

ER/Studio® Product Overview

Enterprise Data Modeling

ER/Studio Key Benefits

- Improve team collaboration and productivity
- Facilitate comprehensive documentation of your database to ease application maintenance
- Create superior database designs that offer better performance and flexibility
- Easy to learn and use due to the product's exceptional usability

Related Products

Modeling Kit

ER/Studio and Describe unite and simplify the enterprise application-to-database development chasms.

ER/Studio Repository

Achieve higher modeling quality, improve teamwork, and deliver better applications faster and more cost-effectively.

Describe

Design, document, and maintain enterprise applications written in Java, C++, and IDL for better code quality and shorter time to market.

DT/Studio

Achieve new levels of usability, scalability, and flexibility by combining visual data modeling with a visual data flow designer and an extensible Java-based ETL engine with DT/Studio.

ER/Studio is a model-driven application for the logical and physical analysis, design, creation, and maintenance of database applications. Its powerful, multi level design environment simplifies and integrates the needs of various stakeholders engaged in enterprise data management. Users benefiting from ER/Studio's unique capabilities are:

- **Data Architects**...for its powerful logical modeling abilities including data element standardization and reuse.
- **DBAs**...for its robust round-trip lifecycle support for a variety of RDBMSs including automated code generation, reverse-engineering, and database alteration.
- **Application Developers**...for its parser-enabled impact analysis capabilities and bidirectional collaboration with Embarcadero Describe™, a UML-based application development environment.
- **Business and IT Management**...for ER/Studio's powerful Web-enabled documentation facilities to educate more of the enterprise about data issues, enforcement of standards, and integration with key Embarcadero solutions such as Describe and DT/Studio.

ER/Studio is designed to make it easier to understand the current state of data throughout the enterprise.

Simple and easy to use, it helps organizations make more informed decisions on how to resolve data bottlenecks, eliminate redundancy, and ultimately achieve higher quality applications that deliver data more efficiently and accurately to the enterprise.

Model-driven Data Architecture and Database Design

Whether you're starting a new design or maintaining an existing database, ER/Studio is packed with features to help you get the job done effectively. With the power and ease-of-use of ER/Studio's modeling environment, you'll be productive quickly and be able to show results almost immediately after installation.

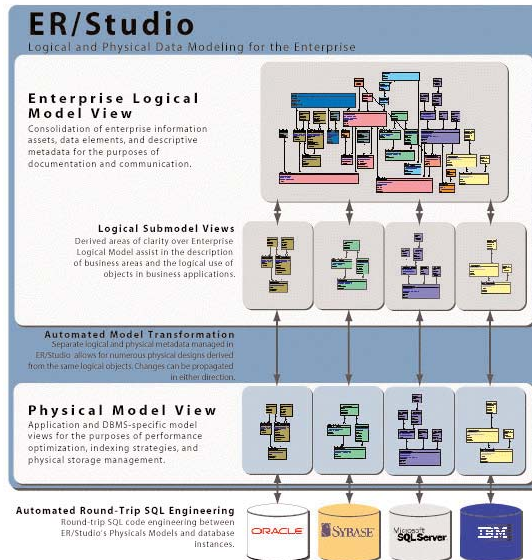
Multilevel Design Capabilities

Multilevel design capabilities allow you to create a logical design that can be transformed into any number of physical designs supporting the same or different DBMS system catalog. As a result, you can maintain a normalized logical design while denormalizing physical designs for performance optimization. ER/Studio maintains links between all levels of your design so you can merge changes between them in any direction.

Automated Transformation

Automated Transformation streamlines the derivation of a physical design from a logical one. In the process, ER/Studio checks for nor-

malization and compliance with the syntax for the target database platform.



Advanced Graphics and Layout

As a visual design tool, ER/Studio understands the importance of making complex models clear for your audiences to navigate easier. ER/Studio offers a number of advanced "1-click" diagram layout utilities to arrange objects in a way a "data modeler" would...e.g. hierarchically to follow parent to child to grandchild key propagation.

Data Dictionary Standardization and Reuse

ER/Studio helps users enforce validated, user-defined data elements and many other objects across

any project. Global binding interfaces and drag-and-drop technology facilitates simple access to and reuse of these objects and can be imported to other projects at any time.

Explorer Navigation

Explorer Navigation makes it easy to work with even the largest ER diagrams. Use the Explorer browser to navigate through all objects of the data model to see that object names conform to standards globally, to locate them quickly on the diagram, and to access their properties without the need to hunt for them in a large diagram.

Multilevel Submodels

Manage the scope of design as your data models grow. With ER/Studio, you can easily create submodel views to isolate and manage important areas of your data model on large and complex data models. ER/Studio automatically maintains all dependencies between submodels and the overall diagram.





IDEF1X, IE and Filtered IE Notation

ER/Studio supports the three industry-standard design notations, IDEF1X, Information Engineering (IE or “Crow’s Foot”) as well as Filtered IE, which hides all foreign keys. You can set the default for all diagrams or change them on the fly and choose the notation best suited to communicate your models to your audience.

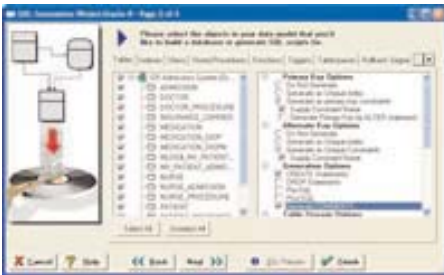
Complete Model-driven Database Lifecycle Support

ER/Studio leverages the investment that your organization has made in its database applications. It supports the iterative design process inherent in the application lifecycle.

ER/Studio helps you control, document, and deploy design changes in response to changing business demands.

Reverse-Engineering

When you need to start work from an existing database, ER/Studio can reverse-engineer the complete schema for many database platforms. The reverse-engineering operation efficiently extracts object definitions and constructs a graphical data model.



Forward-Engineering

Once you have designed your database, ER/Studio can build or generate source code for all or part of your database designs. It properly sequences the creation of

different object types to ensure efficient, error-free database builds every time.

Database Modification

ER/Studio allows you to apply design changes made to your data model directly to a database. When comparing differences between the two, it formulates an intelligent alteration strategy that implements the design modifications while preserving existing table data, object privileges, and dependencies in the database.

Advanced Comparison and Merging of Metadata

ER/Studio makes it simple to do advance, bidirectional comparisons and merges of model and database structures through its Compare and Merge Utility. Users can leverage many approaches to visually find, report on, and resolve discrepancies between models and databases in any direction they choose. Comparison paths include:

Logical to Physical Model Comparison and Merging

Compare and merge information between the business-specific Logical Model of an ER/Studio diagram to any of its Physical Models.

Diagram to Diagram Comparison and Merging

Compare and merge information between any model of an ER/Studio diagram (Logical or Physical) to any other



ER/Studio diagram’s models (Logical or Same DBMS Physical).

ER/Repository Diagram and Archive Comparison and Merging

Compare and merge information with ER/Studio diagrams managed in the ER/Repository. In addition, users can compare and roll back very granular elements managed in ER/Studio Repository’s archived data models called “Named Releases.”

Database Comparison and Merging

Compare and merge information between Physical Models managed in ER/Studio and the databases they represent. ER/Studio produces the DBMS-specific alteration SQL to modify structures while allowing the model to be simultaneously updated to reflect changes on the server.

SQL File Comparison and Merging

Compare ER/Studio Physical Models with archived SQL

ER/Studio leverages the investment that your organization has made in its database applications

ER/Studio Repository for advanced capabilities establish:

- Team-oriented collaborative modeling
- Model and object version management
- Model security management
- Open architecture through industry-leading DBMS installation

files. This is important for organizations with strict security for personnel who may not have live database connectivity to compare and change structures.

Enterprise-caliber Reporting Capabilities

The value of data models is the clarity they bring to complex business rule enforcement on tough data problems that lots of people (IT, businesses analysts, developers) can understand collectively. To communicate designs simply and obtain a much more substantial investment in your ER/Studio-created data models, the product provides powerful functionality for organizing and publishing the metadata in your data models directly to the places in your organization where you can easily review them: Intranet, Website, etc. ER/Studio gives you powerful choices and preferences such as generating HTML reports for Web publishing, RTF reports for hard copy, or both.

Automated Web Publishing

ER/Studio can automatically document an entire diagram, generating an integrated set of sophisticated HTML reports that multiple users can share over an Intranet.

Presentation-Quality FTF (Microsoft® Word) Reports

ER/Studio offers completely customizable RTF report output which are immediately suitable for professional presentations or publication.

XML Schema and DTD Output

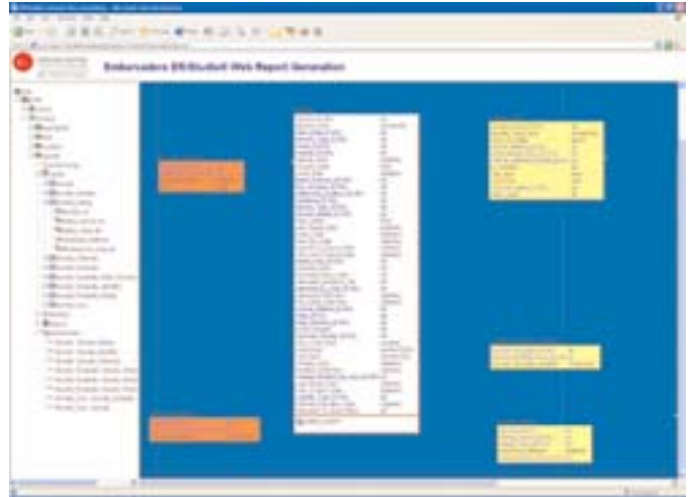
ER/Studio offers www.w3c.org XSD (Schema) and DTD output of its data models. The export system is designed to be 100 percent customizable as well to accommodate customer-specific extensions to the output for business or application-specific purposes.

ER/Studio Viewer

Provides anyone outside the data-modeling team with an interactive environment for viewing ER/Studio data models. This distributable application provides the same sophisticated and advanced viewing, navigation, and printing features offered to modelers themselves through the native ER/Studio application.

Team-centric Collaborative Modeling with ER/Studio Repository

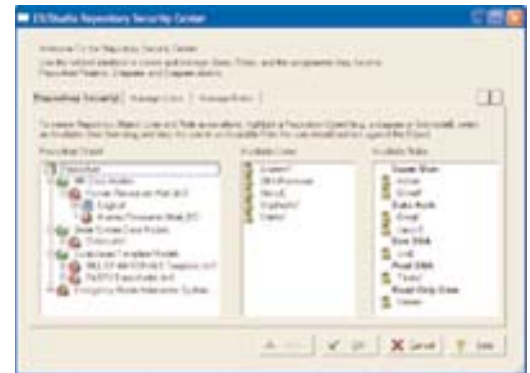
ER/Studio Repository provides organizations using ER/Studio with a scalable, server-side, model management system. It is designed to enable real-time concurrent access to data models between team members, implement security to protect models and components from unwanted access and change, facilitate component sharing and reuse across projects and offer extensive model branch and release management. ER/Studio Repository integrates seamlessly with the current workflow of ER/Studio. It delivers out-of-box efficiency to achieve higher modeling quality by promoting standards, and



ultimately providing dramatic productivity gains by allowing work to progress concurrently and safely among modeling team members.

ER/Studio Repository's advanced capabilities establish:

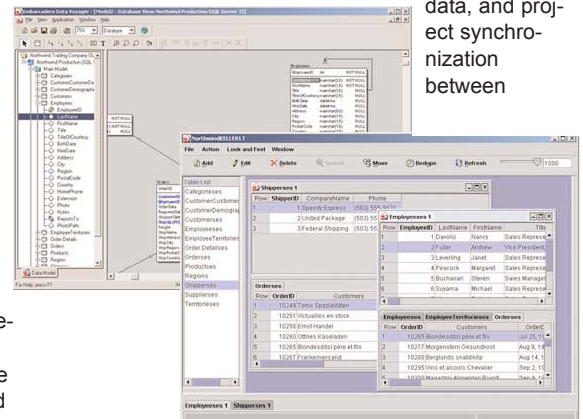
- Team-oriented collaborative modeling
- Model and object version management
- Model security management
- Open architecture through industry-leading DBMS installation



Integrated UML Application and Business Modeling with Describe™

Real-time, bidirectional collaboration, common meta-

data, and project synchronization between



developers and data modelers are essential for application development life-cycle success. With the Modeling Solution Kit, Embarcadero Technologies brings together award-winning, modeling-based solutions to unite and simplify the enterprise application-to-database development challenges.

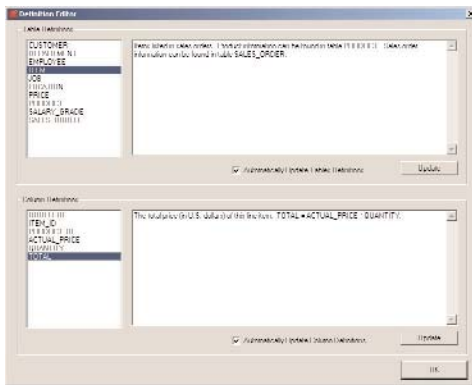
The kit consists of ER/Studio® and Describe™, tightly integrated with a bidirectional bridge to allow organizations to leverage the expertise and advantages in both design domains.

Flexible and Open Architecture Through ER/Studio's Automation Interface

Users now have the ability to expand ER/Studio's functionality through a new automation interface. By creating Sax BASIC commands (a VBA-like language) in ER/Studio's new macro scripting UI, users can tap directly into ER/Studio's own object model to either expand existing functionality or create entirely new functionality.

Automate Routine Tasks

Use the automation interface to automate tedious, routine modeling tasks or customize ER/Studio to enforce modeling practices in your organization. For example, write a macro that will automatically color child tables that contain propagated foreign keys. Or, write a macro to automatically insert a specific name and primary key



into new entities as they are created.

Collaborate with Other Applications

The metadata in ER/Studio models can be accessed from Microsoft Excel, Access, Outlook, etc. Using ER/Studio's new automation interface, you can now collaborate with any external application that has an exposed API or its own automation interface.

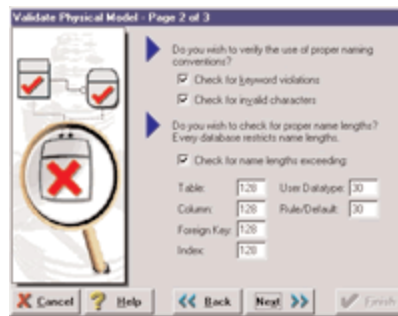
Quality Designs at Your Fingertips

Whether you're experienced in database design or a relative novice, ER/Studio streamlines the process of creating sound data models. It incorporates built-in intelligence to promote the quality of your database designs, including:

- **Automatic Migration of Foreign Keys.** ER/Studio automatically maintains foreign keys to ensure refer-

ential integrity in your designs. Draw a relationship and ER/Studio automatically propagates a foreign key to the child entity. Delete the relationship or parent entity and ER/Studio instantly removes any associated foreign keys. It also unifies duplicate foreign keys to remove redundant references.

- **Validation Wizards.** ER/Studio incorporates a set of wizards to validate both logical and physical designs. The Logical Validation Wizard promotes normalization of logical diagrams. The Physical Validation Wizard ensures that your physical diagrams comply with the syntax and naming rules of the target database platform.



- **Auto-Documentation.** ER/Studio makes it easy to document data models. You can add definitions and notes efficiently from the visual editors. It also automatically constructs verb phrase sentences to clarify the purpose of relationships.

- **Standards Enforcement.** ER/Studio lets you define an entire set of reusable objects such as domains (data elements/attributes), user-defined datatypes, defaults, and rules that you can share between data models to enforce enterprise standards. They help you streamline the process of defining and enforcing consistent domain properties throughout your data models. These reusable objects also support global updates. Changing one automatically propagates updates to all referenced attributes.

Leverage ER/Studio Data Models in Other Embarcadero Solutions

You can leverage the work already done documenting database designs across other Embarcadero solutions. DT/Studio and Describe can use ER/Studio models directly in an effort to consolidate and reuse as much information and documentation about databases as possible in IT organizations.

In addition, DT/Studio can leverage ER/Studio's physical designs while determining source-versus-target database structures in order to perform enterprise-caliber data ETL (Extraction, Transformation, and Loading) operations.

Support for Numerous Databases

ER/Studio supports many popular SQL and desktop databases, including:

- Hitachi HiRDB
- IBM(r) DB/2(r) Universal Database® 4.x, 5.x, 6.x, 7.x & 8.x for Open Systems, OS/390® & AS/400 V4R5 and V5R2.
- Informix® OnLine and SE
- InterBase™ 4
- Microsoft® Access 2.0, 95, 97 & 2000
- Microsoft® SQL Server 6.5, 7 & 2000
- Microsoft® Visual FoxPro 3, 4, 5
- MySQL
- NCR Teradata
- Oracle 7.3® , 8.x & 9i
- Sybase® Adaptive Server Enterprise (ASE) 11.9.2, 12.x & 12.5
- Sybase® Adaptive Server Anywhere (ASA) 5, 6, 7 & 8
- Sybase Watcom™ SQL

System Requirements

100 MB of hard disk storage

256 MB of RAM minimum recommended

Windows NT, Windows 98, Windows 2000, or Windows XP

For native connectivity to Oracle, DB2 (including AS/400), Sybase, and SQL Server, client connectivity utilities required.

For ODBC connectivity, a supported ODBC driver



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