erwin DM 101 Series

Episode 1

Why erwin DM?

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Agenda

- Strategies for identifying and mapping current data structures.
- Techniques for efficiently creating a comprehensive Logical/Physical Data Dictionary.
- Utilizing Conceptual, Logical, and Physical models to effectively convey your data narrative.
- Leveraging this information as a foundational reference for enhancing both new and existing data structures.
- Approaches for fostering collaborative development of these systems.

Introducing:
erwin Data Modeler

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Data Modeling & Management Leader: 30 Years

At the Center of Data Management

erwin® by Quest portfolio

Data intelligence and modeling software to fuel your enterprise and maximize the business impact of your data.

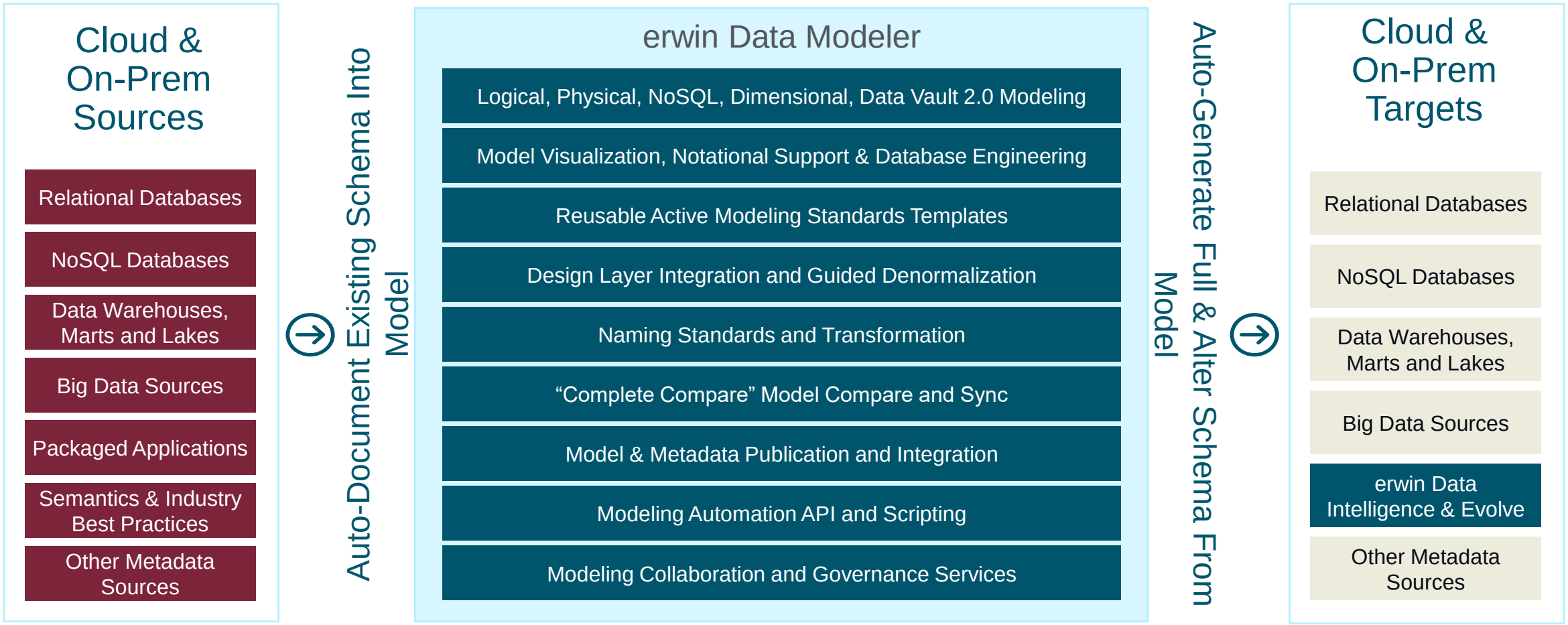
erwin Modeling solutions

- erwin Data Modeler
- erwin Evolve

erwin Data Intelligence by Quest

- Data Marketplace
- Discover Assets
- erwin Data Catalog
- erwin Data Quality
- erwin Data Literacy
- Data Lineage

Single Tool for Data Modeling & Design



Broad DBMS Support and 3rd Party Integration

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ORACLE

amazon REDSHIFT

MySQL

AVRO

hadoop

IBM DB2

snowflake

mongoDB

Couchbase

cassandra

Microsoft SQL Server

JDBC

Azure Synapse Analytics

SYBASE An SAP Company

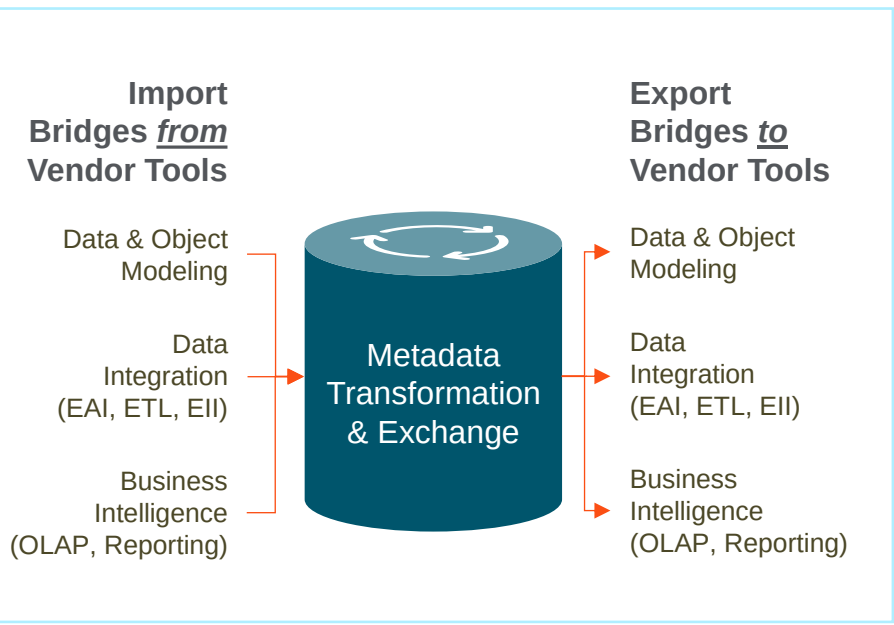
MariaDB

Azure

TERADATA

PostgreSQL

json



Thirty-Three Natively Supported Databases

Database Name	Type	Version	Notes
AlloyDB	Relational	1.1	
ArangoDB	NoSQL	3.x	
Avro	Big Data	1.x	
Amazon Keyspaces	NoSQL		
Azure Synapse	Big Data		
Cassandra	NoSQL	3.x/4.x	
Couchbase	NoSQL	6.x	
		7.x	
Databricks	Big Data		
Db2 for i	Relational	5.x/6.x/7.x	
Db2 LUW	Relational	9.5	
		9.7/10.x	
		11.1	
Db2 z/OS	Relational	8.1	
		9.1/10/11	
		12	
DynamoDB	NoSQL		
Google BigQuery	Big Data		
Hive	Big Data	2.1.x	Refer to the Limitations in Hive topic.
Informix	Relational	10.x/11.x/12.x	
JSON	Big Data	1.x	
MariaDB	Relational	10.4.x	
MongoDB	NoSQL	4.x	
MySQL	Relational	8.x	MySQL 8.0.23 is certified for Amazon Aurora.
Neo4j	NoSQL	4.2.x	
		4.3.x	

Database Name	Type	Version	Notes
Netezza	Relational	7.2	
ODBC	Relational	2.x	
		3.x	
Oracle	Relational	12c r2	
		18c	
		19c	
		21c	
Parquet	Big Data	2.x	
Progress	Relational	9.x/10.x/11.x	The erwin Data Modeler 64-bit version is not verified for the Progress 9.x/10.x database.
PostgreSQL	Relational	12.x-16.x	PostgreSQL 9.6.21, 9.6.24, 10.16, 10.20, 11.11, and 11.14 are certified.
			PostgreSQL 11.8 is certified for Amazon Aurora.
Redshift	Relational	1	
SAP ASE	Relational	15.x/16	
SAP IQ	Relational	15.x/16	
SAS	Relational		
SQL Server	Relational	2012	
		2014	
		2016/2017	
		2019/2022	
		Azure	
Snowflake	Relational		
Teradata	Relational	14.1	
		15.x/16.x	

Native Support

- Reverse Engineer via JDBC/ODBC or Script
- Forward Engineer (Generate Schema DDL)
- Complete Compare (Impact Analysis to create ALTER DDL)
- Move from one data structure to another (for example, convert MS SQL Server 2019 models to Databricks UC)

Data Structures:
Insights into Current Models

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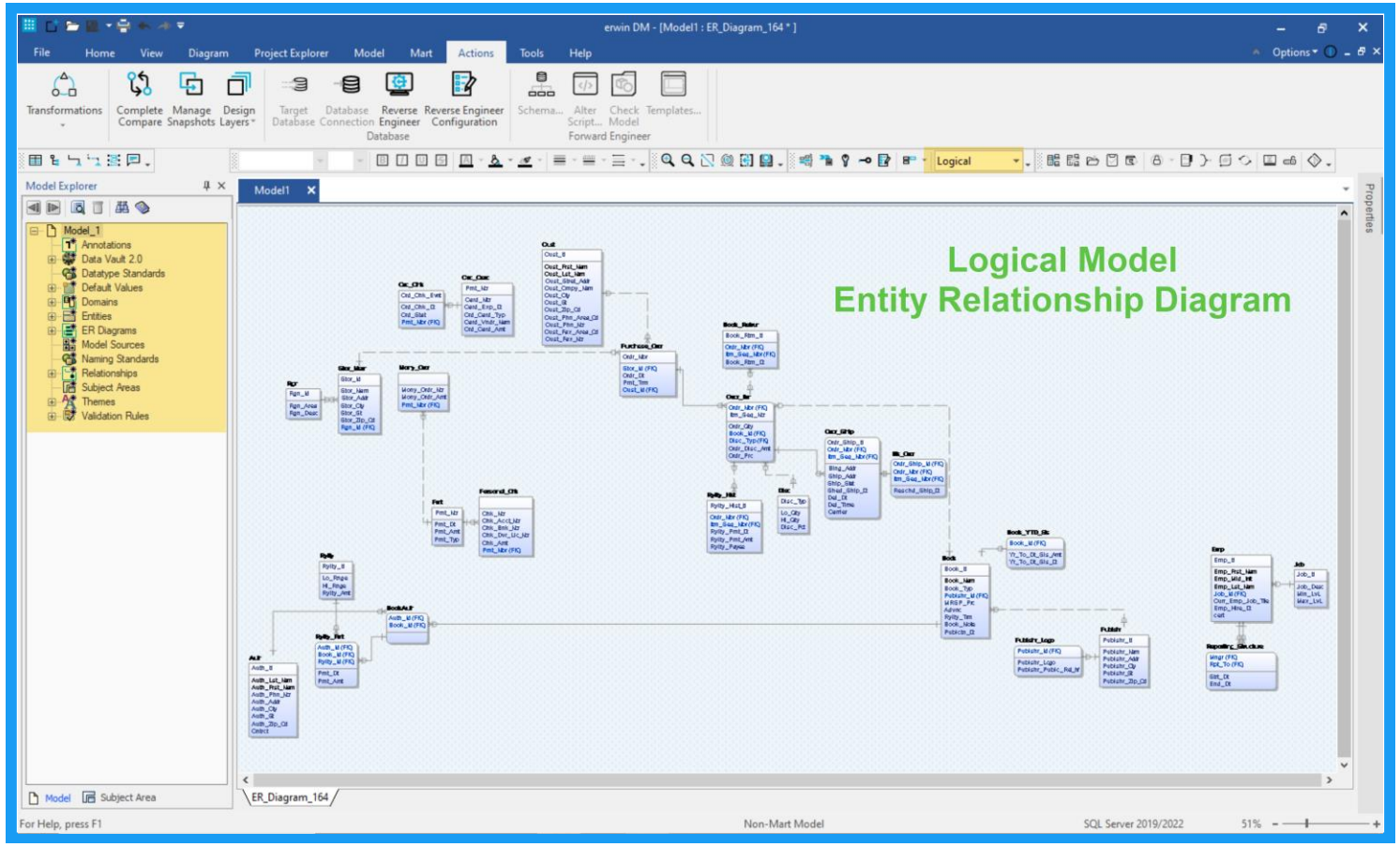
Identifying & Modeling Current Data Structures

Use erwin DM to Reverse Engineer Databases to create a Logical/Physical (or Physical only) model

- On demand or scheduled
- DB Credentials can be stored, encrypted, and shared
- Discover Schema and Table metadata
- All database object types can be reverse Engineered
- PKs and Relationships can be inferred



Streamlined Techniques for Model Creation

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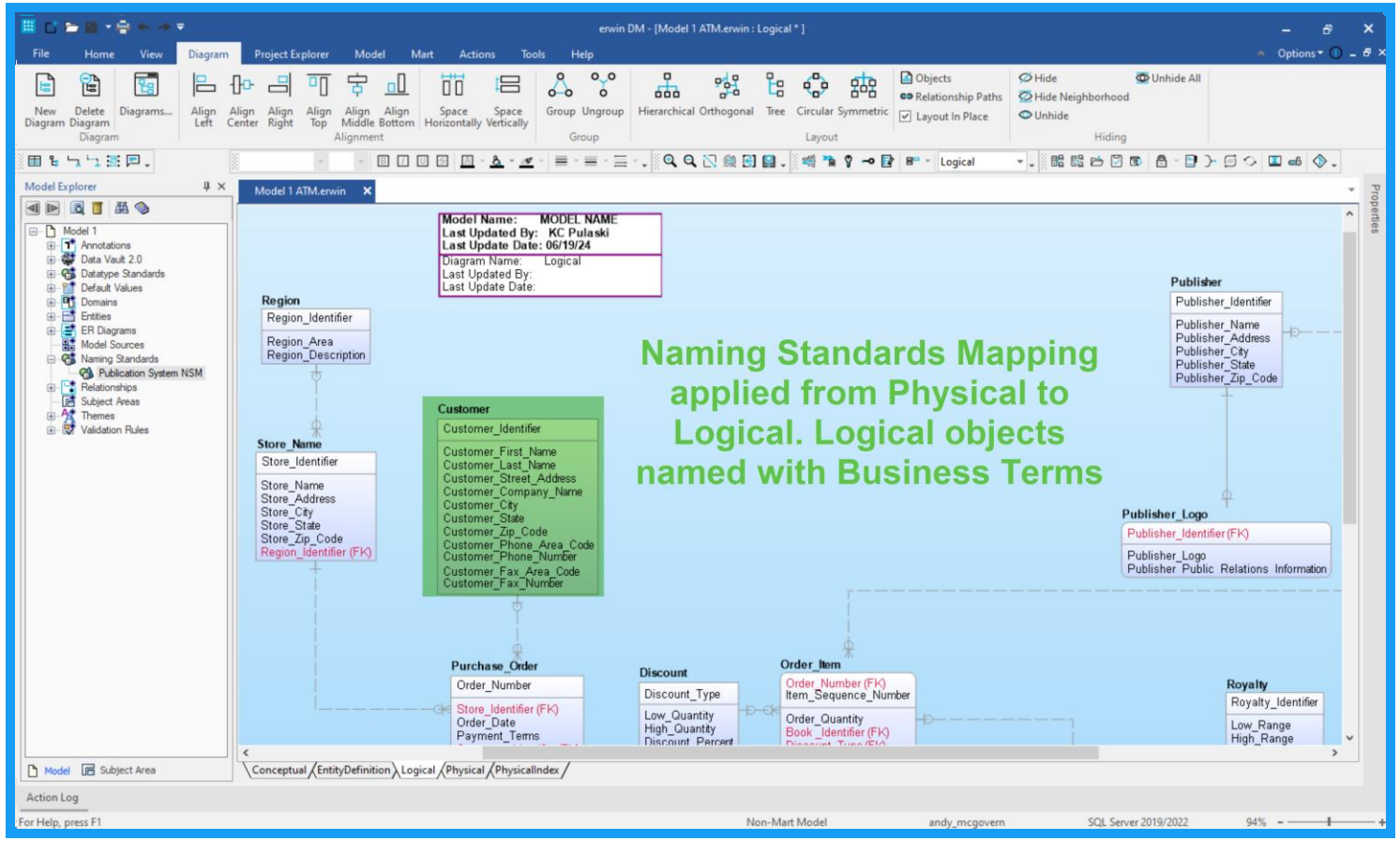
Developing a Logical/Physical Data Dictionary

Use an Active Model Template (AMT) to:

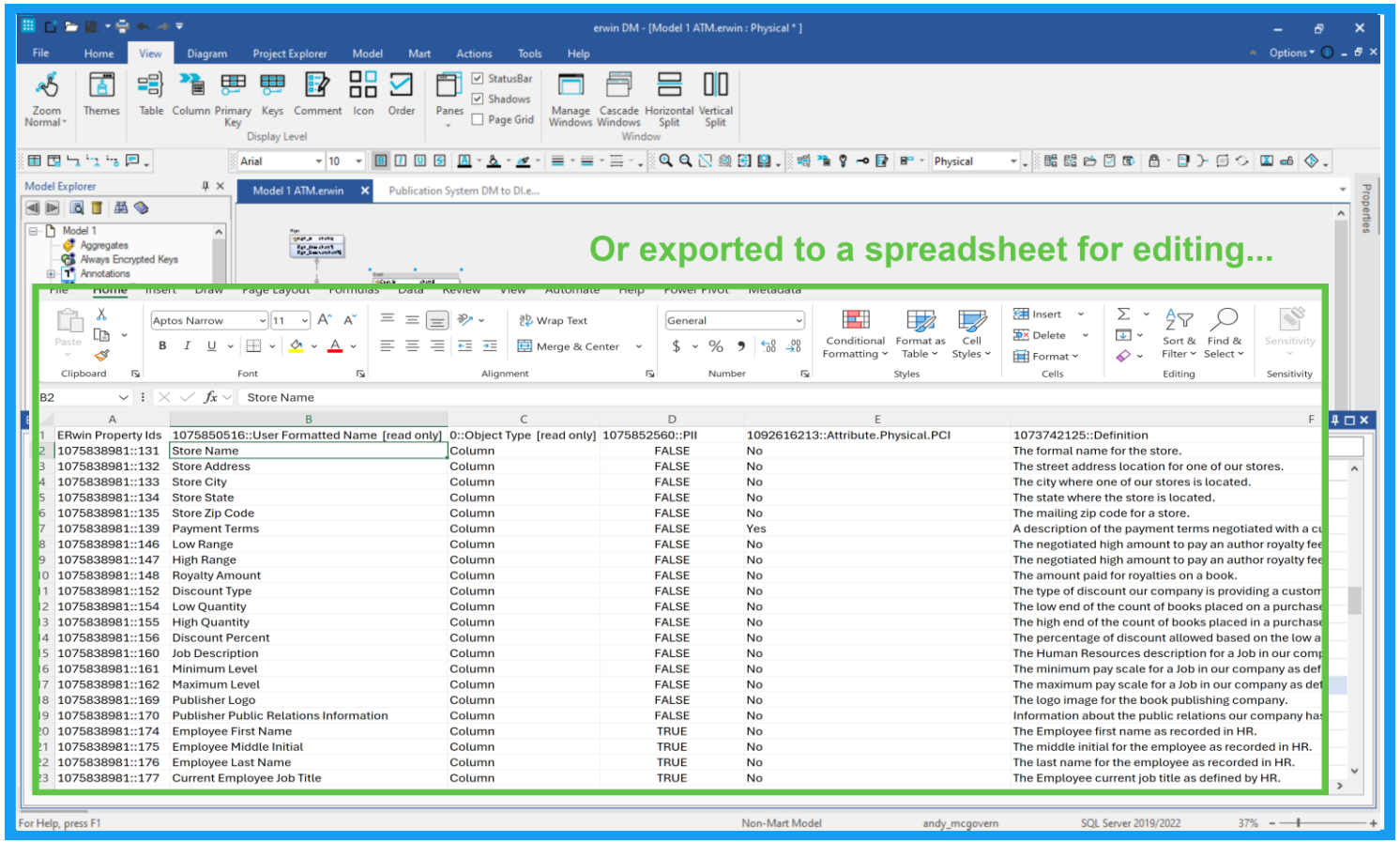
1. Add different types of diagrams to the model
2. Add User Defined Properties (UDP) to columns
3. Integrate Naming Standards Mappings
4. Create Logical Names

And more…



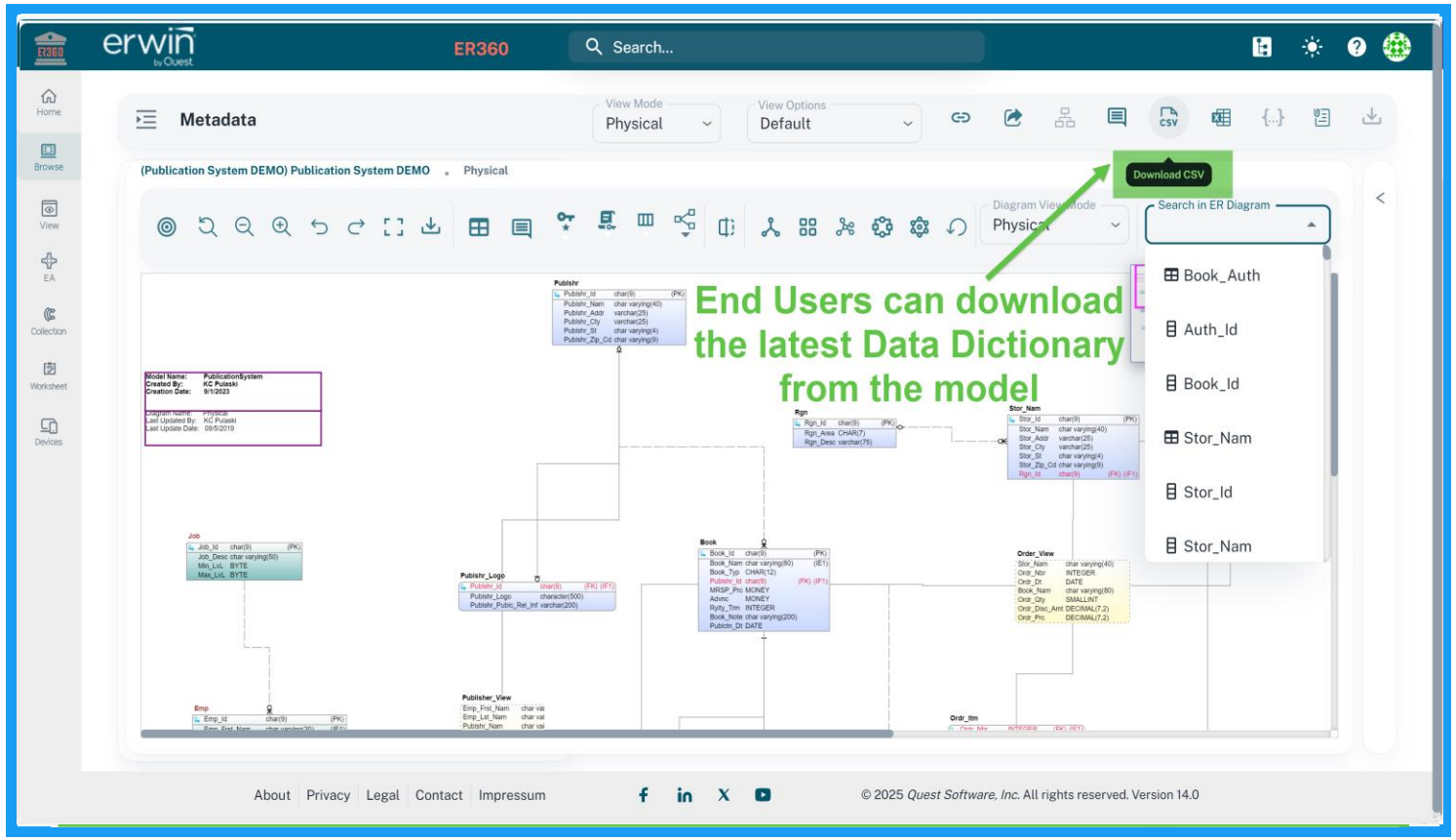
Creating a Logical/Physical Data Dictionary

- Utilize the Bulk Editor to modify model objects, such as SDI and UDP.
- Export selected metadata to a spreadsheet for easy updates and re-import into the model.
- Document organizational definitions and compliance objects within the model.



Creating a Logical/Physical Data Dictionary

- **Metadata Insights:** Access and report on all Logical and Physical metadata, including SDI and UDP.
- **Custom Reporting:** Create tailored reports in PDF, HTML, and CSV formats using Report Designer.Publish “Read-Only” Models to ER360
- **Publish to ER360:** Share "Read-Only" models with stakeholders through ER360, our self-service portal.
- **Data Dictionary:** Download the latest for easy reference.



Data Narratives:
A Model- Driven Approach

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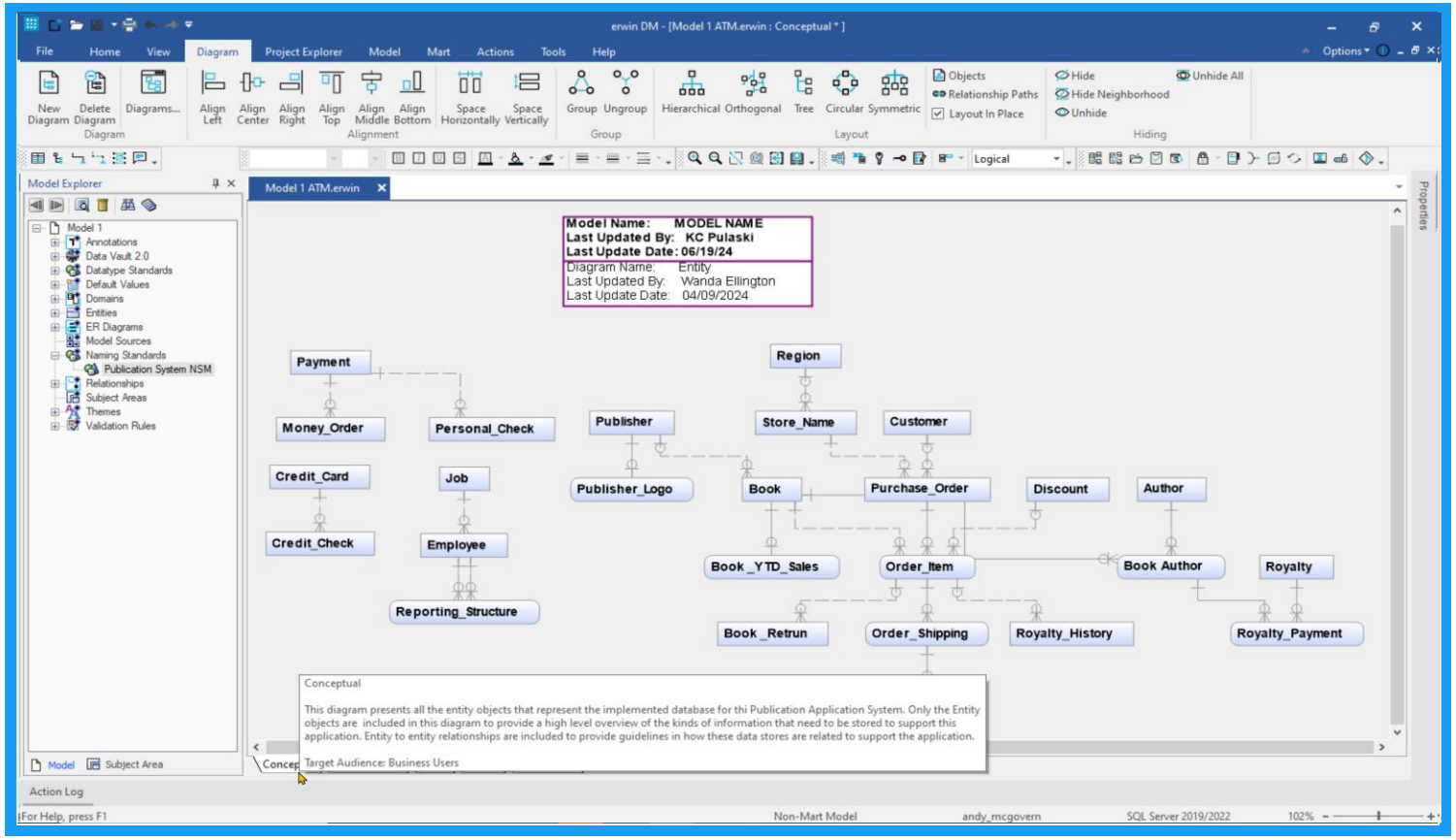
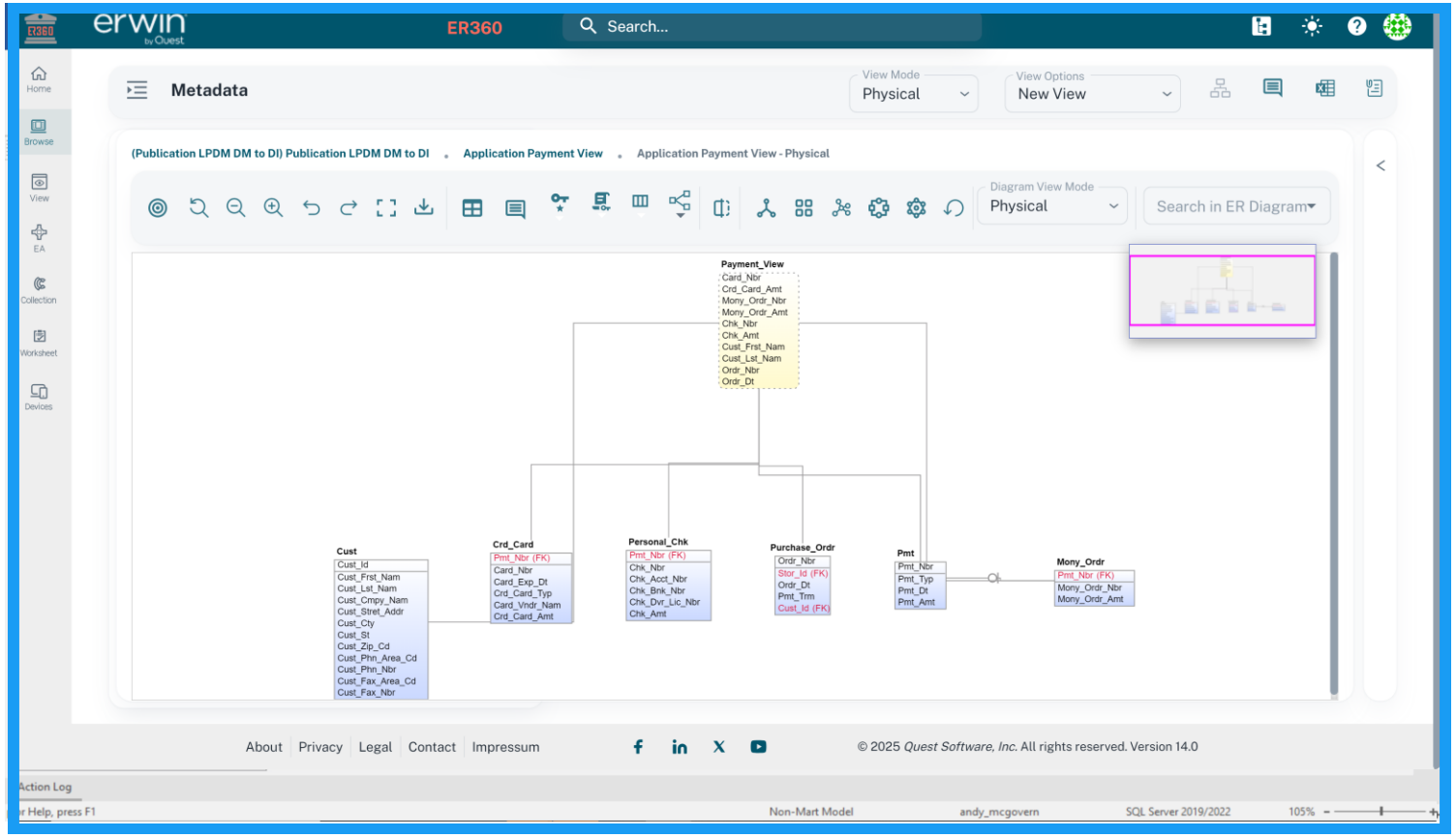
Using Models to Convey Your Data Narrative

- Erwin models can be categorized as: separate conceptual, logical and physical or combined
- A combined model can be used to expose different objects to different audiences from one source
- Logical business terms help to bridge the gap in understanding
- A complex data schema can be viewed from a physical technical perspective or simplified into a Conceptual Diagram



Using Models to Convey Your Data Narrative

- Model objects can be organized into Subject Areas containing related elements.
- Subject Area Diagrams are essential to the model and can be included in reports and published in ER360.



Enhancing Data Structures:
A Strategic Approach

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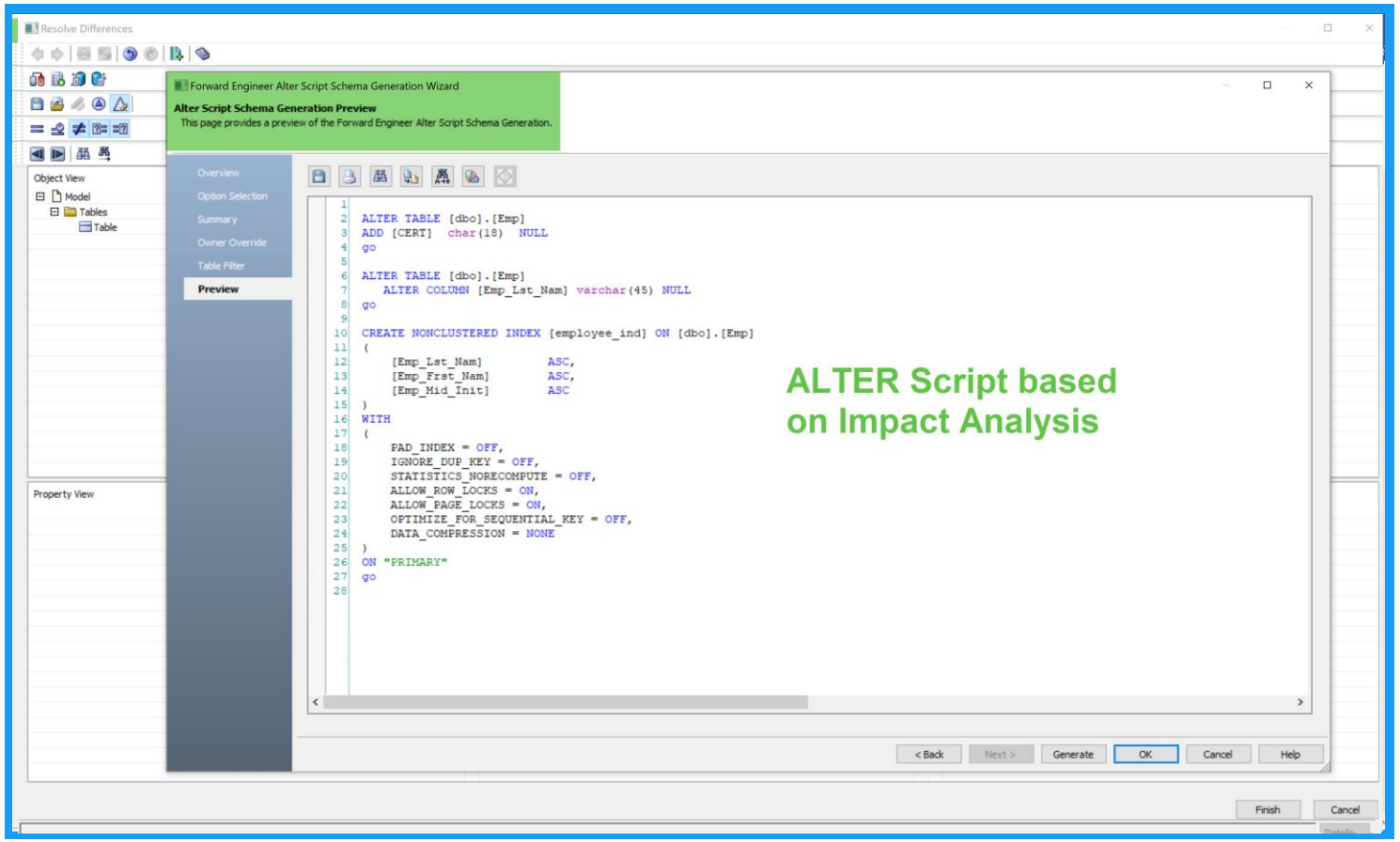
Managing Data Structures with Erwin DM

- After establishing and modeling the baseline of your current data structures, utilize Erwin DM for effective Management and alterations.
- Leverage the Complete Compare feature to conduct impact analysis, comparing model changes against production systems.
- Generate the necessary ALTER scripts for seamless implementation of modifications.



Managing Data Structures with Erwin DM

- **Version Control:** Models can be versioned, allowing for easy comparison between versions.
- **Audit Trail:** Ensures complete auditability of changes within the data structure.
- **Difference/Delta Reporting:** Generate precise Difference/Delta Reports in HTML, Word, and Excel formats.

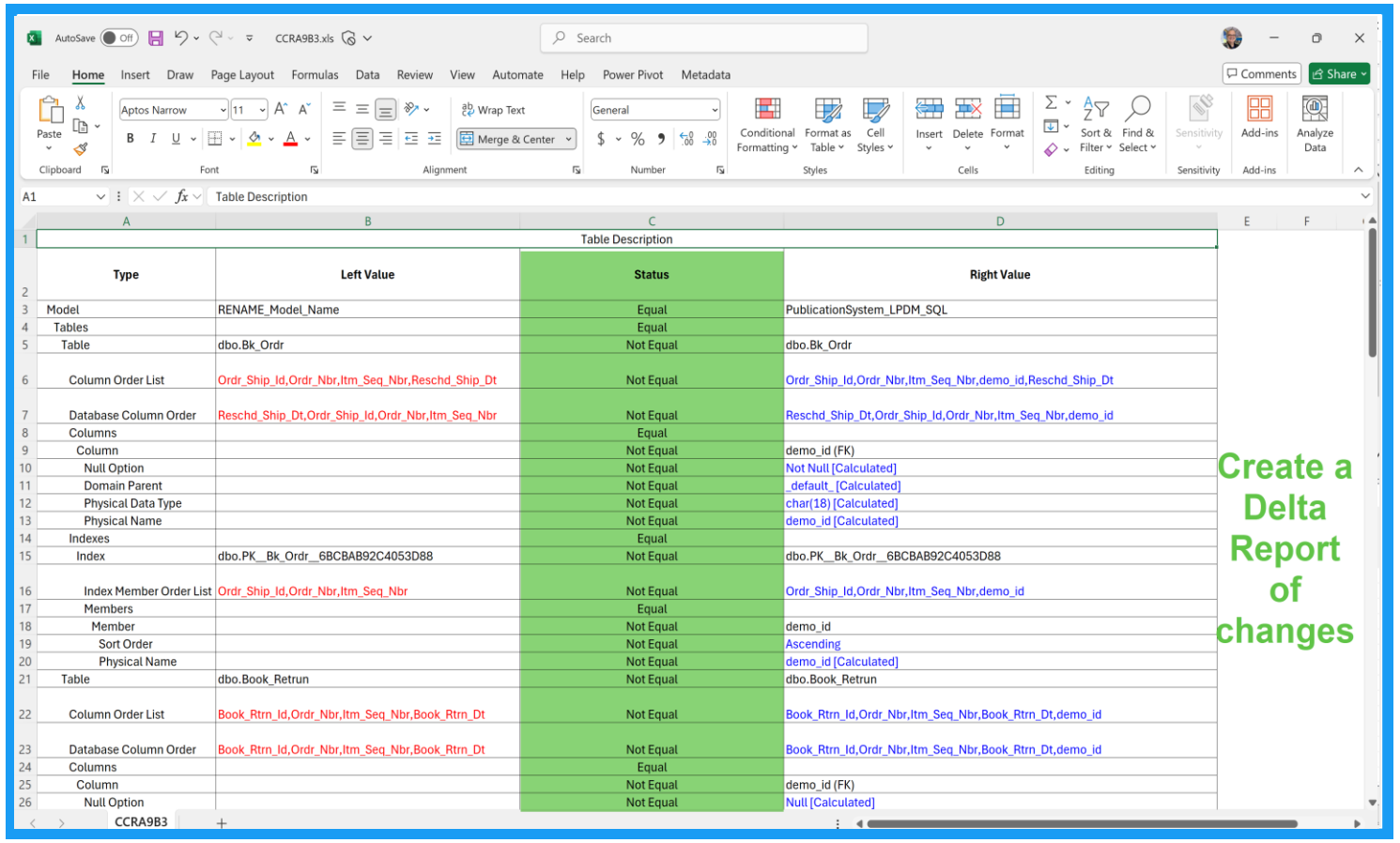


Table Description

	Type	Left Value	Status	Right Value
3	Model	RENAME_Model_Name	Equal	PublicationSystem_LPDM_SQL
4	Tables		Equal	
5	Table	dbo.Bk_Ordr	Not Equal	dbo.Bk_Ordr
6	Column Order List	Ordr_Ship_Id,Ordr_Nbr,Itm_Seq_Nbr,Reschd_Ship_Dt	Not Equal	Ordr_Ship_Id,Ordr_Nbr,Itm_Seq_Nbr,demo_id,Reschd_Ship_Dt
7	Database Column Order	Reschd_Ship_Dt,Ordr_Ship_Id,Ordr_Nbr,Itm_Seq_Nbr	Not Equal	Reschd_Ship_Dt,Ordr_Ship_Id,Ordr_Nbr,Itm_Seq_Nbr,demo_id
8	Columns		Equal	
9	Column		Not Equal	demo_id (FK)
10	Null Option		Not Equal	Not Null [Calculated]
11	Domain Parent		Not Equal	_default_ [Calculated]
12	Physical Data Type		Not Equal	char(18) [Calculated]
13	Physical Name		Not Equal	demo_id [Calculated]
14	Indexes		Equal	
15	Index	dbo.PK__Bk_Ordr__6BCBAB92C4053D88	Not Equal	dbo.PK__Bk_Ordr__6BCBAB92C4053D88
16	Index Member Order List	Ordr_Ship_Id,Ordr_Nbr,Itm_Seq_Nbr	Not Equal	Ordr_Ship_Id,Ordr_Nbr,Itm_Seq_Nbr,demo_id
17	Members		Equal	
18	Member		Not Equal	demo_id
19	Sort Order		Not Equal	Ascending
20	Physical Name		Not Equal	demo_id [Calculated]
21	Table	dbo.Book_Retrun	Not Equal	dbo.Book_Retrun
22	Column Order List	Book_Rtrn_Id,Ordr_Nbr,Itm_Seq_Nbr,Book_Rtrn_Dt	Not Equal	Book_Rtrn_Id,Ordr_Nbr,Itm_Seq_Nbr,Book_Rtrn_Dt,demo_id
23	Database Column Order	Book_Rtrn_Id,Ordr_Nbr,Itm_Seq_Nbr,Book_Rtrn_Dt	Not Equal	Book_Rtrn_Id,Ordr_Nbr,Itm_Seq_Nbr,Book_Rtrn_Dt,demo_id
24	Columns		Equal	
25	Column		Not Equal	demo_id (FK)
26	Null Option		Not Equal	Null [Calculated]

Next Steps:
Fostering Collaboration in Development

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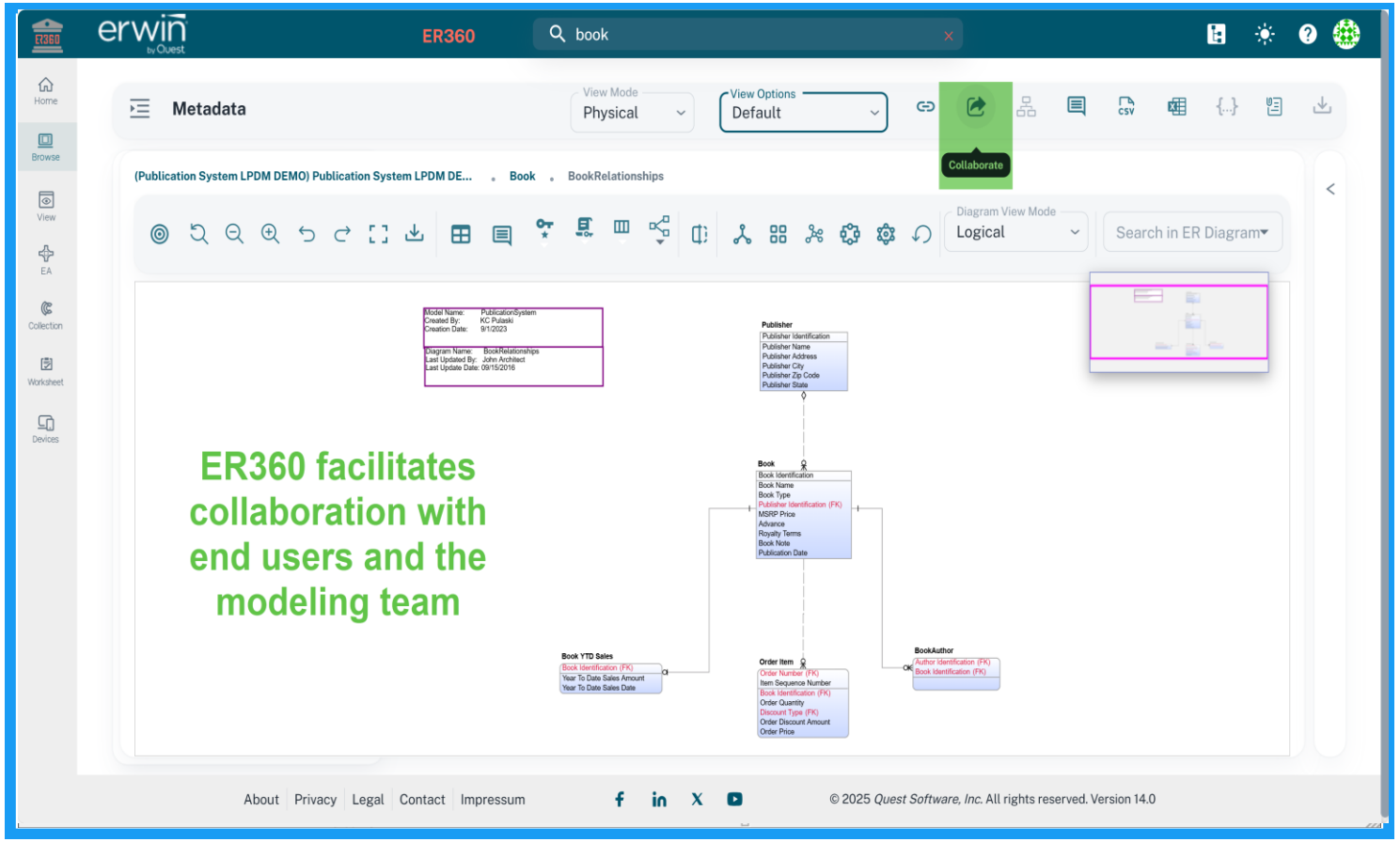
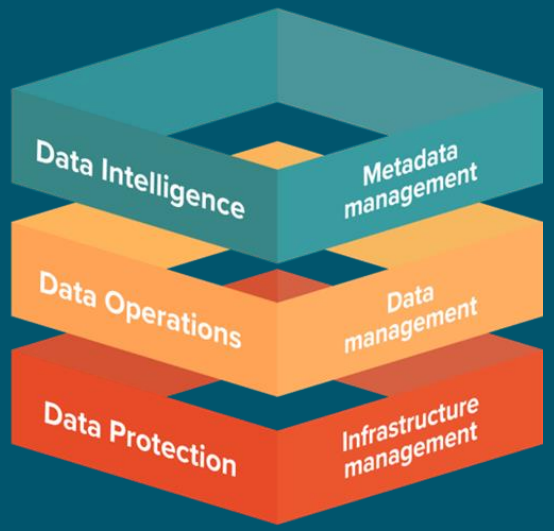
Collaborative Development Strategies

Erwin DM Workgroup Edition

- **Enterprise-ready:** Designed for large scale organizations
- **Role-based access control:** Assign permissions to users based on their role (e.g. Architect, Viewer, or no access)
- **Collaborative development:** Create and move milestones up the development lifecycle to facilitate teamwork across different teams





Thank You

Looking Forward to Seeing You There

Register Today!

Skills 101 – erwin DM, Ep: 2

Discover

Andy McGovern

April 9th

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