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EMBARCADERO TECHNOLOGIES.

## PRODUCT REVIEW:

# EMBARCADERO ER/STUDIO 6.0

Embarcadero recently released a new version of their top-of-line data modeling tool, ER/Studio. This new version is chock-full of improvements, enhancements and changes from the previous version. The look and feel has shifted. They have completely rewritten the diagram version control system, ER/Repository, and added a whole new level of functionality on the logical side of the modeling system. Yet, they have not sacrificed the ease of use, smooth functionality and focus on helping you get the job done efficiently.

Entity relationship modeling and data modeling are huge topics. Volumes have been written on defining the ER diagram, the logical design, the physical design and on how to move between them all. I am not even going to attempt to talk about all that in this space. The main thrust here will be about the improvements and changes that Embarcadero has built into the new version of ER/Studio, mainly as it relates to the physical modeler/DBA. Also, my knowledge of Oracle is near zero (despite frequent requests to the boss to let me do Oracle work). So, I am going to focus on the SQL Server side of things. Please be aware, they have added a ton of new functionality specifically focused at Oracle.

### Look and Feel

In a word, pretty. OK, bad word. How about, cool? Better. Seriously though, Embarcadero has gone through and spiffed up the icons. They look better, more like XP using all the .NET-like controls and screens, and I can't say that's a bad thing. They've split the "diagram" toolbar by adding a "modeling" toolbar which separates the creation and manipulation icons. Not a bad choice. The toolbars are can also be peeled off the top and are dockable where ever you may need them on the screen, making it easier to facilitate the way you work, not the way someone else does. The screen layout is basically the one, if you have used previous versions of ER/Studio, you have grown used to. I suspect they didn't want to mess with success.

The browser bar, called Model Explorer, is still on the left of the screen with the Diagram window on the right. The functionality I fell in love with (after suffering with double-clicks in ER/Win for years) is still there. Click on an entity, table or sub-model in the Model Explorer and get taken to that object in the main window. If you have the zoom window open, that will also focus on the object selected. They've expanded the objects that you can select in the Explorer from table and view to also include, on a logical model, supertypes, attributes, keys and relationships and, on a physical model, columns, indexes, foreign keys, functions (in SQL Server) and procedures. Other databases, i.e., Oracle, have their own unique objects displayed; packages, materialized views, types, etc. I'm already in love with the added ability to track down individual objects rather than first having to find the table to which they are attached. The columns, in the Explorer bar, show you attributes such as primary key and foreign key through the use of different icons. Foreign keys show the type of relationship (identifying, non-identifying, etc.) – very handy. You can also drag and drop objects between nodes on the Model Explorer, including between logical and physical models. Talk about convenience. You want to move a table or three from the logical to physical model? No more going to the wizard and deselecting everything in order to go and select the few entities that you want to move

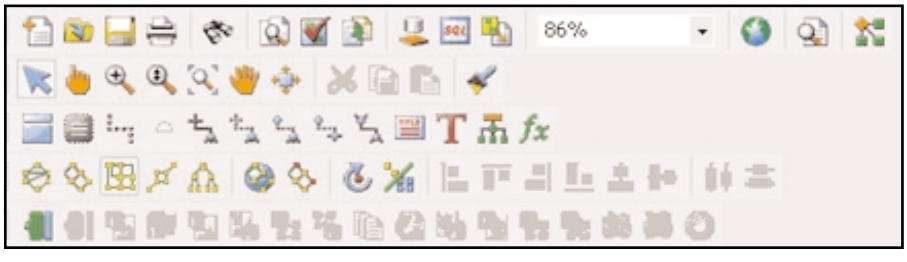


*Figure 1: ER/Studio Look and Feel*

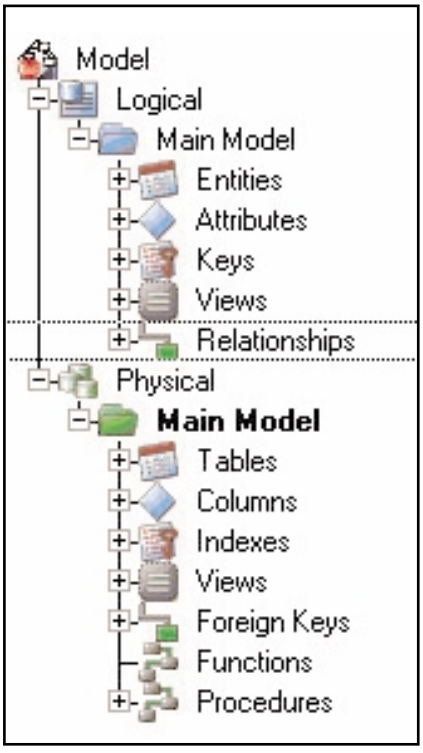


*Figure 2*

across. Simply grab a couple of entities or a sub-model and drag them over to the physical model. The explorer bar highlights in bold the model on which you're currently working (accompanied by waggling hand).

## Modeling

If you work like I do, you have five basic tasks that you use this tool for: taking a logical model and creating a physical design, designing a database from scratch, reverse engineering an existing database, creating a new database and updating existing databases with changes from the model (that's not to say that the tool can't do more). Generating a physical model from the logical hasn't changed a bit. Doing the database design task hasn't really changed either. Creating a database looks pretty much the same as 5.5. Reverse engineering and model comparisons are definitely different.

The first thing you will find in the new "compare and merge utility" is that Embarcadero has finally followed the ER/Win model (yes, that tool does a few things well) and incorporated all types of compares into a single, wizard-driven interface. Not only that, they've added the ability to compare against another disparate ER/Studio, DM1, file. That is a huge addition to the functionality of the tool. The logical modeling team at my company finally decided to adopt ER/Studio because of this piece of functionality which allows them to manage an enterprise data model that represents the business at a very high level and a series of logical models that are more focused to the physical databases that they model.

With the new functionality, they can move logical model objects around and then sync them with the appropriate physical object. Most of the rest of the compare functionality is the same until you get to the final step. Here, you see that that the compare utility is now bidirectional. You can choose to move objects in both directions as part of a single compare exercise. This will be a huge boon to productivity. We frequently do small bits of work directly against our development database while doing the larger design tasks in ER/Studio. Now, in a single step we can pick up the little one off index changes, etc. and move them into the model at the same time as we generate new or modified database objects. To make things even better, after defining the criteria that makes up a comparison, you can save it as a "quick launch." You select the quick launch in the first screen and hit "go" and you immediately get to the final compare screen using the defined compare options. Productivity gains from using these two new bits of functionality may be measurable on a national economic scale. That could be a bit of hyperbole but these are nice enhancements.

With the ability to compare disparate models comes the need to force a mapping between objects that may not have the same names. This new bit of functionality has not been missed by the development team at Embarcadero. At the final screen, selecting an object on either side of the screen and right clicking on an object on the other side of the screen opens a context menu. That menu lets you "match" or "unmatch" objects. Performing an unmatch breaks the link between two objects. A match will force the mapping between two objects so that, even though the names are different, they can be merged, one into the other as defined by the "resolution" settings for the objects.

## General Improvements

I didn't find any of the other improvements earth shattering, but here is a quick summary, just in case it is what you've been waiting for:

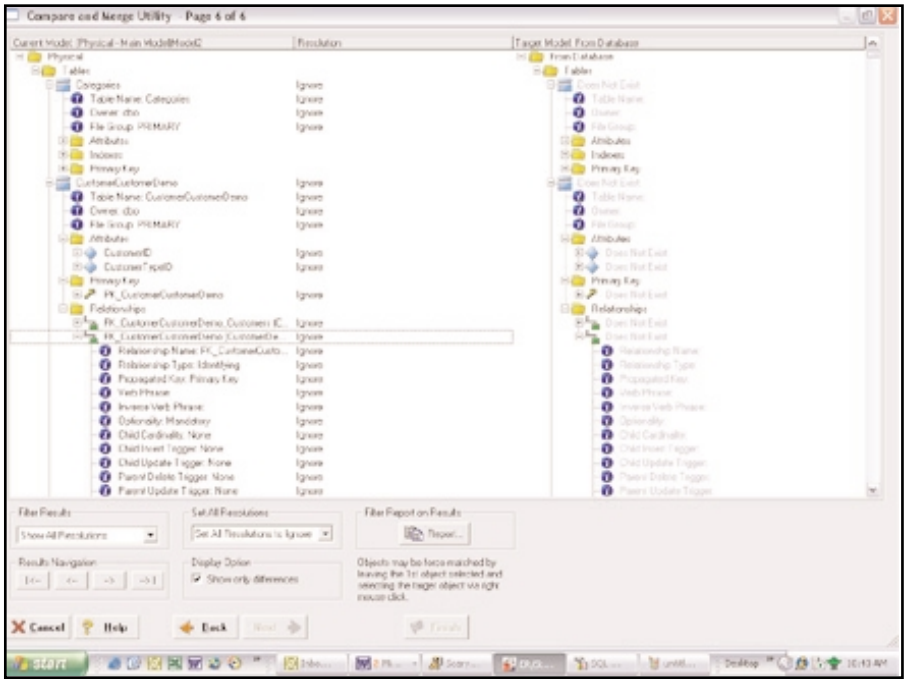

*Figure 3: Look of Reverse Engineering and Model Comparisons*

- New Diagram Displays: There were several improvements and additions to the display and editing of models. The speed and clarity of the images does seem to be improved. You can now use logical notation in the physical model to display primary key columns "above the line." It's possible to set the physical order of columns in the logical view.
- Physical Objects on the Diagram: You can now depict complex objects such as stored procedures and functions (for SQL Server – as previously mentioned each database's unique object types are displayable if supported). We can see on the diagram an object (a stored procedure) and access its T-SQL code directly. Further it shows the dependencies it may have to other objects though links. All of these can be turned on or off from display if you don't want to see them. You can now visualize the impact of all the objects related to each other when performing changes to existing databases and database objects. (See Figure 4.)
- Database Connectivity: Can you say trusted connections? I know I can. Yes, finally, trusted connections are supported. No longer do we have to type in passwords and set up SQL logins in addition to NT logins for the data modelers.
- Reporting System Updates: The Reports wizard will now put the logical and physical models into the same report along with the data dictionary. The new reports also include an "Explorer" that functions the same as the one in ER/Studio. Report generation itself is much more detailed and powerful than it was. You can save settings to a quick launch file here just as in the compare utility.
- New VBA Macros: Those of you who use the tool know that it includes the ability use VBA to expand functionality. New scripts have been added, some of them pretty slick. More are being posted at the InfoAdvisors (http://webboard2.iland.com/~erstudio) site.

## ER/Studio Repository

Technically the ER/Repository is a separate product from ER/Studio, but if you have more than one person working on models, you need this tool. Repository, for those who don't know, is a version control and access control system for models. It functions along the lines of source control programs such as Microsoft's Visual SourceSafe. You have check-out, check-in functionality along with labeled versions. We've found it an invaluable tool with multiple DBAs working on different aspects of the same physical design. Now that our logical modeling team is on board, we will be plugging them into the process as well.

It's my understanding that new version is a complete, bottom to top redesign and it shows. First, Embarcadero radically enhanced security. Not only can you go to a single place to add and remove users and set their permissions, but you can also determine who is logged in from the same interface. They've added much more granular security, allowing you to set access down to the sub-model. The review and resolution functions have been enhanced and reporting added (which will make the data warehouse team happy). This feature makes verification of changes that may be made by more than one operator a quick and clean process. Finally, and most important for our purposes, you can check out models and sub-models which will increase speed and productivity since the users won't need to move the entire diagram over and over. This functionality allows you to get either logical or physical objects as well.

## Conclusions

I kind of hate to sound like a shill, but I really like this product. I've been using this and other Embarcadero tools for a number of years. This version shows the one thing that has always most impressed me about the company in general, a real commitment to constant improvement. They have clearly worked hard to expand the capabilities of the tool in ways that are actually useful, not just flashy or neat (although they did do a bit of that too). The ability to compare disparate DM1 files, force compare between different objects and the bidirectionality of the compare are huge functionality improvements. The enhancements to the Repository really help make that more useful. Overall, this tool will absolutely make your work easier.

*Grant Fritchey has 15 years if experience in IT in support and development. He is currently the lead DBA for a major insurance company.*