



# Extraction of Governed Data Domains at Enterprise Scale

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May 21, 2024

**precisely**



# Agenda

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- Importance of Governed Data Domains
- Overview of Master and Reference Data
- MDM Market Awareness
- The Data You Have
- Case Study: Implementation of EnterWorks for Governed Data Domains
- About D3Clarity and Precisely





# Solving for Governed Data Domains



- Objective
  - Complete re-definition of the financial planning process for an energy organization
  - Replace and curate all inconsistent reference and master data with defined, managed, and consistent versions in EnterWorks
  - Original estimate was for 12 months
- Stats
  - Over 2,000 individual plans to capture
  - Over 300 General Ledger Accounts
  - Multiple (5+) separate instances
  - Over 200 separate master and reference data dimensions were discovered, modeled, mapped, and placed under management

Case Study

# Importance of Governed Data Domains



- It is important in today's business environment that your data **truly and accurately** describes the environment in which you operate.
- **Business leaders** are increasingly dependent on data to make informed decisions and need to be provided with the best tools to do their jobs (in this case, data).
- This data is referred to as "Domains." Common examples would be:
  - Customer, Product, Organization, but could also be Vendor, Asset, Employee, etc.
- Basically, how you trade, what you trade, and who you trade with, etc.
- *Consistency and Quality:*
  - This data **IS** used inside every operational system
  - Preserving consistency across **ALL** your systems is therefore of paramount importance since you want them all to refer to the **same environment**
  - Understanding and measuring the quality of this data makes it possible for this data to be **trusted** appropriately
- *Cost of Inconsistency: (Horror stories and anecdotes abound)*
  - Inconsistent data leads to errors, inefficiencies, and **increased operational costs**
  - Ambiguity in this data causes decisions to be second-guessed, expensive remediation not only of data but also process failure or **business missteps**
  - Data inconsistencies can result in redundant efforts, rework, and **missed opportunities**
  - Investing in this data reduces the cost of inconsistency, promotes efficiency, and increases trust not only in the data but also in the decisions based on the data



# Master and Reference Data Management

- Master Data

Your master data embodies these domains and adds definition and substance to the entities that truly describe your business.

- Intent

- Describes your environment and the world in which you operate
    - Encapsulates all the workflows and processes that ensure that this data is **fit for purpose**

- Reference Data

Reference data is a supporting player in this space and offers **consistency** in your business's behavior.

- The adjectives to master data's nouns
    - Consistent sizes for your shirts, and colors for your socks

- Intent

- Systematic organization and maintenance of foundational data elements that provide context and meaning to operational data.
    - Curation of reference data sets, such as codes, classifications, and standards, to ensure **consistency, accuracy, and accessibility** throughout an organization.

# Data fuels the entire business

Finance & Legal  
HR & Operations  
Information Technology  
Product & Engineering  
Sales & Marketing  
Fulfillment & Support

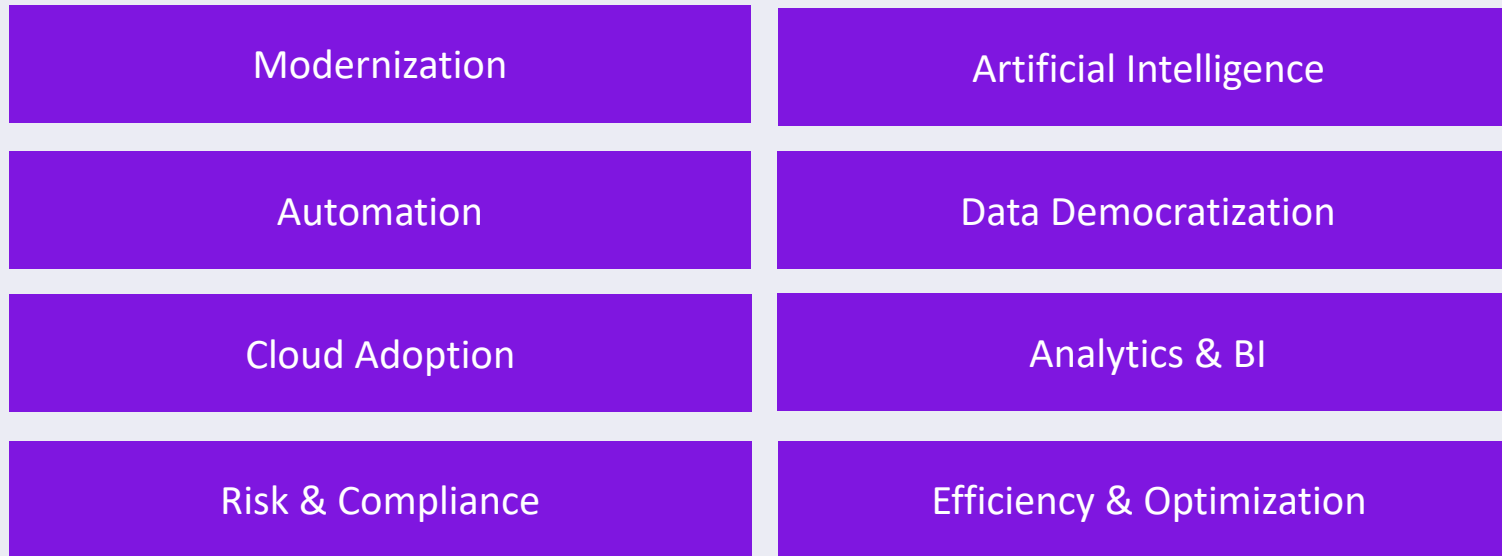


**#1 priority: data-driven business decisions**

2023 Data Integrity Trends & Insights Report

# Innovation alleviates the tension

Common initiatives for moving the business forward



Trusted data is foundational to successful AI, automation, and other critical business initiatives

# Solving data challenges across industries

## FINANCIAL SERVICES



Evaluate branch locations, target marketing, and manage financial crimes and compliance

## INSURANCE



Examine risk to quickly price policies and capture business, manage claims, and detect fraud

## TELCO



Manage network coverage and grow customer base with personalized marketing and service

## PUBLIC SECTOR



Plan and optimize public services, manage safety, and respond to emergencies

## RETAIL & REAL ESTATE



Analyze locations, understand customer demographics, and segment audiences for marketing

## MANUFACTURING & CPG



Optimize delivery and supply chains, manage product information, and analyze pricing





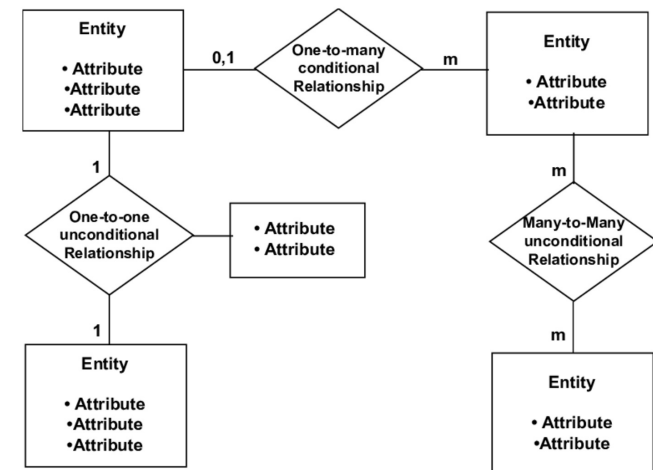
# The Data You Have

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- What are the steps for extracting governed data domains?
  - Processes and standards are embedded in the systems and the data of the organization
  - Often, this data must be understood and extracted from the systems that are running the business
- Extracting governed data domains involves identifying, defining, and documenting the critical data entities and attributes within an organization that require governance.
  - Data Discovery and Profiling
    - Find it. Understand it.
  - Data Mapping and Modeling
    - How does it relate and manifest in all the relevant areas?
  - Data Cleansing and Enrichment
    - Is it as “clean” as it should be? What would make it more **fit for purpose**?

- Data Modeling Features
  - Involves defining the structure and relationships between data elements.
  - Identifies how data entities relate to each other and how they are organized within the system.
  - Aligns with the functions and processes of the business, reflecting how data supports business operations.
- Mapping Data Sources to Governed Domains
  - Involves establishing precise connections between data models and specific business functions or processes.
  - Identifies how different manifestations of data objects align with the data model and serve specific business functions.
- Example: Entity-Relationship Diagram



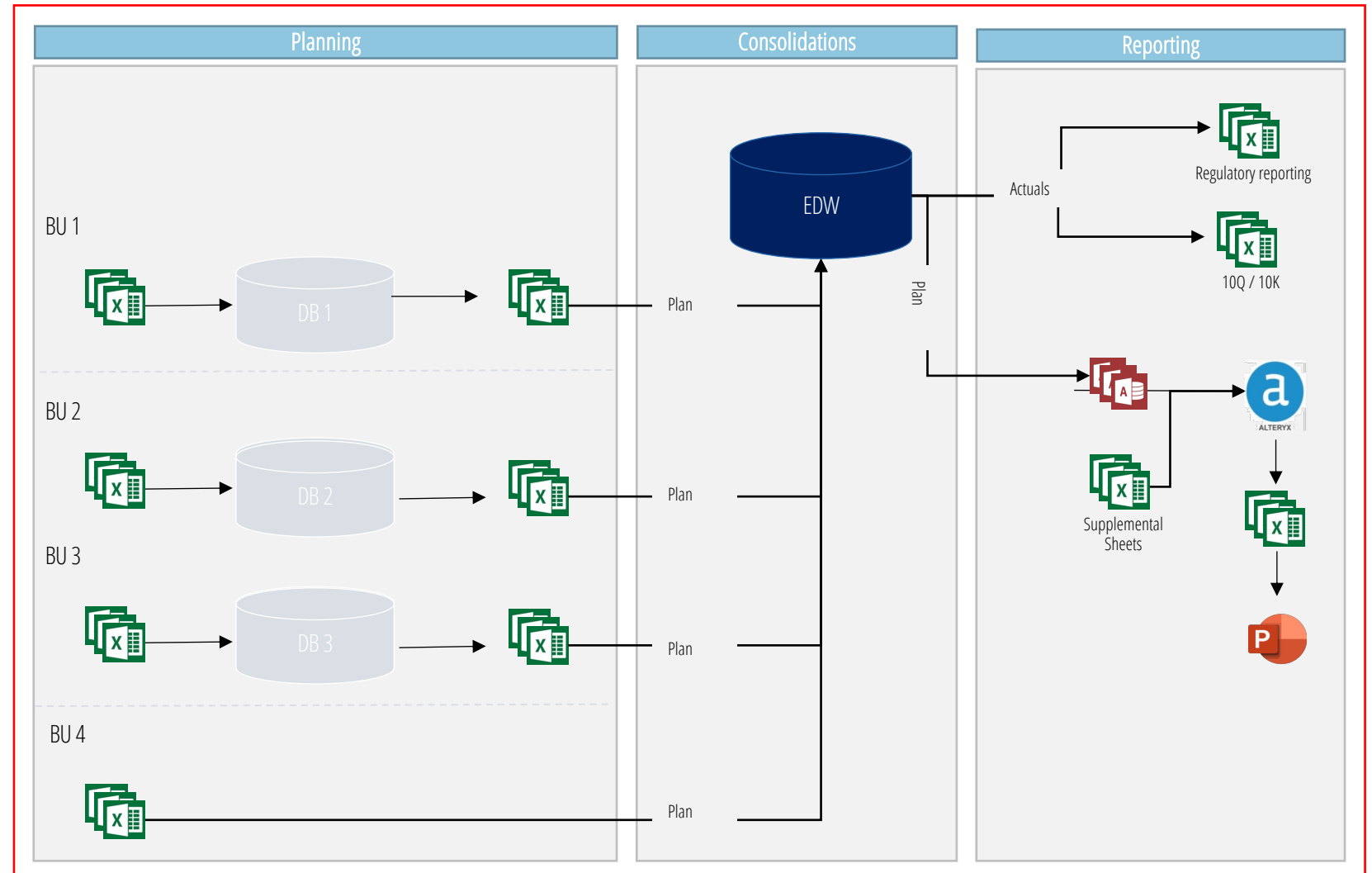
# Consistency and Purpose



- Fit for Purpose
  - Data must be fit for its intended purpose, aligning with business requirements and objectives.
  - Ensures that the data accurately represents the information it is intended to describe.
- Consistency
  - Consistency is key to effective data management, ensuring uniformity and standardization across systems and processes.
  - Utilizing the same defined domain across systems promotes consistency and coherence in data interpretation.
- Case Study
  - Focuses on establishing and enforcing expected standards for data quality and consistency.
  - Includes:
    - Extracting and rationalizing standardized data domains and attributes
    - Implementing data validation rules and quality checks
    - Ensuring your data is fit for purpose
    - Globally align your data standardizations

# Previous Financial Process

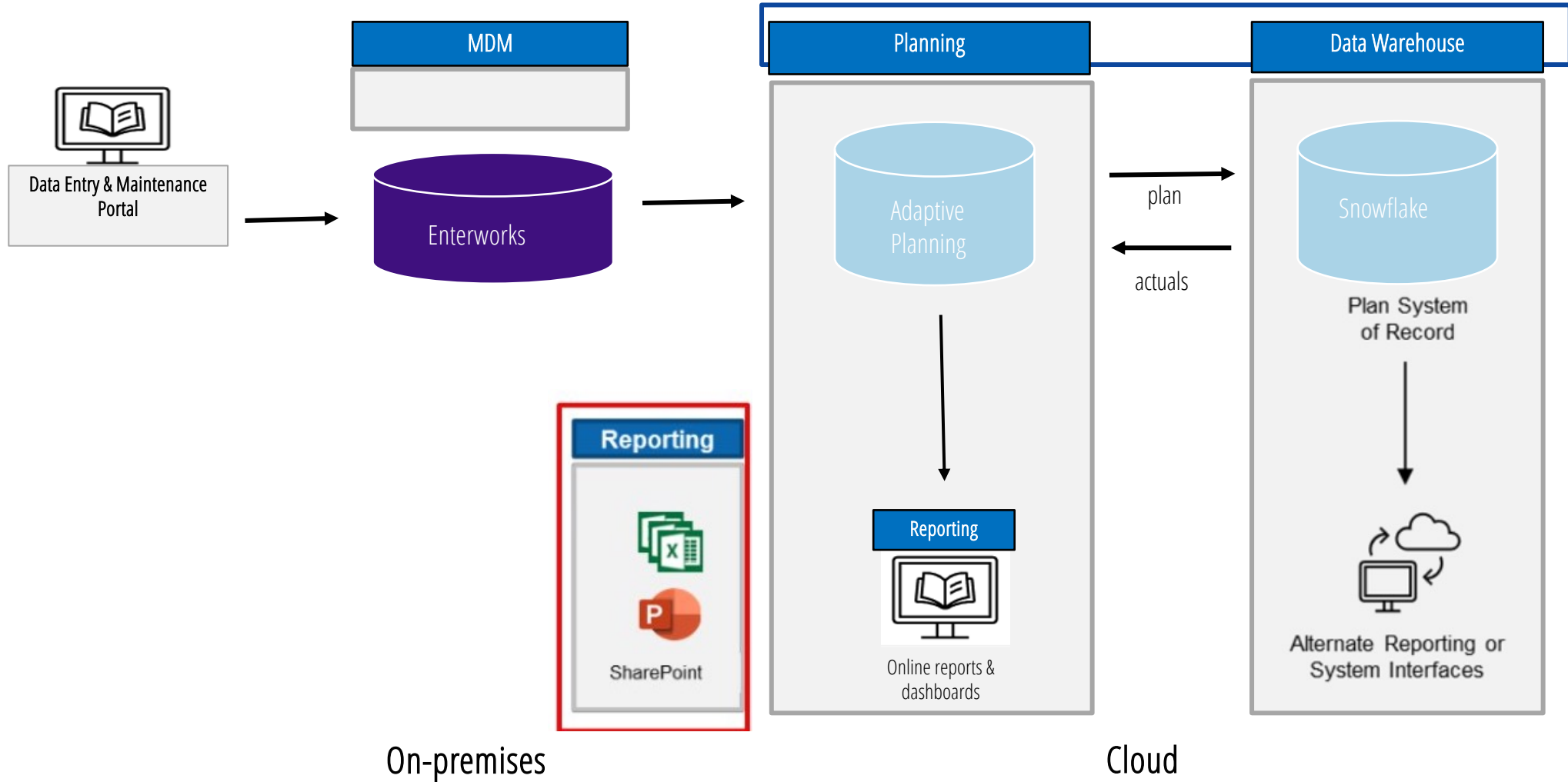
- Collection of spreadsheets
- Manual data entry
- Reconciling data plans against data actuals was error-prone and time-consuming



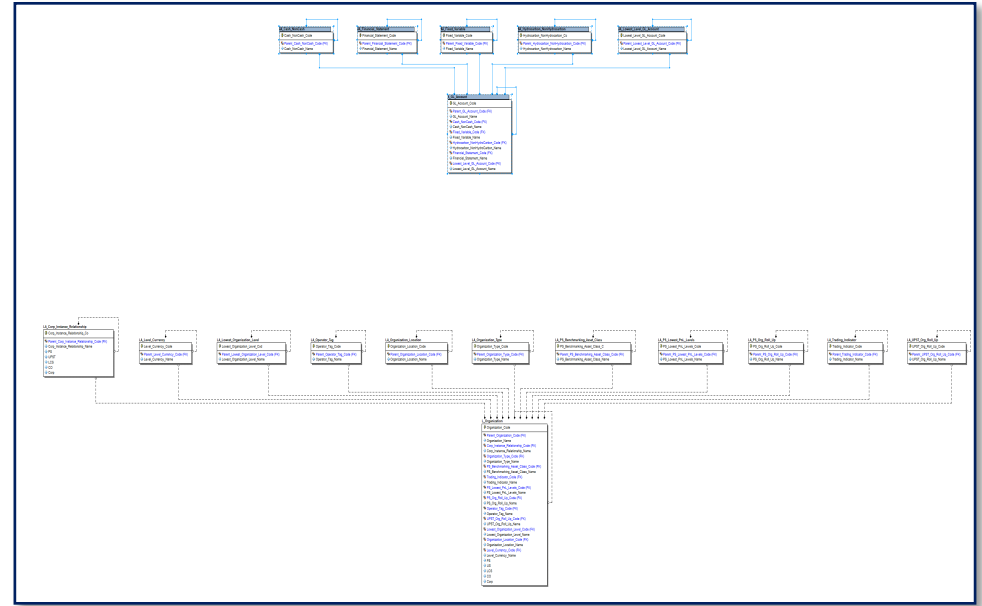
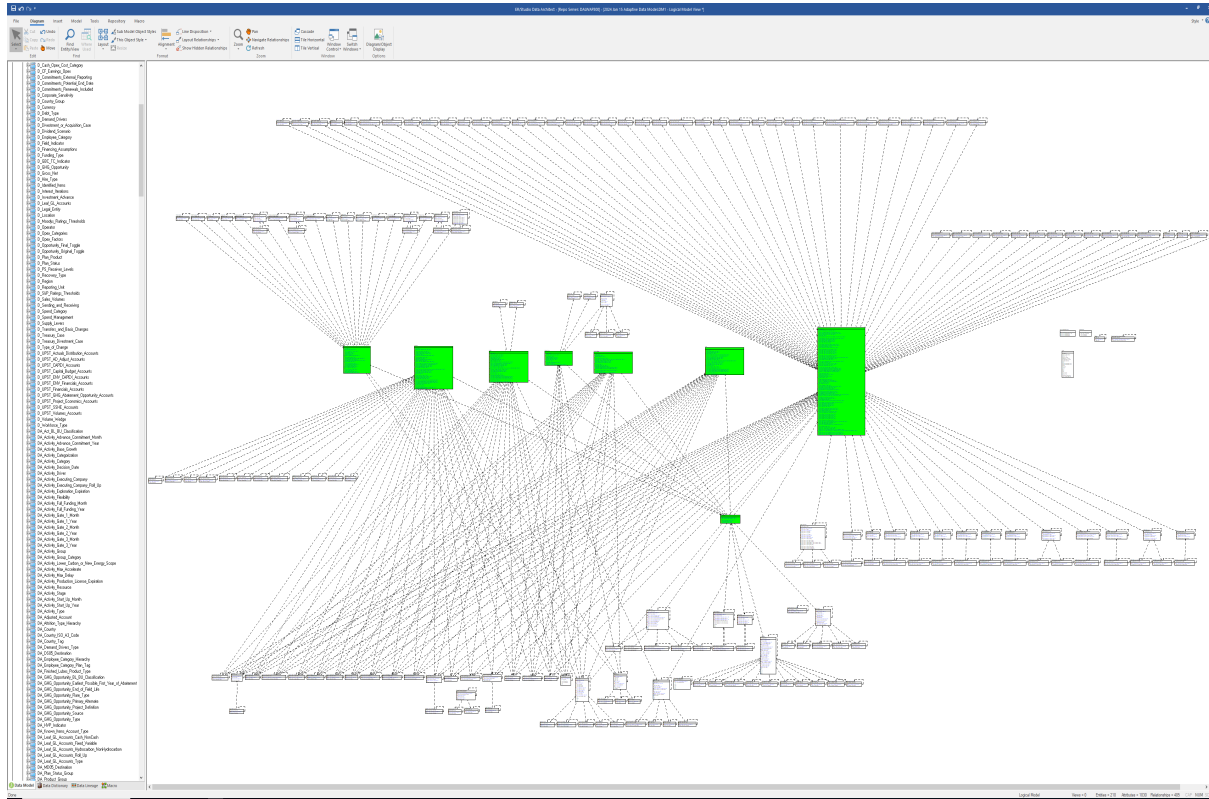
On-Premises



# New Financial Process



# Adaptive Data Model



The screenshot shows a Microsoft Excel spreadsheet with a large table of data. The columns include headers such as 'Organization Type', 'Business Line', 'Business Line', 'Business Line', 'Region/Area', and 'Level Category'. The rows contain detailed information for various organizational units, including names, descriptions, and regional assignments. The spreadsheet is densely packed with text, demonstrating the scale of the data being managed.

Current management



# Recap: Solving for Governed Data Domains



- Objective
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Case Study



# Business Outcome: Model Based Development



- Bring all planning dimensions into EnterWorks as master and reference data.
  - Single source of truth for all reference and master data.
- Automate, Automate, Automate.
- Eliminated manual use of spreadsheets with a curated system.
- Generate objects in EnterWorks in 30 minutes :
  - Domain repositories (200+)
  - User interface across dimensions (200+)
  - Attributes (2000+)
  - Data Items (10000+)
  - Reference lookups for foreign keys across repositories (75+)
  - Hierarchies from repository data for reference
  - Code sets where appropriate

Delivered in 6 weeks

```
SN Adaptive Data Model Key Generator
/* SQLFile version
Generate all the keys necessary for a full data model
Dave Wilkinson */

declare
sql varchar2(4000);
N number := 0;
str varchar(32);
fstr varchar(32);
begin
drop table if exists TempTbl;
create temporary table TempTbl (nid int, patt varchar(32), fpattern varchar(32));

insert into TempTbl values
(0,'0A_S',null), (1,'1A_S',null), (2,'AA_S',null), (3,'A_S',null), (4,'0_S',null), (5,'1_S',null), (6,'A_S',null);

while (N < 6) do
select sp.patt, sp.fpattern into str, fstr from TempTbl sp where nid=N;

sql := (' select listagg('alter table "'||c.TABLE_SCHEMA||'"."'||c.TABLE_NAME||'" alter column "'||c.COLUMN_NAME||'" set not null,1')
from INFORMATION_SCHEMA.COLUMNS c
where c.TABLE_CATALOG='PLANNING_STEWARDSHIP_ANALYTICS' and c.TABLE_SCHEMA='P_S_ADAPTIVE_DATAMODEL'
and c.TABLE_NAME like (str escape '~' and upper(c.COLUMN_NAME) = upper(right(c.TABLE_NAME,(len(str)-2)))||'_CODE')
);

if (len(sql)>0) then
sql:=begin ||sql||'; end;
execute immediate sql;
end if;

sql := (' select listagg('alter table "'||c.TABLE_SCHEMA||'"."'||c.TABLE_NAME||'" add constraint "PK_"||c.COLUMN_NAME||'" primary key ("'||c.COLUMN_NAME||'"
from INFORMATION_SCHEMA.COLUMNS c
where c.TABLE_CATALOG='PLANNING_STEWARDSHIP_ANALYTICS' and c.TABLE_SCHEMA='P_S_ADAPTIVE_DATAMODEL'
and c.TABLE_NAME like (str escape '~' and upper(c.COLUMN_NAME) = upper(right(c.TABLE_NAME,(len(str)-2)))||'_CODE')
);

if (len(sql)>0) then
sql:=begin ||sql||'; end;
execute immediate sql;
end if;

-- Create foreign key
if (fstr is not null) then
sql := (' select listagg('alter table "'||c.TABLE_SCHEMA||'"."'||c.TABLE_NAME||'" add constraint "FK_"||c.COLUMN_NAME||'" foreign key ("'||c.COLUMN_NAME||'"
inner join INFORMATION_SCHEMA.COLUMNS da on upper(c.COLUMN_NAME) = upper(da.COLUMN_NAME) and da.TABLE_CATALOG = c.TABLE_CATALOG and da
inner join INFORMATION_SCHEMA.TABLE_CONSTRAINTS tc on da.TABLE_NAME = c.TABLE_NAME and tc.CONSTRAINT_TYPE = 'PRIMARY KEY' and tc.FK
where c.TABLE_CATALOG='PLANNING_STEWARDSHIP_ANALYTICS' and c.TABLE_SCHEMA='P_S_ADAPTIVE_DATAMODEL'
and c.TABLE_NAME like (str escape '~' and upper(c.COLUMN_NAME) like 'S_CODE' and da.TABLE_NAME like (fstr escape '~')
);

if (len(sql)>0) then
sql:=begin ||sql||'; end;
execute immediate sql;
end if;

end if;

N:=N+1;
end while;

end;
```

```
#create profile
body = ew_profile
body["name"] = f'ap_{repoName}'
body["nameLang"] = ["en"]-body["name"]

r = ew.createProfile(body)
ew_profileId = r["profileId"]
print(ew_profileId)

#Create AttrTab
body = ew_attrTab
body["name"] = 'D03_General_Tab'
body["nameLang"] = ["en"]-body["name"]
body["profileId"] = ew_profileId

r = ew.createAttributeTab(body)
ew_attrTabId = r["attrTabId"]
print(ew_attrTabId)

#Create AttrGroup
body = ew_attrGroup
body["name"] = 'D03_General_Grp'
body["nameLang"] = ["en"]-body["name"]
body["profileId"] = ew_profileId
body["attrTabId"] = ew_attrTabId
body["sequenceNum"] = 1
body["collapsed"] = 1

r = ew.createAttributeGroup(body)
ew_attrGroupId = r["attrGroupId"]
print(ew_attrGroupId)

#Create Attributes
for i, a in enumerate(attributes,1):

body = ew_attribute
body["name"] = a["name"]
body["restrictedName"] = str(body["name"])
body["multiLangSupportInd"] = None #opti
body["nameLang"] = ["en"]-body["name"]
body["dataType"] = a["dataType"]
body["attributeSize"] = a["length"]
body["profileId"] = ew_profileId
body["attrGroupId"] = ew_attrGroupId
body["pkSeqNum"] = a["PK"]
body["customIdgetInd"] = 0
body["customIdgetDetails"] = None
body["attrType"] = None
if "sequenceNum" in a:
```



# About D3Clarity

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## Who We Are:

Experts in data intelligence, data management, and high-scale data platforms.

## What We Do:

- Data Architecture
- Enterprise Data Strategy
- Machine Learning
- Data Governance
- Master Data Management
- Cloud Migration
- Cloud Security
- Managed Services
- Cloud Operations & Automation
- Digital Transformation

**TRUSTED:** 150+ successful projects across 13 different industries

**EXPERIENCED:** 20+ years of data consulting experience; full-service partner in data management, data governance, and cloud engineering

**RECOGNIZED:** Identified by Gartner as 1 of the 18 major MDM External Services Providers in the latest MDM Market Guides and achieves consistently high ratings on Peer Insights

**VALUED:** Attaches great value to long-term relationships

**FLEXIBLE:** Large enough to deliver – yet small enough to go fast

**OUTCOME:** Oriented for both strategy and implementation execution

## Let's Talk

- [info@d3clarity.com](mailto:info@d3clarity.com)
- [D3Clarity.com/home/podcast](https://D3Clarity.com/home/podcast)
- 512-790-3282



## The leader in data integrity

Our software, data enrichment products and strategic services deliver accuracy, consistency, and context in your data, powering confident decisions.

**12,000**

customers

**99**

of the Fortune 100

**100**

countries

**2,500**

employees

### Brands you trust, trust us

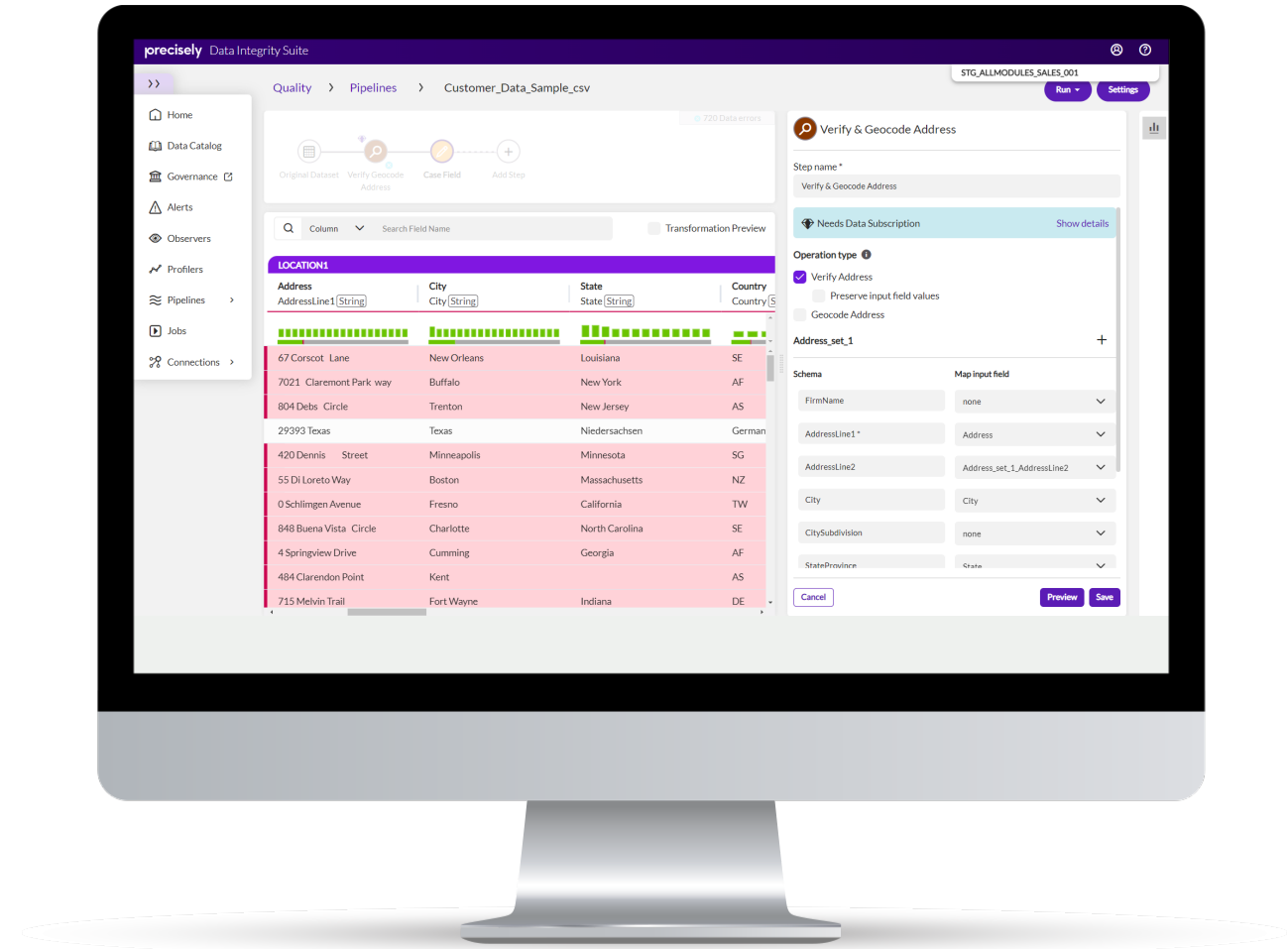


### Data leaders partner with us



# Prepare for the Journey

- Flexible, interoperable SaaS services
- Runs where data lives - on-premises or in the cloud
- Business-friendly user experience with AI-driven suggestions
- Unique in the market in its breadth of capabilities
- Common foundation with shared data catalog connects all capabilities



**precisely**  
Data Integrity Suite



Data Integration



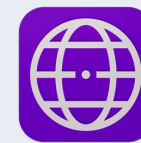
Data Observability



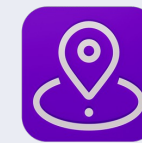
Data Governance



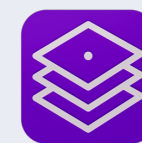
Data Quality



Geo Addressing



Spatial Analytics



Data Enrichment





Thank you for your time.



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