Embarcadero® ER/Studio®

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Feature Matrix

GENERAL DATA MODELING	ENTERPRISE	DATA ARCHITECT
Standard Modeling Support		
Automatic propagation of a foreign key from parent to child entities in a logical model	X	X
Automatic propagation of a foreign key from parent to child tables in a physical model	X	X
Automatic removal of foreign key upon relationship deletion	X	X
Automatic propagation of PK column data type changes	X	X
Supports the IDEF 1X notation for both logical and physical modeling	X	X
Supports the Information Engineering (IE or Crows Feet) notation for both logical and physical modeling	X	X
Supports a unique/specific logical modeling environment	X	X
Supports multiple physical models and easily derives individual physical models from logical model	X	X
Supports dimensional modeling with ability to model star and snowflake schemas	X	X
Supports mappings between and within logical and physical models	X	X
Compare and merge changes between logical and physical models	X	X
Compare and merge two separate logical models	X	X
Compare and merge changes between physical models of the same DBMS	X	X
Performs common denormalization techniques like roll up, roll down, horizontal and vertical splitting, table merging and column mapping	X	X
Establishes a logical and physical model upon completion of reverse engineering of a database or script file	X	X
Performs standard validation checks for logical and physical models	X	X
Validation while on-screen editing indicates to the user that standard object field lengths have been exceeded while inputting entity/attribute names on screen	X	X
Object commenting on model objects in modeling environment and web Portal to communicate workflow and object statuses	X	X
Supports logical, physical and Visual Data Lineage “where used” information	X	X
Apply different layouts to a large model to emphasize special relationships among different objects in the model	X	X
Subject Area Management		
Breaks down large diagrams into smaller subject areas and automatically updates changes to the main model	X	X
Nest subject areas within other subject areas	X	X
Rearrange the submodel hierarchy via drag and drop capability	X	X
Automatically add related objects to a submodel/subject area/package	X	X
Customize subject areas and submodels with different layouts, colors and font settings	X	X
Naming Standards Support		
Implement customized naming standards for logical names, physical names and translation between logical and physical	X	X
Encapsulate a version or set of standards in a template/file so they can be reused across models	X	X
Includes naming standard utility to apply naming standards to an entire model	X	X
Override global naming standards on the entity,table, attribute or column level	X	X
Product must provide a way to override global naming standards on an attribute/column level	X	X
Freeze object names that cannot be changed under any circumstances (i.e., the object may be implemented in production while other portions of the model are new)	X	X
Native XML Schema Support		
Includes native wizard to build custom XML schemas from a logical or physical submodel/subject area	X	X
Translate entities into complex type or elements	X	X
Translate domains and attributes into elements, attributes or simple types	X	X
Translate reference values / allowed values into enumerations	X	X
Incorporate naming standards to translate names in XSD target files	X	X

GENERAL LOGICAL MODELING	ENTERPRISE	DATA ARCHITECT
Logical Modeling		
Provides separate modeling environments for logical, physical and Visual Data Lineage models	X	X
Provides modeling of database views in the logical model in preparation of DBMS-specific model generation	X	X
Supports data model fundamentals in propagating foreign keys when relationships are established between entities	X	X
Diagrammatically hide foreign keys for conceptual presentations	X	X
Generate UML class structures from logical entities	X	X
Support logical versus physical nomenclature for objects	X	X
Shows how logical entities, attributes and views are represented in each physical model	X	X
Visually see submodel or subject area “Where Used” within entity or table editor	X	X
Visually see how a logical entity relates to many physical tables in physical model(s)	X	X
Customize logical and physical mappings between entities and tables and attributes and columns	X	X
Navigate between related logical and physical entities/tables	X	X
Data Dictionary System		
Support an ability to access and reuse common elements	X	X
Establishes reusable domain system across data models	X	X
Supports reusable user defined type system across data models	X	X
Supports a reusable rule/constraint system both logically and physically	X	X
Includes an internally managed system for allowed valued (reference or lookup data) that can be reused across the model	X	X
Provides the user with a simple means to display where dictionary elements have been distributed to for impact analysis	X	X
Meta Model Extensibility		
Product must be able to support user-defined meta model extensions simply and efficiently	X	X
Classify types of extended meta data by object class	X	X
Ability to “push” attached extended meta data to desired objects	X	X
Easily see where extended meta data has been bound to, object by object.	X	X
Product’s object property editors must provide a UI to access extended meta data	X	X
Ability to access external source files and launch them for view/edit purposes from within the modeling product itself.	X	X
Data Security Management		
Easily capture security metadata	X	X
Provides method for classifying the security impact of data	X	X
Allows model objects to be mapped to compliance regulations such as SOX or HIPAA	X	X
Assign privacy levels of data within a model, submodel, table or column	X	X

GENERAL PHYSICAL MODELING	ENTERPRISE	DATA ARCHITECT
Physical Modeling		
Connects to datasources through 3rd party ODBC drivers	X	X
Connects to datasources through DBMS client software	X	X
General Reverse Engineering Functionality		
Provides a list of owners whose objects can be reverse engineered into a physical model	X	X
Filter by object type to reverse engineer into a physical model	X	X
Filter a list of tables/views to reverse engineer into a physical model	X	X
Infer primary and foreign keys during the reverse engineer process	X	X
Build a domain list based on columns in the database to help enforce and promote standardization and reuse	X	X
Connect to datasources through 3rd party ODBC drivers for forward engineering via ODBC	X	X
Connect to datasources through DBMS client software for forward engineering via native client connections	X	X
Provides a list of tables/views to reverse engineer into a physical model	X	X
Connect to a mobile database to reverse engineer into a physical model	X	X
Connect to a Unstructured Big Data Source using 3rd party drivers to reverse engineer into a physical model (Limited)	X	
Produce a .SQL script based upon selected objects	X	X
Produce separate .SQL files for each model object so that they can be place easily into source code systems	X	X

GENERAL PHYSICAL MODELING	ENTERPRISE	DATA ARCHITECT
Forward engineer selected objects directly to database	X	X
Modify database structures based upon changes to model	X	X
Diagram updates when changes occur in the database	X	X
Push changes up to the logical model from the physical model/database	X	X
Ability to create Custom Datatypes for datatypes that are not automatically recognized during import	X	X
Data Movement / ETL Management		
Captures ETL mappings and data movement rules	X	X
Capture data movement rules to document the behavior of the data in a table when inserted, updated, archived, purged, etc	X	X
Capture source column mappings and transform logic/description	X	X
Capture target column mappings and transform logic/description	X	X
Capture multiple levels of source/target mapping to represent lineage of the data	X	X
Visual Data Lineage that visually documents source/target mapping and sourcing rules for data movement across systems	X	X
Capacity Planning Functionality		
Manage and estimate growth of data for a physical model	X	X
Store row count info for each table	X	X
Reverse engineer growth metrics from live database	X	X
Assign different growth rates for each table based on business rules	X	X
Allow for multiple growth rate types like “by row” or “by percent”	X	X
Parser-support Between Physical Model Objects		
Supports strong parsing technology to establish ties between precompiled database code (stored procedures) and the tables that may be dependent upon them	X	X
Automatically detect table dependency from stored procedure code	X	X
Provides UI to easily determine object ‘dependants’ for impact analysis	X	X
Propagates updates automatically to code when referenced objects are changed	X	X
Allows user to access object CREATE code from individual object editors before code generation utilities	X	X
Color coded DDL Syntax that displays database reserved words/key words in traditional color-coded syntax within the product	X	X
Represent physical objects like procedures, packages, functions, tablespaces and their dependencies on the model	X	X
Automatically link database views to tables upon reverse engineering	X	X
Database security objects and grants		
Reverse and forward engineer database security objects and permissions	X	X
Manage database users and roles and associated GRANT statements	X	X

GENERAL REPORTING	ENTERPRISE	DATA ARCHITECT
Output model information to RTF-readable formats (like Microsoft Word)	X	X
Produce reports in HTML format	X	X
Reports allows externally ‘bound’ documentation to be displayed directly within the body of the HTML report through OLE technology	X	X
Reports include a navigable, legible, read-only version of the data model	X	X
Allows navigation to reported meta data by clicking on model objects in HTML data model image	X	X
Reports offer a list of objects contained within the report and hyperlink them to their information	X	X
Generate model meta data to XLS format	X	X
Produce W-3-C Compliant XML and DTD meta data output	X	X
*Export model information to BI, ETL, other modeling tools, and industry-standard metadata interchange formats. Available through MetaWizard	X	X
*Import model information from BI, ETL, other modeling tools, and industry-standard metadata interchange formats. Available through MetaWizard	X	X

GENERAL PRODUCT USABILITY	ENTERPRISE	DATA ARCHITECT
N-level undo / redo	X	X
Provides thumbnail view to navigate large diagrams	X	X
Marquee lasso zoom	X	X
Explorer browser object navigation	X	X
Allows user to quickly see the number of entities, attributes, relationships, views etc that are in the model	X	X
Property editors conform to Windows standards and allow 1 layer deep access to properties	X	X
Property editors conform to Windows standards and allow expansion for ease in entering data	X	X
On-screen object editing (editorless via key strokes)	X	X
On-screen logical primary key creation (editorless via key strokes)	X	X
On-screen attribute copy/move function	X	X
Global search/report/replace utility	X	X
Wizard-driven task completion	X	X
Lasso multiple objects and access right mouse options	X	X
Offers simple and fast way to break down large models by lassoing desired objects and quickly establishing a subject area of them	X	X
Quick access to diagrammatic property changes to desired objects like color	X	X
Variety of different layout strategies for logical and physical models	X	X
Navigate user to desired Help section from specific property editors, etc.	X	X
Non-Proprietary Automation Interface (API)		
Provides a programmatic interface in a common & industry-accepted language in order to programmatically access product's object model	X	X
Supports VB or VBA-like macro creation	X	X
Near-immediate accessibility to macros to ensure workflow and productivity	X	X
Macro editor within product provides 'keystroke access' to product's object model for quick reference and accuracy	X	X
Provide a reference map of the product's objects	X	X
Sample scripts to use as a basis for user macros included	X	X

REPOSITORY	ENTERPRISE	DATA ARCHITECT
Collaboration		
Allows multiple modelers to access models concurrently	X	
Notifies modelers connected to Repository diagrams who is working on same objects	X	
Notifies modelers connected to Repository of the status of the collaboration status of an object	X	
Includes intelligent conflict resolution system when two or more modelers are contending to change the same object	X	
Implements a separate system for implementing common items (domains, extended properties etc) across diagrams stored in the Repository	X	
Provides an interface to see how common dictionary objects are used across the Repository	X	
Provides a classification system to group diagrams together in the Repository	X	
Version Control		
Captures periodic releases of data models	X	
Ability to revert to capture releases (roll back)	X	
Compare and merge information between diagrams in the Repository	X	
Supports commenting on check ins and check outs like source control system	X	
Enterprise Data Dictionary		
Support an ability to access and reuse common elements across models	X	
Establishes reusable domain system across data models	X	
Supports reusable user defined type system across data models	X	
Supports a reusable Rule/Constraint system both logically and physically	X	
Includes an internally managed system for allowed valued (reference or lookup data) that can be reused across the model	X	
Provides the user with a simple means to display where dictionary elements have been distributed to for impact analysis	X	

REPOSITORY	ENTERPRISE	DATA ARCHITECT
Security & Privileges		
Implements a system to create unique Repository users and user groups with individual privilege settings	X	
Allows levels of security access to diagrams and objects based upon team hierarchies	X	
Assign security levels to imported LDAP groups and streamline administration	X	
Product security is able to protect diagrams against unwanted access	X	
Allows control over certain object types managed in the Repository lower that “Connect” rights	X	
Control access to certain re-useable data elements across diagrams from unwanted access	X	
Allows the users to check out individual objects, not just the whole diagram by default	X	
Allow a user to check out and object and bar others from doing so while user has item checked out	X	

METADATA MANAGEMENT	ENTERPRISE	DATA ARCHITECT
Support for inline definitions for on-the-fly business context while using data management tools and internal web assets	X	
Alerts while viewing or modifying sensitive data	X	
Enterprise collaboration capabilities to capture and use corporate tribal knowledge	X	
View, classify, relate and centrally manage authoritative business definitions in a personalized enterprise glossary	X	
Enhance comprehension of business terms and data elements with custom extensions	X	
Use business terms to easily find data elements	X	
Integrated information map relating data models with their data sources and creating a single searchable registry of all available data sources	X	
Centralized reporting with pre-defined and customizable templates	X	

SOFTWARE MODELING	ENTERPRISE	DATA ARCHITECT
Standard with sample projects to familiarize users with features	X	
Sample cheat sheets with interactive tutorials	X	
Query/view/transformation language to transform UML, BPMN, data models and custom model types	X	
Logical and physical packages to group elements and store diagrams	X	
Model shortcuts for creating multiple shortcuts to the same element on different model diagrams.	X	
Model hyperlinking to create hyperlinks from diagrams to other system artifacts and browse them directly	X	
Interoperability is supported with various types of model import and export to MI, MDL and MDX	X	
External documentation for open projects. Output formats for RTF, HTML, TXT, PDF and SL-FO	X	
Supports UML 2.0 to visualize, specify, construct, and document the artifacts of the distributed objects systems	X	
Optional profile to support the “modeling in color” methodology with support for roles, moment-interval, Mi-detail, party, place, thing and description	X	
Supports the most frequently used diagrams and notations defined in the UML 2.0 specification, including activity, class, use, component, composite, deployment, state machine and interaction diagrams	X	
Includes pre-installed profiles and allows users to create profile definitions, including profile definition projects such as stereotypes, palette contributions, extensions and contributions	X	
Supports two-way and three-way EMF and UML model comparisons in a tree view. Results can be exported to an EMFMI file	X	
Utilizes standard Eclipse synchronization APIs to provide integration with version control systems to compare and merge shared models	X	
Supports templates to provide the ability to show templates, template signatures, parameters and template bindings in a UML 2.0 diagram	X	
Object Constraint Language (OCL) 2.0 support for syntax highlighting, error validation, code completion and model queries	X	
Design patterns that are available in stock patterns supporting Gang of Four, J2EE Design, Fowler’s EAI, and Web Services, and custom design patterns	X	
OCL-based model audits and metrics support model inspections and can be easily be defined, saved, and reused	X	
Version control systems enable multiple users to work with one modeling project. Supports version control systems that can be integrated into Eclipse	X	

BUSINESS PROCESS AND CONCEPTUAL MODELING	ENTERPRISE	DATA ARCHITECT
Support for high-level conceptual modeling using elements such as subject areas, business entities, interactions, and relationships	X	
Model links between any conceptual or process modeling elements allowing you to trace relationships between models	X	
Conceptual models can be exported to ER/Studio to become the foundation for creating ER/Studio logical data models	X	
Support for straightforward process modeling that uses standard elements such as sequences, tasks, swim lanes, start events, and gateways	X	
Optional automatic validation of process diagrams to ensure compliance with the BPMN specification and prevent the addition of non-compliant modeling elements	X	
Independent sub-processes and embedded collapsible sub-processes can be included within a business process to allow for maximum flexibility in diagramming, while still ensuring a workable visual diagram	X	
Impact analysis reports can be generated to show interrelationships between process, data, stewardship, business rules, diagram usage, heritage, connecting objects etc.	X	
Impact analysis reports can filter based on type of relationship, object type, or text strings including wildcard matching	X	
Map between and within conceptual, logical and physical model objects to view upstream or downstream and trace common objects enabling enterprise modeling	X	

* MetaWizard is part of the ER/Studio Enterprise multi-platform suite and is an add-on option to ER/Studio Data Architect

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