

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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The content at Kscope is what makes the conference to valuable for consultanty and clients alike. There is always more to learn about the products we work with daily, and there is always someone that's explored and experimented with functionality that's worth-thaning with follow probusiants - Jeannis Ribeire



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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



Leading globally in power generation & water technologies OIL & GAS Revenue: \$B

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

Enabling utilities and industry to efficiently manage electricity from the point of generation to the point of consumption AVIATION Revenue: \$B

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



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



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

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



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

imagination at work

Why Enterprise Standards?

Legacy

Future

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

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

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

- 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
Customs	 processes. 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



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



. 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

Governed Segments

• *S1*

• *S10* • *511* • *512* • *S13* • *514*

- 52 Centrally managed
- 53 Requires enterprise level • 54 approval • *S5*
- Drives consistency in • 56 COA
- *S7* Makes up majority of • 58 code block • 59

Non-Governed Segments

• *S15* • *S16* • *S17* • *S18*

• *519*

• *S20*

- •
- Locally managed at business level
 - Only requires business level approval
 - Allows for unique business requirements



Hierarchy stats

Hierarchy	Number of Nodes	Number of applicable properties
S1	~ 25,000	~ 70
S2	~ 2	~ 5
\$3	~ 2,000	~ 25
S4	~10,000	~ 5
\$5	~ 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

Rationalized 3x – 4x reduction



Versioning Strategy





20

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

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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 **<u>Read Only</u>** 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.

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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**

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Visualization use cases LEGAL ENTITY SATURATION BY **GEOGRAPHY**

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Company code count Tag Cloud

Visualization use cases **ACCOUNT HIERARCHY BALANCE**

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Generation density



Hierarchy balance

Visualization use cases **COST CENTER ATTRIBUTES**

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Attribute analysis

Additional examples provided by Neviana Zhagaba **MEMBER STABILITY - TRACKING CHANGES OVER TIME**

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Company Codes added in 2017 by Requesting Business by Quarter







Account E nodes added in 2017 by Line of Business

Account E nodes added in 2017 by Account Type









Data Visualization **EXTENSIONS**





"Elbow" Dendrogram

By Gary Adashek



