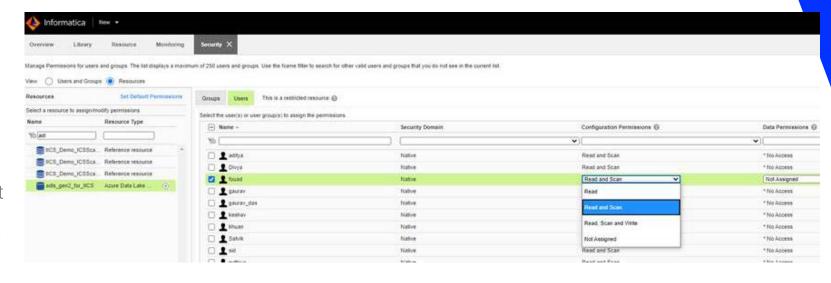
## Resource Configuration Permissions

#### **Resource Configuration Permissions**

- Read
- Write
- Scan

#### **Default Permissions**

 By default creator of the resource will get read permissions on the catalog objects as well as write permissions on resource config



01

#### Resource Library

- Read
  - View resources in library
- Scan
  - Cancel, Rollback and Purge of resources
- Write
  - Edit resource configuration
  - Delete Resource

02

#### **Security Library**

- Read
  - Users with read permissions can view who all have permissions on this resource
- Write
  - Users require this permission to assign permissions to other users/groups

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#### **Connection Assignment**

- Read
  - Users can view list of connections extracted by resource
  - Users can generate Missing link report
- Write
  - Users can assign/unassign connections



#### Monitoring

- Read
  - Only users with this permission can view the scans done for this resource and statistics of this run
- Login page
  - This page shows overall statistics



# Discovery enhancements in 10.4.1

## Auto Business term association – Limitations Now

Finds match only when words appear in the same sequence in an Asset and the corresponding Business Term.

Example: ISSUE\_COUNTRY\_CODE does not match with Country Code Issue

All words in a business term are given the same weight.

Missing words – other than stop words – are not tolerated when matching with assets.

For example, in the following association, the word "Code" in the business term doesn't align with any token in the asset name:

CAREER\_LEVEL\_SUBGROUP does not match with Career Level Subgroup Code

Table Name is not considered when finding Business terms



## Auto Business term association - enhancements

The out of order matches can now be captured by Bag of Words matching (word-based search).

New TF-IDF based scoring scheme can assign weights to words based on their importance in that business term.

This facilitates ignoring of trivial words while performing term-association

Taking table name into account for column type assets, while performing term-association.

Dataset	Asset Name	Matched Term	Score	Description
Oracle Finance	FIRST DATE ACTIVATED	DATE FIRST ACTIVATED	100%	Out-of-order Term matched
Oracle Finance	LAST REJECTED DATE	DATE LAST REJECTED	100%	Out-of-order Term matched

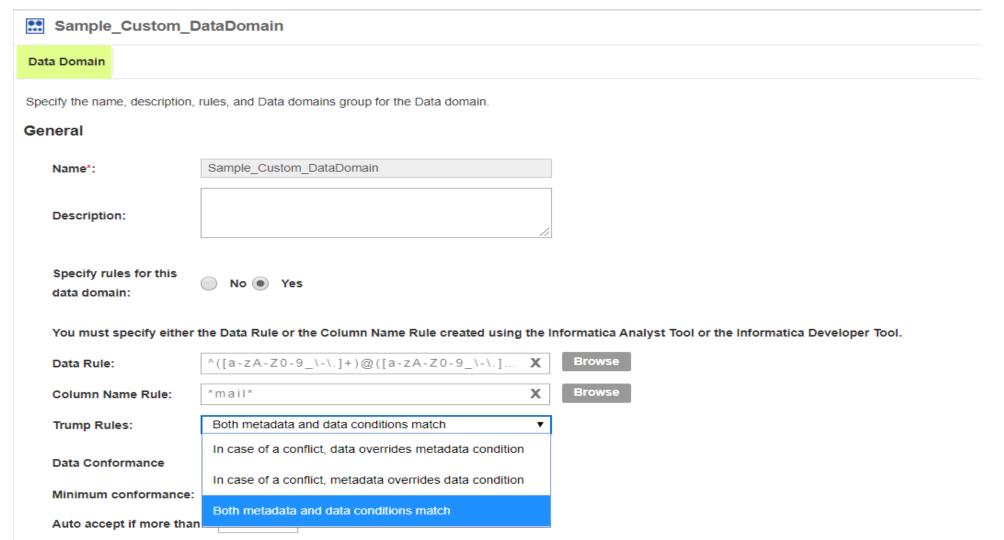


# Auto Business term association – example (Tf-Idf)

Dataset	Asset Name	Matched Term	Score	Description
Michigan Dataset	ACAD CAR FIRST TERM	ACADEMIC CAREER FIRST TERM CODE	84.8%	"CODE" is ignored because it has a low Tf- ldf Score
Franklin	CHEMICAL SAFETY QUARTILE	CHEMICAL SAFETY SCORE QUARTILE	83.3%	"SCORE" is ignored because it has a low Tf-Idf Score.
Anthem Columns	PRMRY_PHYSN_RQRD_OPTNL_CD	PRIMARY CARE PHYSICIAN REQUIRED OPTIONAL CODE	80.9%	"CARE" is ignored because it has a low Tf- Idf Score
Anthem Columns	PAYER_VAL_AMT	PAYER VALUE CODE AMOUNT	87.1%	"CODE" is ignored because it has a low Tf- ldf Score
Anthem Columns	HSA_TRNSCTN_DESC	HEALTH SAVINGS ACCOUNT TRANSACTION CODE DESCRIPTION	87.9%	"CODE" is ignored because it has a low Tf- ldf Score
Anthem Columns	MAPD_PDP_CD	MEDICARE ADVANTAGE PRESCRIPTION DRUG PRESCRIPTION DRUG PLAN INDICATOR CODE	86.2%	"INDICATOR" is ignored because it has a low Tf-Idf Score
Anthem Columns	SRC_CLM_NASCO_PAR_CD	SOURCE CLAIM NATIONAL ACCOUNTS SERVICE COMPANY NASCO PAR CODE	80.7%	Business term has NASCO as well as full form of NASCO. "NASCO" in Business Term does not align with any asset letter.
Michigan ERPM	LAST_SCR_WITHDRAW_TOT	LAST SCHEDULE CONTINUING REVIEW WITHDRAWAL TOTAL COUNT	80.5%	"COUNT" is ignored because it has a low Tf- Idf Score
Michigan ERPM	SPONSOR_OWN_EQP	SPONSOR OWNED EQUIPMENT INDICATOR	83.9%	"INDICATOR" is ignored because it has a low Tf-Idf Score

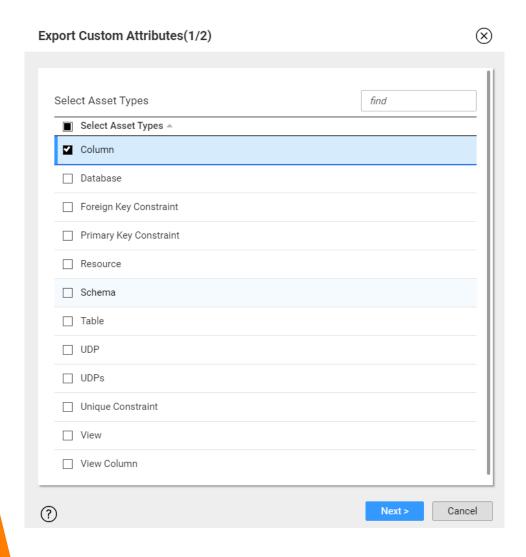


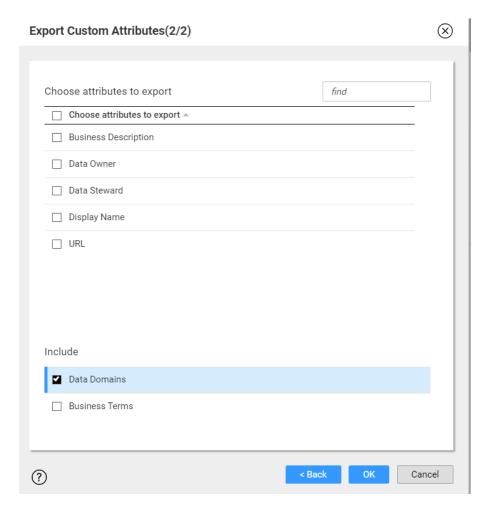
# Domain Discovery - Override rules





## Bulk curation of custom attributes







#### Bulk curation of custom attributes – CSV Example

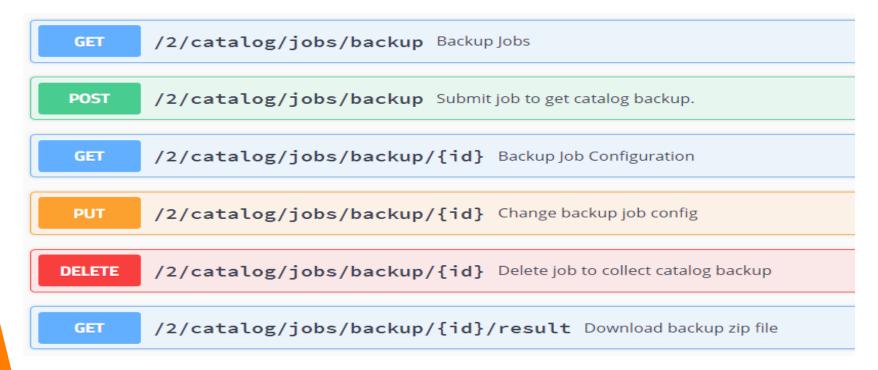
A	В	С	D	E	F
id core.	e.name (	core.classType	bulkimport-DataDomainsAccepted	bulkimport-DataDomainsInferred	bulkimport-Data Domains Rejected
id name	ne	**	DataDomains Accepted	DataDomains Inferred(Read Only)	DataDomains Rejected
Oracle_Test://SCALA11GR2/HO PRO\	VISION3	Column	/AlphaNumeric_SpecialCharacter		
Oracle_Test://SCALA11GR2/HO: PRO\	OVISION2		/AlphaNumeric_SpecialCharacter		
Oracle_Test://SCALA11GR2/HO: PRO\	OVISION1	Column			
Oracle_Test://SCALA11GR2/HO CON	VTACT_NO	Column	/AlphaNumeric_SpecialCharacter		
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Oracle_Test://SCALA11GR2/HO PRO\	VISION1	Column			
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Oracle_Test://SCALA11GR2/HO PRO\	IVISION2	Column	/AlphaNumeric_SpecialCharacter		
Oracle_Test://SCALA11GR2/HO:FIRST	ST_NAME	Column			
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Oracle_Test://SCALA11GR2/HO:AGE		Column			"/AlphaNumeric_SpecialCharacter,/Age"
Oracle_Test://SCALA11GR2/HO:BLOG		Column			
Oracle_Test://SCALA11GR2/HO: AMB	BULANCE_STATUS	Column	/AlphaNumeric_SpecialCharacter		
Oracle_Test://SCALA11GR2/HO DOC	C_NAME	Column			
Oracle_Test://SCALA11GR2/HO: MED	D_NAME	Column	/AlphaNumeric_SpecialCharacter		
Oracle_Test://SCALA11GR2/HO:EMP		Column	/AlphaNumeric_SpecialCharacter		
Oracle_Test://SCALA11GR2/HO:ORAG	ACLE_ACCESSCONTROLVS	Column			
Oracle_Test://SCALA11GR2/HO DERI	NIVER_STATUS	Column	/AlphaNumeric_SpecialCharacter		
Oracle_Test://SCALA11GR2/HO ID		Column			
Oracle_Test://SCALA11GR2/HO CATE	EGORY	Column			
Oracle_Test://SCALA11GR2/HO ORAG	ACLE_ACCESSCONTROLVI	Column			
Oracle_Test://SCALA11GR2/HO:CITY	Υ	Column			
Oracle_Test://SCALA11GR2/HO:FATH	HERS_NAME	Column			
Oracle_Test://SCALA11GR2/HO COLU		Column			
Oracle_Test://SCALA11GR2/HO EMP		Column	/AlphaNumeric_SpecialCharacter		



## Deployment at enterprise scale

#### Hot Backup

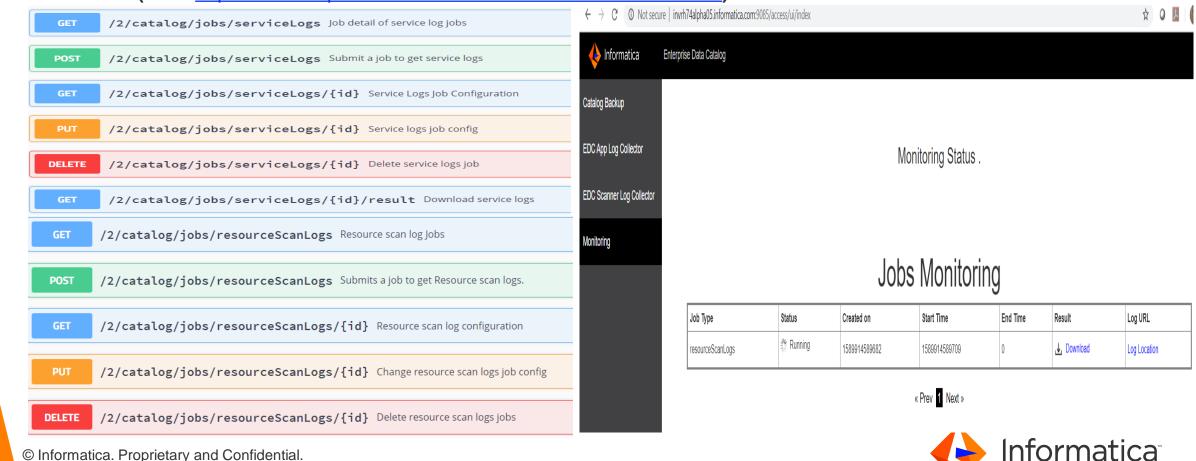
- Take a backup without shutting down the catalog service
- CLI based (infacmd)
- Rest API based





#### Rest API based log aggregation

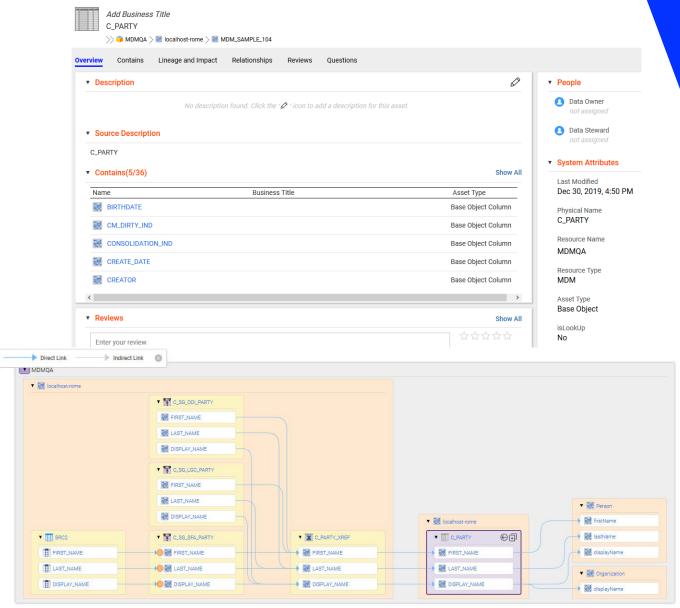
- Most of the users do not have access to servers.
- Typically takes longer to get the right set of logs from customers. Helps with supportability
- Rest APIs (or UI <a href="http://invrh74alpha05.informatica.com:9085/access/ui/index">http://invrh74alpha05.informatica.com:9085/access/ui/index</a>)



### New scanners in 10.4.1

#### New MDM Scanner

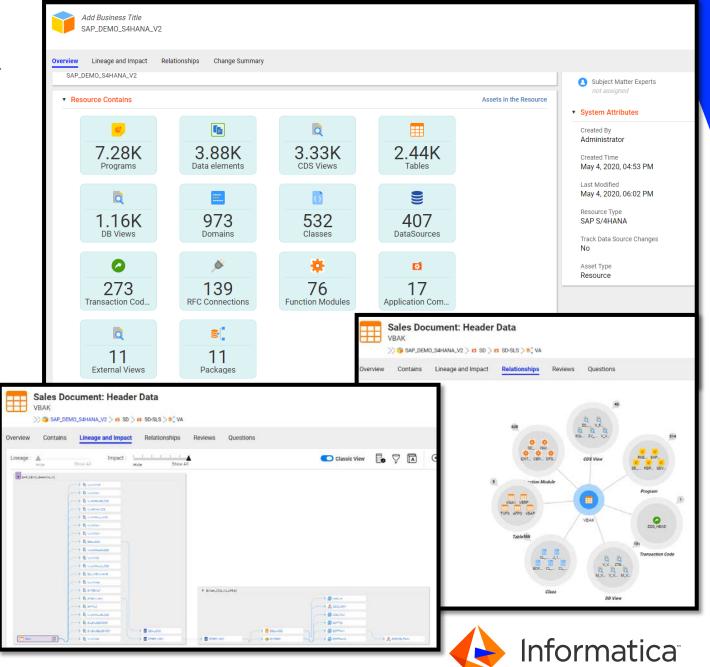
- Based on API (work both for onprem and hosted MDM
- Extract Base objects, Landing and Staging tables including field level information and attributes
  - Data Type
  - Nullable, Trust, system column indicator
- Internal lineage from landing tables all the way to business entities
- Detailed lineage from platform applications





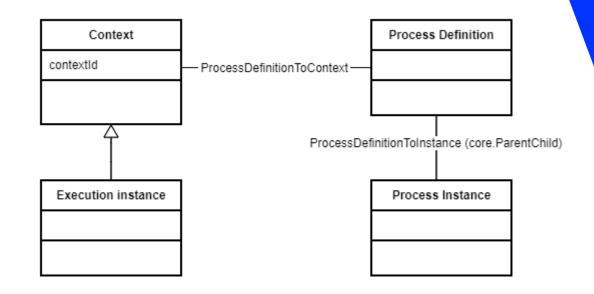
# SAP ECC and S/4 Hana (Tech Preview)

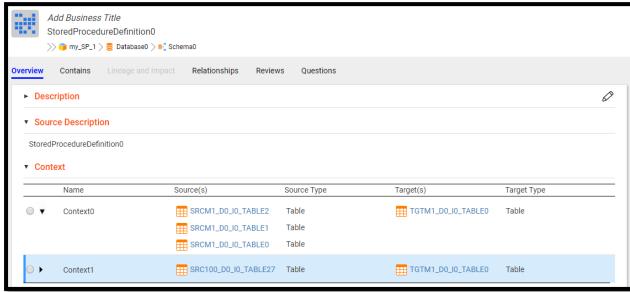
- Extract SAP objects with Complete business descriptions
- View to table lineage
- Relationship with transaction code, programs, Function Modules
- Direct lineage with SAP BW
- Support for Load Balancer connection



## Contextual lineage support for custom scanner

- Allow representation of lineage for the same object with multiple execution instance
- New Process flow package to derive custom model from
  - Abstract classes Process Definition and Process Instance to define custom classes
  - Process Definition and Process Instance derived classes will have a special handling in the UI
  - Lineage link are attached to the process instance
  - Context class to allow naming and description of execution instance



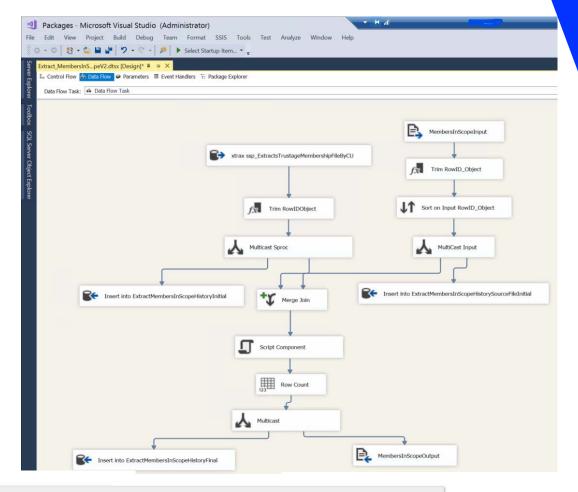




# Scanner enhancements in 10.4.1

#### SSIS Scanner enhancements

- Support for transformation logic (detailed lineage)
- Support for metadata extraction from SSIS DB
- Field level lineage for flat files
- Control lineage links extraction







#### MicroStrategy Scanner enhancements

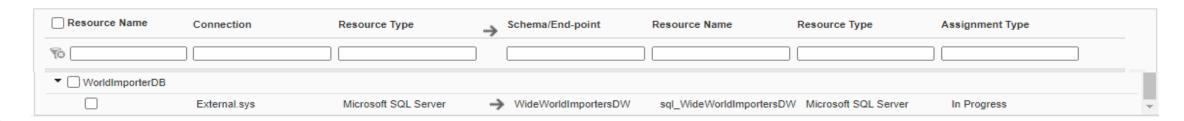


- Retain enrichment across loads
- Incremental load
- Lineage simplification
  - Page level containers removed (page header, page footer, page body...)
  - Grouping within reports removed (added as attribute)
- Lineage available at report level
- Xdocs partitioning to avoid large memory requirements



#### Reference object for Hive and MS SQL Server

- Before: External database object were created when not part of the object scanned
  - Table part of another database queried in a view (or stored proc)
  - Table part of another schema not part of the scan queried in a view (or stored proc)
- After: External database content will be created as reference objects
  - Allow stitching DB resource to DB resource
  - New connections available in connection assignment page

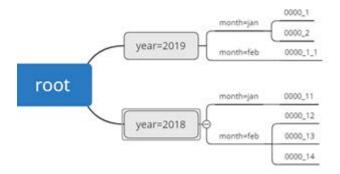


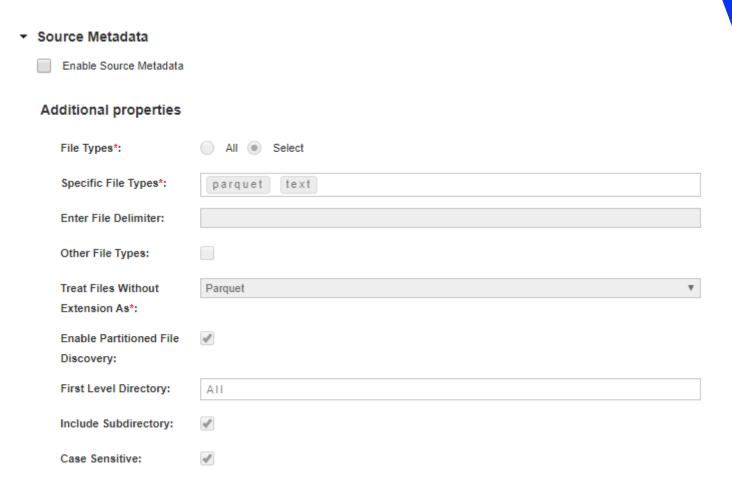


# Cloud storage supportability enhancements

#### Partitioned and similar schema file detection

For Parquet file formats

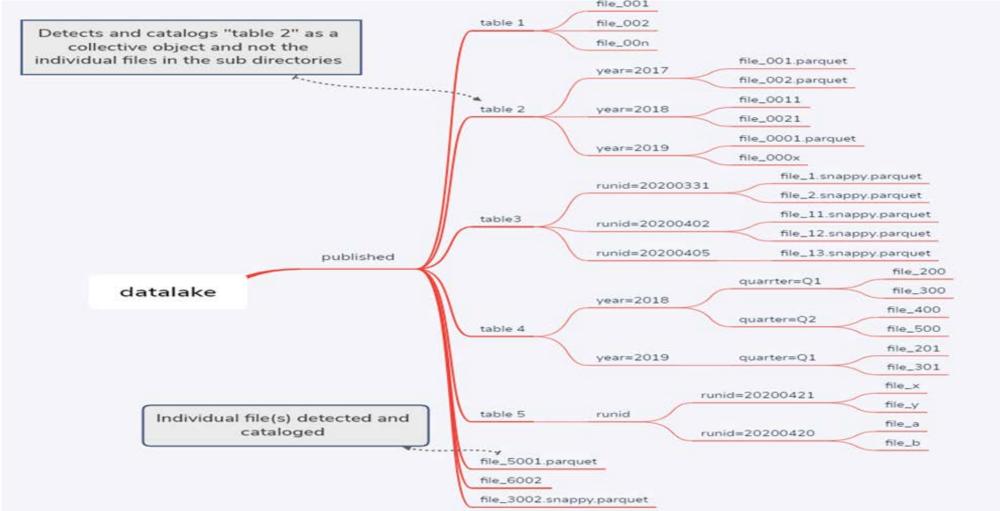






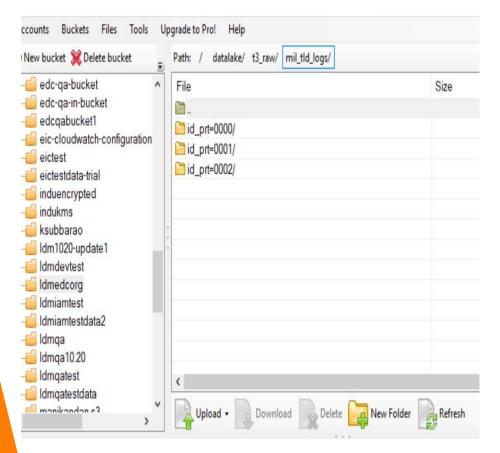
#### Parquet file profiling on non-hdfs file systems

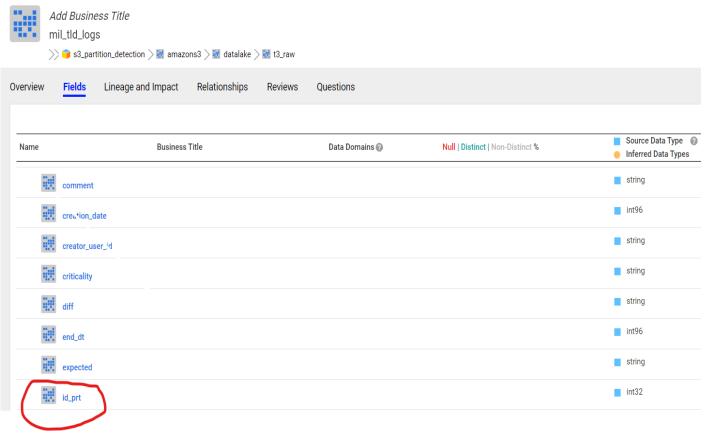
• EDC can detect and catalog hive-style partitioned files on AWS s3 and ADLS gen 2





#### What gets catalogued? – partitioned files

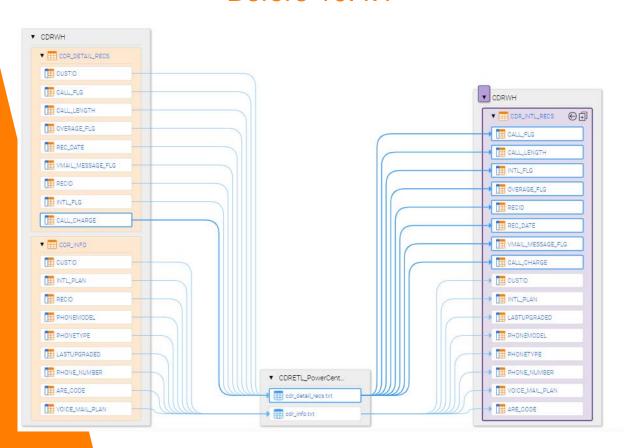




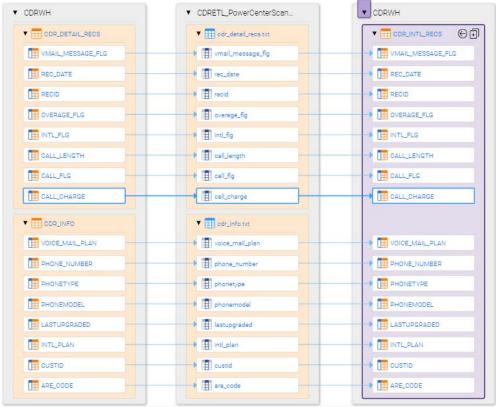


#### Support for field level lineage for flat file

#### Before 10.4.1



#### With 10.4.1





#### IICS: File lineage on Cloud storage

Support for file lineage for cloud storage in IICS scanner





### Questions?

