
GLOC
Great Lakes Oracle Conference
Master your master data with Oracle Data Visualization
MAY 15 & 16, 2019
CLEVELAND PUBLIC AUDITORIUM, CLEVELAND, OHIO
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Speaker Bio

Gary Crisci is a Senior Financial Systems Leader and Oracle ACE Director with over 20 years of finance and IT experience, specializing in enterprise management software systems.

During his career, Gary has held various positions as a consultant and industry professional working for companies such as Siemens, Morgan Stanley, and General Electric where he is currently Principal Architect, Finance DT.

Gary has an MBA in information systems and lives in Connecticut with his wife and two sons.

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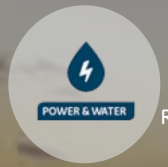
Agenda

- Overview of GE master data program
- Review DRM HUB
- DVD overview
- Connecting DVD to DRM HUB
- Visualization use cases
  - Legal Entity saturation by geography
  - Account hierarchy balance
  - Cost Center attributes
  - Member stability, tracking changes over time
  - DV custom extensions

Objectives

- Learn about GE's approach to an Enterprise standard chart of accounts
- Understand how to use a centralized data store for master data consumption
- Learn how to connect Oracle Data visualization desktop to Oracle database schema for query and analysis
- How to think about master data as data that can be studied with analytic tools

GE - Our Businesses



Revenue: $B

Leading globally in power generation & water technologies

Revenue: $B

Pushing the boundaries of technology in oil & gas to bring energy to the world

Revenue: $B

Enabling utilities and industry to efficiently manage electricity from the point of generation to the point of consumption

Revenue: $B

Providing our aviation customers with the most technologically advanced & productive engines, systems & services for their success

Revenue: $B

Developing transformational medical technologies & services that are shaping a new age of patient care

Revenue: $B

Being a global technology leader & supplier to the railroad, mining, marine, stationary power & drilling industries

Revenue: $B

Answering real-life needs, defining trends & simplifying routines. Leading a global lighting revolution to deliver innovative solutions

Investing financial, human & intellectual capital to help our customers build their businesses

Source: 2014 GE Annual Report

What is an Enterprise Standard?

A set of consistent principles, or standards, to be applied across GE globally for key operational and financial transactions. Enterprise Standards streamline processes and the global systems infrastructure to drive **simplification** and reduce complexity across the company.

Approach

- Provide guiding principles
- Share key tenets to drive standardization
- Formalize specific decisions

Platforms

- Identify preferred technology solutions
- Develop architecture that supports the regions
- Create transactional solutions
- Define data standards

Processes

- Ensure consistency across the company
- Document process flows
- Identify key activities and controls

Roles/Ownership

- Define organization structures and ownership
- Define roles and responsibilities
- Develop metrics, KPIs, SLAs

Enables profitable GE growth and creates a better way to do business

*"Simplification gives us an opportunity to do even more" – **John Rice***

Why Enterprise Standards?

Legacy

- GE is complex.
- Through acquisitions and/or growth, we've added complexity.
- Complexity adversely impacts our customers and our people.

- Numerous systems, processes and centers
- Multiple business units, locations and delivery models
- Numerous SOPs, SLAs, contracts and Statements of Work

Future

- Maximize use of shared services.
- Leverage our scale to be competitive in a fast paced world.
- Be more responsive to customers and the business.

- Formalized policies
- Leverage existing best practices
- Integrated GE master data
- Decreased platform(s) and tools enabling finance

Enterprise Standards drive simplification and enable profitable GE growth

Current Enterprise Standards

Source to Buy	➢ Includes the processes of setting up a supplier, negotiations with the supplier, approval of a supplier and requisitioning, and ends with a valid PO to hand off to the Accounts Payable process.
Buy to Pay	➢ **The processes for receipt of an invoice, matching it to a PO, and payment to the supplier.**
Fixed Assets	➢ Establishes standard processes for the initiation, acquisition, maintenance, disposition and reporting of the Company's property, plant and equipment assets.
Record-to-Report*	➢ **Describes the process to account for and report financial transactions initially recorded within Buy-to-Pay, Invoice-to-Cash, Fixed Assets, Source to Buy, Payroll, and other financial processes. Enhancements to this Standard will define standard process workflows and shared service components of the Record-to-Report activities.**
Invoice-to-Cash	➢ Includes the Accounts Receivables processes of invoice distribution, collections, dispute facilitation, cash application and reconciliation.
Stat & Tax	➢ **Defines common processes and platforms for the statutory accounts, corporate income tax (CIT) and value added tax/goods and services tax (VAT/GST) return preparation and filing processes.**
Customs	➢ Contains standards, policies and governance for the management of customs activities (administration and collection of the duties levied by a government on imported goods).Enhancements to this standard will define standard process workflows for exports.
Payroll	➢ **Describes standard processes for payroll processing, from transmission of employee data to payroll calculation and processing the employee payment, to tax reporting and accounting.**
Travel & Living	➢ A single GE-wide policy governing T&L expenditures and reporting.

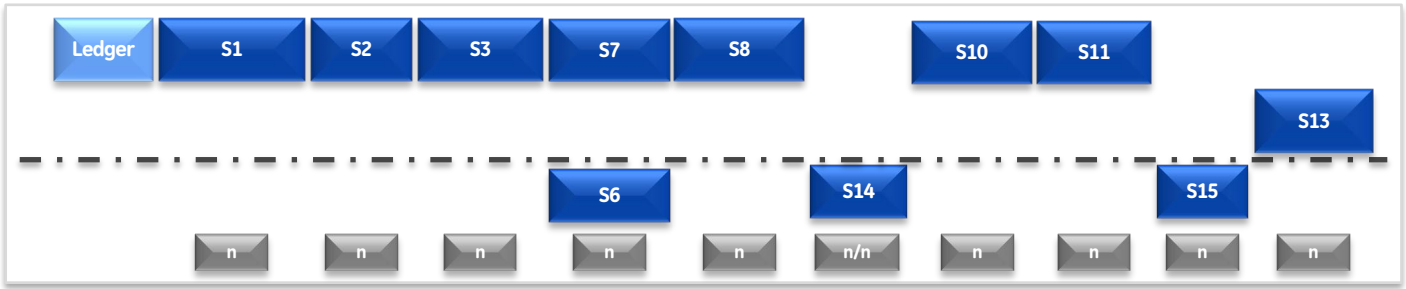
Enterprise Standard code block – functional definition

External reporting

Business Consolidation

Enterprise Standard Oracle Code Block

Enterprise Standard SAP Code Block

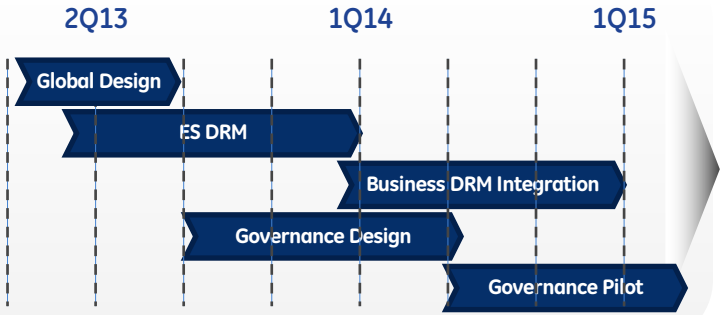


DRM strategy

Importance of DRM (Master Data Management) for the ES COA

- Foundation for one company wide COA … one source of the truth
- Governance of enterprise segments & hierarchies at company level
- Governance of business segments & hierarchies at business level
- Standardized reporting of FP&A metrics
- Standard usage of accounts
- Transparency of business general ledgers to reporting of Financial Statements (10Q/K)
- Cornerstone to drive supplemental data collection simplification and accuracy

DRM Implementation Timeline …



Key Milestones

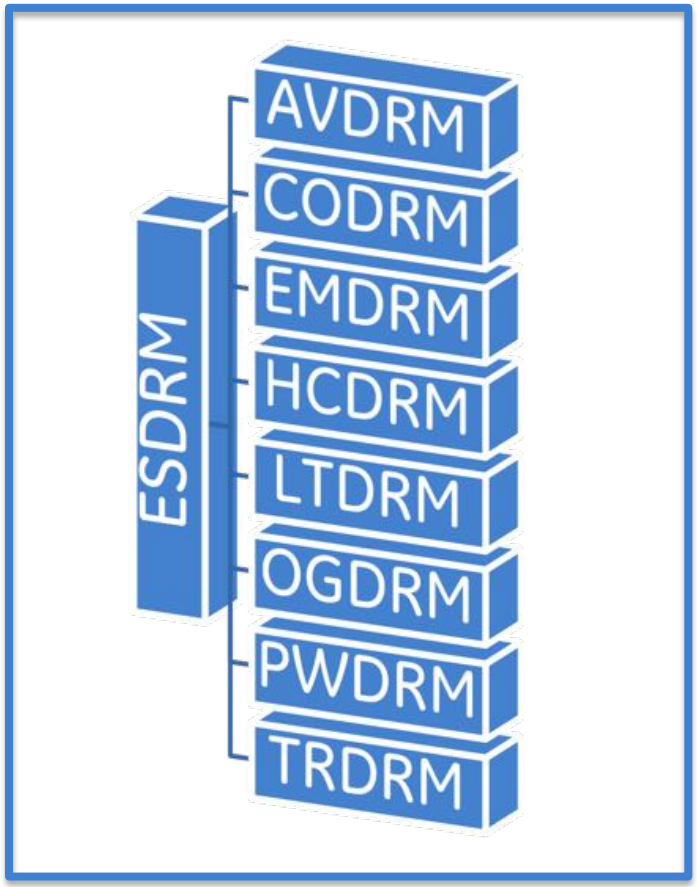
- DRM global design & system requirements
- Shared Services Platform as a Service
- Deploy ES DRM … ready for business use
- Governance & business DRM integration
- Integrated & funded global deployment plan

Benefits

- Strategic platform to enable the adoption of ES Chart of Accounts (COA) across the company
- Critical path dependency for business adoption of ES COA

Solution Architecture

The federated model



Oracle Data Relationship Management (DRM)

- DRM is an Oracle product used to manage Enterprise master data.
- Master data is stored in hierarchical structures within the application.
- The application applies rules that govern the addition, enrichment, and removal of data.
- Master Data is made up of Nodes and Node Properties.

Oracle Data Relationship Governance (DRG)

- DRG is a module to create workflows that enable users to create and enrich nodes and properties in a DRM application.
- DRG Workflows allow non-IT users to create or make changes to nodes.
- Governance Rules enforce continuity and data integrity.
- Workflows can be built with varying levels of functional approvals.

The Enterprise DRM

Single source for all governed hierarchies that have consistent data across the enterprise

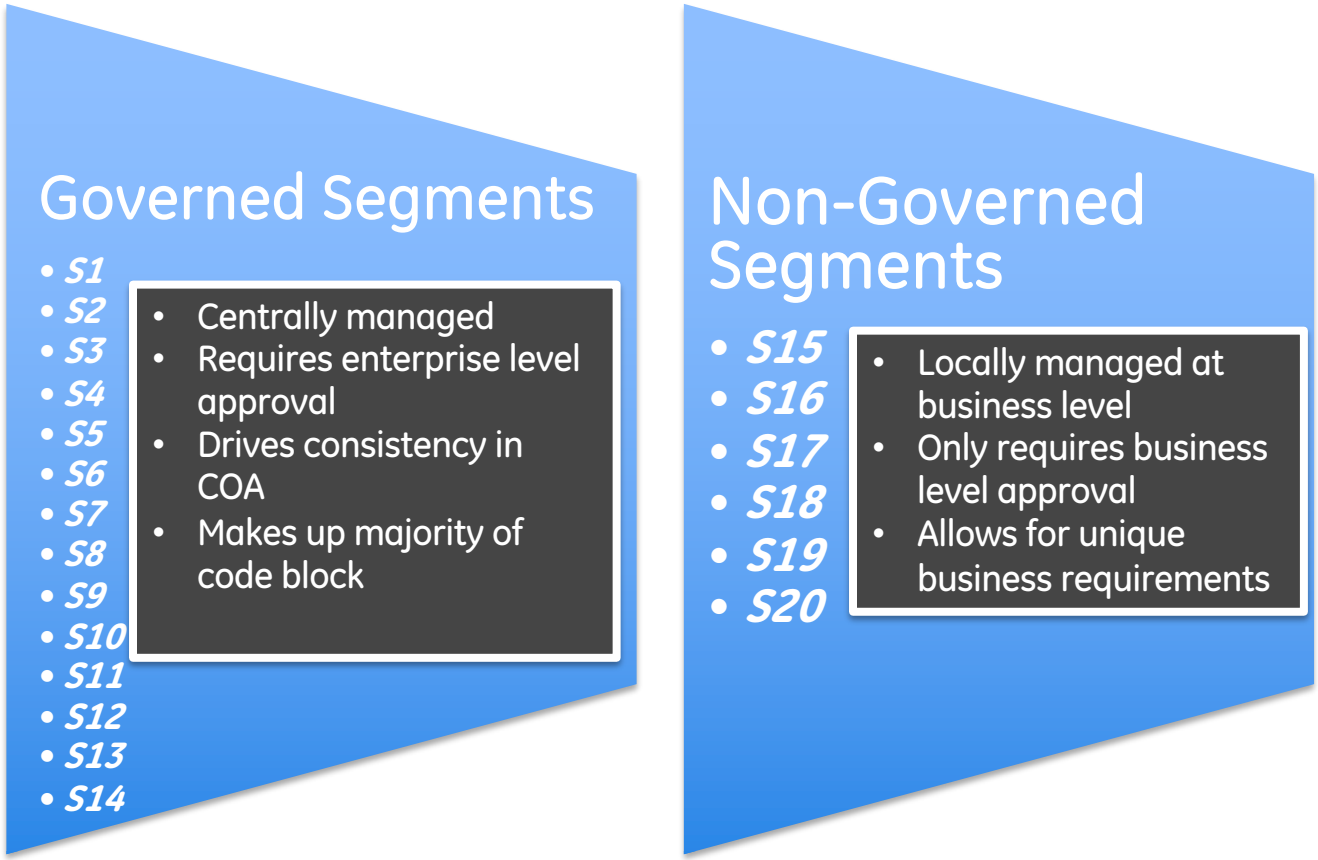
Managed in one central DRM application and then synchronized with the subscribing business DRM's

The Subscribing Business DRM

Each subscribing business has its own DRM application

Each subscribing business DRM contains data synchronized from the Enterprise DRM in addition to non-governed “Business” master data

DRM Hierarchies

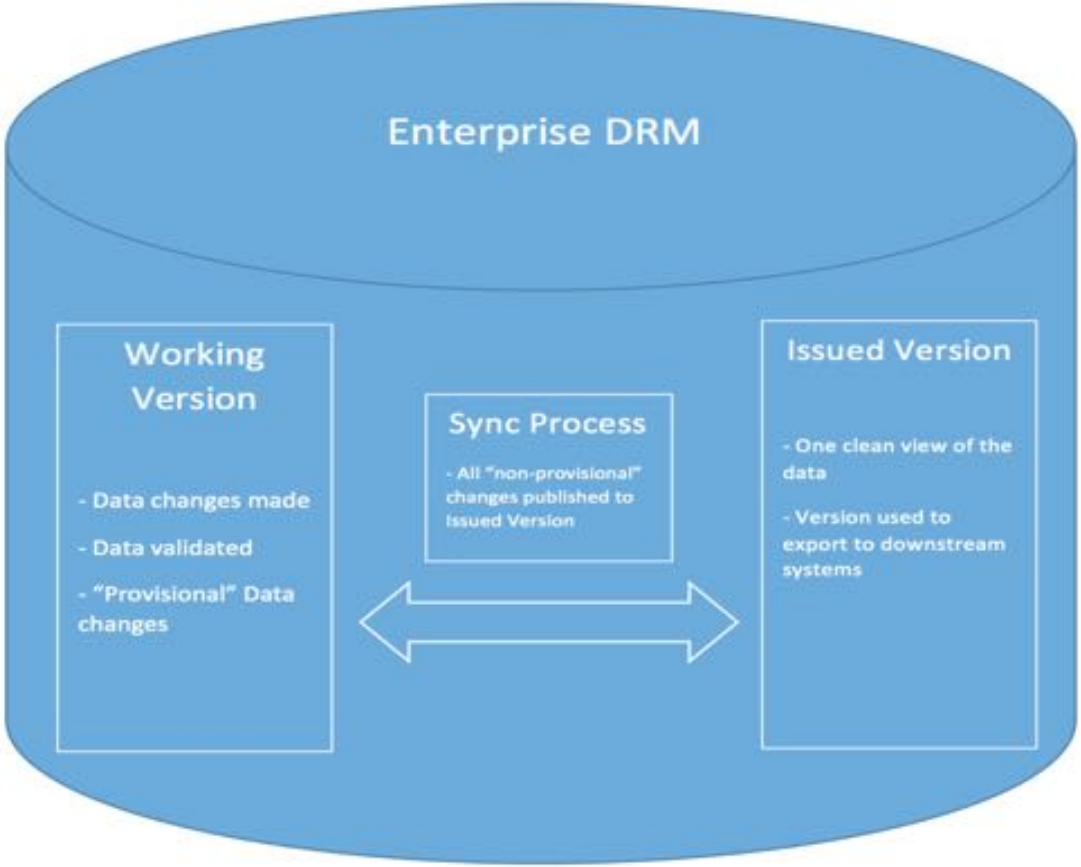


Hierarchy stats

Rationalized 3x – 4x reduction

Hierarchy	Number of Nodes	Number of applicable properties
S1	~ 25,000	~ 70
S2	~ 2	~ 5
S3	~ 2,000	~ 25
S4	~10,000	~ 5
S5	~ 200	~ 5
S6	~ 20	~ 5
S7	~ 500	~ 5
S8	~ 9000	~ 40
S9	~ 20	~ 5
S10	~ 500	~ 5
S11	~ 125,000	~ 25
S12	~ 800	~ 15
S13	~ 30	~5

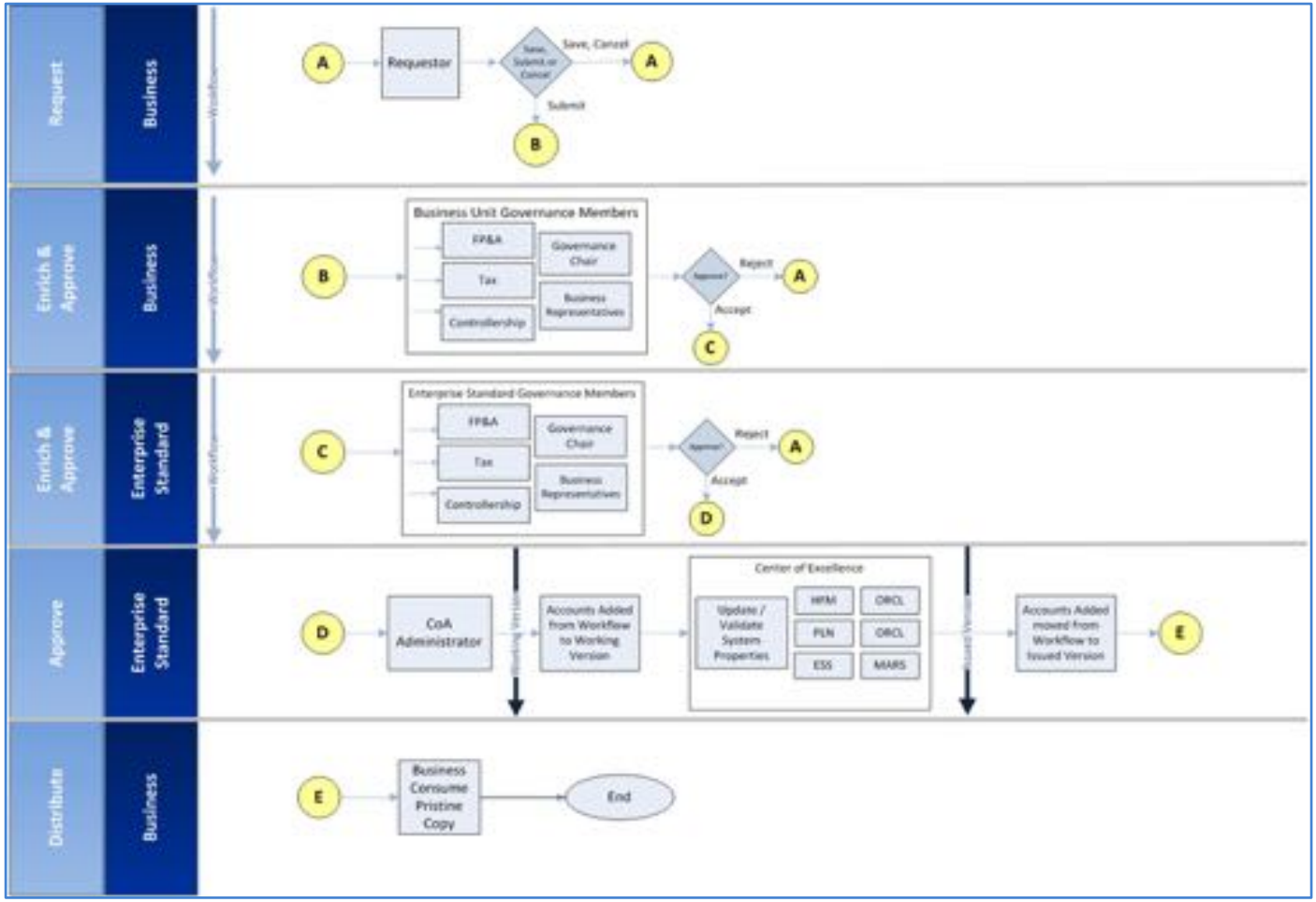
Versioning Strategy



Governance Approach

Oracle Data Relationship Governance (DRG)

- Module to create workflows that enable non-IT users to create and enrich nodes and properties
- Governance rules enforce continuity and data integrity
- Workflows can be built with varying levels of functional approvals


Request
Business
A
Requestor
Save, Submit, or Cancel
Save, Cancel
A
Submit
B
Enrich & Approve
Business
B
Business Unit Governance Members
FP&A
Tax
Controllership
Governance Chair
Business Representatives
Reject
A
Accept
C
Enrich & Approve
Enterprise Standard
C
Enterprise Standard Governance Members
FP&A
Tax
Controllership
Governance Chair
Business Representatives
Reject
A
Accept
D
Approve
Enterprise Standard
D
CoA Administrator
Accounts Added from Workflow to Working Version
Center of Excellence
Update / Validate System Properties
HPM
PLN
ESS
ORCL
ORCL
MARS
Accounts Added moved from Workflow to Issued Version
E
Distribute
Business
E
Business Consume Pristine Copy
End

Tying it all together

DRM HUB (GE custom “data store”)

The DRM HUB is an Oracle relational database built to share data within the master data ecosystem.

- The DRM Hub provides an integration layer for DRM applications to publish hierarchies and mappings to tables that subscribing systems can easily query.

For convenience and better control, views are created to provide subscribing systems access to the exact data they require.

The DRM HUB is the central location for disseminating master data.

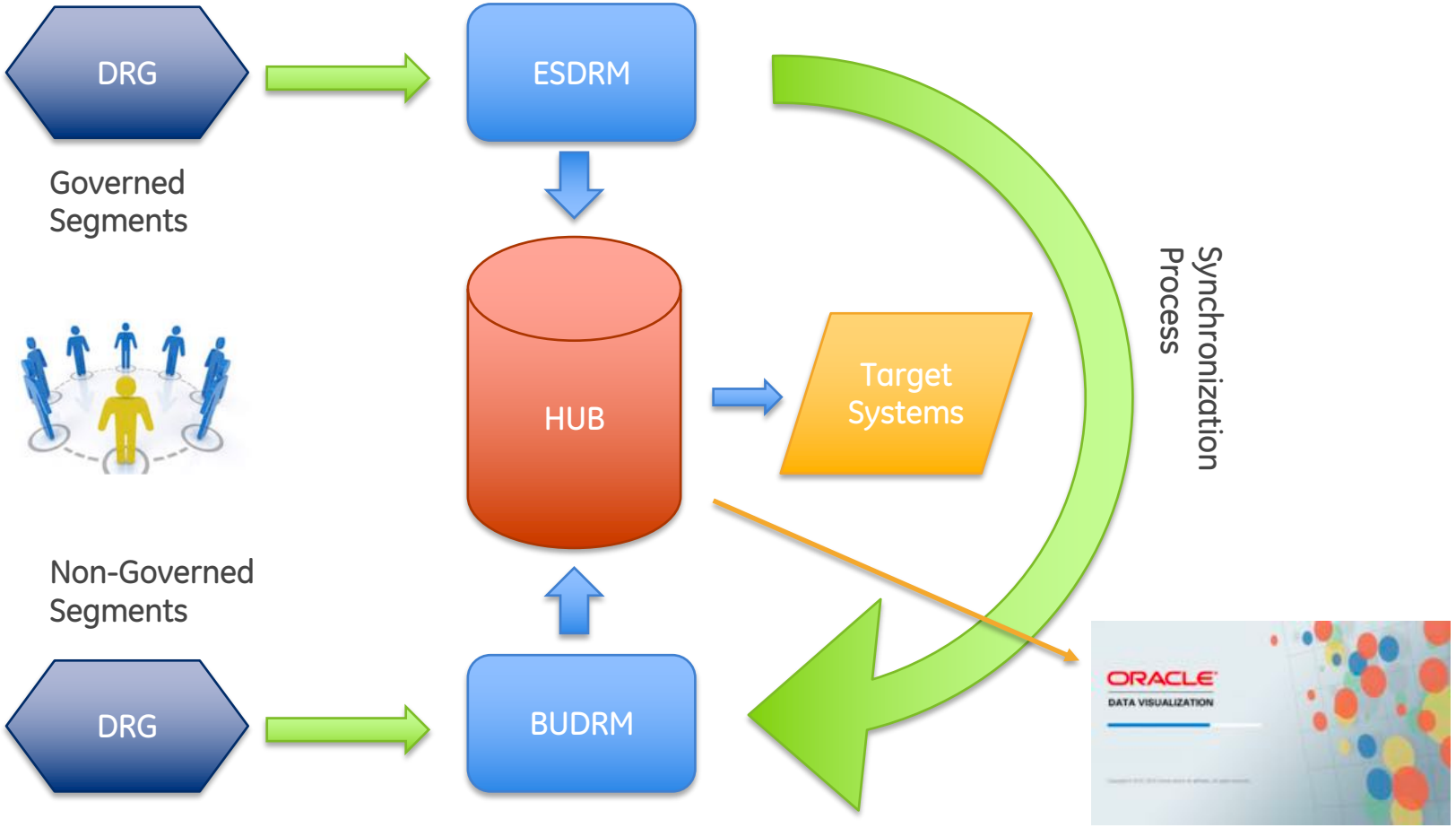
Non-governed segments are exported from Business DRMs to the DRM HUB to facilitate a common collection of master data for Shared Services applications.

The DRM HUB is a **Read Only** environment. No data will be published into the HUB that does not originate in a DRM system.

Synchronization

Automated Task Scheduler

- Migrates data from ESDRM to BUDRM utilizing native DRM Import/Export functionality
- Scheduled exports to publish data to HUB
- Runs Custom Automic application to migrate objects from ESDRM to BUDRM



Master Data Eco-System

Oracle Data Visualization

OVERVIEW

See the Signals

Discover the insights hidden in your data, with rich, interactive visuals. Oracle Data Visualization is easy to use, yet powerful enough to perform advanced calculations.

- Automatically visualize data as you drag and drop attributes, chart, and graphs
- Change layouts to present new insights
- Answer questions quickly with online search and guided navigation
- Empower everyone in your organization to uncover the value in the data

What is Data Visualization

Data visualization describes the presentation of abstract information in graphical form. Data visualization allows us to spot patterns, trends, and correlations that otherwise might go unnoticed in traditional reports, tables, or spreadsheets.

About Oracle Data Visualization Desktop

Data Visualization Desktop provides powerful personal data exploration and visualization in a simple per-user desktop download. Data Visualization Desktop is the perfect tool for quick exploration of sample data from multiple sources or for rapid analyses and investigation of your own local data sets.

Data Visualization Desktop makes it easy to visualize your data so you can focus on exploring interesting data patterns. Just upload data files or connect to Oracle Applications or a database, select the elements that you're interested in, and let Data Visualization Desktop find the best way to visualize it. Choose from a variety of visualizations to look at data in a specific way.

Data Visualization Desktop also gives you a preview of the self-service visualization capabilities included in Oracle Analytics Cloud, Oracle's industrial-strength cloud analytics platform. Oracle Analytics Cloud extends the data exploration and visualization experience by offering secure sharing and collaboration across the enterprise, additional data sources, greater scale, and a full mobile experience including proactive self-learning analytics delivered to your device. Try Data Visualization Desktop for personal analytics and to sample a taste of Oracle's broader analytics portfolio.

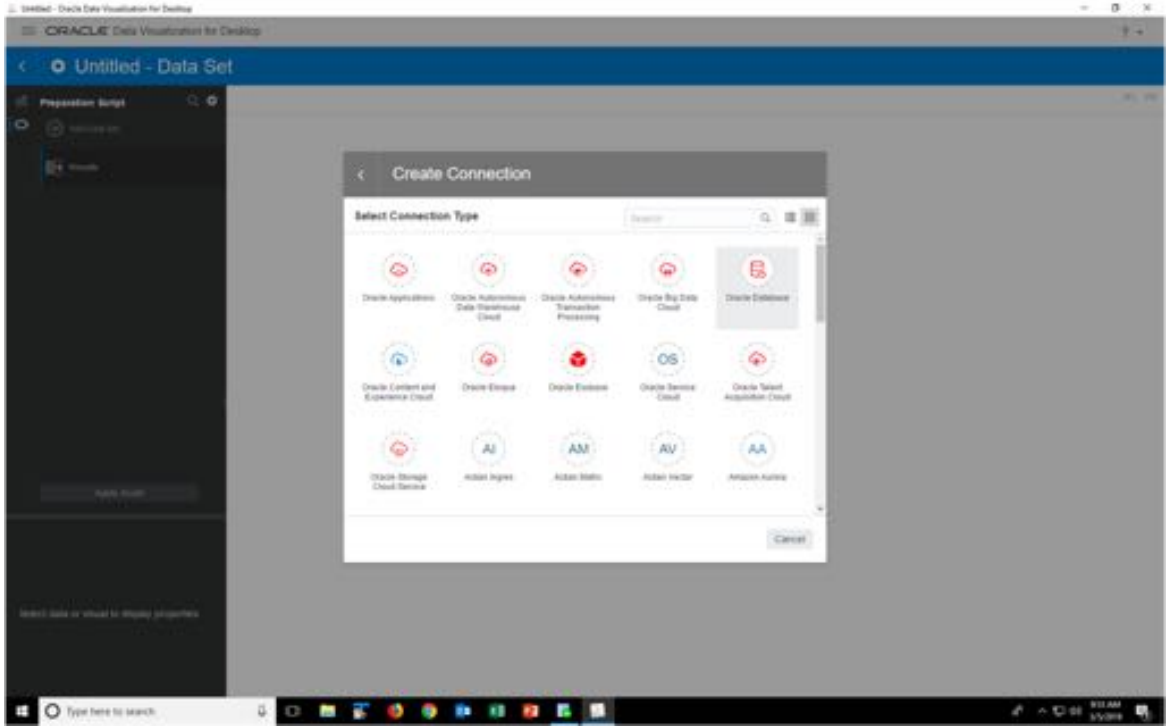
Data Visualization Desktop's benefits include:

- A personal, single-user desktop application.
- Offline availability.
- Completely private analysis.
- Full control of data source connections.
- Direct access to on-premises data sources.
- Lightweight single-file download.
- No remote server infrastructure.
- No administration tasks.

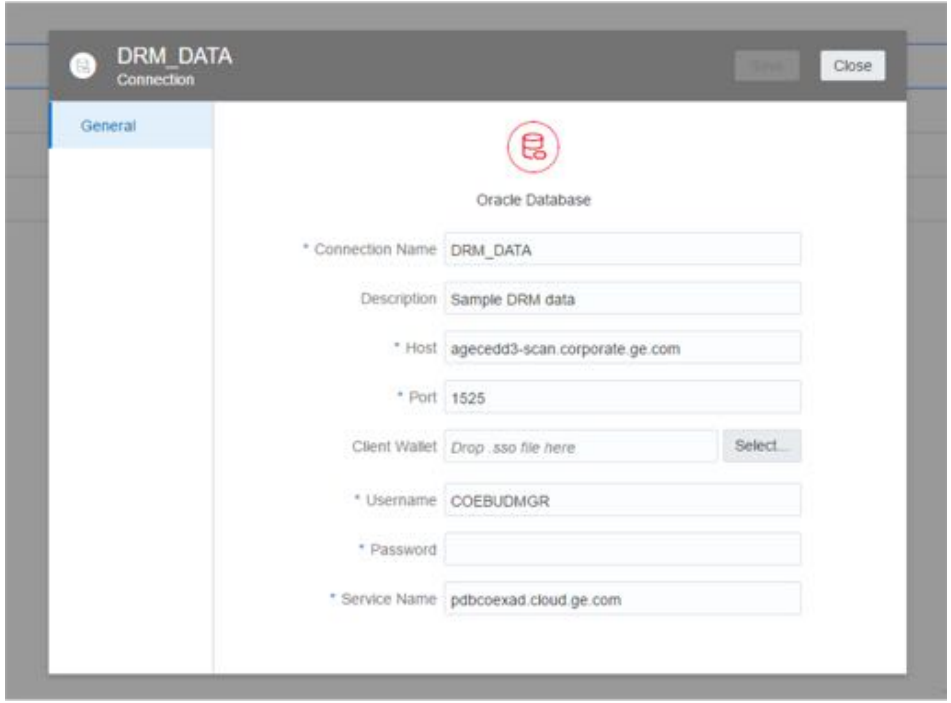
Oracle Data Visualization

DATABASE CONNECTION

Create Connection

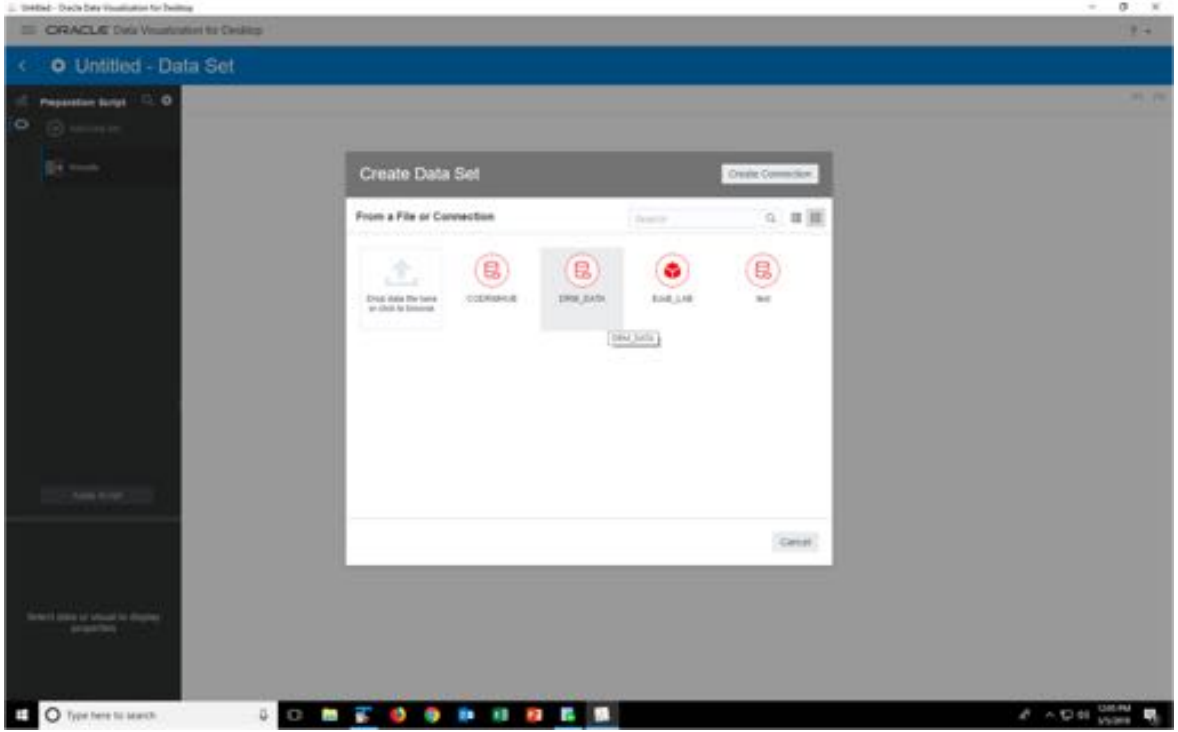


Create Connection

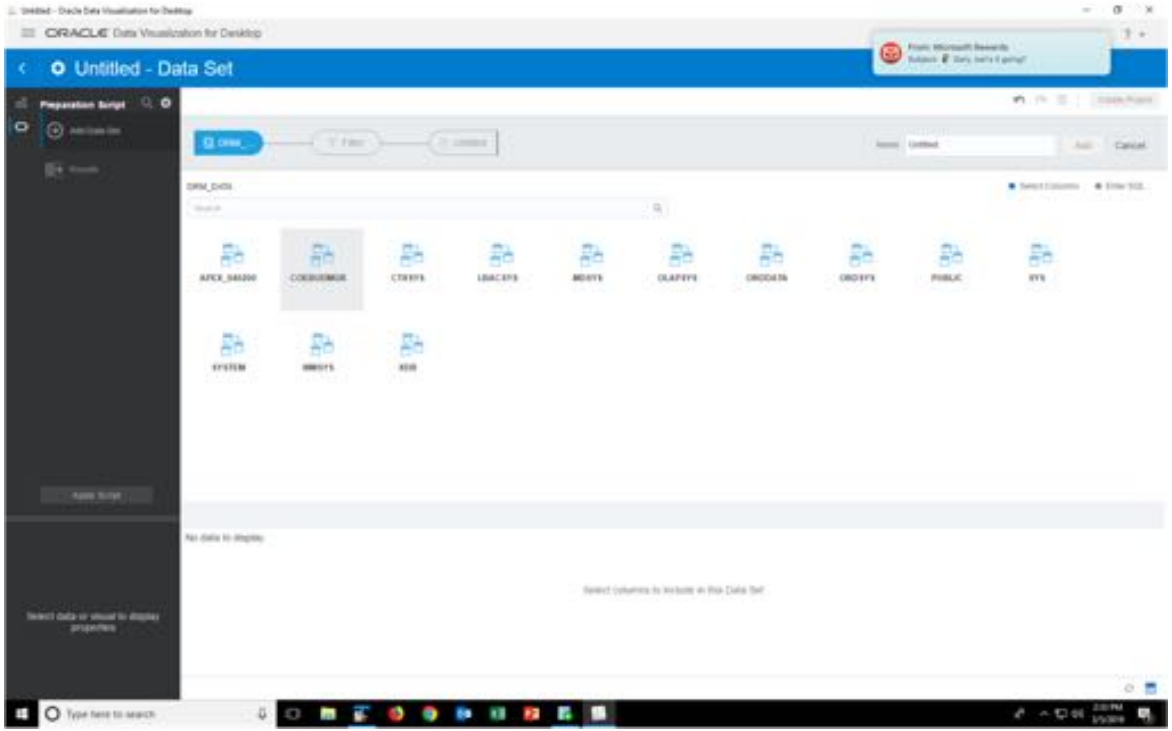


Create Data Set

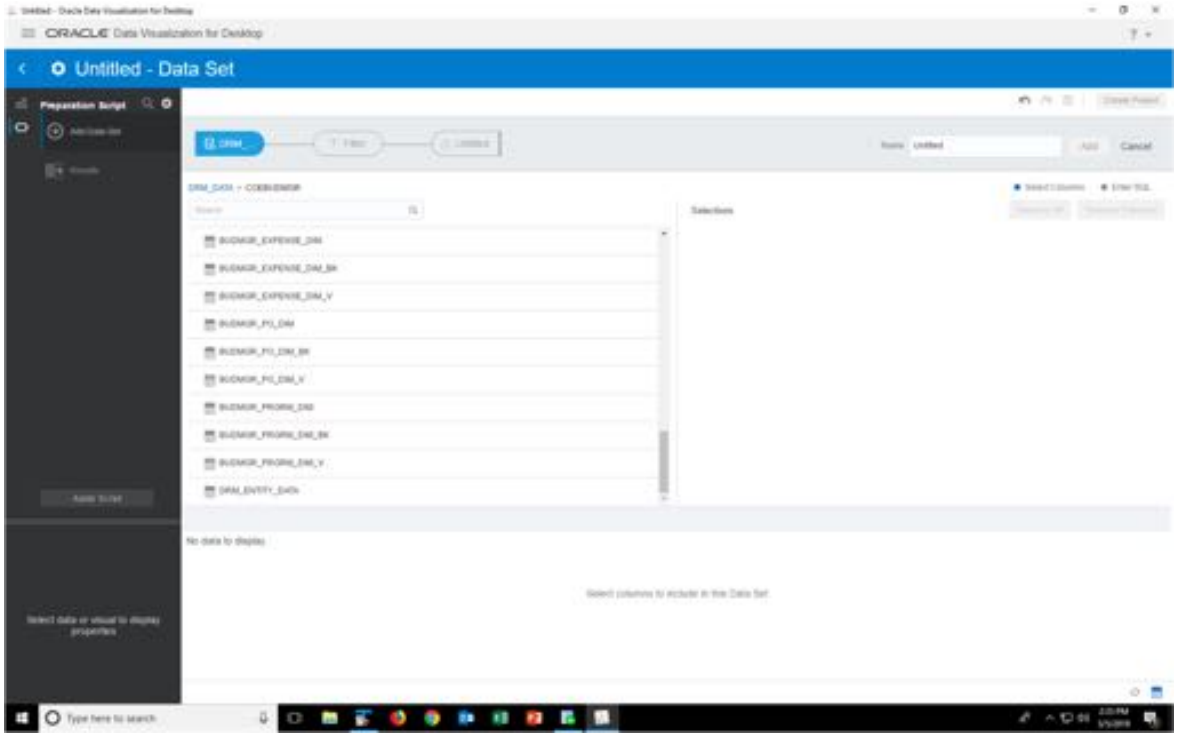
Select Connection



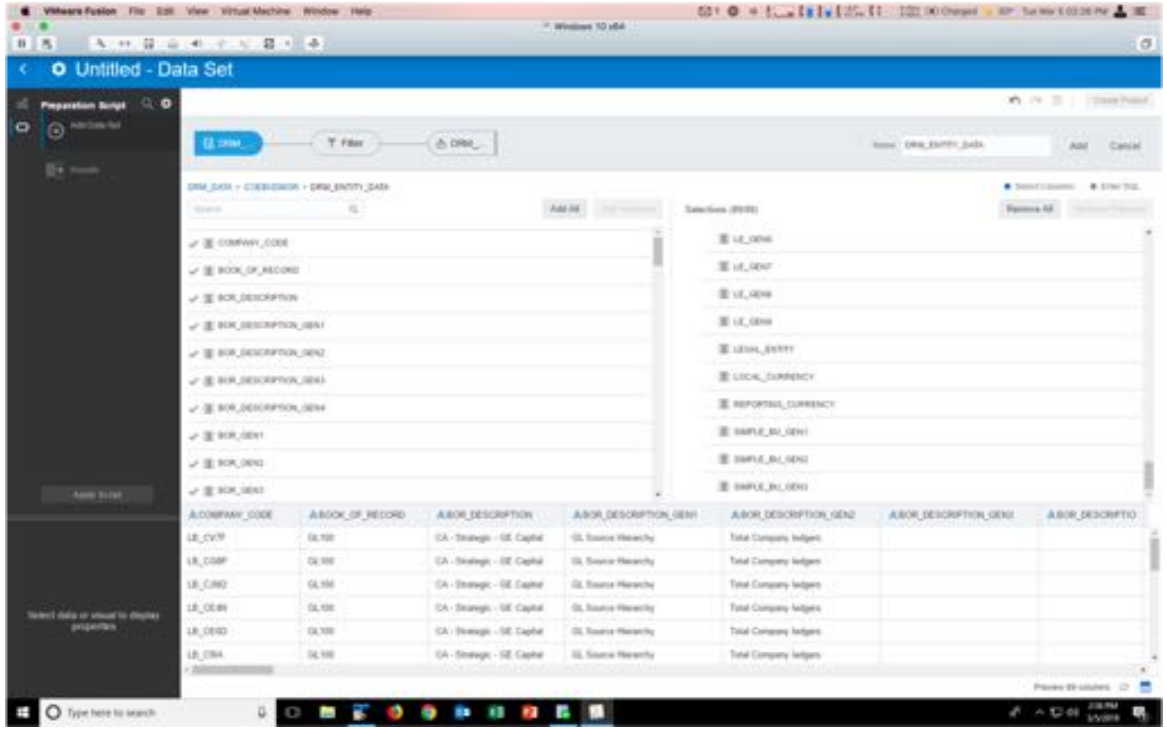
Choose Schema



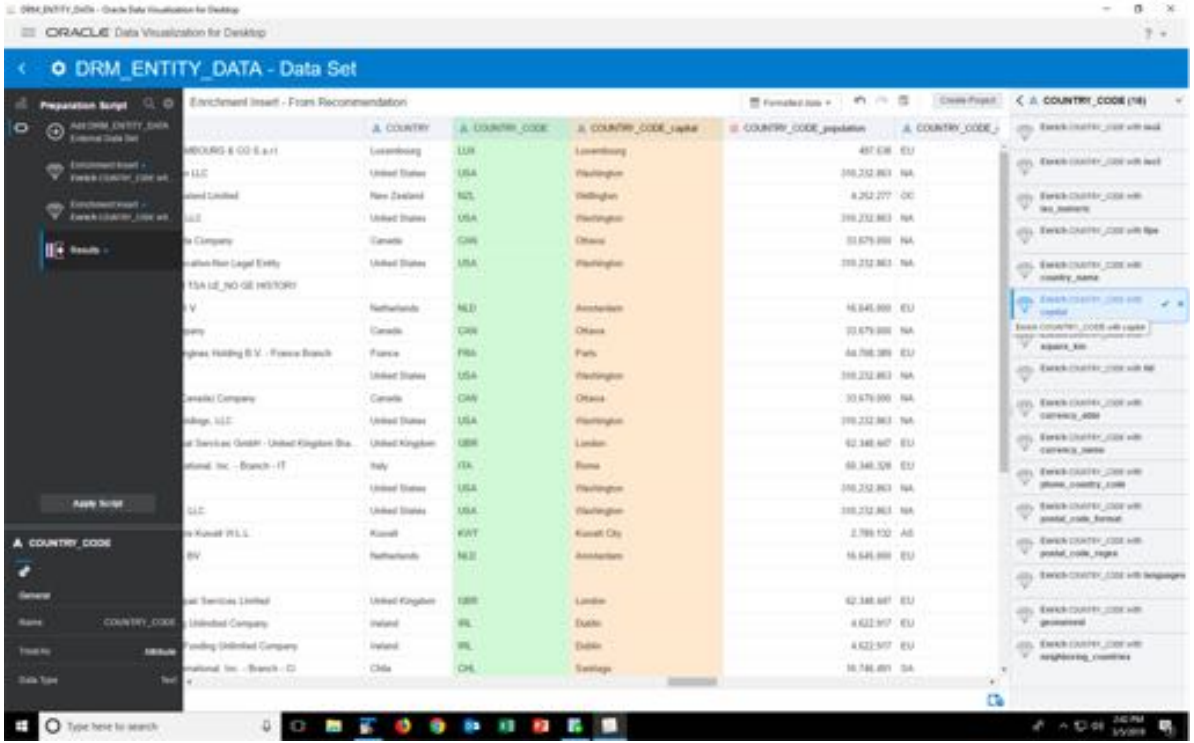
Choose Table



Choose Fields -> Name -> Add

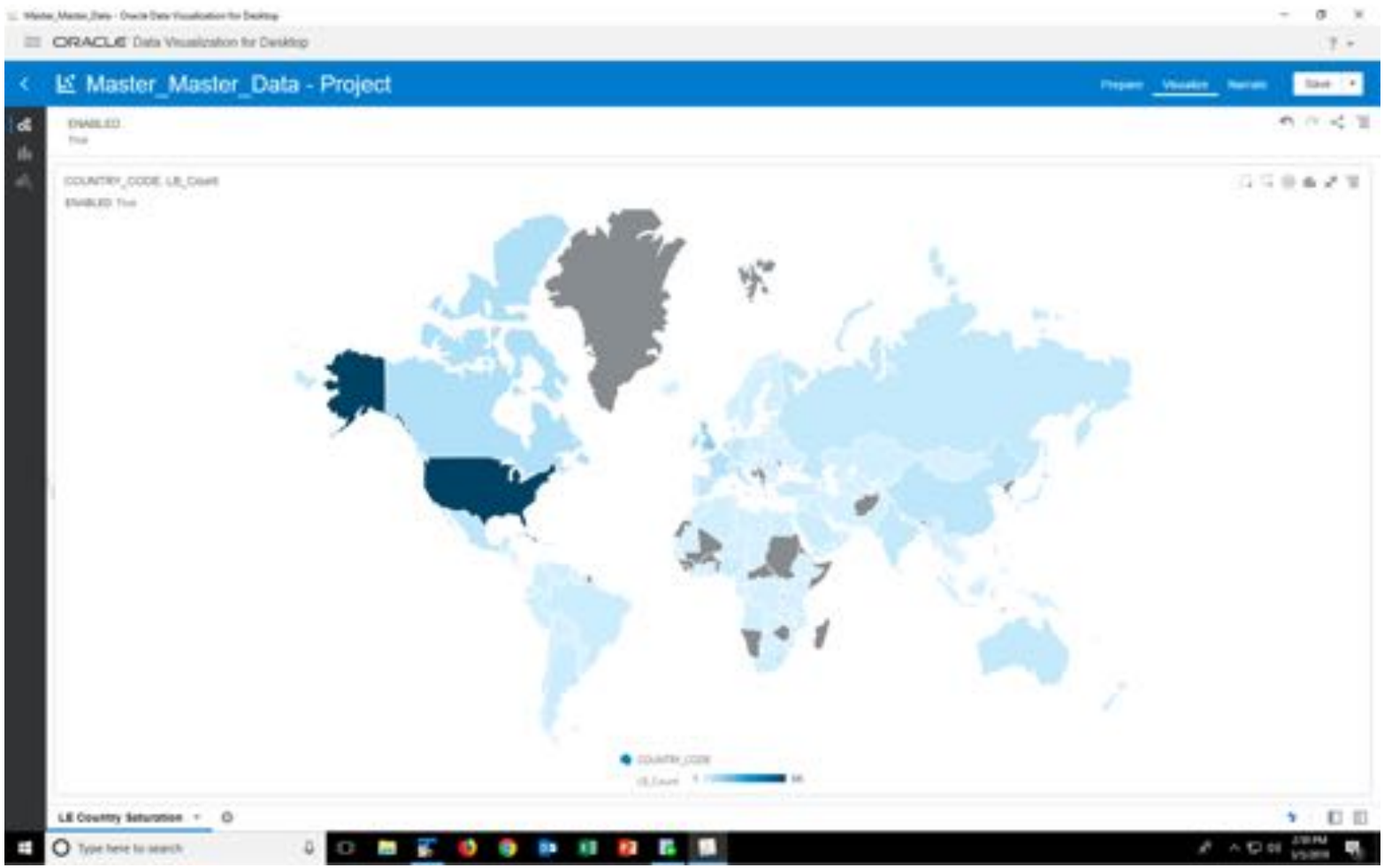


Enrich data set with recommendations

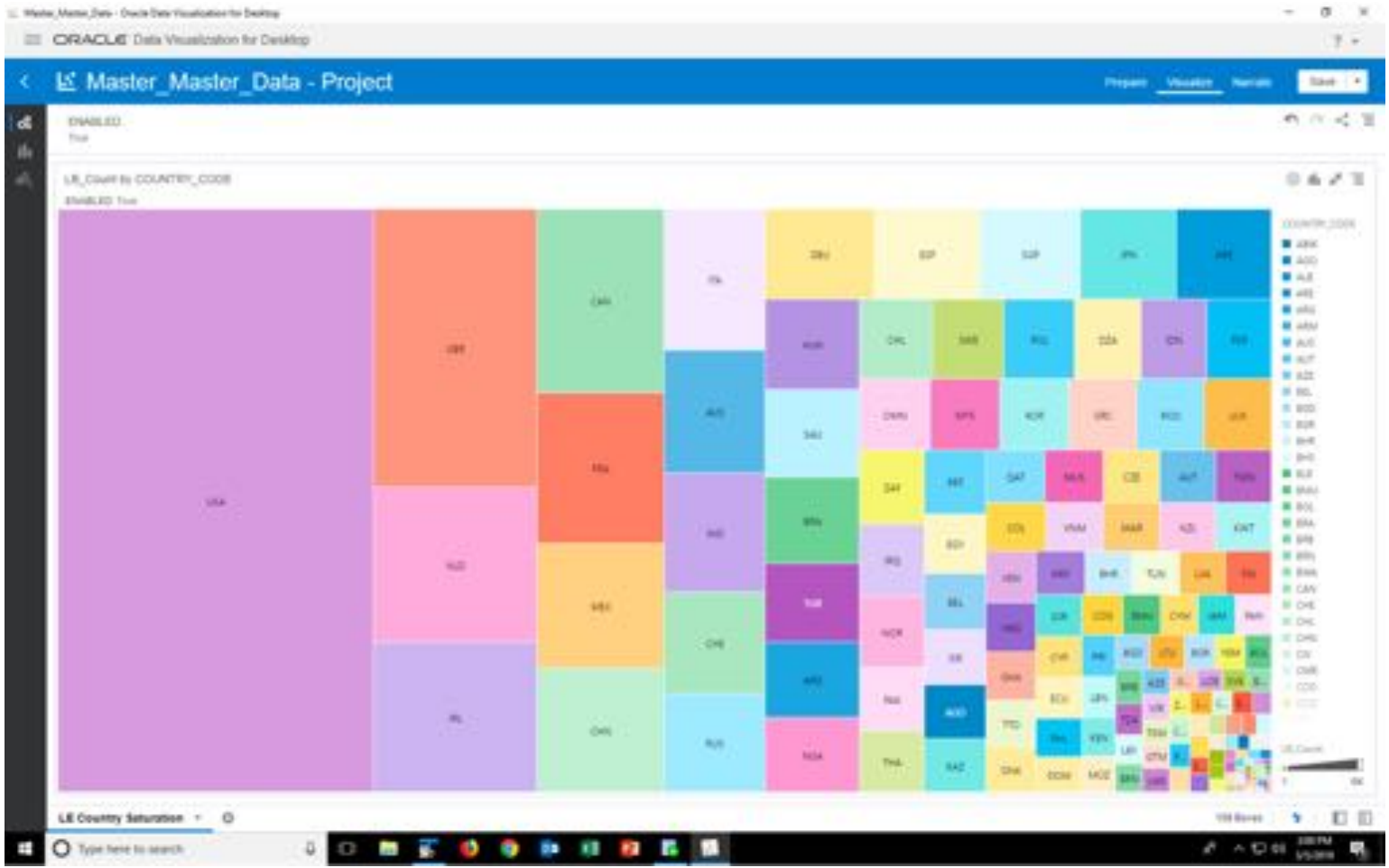


Visualization use cases

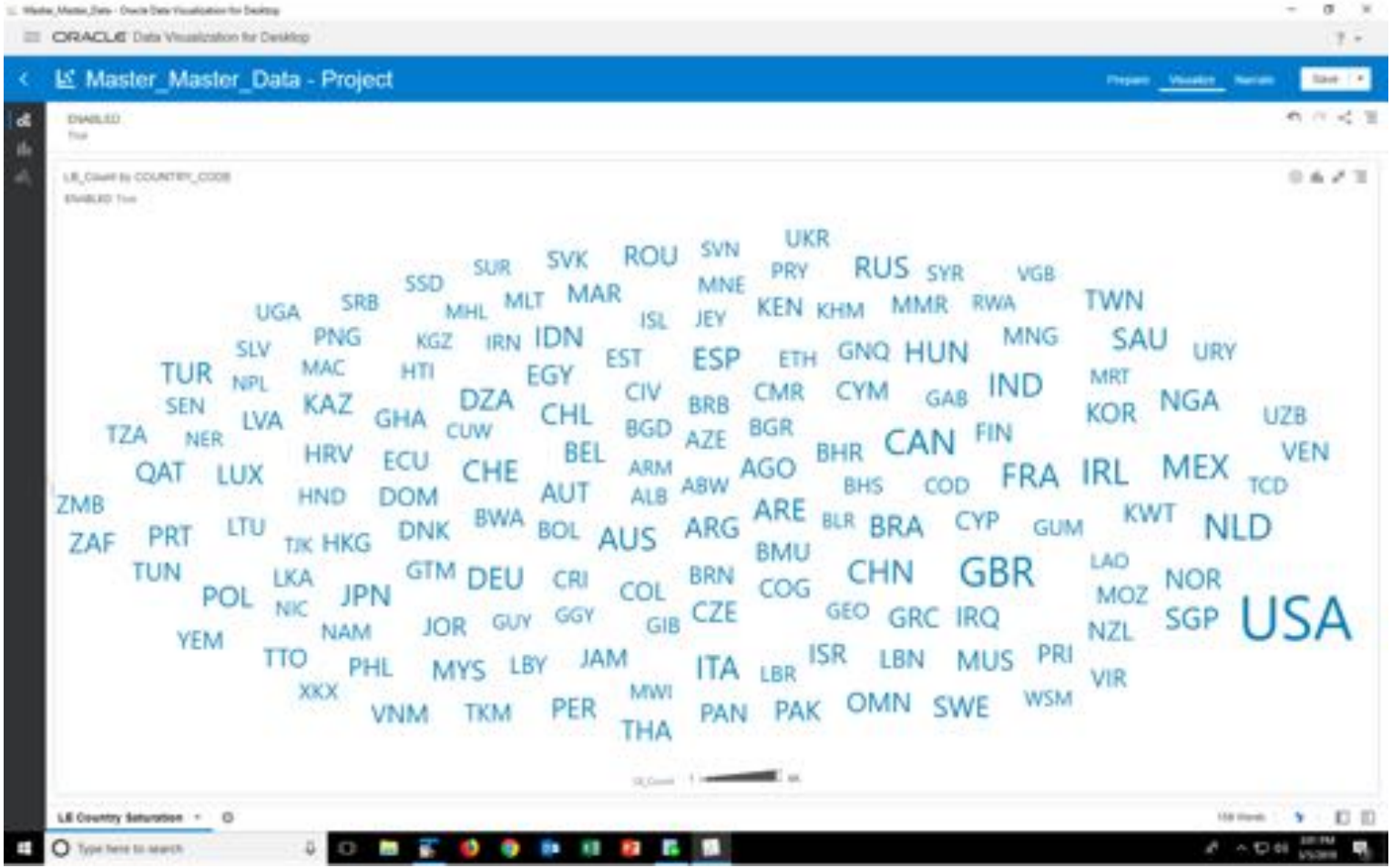
LEGAL ENTITY SATURATION BY GEOGRAPHY



Country saturation map



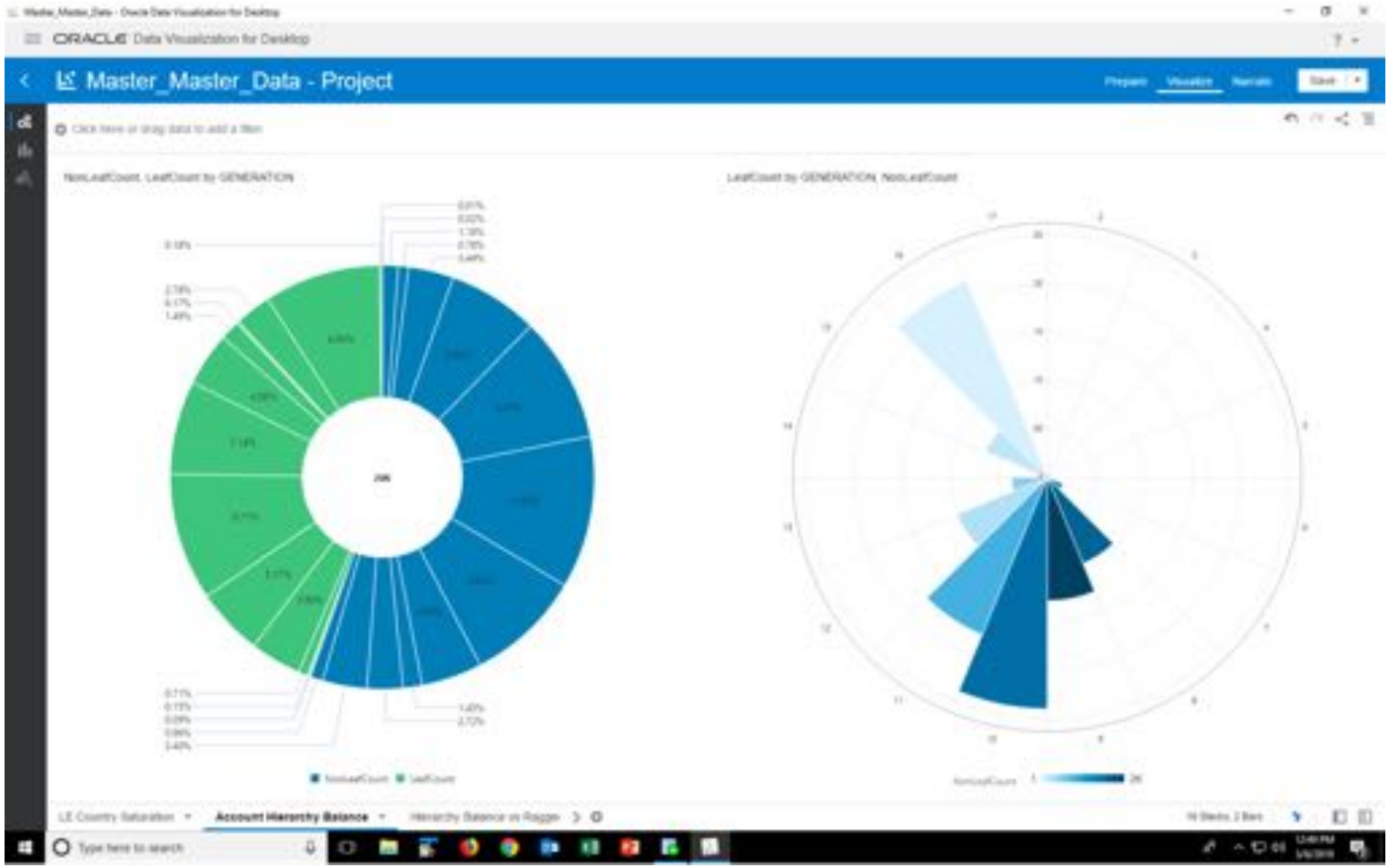
Company code count Tree Map



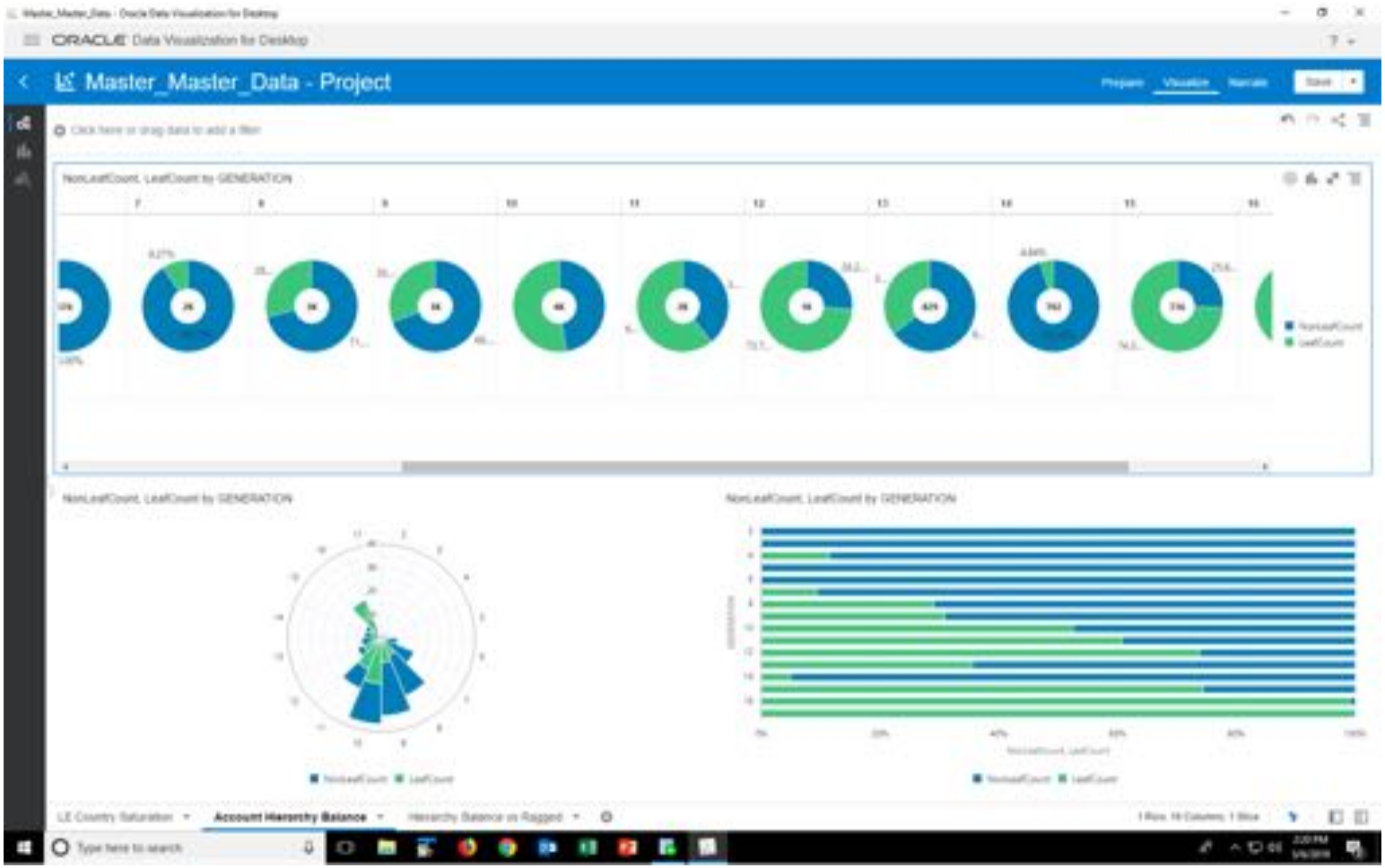
Company code count Tag Cloud

Visualization use cases

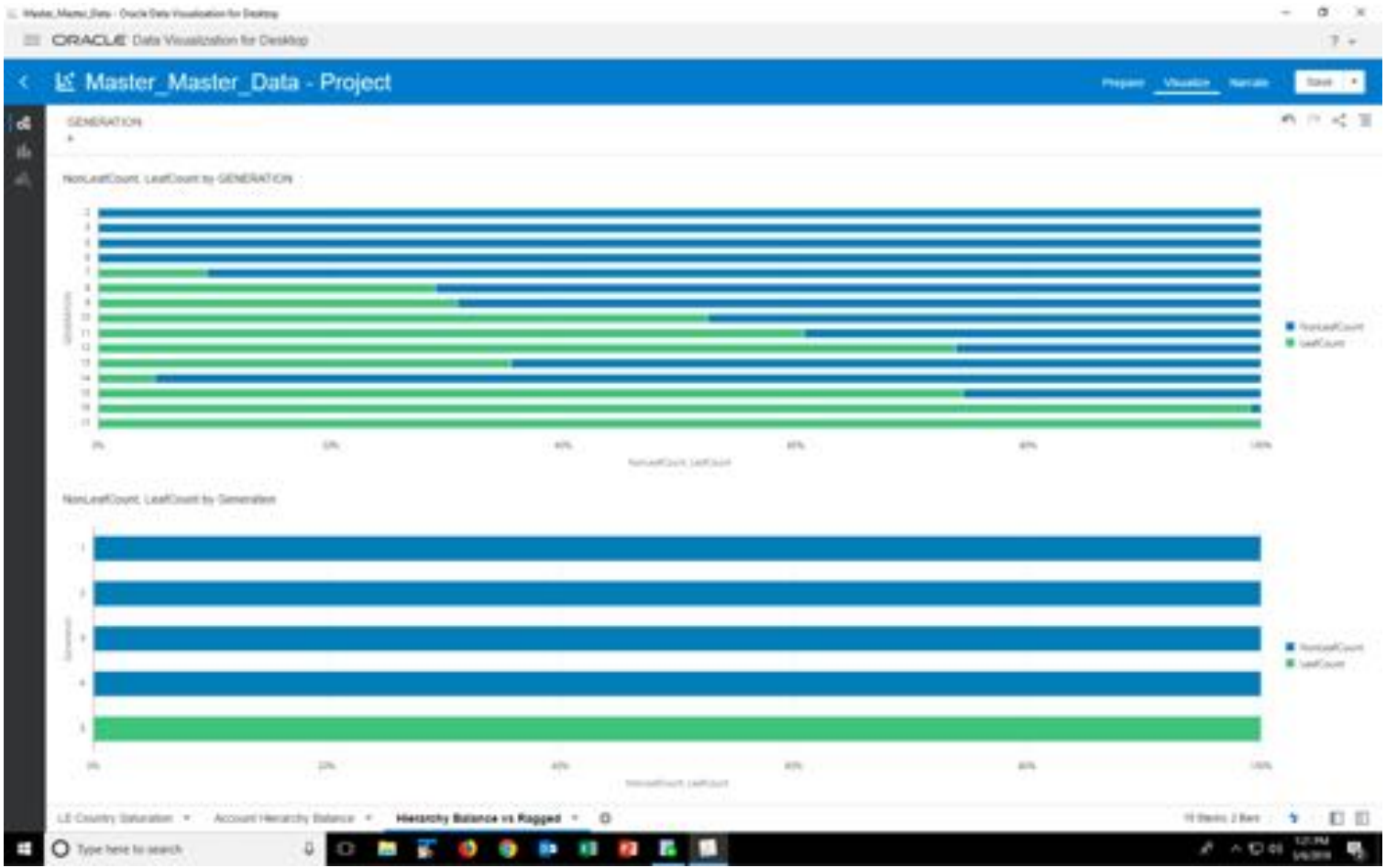
ACCOUNT HIERARCHY BALANCE



Generation density



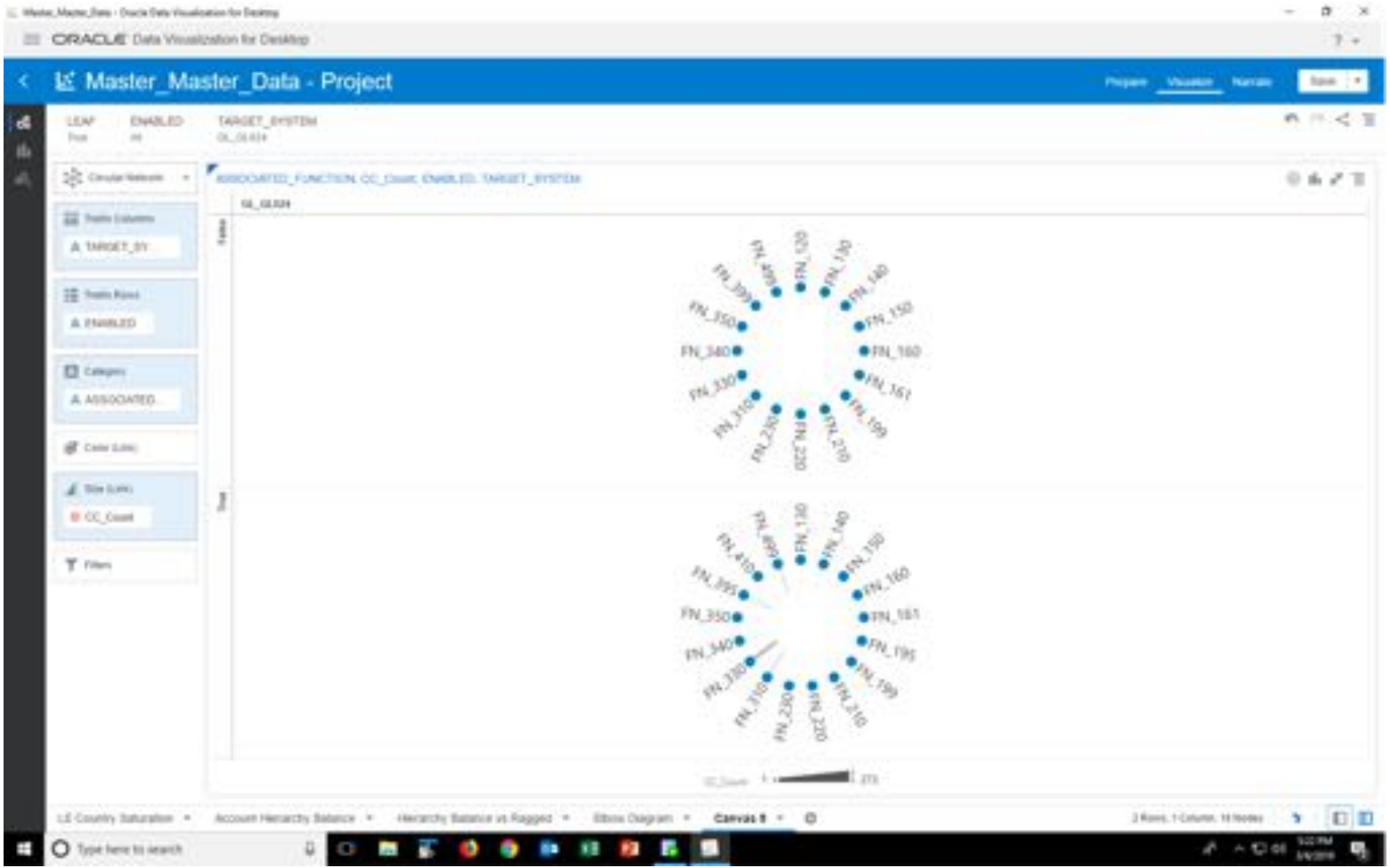
Generation density



Hierarchy balance

Visualization use cases

COST CENTER ATTRIBUTES

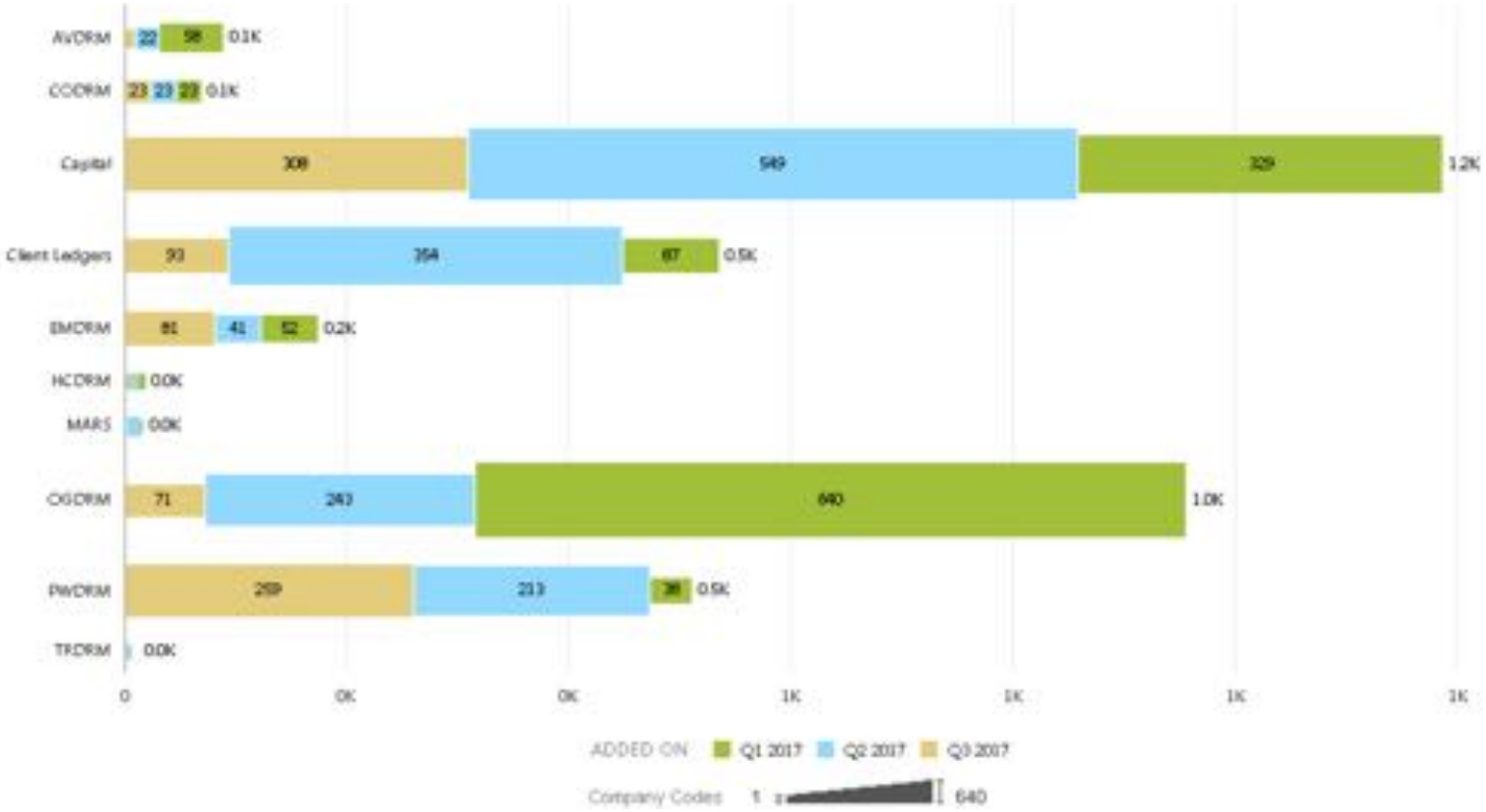


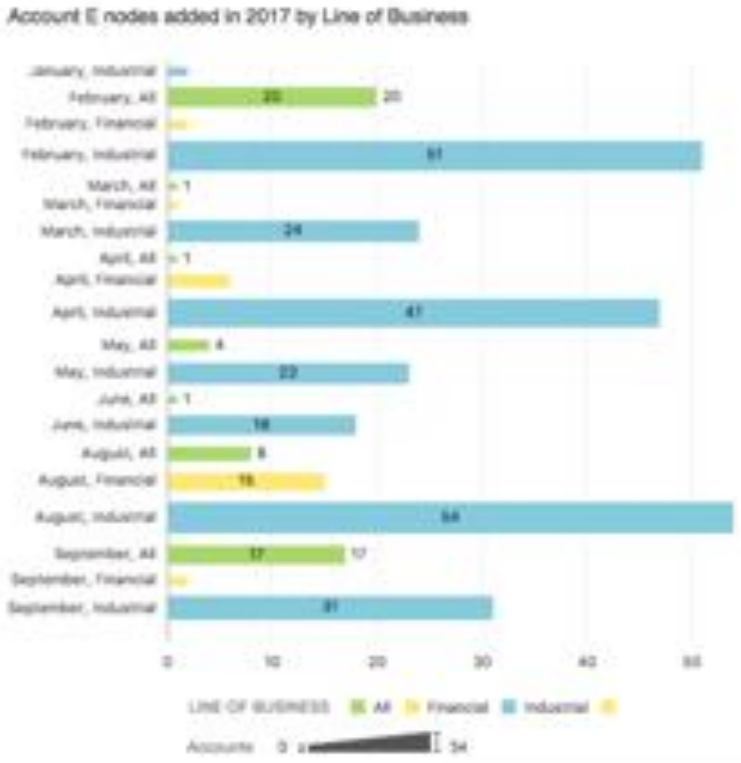
Attribute analysis

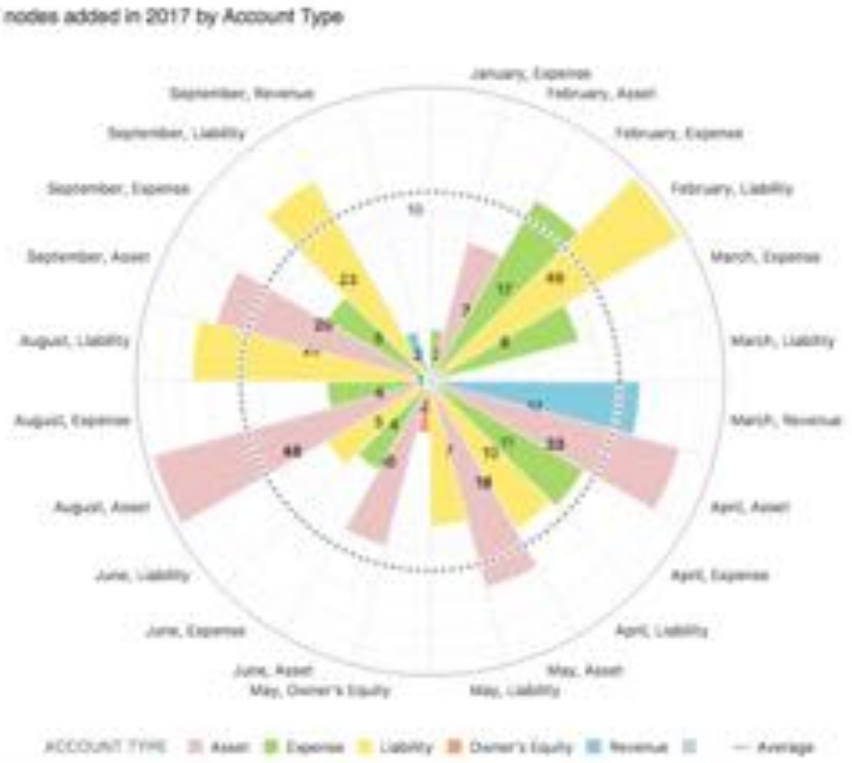
Additional examples provided by Neviana Zhagaba

MEMBER STABILITY - TRACKING CHANGES OVER TIME

Company Codes added in 2017 by Requesting Business by Quarter



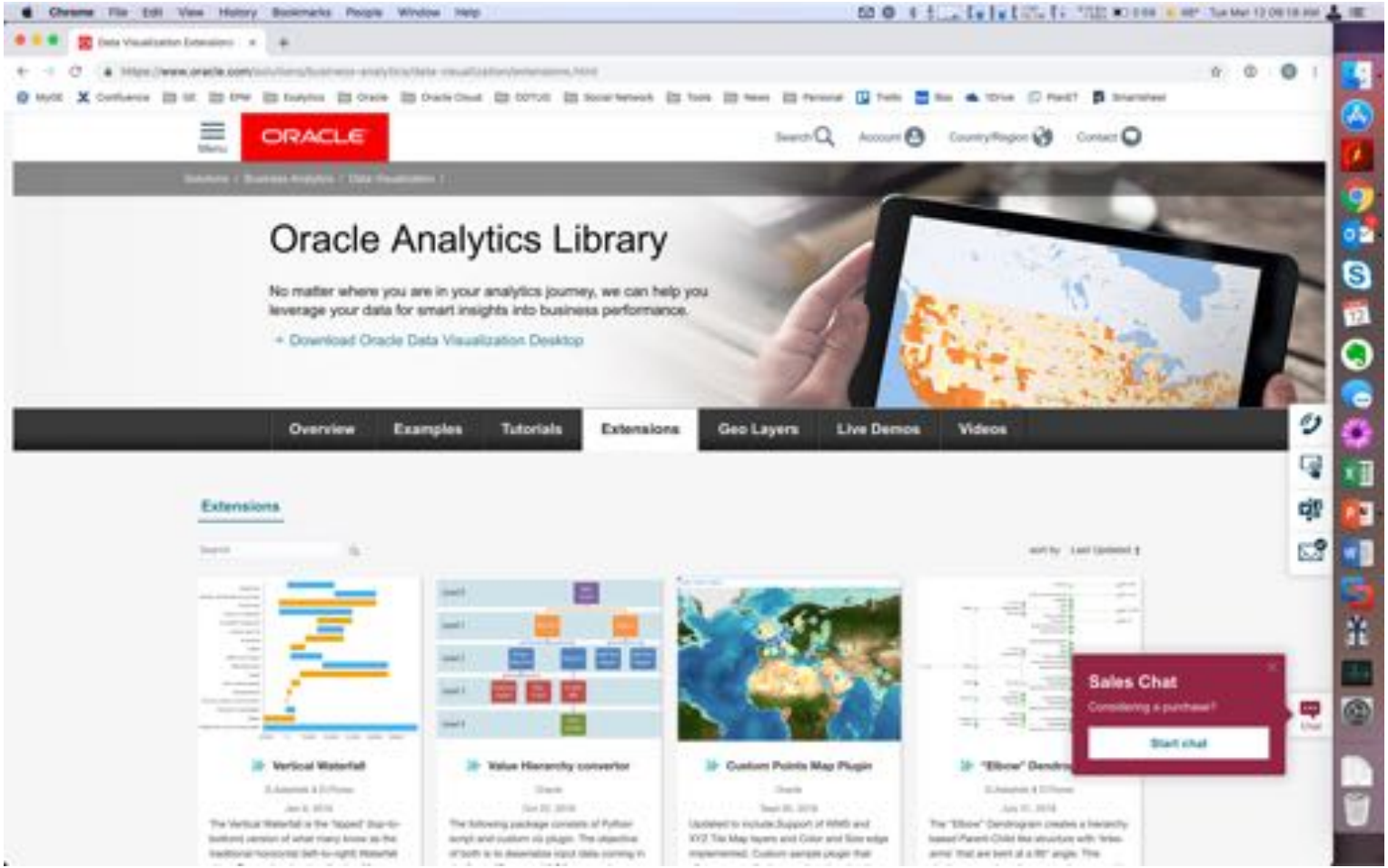

Account E nodes added in 2017 by Line of Business
January, Industrial
February, All
20
February, Financial
February, Industrial
51
March, All
1
March, Financial
March, Industrial
24
April, All
1
April, Financial
April, Industrial
41
May, All
4
May, Industrial
22
June, All
1
June, Industrial
18
August, All
8
August, Financial
15
August, Industrial
54
September, All
17
17
September, Financial
September, Industrial
31
0
10
20
30
40
50
LINE OF BUSINESS
All
Financial
Industrial
Accounts
0
54


Account E nodes added in 2017 by Account Type
January, Expense
February, Asset
February, Expense
February, Liability
March, Expense
March, Liability
March, Revenue
April, Asset
April, Expense
April, Liability
May, Asset
May, Liability
May, Owner's Equity
June, Asset
June, Expense
June, Liability
August, Asset
August, Expense
August, Liability
September, Asset
September, Expense
September, Liability
September, Revenue
10
ACCOUNT TYPE
Asset
Expense
Liability
Owner's Equity
Revenue
Average

Account E nodes added in 2017 by Requested Business Unit

Data Visualization

EXTENSIONS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Oracle Analytics Library
No matter where you are in your analytics journey, we can help you leverage your data for smart insights into business performance.
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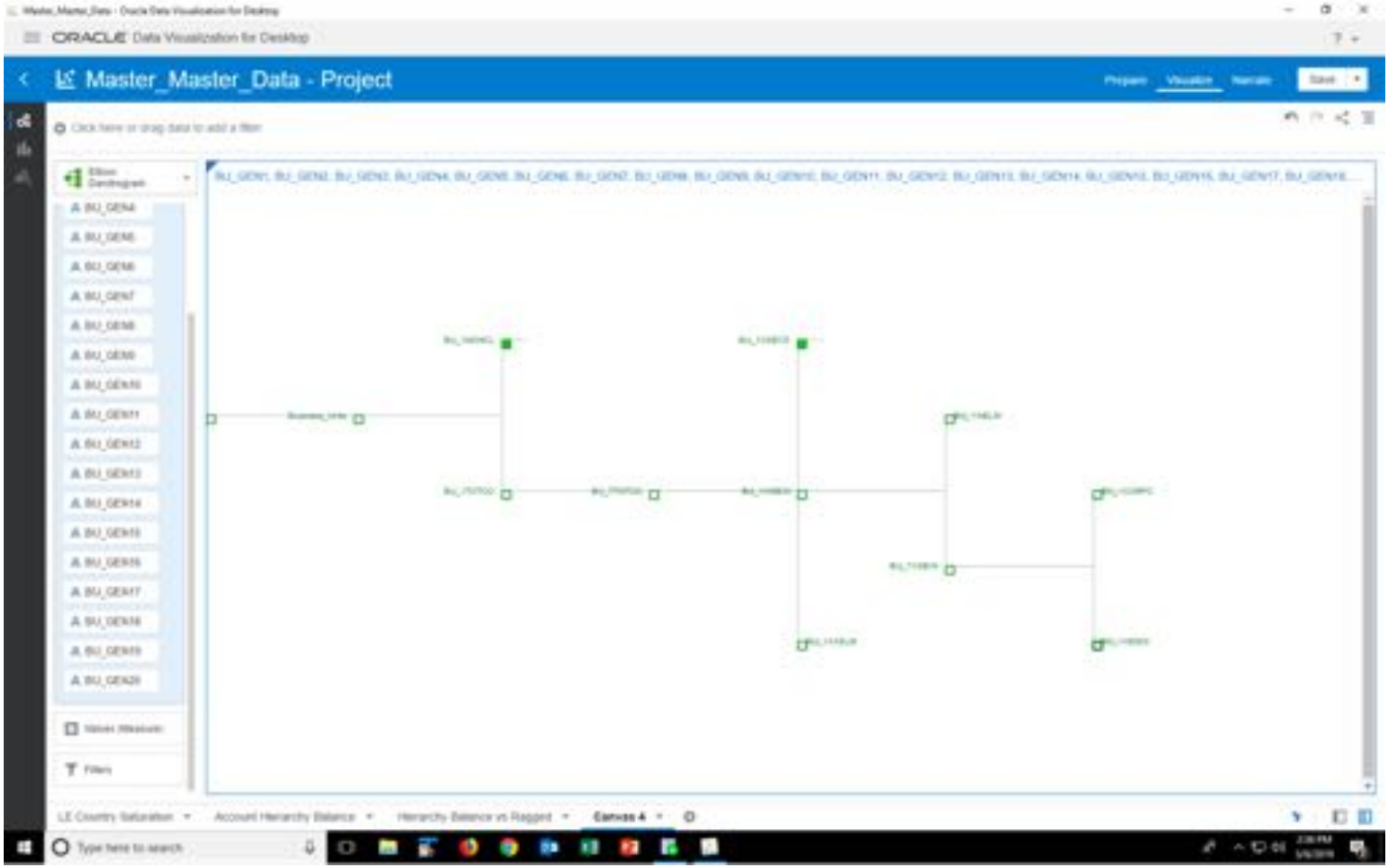
Examples
Tutorials
Extensions
Geo Layers
Live Demos
Videos
Extensions
Vertical Waterfall
Value Hierarchy convertor
Custom Points Map Plugin
Sales Chat
Start chat



“Elbow” Dendrogram

By Gary Adashek

Questions & Answers