



ER/Studio 7.0 New Features Guide

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New Features Summary

Physical Database Design Updates

- **Security Management** - Manage users, permissions and roles in any physical or logical model. You can propagate permissions down to disparate physical models and synchronize users, roles and permissions between the model and a database.
- **Capacity Planning** – Forecast row count and growth rates for tables and calculate future storage requirements. You can predict space requirements for storage objects, tables and indexes and print reports showing needs months or years in advance.
- **Off-line ALTER code generation** – Automatically generate ALTER code when comparing two physical models or comparing a physical model to a SQL file.

Model Management Updates

- **Domain Inheritance** – ER/Studio 7.0 now supports inheritance structures of domains. Derive new domains from existing domains for platform-specific needs, or for building sets of related domains, for example, “Phone” and “International Phone.”
- **User Defined Mappings** - ER/Studio 7.0 now allows the modeler to define their own mappings between the logical and physical models.
- **Add New Model Updates** – Import ER/Studio models or DT/Studio models using the “Add New Physical Model” wizard, in addition to the existing reverse-engineering and SQL capabilities.
- **Submodel Synchronization Utility** – Synchronizes submodels between models.
- **Submodel Editor Updates** – Gives detailed control over construction and maintenance of submodels, allowing you to add or remove related objects.

Data Warehousing Updates

- **Data Lineage Documentation** - Lets you show source-to-target mapping between complex systems like specialized data marts, decision support systems and transactional systems.
- **Data Movement Rules** - Define rules that document exact requirements for data loading, updating, archiving and purging.

Repository Management Updates

- **Nested Projects** – ER/Studio 7.0 lets you nest the structure of your projects. Nested hierarchies allow high levels of organization and more advanced repository security implementation.
- **Branch and Merge** – Diagram branch and merge capabilities in Repository allow for more complex model versioning and deeper team collaboration as the Repository diagrams evolve.
- **Enterprise Dictionary Binding Dialog Overhaul** – A completely new interface manages the Enterprise Data Dictionary analysis of object binding across the repository. New filters and reporting capabilities allow repository stewards to customize the metadata presented to them.

Database Management Systems Updates

- **Generic ODBC ANSI platform support** – Handle any ANSI-compliant data source that has an ODBC driver. This broadens your support to include platforms such as NonStopSQL, RedBrick, PostgreSQL, Progress, Pervasive, TimesTen, and Sybase IQ.

- SQL Server Updates
 - SQL Server 2005 Support
 - MS_Definition Support – ER/Studio 7.0 introduces round-trip support for column- and table-level definitions between the model and SQL Server database.
- MySQL Updates including:
 - HEAP table type
 - SET and ENUM datatypes
- DB2 z/OS v8.x Support

New Licensing

A floating license server, the Embarcadero License Server, is available and can manage licenses for all Embarcadero applications on your network from a single console.

Top New Features

Physical Database Design Updates

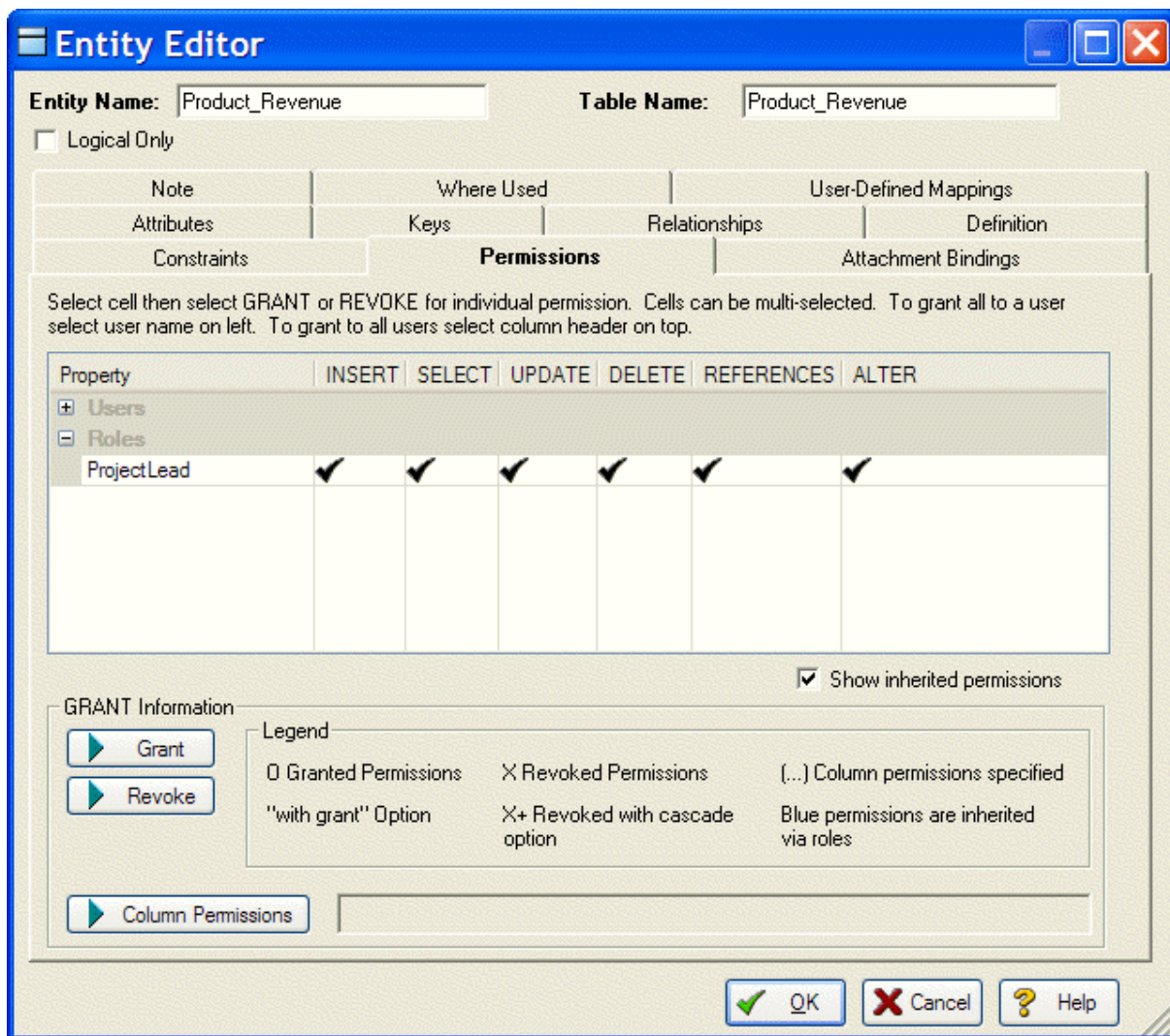
Security Management

You can manage users, permissions, and roles within a physical model. There are new user and role wizards and permission tabs on object editors.

Permissions are supported in both the logical and physical models. Permission support in the logical model allows you to manage common security and users across DBMS platforms. The physical model support is limited to Oracle, DB2 LUW and z/OS, Sybase ASE and SQL Server. Submodel permission management is similar to tables and procedures: any user/role in the main model can be added or removed from submodels.

See the Help Documentation for a complete list of security settings listed by platform and object.

You will see the additional controls on familiar objects such as nodes in the left explorer pane, table/entity editors (below) and wizards.



Assigning permissions to users at the object level

To get started with permissions you first add a role and define the level of control for that role, then add users and assign the role to them.

To Add a role:

1. In the Diagram Explorer Pane, right-click on the “Roles” node.
2. Select “New Database Role...”

To Add a user:

1. In the Diagram Explorer Pane, right-click on the “Users” node.
2. Select “New Database User...”

Capacity Planning

You can forecast storage requirements of newly implemented or existing database systems so budgeting and engineering resources are planned well in advance. Capacity planning metrics can be stored for each table so the table is properly sized before implementing in a database. You can export these metrics in formats such as RTF or CSV so users can draft their own customer reports for the growth patterns of a physical model.

Capacity Planning Options

Sizing Options | Growth Analysis | Growth Parameters

Select Table:

- GIM.BROKER
- GIM.CLIENT
- GIM.CLIENT_TRANSACTION**
- GIM.INVESTMENT
- GIM.INVESTMENT_TYPE
- GIM.OFFICE_LOCATION

Starting Amount (Rows): 18675

Data Growth:

Static (Object will not grow)

Dynamic - Object will grow by: 10000 Rows per Month

Maximum Size (Rows):

Column Properties:

	Column	Datatype	Nulls	Alloc. Width	Avg. Width	Percent Nul
1	CLIENT_TRANSA(NUMBER(0,0)	NOT NULL	20	--	--
2	CLIENT_ID	NUMBER(0,0)	NOT NULL	20	--	--
3	INVESTMENT_ID	NUMBER(0,0)	NOT NULL	20	--	--
4	ACTION	VARCHAR2(10)	NOT NULL	10	4	--
5	PRICE	NUMBER(12,2)	NOT NULL	7	--	--
6	NUMBER_OF_UNI	NUMBER(0,0)	NOT NULL	20	--	--
7	TRANSACTION S	VARCHAR2(10)	NOT NULL	10	6	--

Sizing Estimates:

Average Row Size (bytes): 138

	Tables	Index(es)
Initial Size:	2M	365K
Projected Size:		
- 3 month	6M	949K
- 6 month	10M	1M
- 1 year	18M	3M

Index Options:

PK AK

FK IE

Storage Properties:

Partitioned?: NO

Type: ..

Location: USERS

Auto Extend?: N/A

OK Cancel Help

Forecasting growth requirements

The Table Editor has a new Capacity Planning Tab, and you can extend planning to the entire physical model.

To launch the Capacity Planning Options utility:

1. Display the Physical Model.
2. From the main menu, select Database > Capacity Planning.

Offline ALTER SQL Generation

You can create ALTER code without a database connection, helpful for users who do not have access to a “live” database. This lets you generate ALTER SQL synchronization scripts when comparing one physical model to another.

Model Management Updates

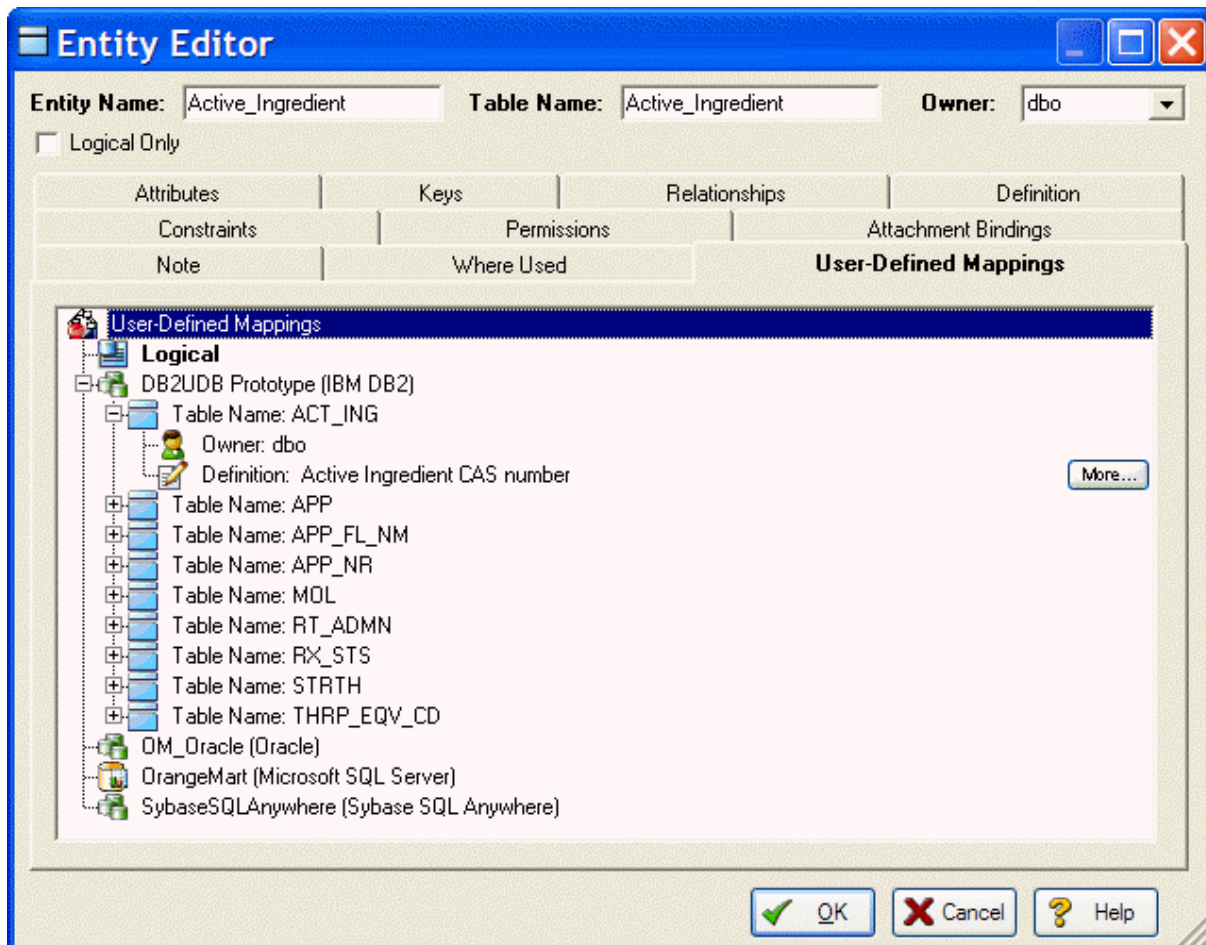
Domain Hierarchy and Inheritance

Domains can be created hierarchically so specific properties are inherited from the parent domains. You then use child domains can to manage common data elements across physical environments. The domain system allows domains of domains, e.g. “phone” and “international phone.”

User Defined-Mapping

User-defined mappings (UDMs) relate any objects that you deem to be of the same type across models. There are no restrictions on what you map together.

In the Table Editor invoked from the Physical Model below, a UDM exists for Active_Ingredient, Applicant, Applicant_Full_Name, and Therapeutic_Equiv_Code. You might use the Note Tab to describe the relation as, “This UDM binds applicants and their drug profiles to alert staff to possible drug interactions.”



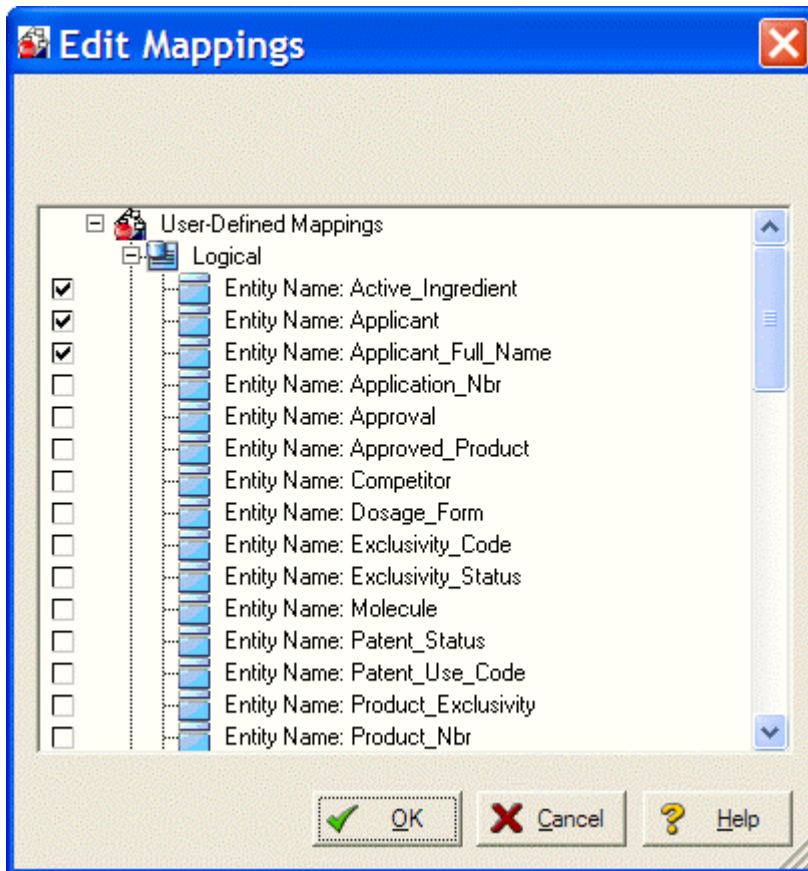
Displaying non-canonic data mappings

To show the maps:

1. Select Table/Entity Editor > “User-Defined Mappings” tab.

To edit the maps:

1. Right-click on the Entity/Table node in the Explorer pane.
2. Check the items to be mapped. You'll see:



Selecting User-Defined mappings

Add New Model Updates

You can now import and compare models from DT/Studio to models in ER/Studio. Your sources are importable from *.dm1 files, *.dt1 files in addition to a database, an *.erx (saved from a reverse-engineered database) or SQL file.

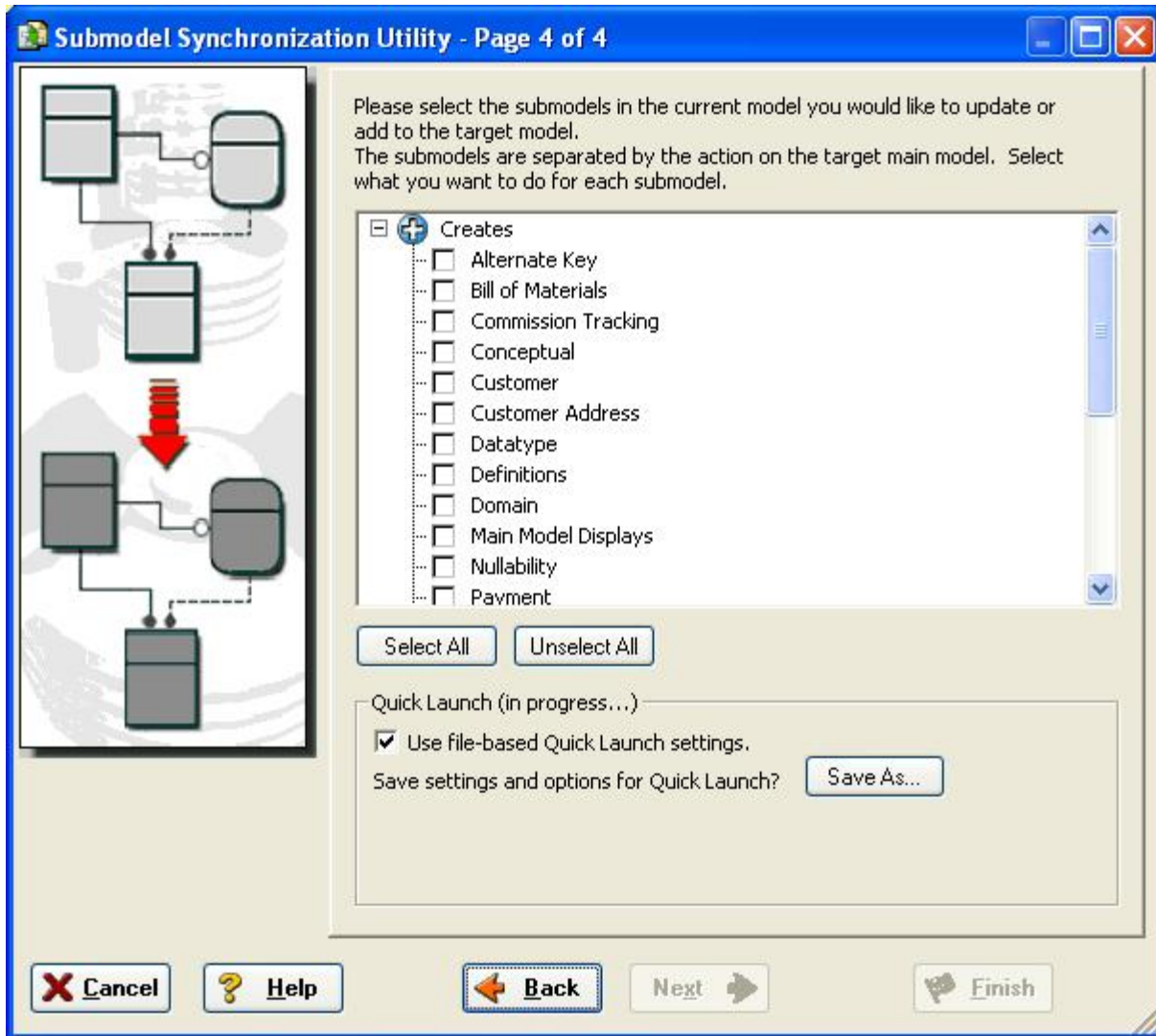
The “Add New Physical Model” Wizard supports all this and an ER/Studio model will represent any point along the way.

Submodel Synchronization

This utility enhances your ability to manage submodels across disparate models. You can add, remove and update submodels in logical and physical models and across a logical and physical model.

Example 1. You have existing logical and physical models in a *.dm1 file, each with numerous submodels. The physical model represents the current development benchmark environment. You use the “Add New Physical Model” to add a physical model of the “test” environment. This “test” environment is close to, but not exactly matching, the existing physical model that is the development benchmark environment. You might now add or transfer the submodel from the development model to the test model. The same case would apply across disparate *.dm1 files.

Example 2. You have a logical and physical model within the same *.dm1. For reporting purposes, the same submodels are used in the logical and the physical models. You make substantial changes, adding and removing objects or adding new submodels for new projects. Your users now want to synchronize or promote these changes to the physical model: you use the Submodel Synchronization Utility.



Options while synchronizing disparate submodels with a target model

To launch the Submodel Synchronization Utility:

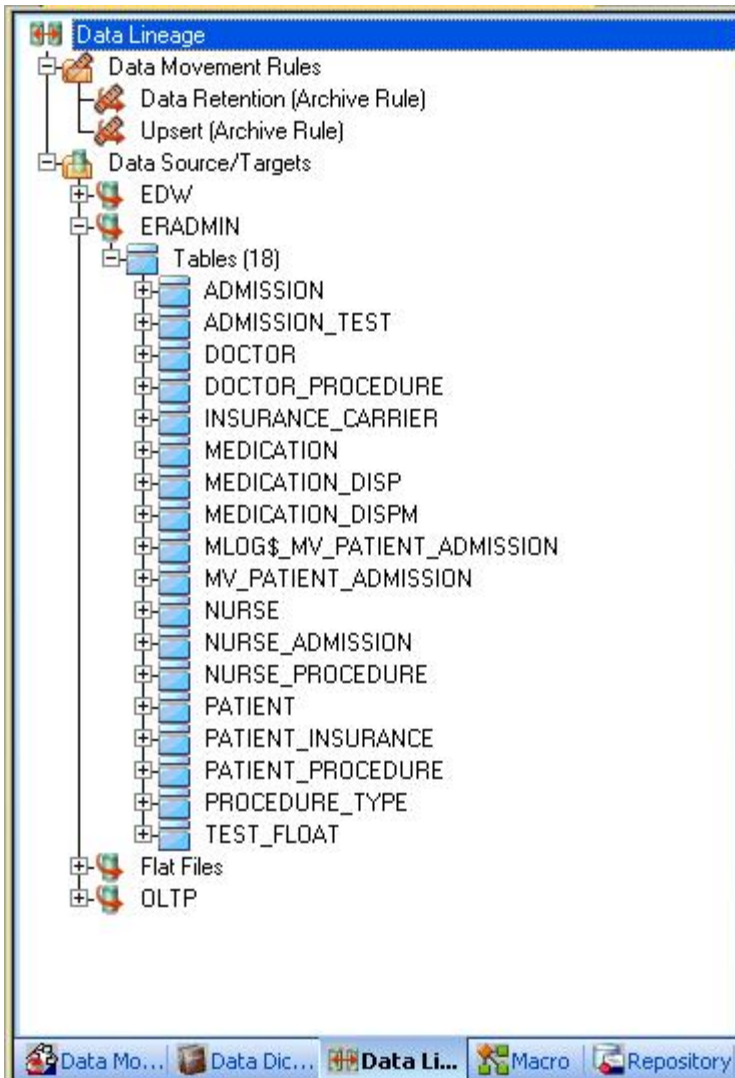
1. From the Menu, Select Model > Submodel Synch,

Or

1. Right-Click on any Entity /Table in the Diagram Explorer.

Data Warehousing Updates

Data Architects must often document the preliminary requirements for data movement throughout their organization. The process of moving data from point A to point B, and through any intermediate steps, is referred to as “Extraction, Transformation and Load” (ETL). Points A and B can be anything from flat files, databases, XML, Access or Excel, and others. New source and target data movement interfaces help data architects communicate ETL plans to developers before coding their projects. ER/Studio gives you the Data Lineage and Data Movement Rules utilities described below for the job.



Data movement across systems

Data Lineage

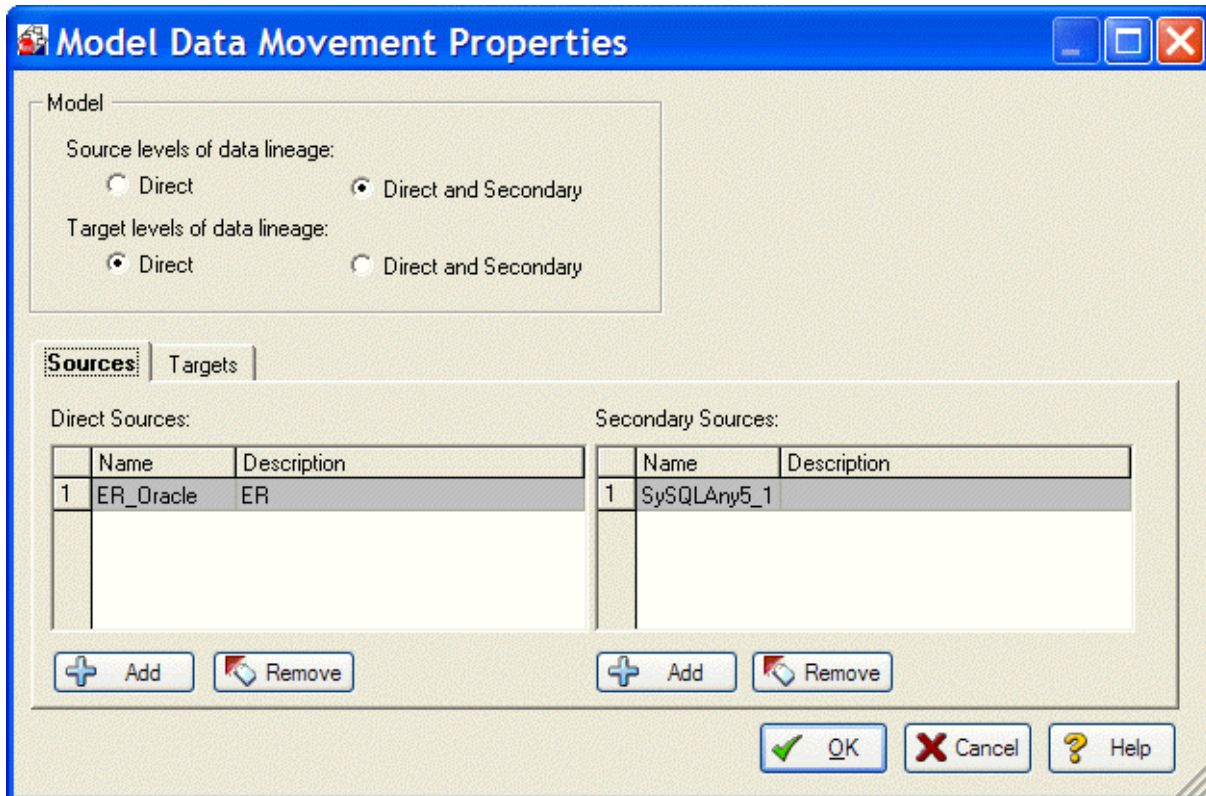
Data lineage documents the movement of data between systems. This is sometimes referred to as “source and target” mapping. For example, your organization’s data warehouse may have data fed in from multiple sources such as CRM, Payroll, General Ledger, Accounting, or Product/Inventory system. The data warehouse will likely need on-line data marts receiving data from one of those systems to produce reports for Sales Executives, HR Executives or marketing teams who produce performance reports about of various aspects of your business.

Data Lineage Documentation workflow generally goes as follows:

1. Navigate to the Data Lineage Tab in the explorer tree.
2. Import or create Source/Target models by right-clicking on the Source/Target Models node. If the source/target physical model already exists in ER/Studio, you’ll name it as such here first.
3. Create Data Movement rules by right-clicking on the Data Movement Rules node. Rules are then bound in the Table Editor’s Data Lineage Tab.
4. Right-click on a particular physical model to add data movement and set up mapping.

Data Movement Properties

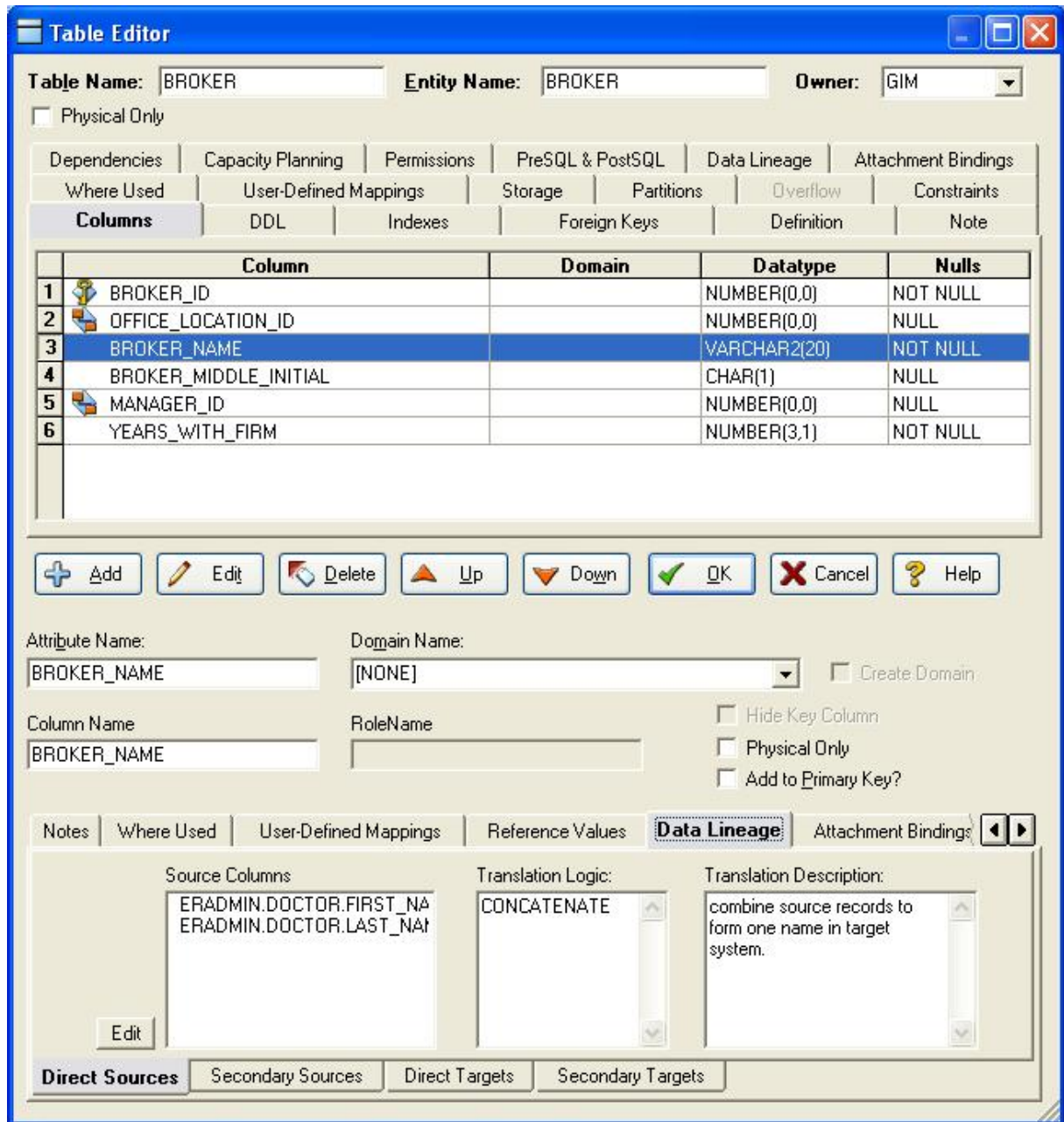
This is where you initiate management for multiple tiers of data movement including direct and secondary mappings. For an existing physical model, you'll need to first create it as a source/target as explained above. Then you'll edit table and column mappings in the diagram explorer physical model.



Multiple-tier data movement between platforms

To move data by importing a model or from an existing and begin mapping:

1. Right-click on the top-level node of a physical model and select "Data Movement Properties..."
2. Select the Add button to register source/target models as direct or secondary sources and targets. How the source/target is registered to a physical model determines how its columns can be mapped to the physical model. For example, a source/target registered as a direct source will show up in the column mappings under the direct source tab
3. Double-click on a table to invoke the Table Editor and Select the Data Lineage tab to link Rules.
4. Double-click on a column to expand the editor, then select the Data Lineage tab.
5. Select the Edit button to map columns by defining translation logic.



Column-Mapping for data lineage

Source and Target Information

Data Architects now have the ability to specify the source or target of data down to the column-level. Along with the metadata that defines the source and target mapping, you can define transformation logic for how the data is manipulated along the way. Source or target metadata can be imported and then mapped to your existing models. You can support multiple tiers of data movement for a given model including direct and secondary mappings.

To use Data Source/Target features:

1. Select the Data Lineage Tab in the explorer pane.
2. Right-click on the Data Source/Target node and select "New Source/Target."

3. For an existing ER/Studio physical model, use a Name that corresponds in some way to the physical model and database, then select the corresponding DBMS Type and Version. You must do it before you set “Data Movement Properties...”

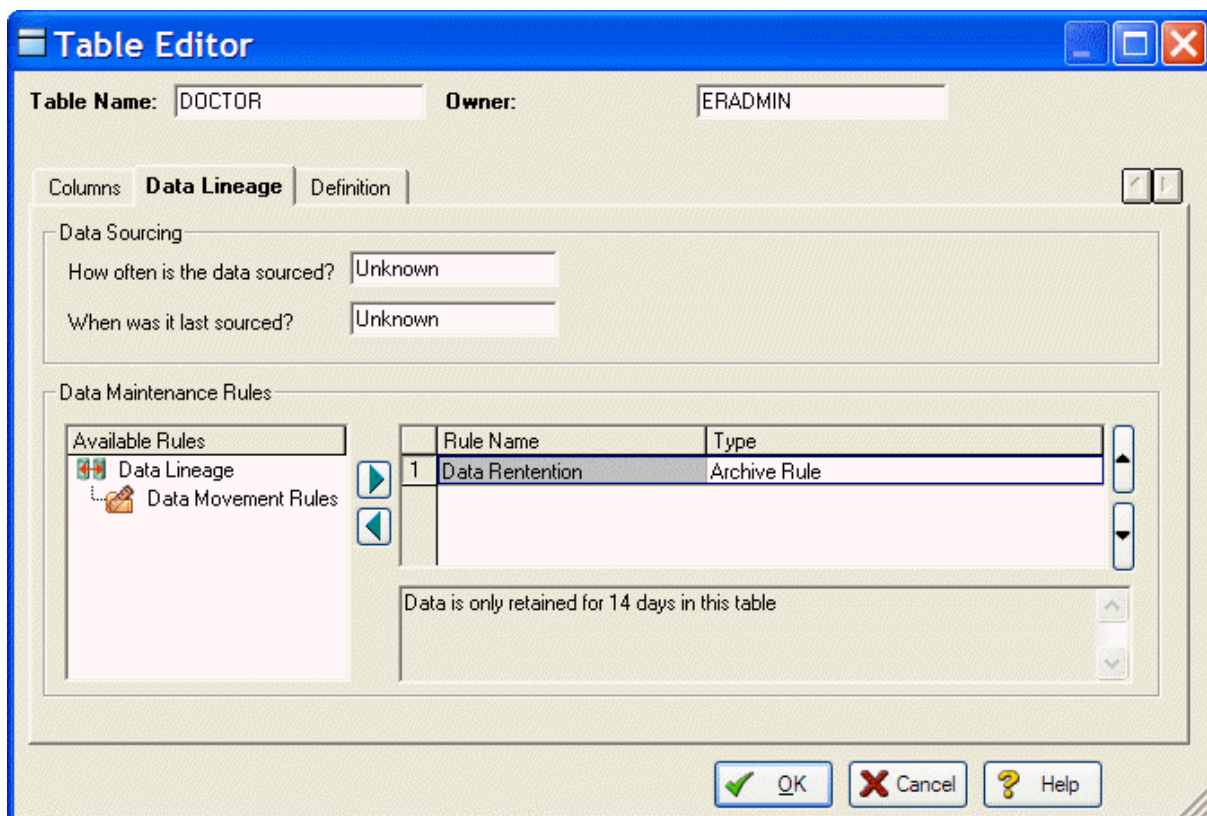
Data Movement Rules

Using the Data Movement Rule utility, you can define rules for data loading, updating archiving and purging among the components of your data warehouse. You can document the exact requirements for data movement.

To add or edit Data Movement Rules:

1. Select the Data Lineage Tab in the explorer pane.
2. Right click on the Data Movement Rules node and select “New Data Movement Rule.”

The rule can then be added to a table using the Table editor as described below.



Adding Data Movement Rules at the Table/Column level

To add rules at the table and column level as above:

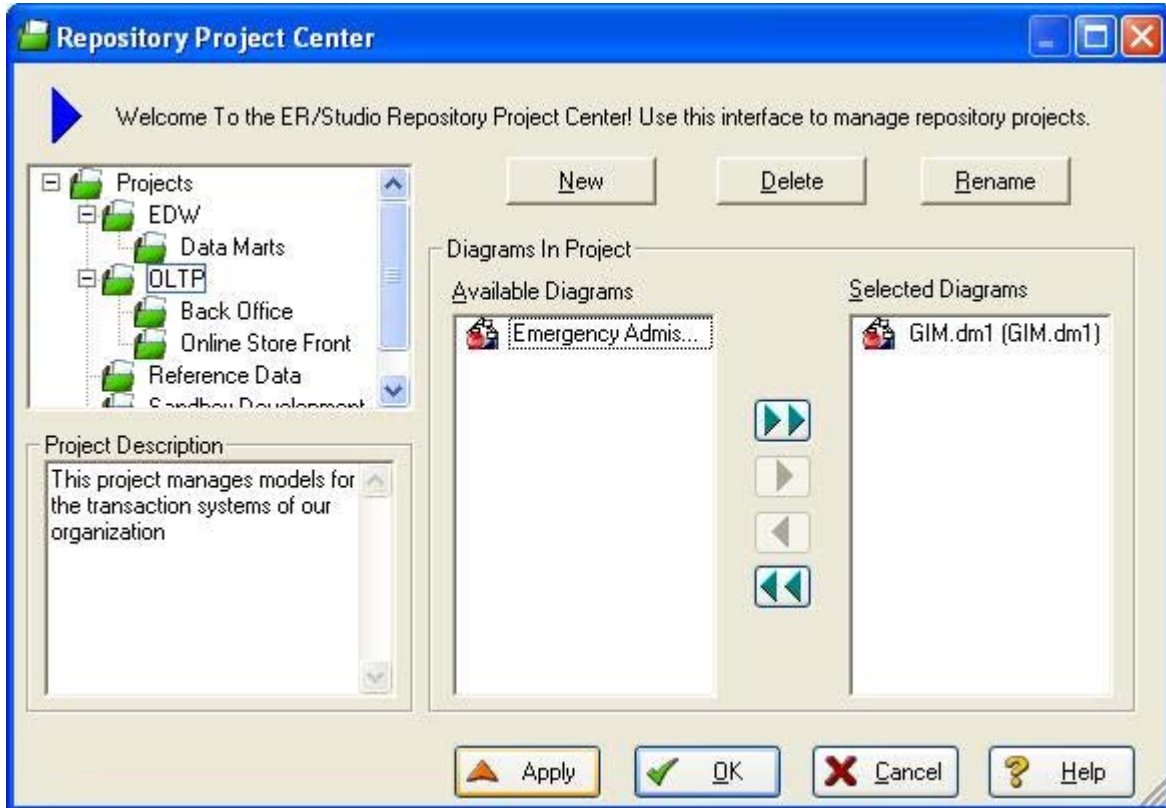
1. Select the Data Lineage Tab in the explorer pane.
2. Double-click on a table and select a column.
3. Select the Data Lineage Tab and add or remove Data Movement Rules. To display the description, click on the Rule Name.

Repository Model Management Updates

The Repository includes enhanced version-control functions and has automated much of traditional configuration management work with Branch, Merge and logical Nesting Tools.

Nested Projects

ER/Studio 7.0 lets you nest the structure of your projects. Nested hierarchies allow high levels of organization and more advanced repository security implementation. Projects must first be added to the Repository before they will be available for nesting management.

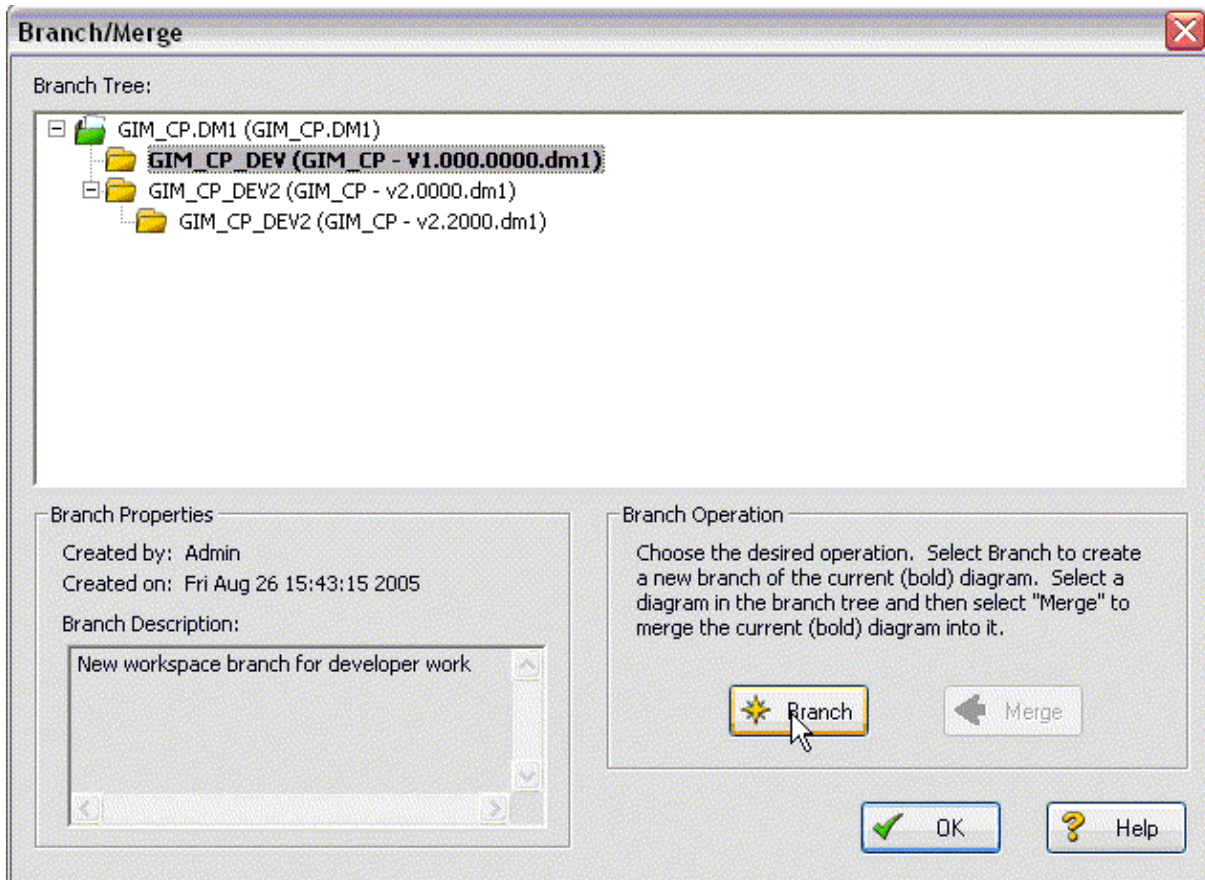


To add nested submodels in Repository:

1. Log in to the Repository.
2. From the main menu select Repository>Project Center.

Branch and Merge

Models and submodels can be synchronized across models reducing time to re-work complex diagrams. For example, parallel working versions of a diagram let team members work on separate copies of the diagram. One version may be reserved for maintenance of the current version of a model while a new version can be created to start on new features that require a more extensive re-architecture.



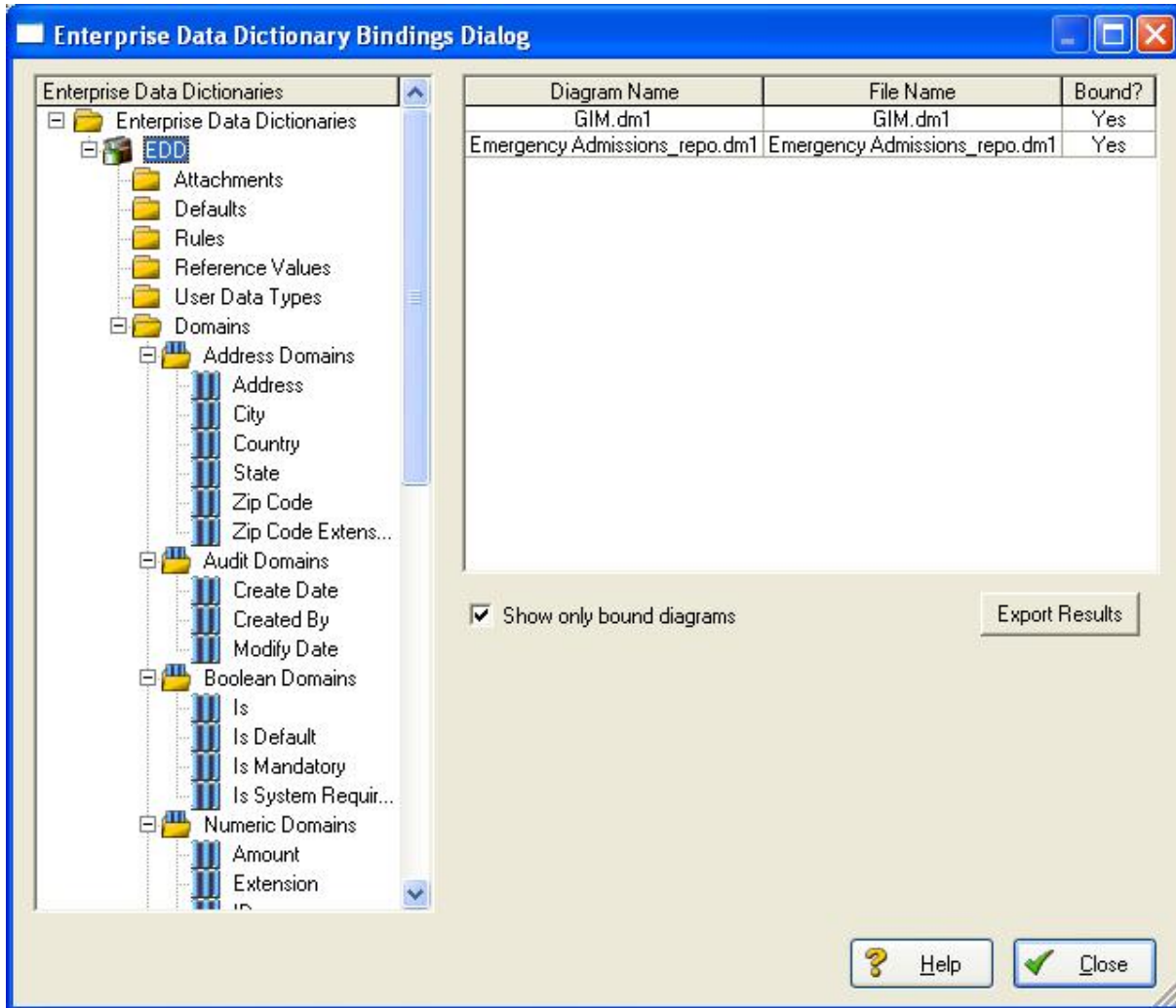
Repo Branch/Merge Utility

To launch the Branch and Merge Utility:

1. From the main menu Select: Repository > Diagrams > Branch/Merge Diagram.

Enterprise Data Dictionary

The enterprise dictionary-binding dialog has been enhanced and now includes attachments and reference values. The bindings are presented in a grid format and can be exported to *.csv files for reports.



Enhanced EDD Binding Dialog

Additional Resources

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