

# AllFusion® ERwin® Data Modeler

## Release Summary

r7.2



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## CA Product References

This document references the following CA products:

- AllFusion® ERwin® Data Modeler

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# Chapter 1: New Features

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This chapter of the Release Summary for AllFusion ERwin Data Modeler (AllFusion ERwin DM) documents new features for r7.2.

This section contains the following topics:

[SQL Server 2005 Features](#) (see page 7)

[Global Find and Replace](#) (see page 8)

[Name Hardening Wizard](#) (see page 9)

[Collection of Logical Volumetric Information](#) (see page 11)

[New Database Support](#) (see page 11)

[Integration With Microsoft Visual Studio 2005 Team Edition for Database Professionals](#) (see page 12)

## SQL Server 2005 Features

Support has been added for data modeling with SQL Server 2005. Editors have been added for the following objects:

- Aggregate
- Application Role
- Assembly
- Asymmetric Key
- Certificate
- Credential
- Database
- Database Role
- File
- Filegroup (Database)
- Full-Text Catalog
- Function

- Indexes (Table, Full-Text, XML)
- Login
- Partition Function
- Partition Scheme
- Physical Files (Databases)
- Privilege
- Schema
- Stored Procedure (Model-Level, Table-Level)
- Symmetric Key
- Synonym
- Table
- Triggers (Table, View, Database, Server)
- User
- XML Schema Collection

You can access new features in the property editors from the Database menu or from the Model Explorer. Editors for Table Indexes, Full-Text Indexes, and XML Indexes are provided on the Model menu. Reverse Engineering and Forward Engineering functionality has been updated to support the new properties. Support is not provided for any password or encryption key information in the model.

For information on the individual SQL Server property editors, see the online help.

## Global Find and Replace

A find and replace feature has been added to the Edit menu and the main AllFusion ERwin DM toolbar. Use this feature to globally search the metadata of your current model for specific character strings or to globally update data model objects. You can search for anything that is exposed in the diagram. For example, you can assess the impact of proposed model changes by searching for specific text strings. By making global changes you can ensure consistent metadata change management in large models in an efficient and effective way.

It does not replace Find functionality already implemented elsewhere in the UI (i.e. Model Explorer, Action Log, Data Browser, Complete Compare).

Features include:

- Match exact case (as typed) or not.
- Match whole or partial words.
- Search macro expanded values/macro source, as well as other special AllFusion ERwin DM metadata objects.
- Search using wildcards.
- Specify search direction (forward or reverse).
- Easily identify the context for found metadata.
- Provides a visual indication when special metadata objects are referenced (e.g. hardened, calculated, read-only, and so on).
- Override a specified global replacement value on a case-by-case basis.
- Use standard Microsoft Windows shortcuts for Find (Ctrl+F) and Replace (Ctrl+H).

The new Find and Replace feature is fully integrated with the AllFusion ERwin DM user interface to provide access to Undo/Redo functionality, and Advisories information.

## Name Hardening Wizard

The Name Hardening Wizard provides a way to set global options to override inheritance of names within a model. Using the wizard, you can select the object types and object instances for which you need to set logical and physical names within the model instead of using the inherited name value. This new feature will help you to manage your enterprise-wide naming standards.

You access the wizard by selecting Names, Name Hardening from the Tools menu. You can set names in this wizard for the following object types and object instances:

- Attributes/Columns
- Default Values
- Domains
- Key Groups/Indexes
- Relationships
- Entities/Tables
- Validation Rules

The wizard also includes the flexibility to specify whether to override name inheritance for all model objects, a subset of model objects, or a specific model object using the various pages of the wizard. The wizard contains four pages:

**Overview**—Contains an overview of the Name Hardening Wizard.

**Type Selection**—Displays the available object types that you can select for which you want to override inheritance such as Attributes, Default Values, and Domains. To make object type selection easier, you can right-click anywhere on this page to display a context menu where you can select either the Select All or Select None option. The options you select on this page are reflected in the next page of the wizard, the Object Selection page.

**Object Selection**—Select the specific model objects or groups of model objects (collection nodes) for which you want to override inheritance. When you have transitioned to this page from the Type Selection page, all the selections that you made on the Type Selection page are listed and selected on this page.

The collection nodes have check boxes that summarize the state of the objects under that node (subordinate objects). The check boxes for the collection nodes have three states. If none of the subordinate objects are selected, the check box for that collection node is not selected. If all of the subordinate objects are selected, then the check box for that collection node is selected. If some, but not all, of the subordinate objects are selected, then the check box for that collection node is selected, and is also shaded. Clicking the collection node check box allows toggling of the selection of the entire set of subordinate objects. In addition, you can right-click anywhere on this page to display a context menu where you can select either the Select All or Select None option. Any selections you make to the Selection Sets section on this page are immediately reflected in the Selected Objects section.

**Action**—The Action page reflects the current inheritance settings based on what you selected in either the Type Selection page or the Object Selection page. The Logical and Physical columns indicate the current status of the objects and the Selected Objects column lists their fully qualified names, for example, instead of just 'a,' an attribute name would be 'OwnerName.E/1.a.' Also, each object has a check box for selection; select a check box for an object if you want to override inheritance, or harden; clear a check box for an object for which you want to unharden the name. When you unharden an object name, the same name you used in the hardening process remains, however, now you have the ability to edit or reset that name (editing or resetting of hardened names is not allowed).

## Collection of Logical Volumetric Information

Functionality has been added to enable you to enter and maintain table-level volumetric information within logical models. In earlier versions of AllFusion ERwin DM, this functionality was limited to the physical side of a Logical/Physical model.

You can now collect the following information on:

- Initial number of rows on an entity/table.
- Rate of growth.
- Maximum number of rows expected.

This new functionality enables you to have volumetrics information in place when you derive a physical model from a logical model. This streamlines the transfer of volumetrics information when using design layers to create and maintain models. This new feature also includes persistence and synchronization of volumetric information between the logical and physical sides of a model.

## New Database Support

Support has been added for the following target server databases in AllFusion ERwin DM:

### Sybase IQ 12.5 and Sybase 15

Support has been added for Sybase IQ 12.5 and Sybase 15. You can now model datatypes, indexes, and physical objects using these target servers. Support has also been added in the Reverse Engineer, Forward Engineer, Datatype Standards and Complete Compare tools.

### MySQL 5.x

Support has been added for MySQL 5.x. Support has been added for the Numeric, Date and time, and String datatypes. Support has also been added in the Reverse Engineer, Forward Engineer, Datatype Standards, and Complete Compare tools. Because the database connection uses the ODBC driver, no password is required when generating the schema or reverse engineering.

## DB2/UDB 8.x/9.x

AllFusion ERwin Data Modeler has been tested for compatibility with DB2/UDB 9.x at the level of DB2/UDB 8.x. The Target Server dialog has been updated to reflect support for version 8.x through 9.x.

Users should be aware of the different default for the Reverse Scan index modifier in version 8.x and 9.x. In version 8.x, the Reverse Scan index modifier defaults to *Allow*, while in DB2/UDB 9.x it defaults to *Deny*. If you forward engineer a version 8.x model to a version 9.x database, and later reverse engineer that database back to a version 8.x model, the value of Reverse Scan will change from *Allow* to *Deny*.

In all other respects, AllFusion ERwin Data Modeler support for DB2/UDB version 9.x is compatible with DB2/UDB version 8.x.

## Integration With Microsoft Visual Studio 2005 Team Edition for Database Professionals

AllFusion ERwin Data Modeler r7.2 includes an integration with Microsoft Visual Studio 2005 Team Edition for Database Professionals, part of the Microsoft Visual Studio 2005 Team Suite.

The AllFusion ERwin DM-Visual Studio integration lets you use your existing data models, data modeling skills, and data-modeling tools to streamline the data modeling and schema generation process.

- Use existing AllFusion ERwin DM database designs to jump-start the creation of managed objects in Visual Studio.
- Use the design visualization, task automation and advanced modeling features of AllFusion ERwin DM to fine-tune schemas.
- Reuse data models across the IT environment.

When you run setup for AllFusion ERwin DM r7.2, the installation script checks for a copy of Microsoft Visual Studio 2005 Team Edition for Database Professionals. If it detects a copy, the integration components are automatically installed, unless you cancel the selection to install the components. You can also modify an existing installation of AllFusion ERwin DM r7.2 to add the Visual Studio integration. See the installation instructions in Chapter 1 of the *Integration Guide*, provided in PDF format in the \Doc folder where AllFusion ERwin DM is installed.

# Chapter 2: Changes to Existing Features

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This chapter documents changes made to existing features for r7.2.

This section contains the following topics:

[Action Log Filtering](#) (see page 13)

[Tablespace and Database Filtering During Forward Engineer](#) (see page 13)

[PDF Index in Report Template Builder Reports](#) (see page 14)

[Change to Subtype Discriminator UI](#) (see page 14)

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[Enhancement to the Relationships Editor](#) (see page 18)

[Support Added for Save As 7.1.0](#) (see page 18)

[AllFusion Data Model Validator Available on Tools Menu](#) (see page 18)

## Action Log Filtering

A metamodel filter has been added to the Action Log toolbar. This filter enables you to hide or display selected object and property types. The filter does not change the actual transaction log, it only affects the way the modeling events are displayed in the Action Log. The Save button saves the settings to a file called ActionLog in the install directory.

Click the metamodel filter icon on the Action Log toolbar to open the Action Log Metamodel Filter dialog where you can select or clear items from the list of objects and properties. Several high-level categories (such as graphics and transforms) are also provided, to limit their display in the Action Log pane.

## Tablespace and Database Filtering During Forward Engineer

When working with a DB2 or Oracle target server database, you can now restrict forward engineer schema generation to tables (and other model objects) limited to specific Tablespaces and (for DB2/zOS) Databases. This enhancement allows you to generate only those model objects required, based on FE Options, but bounded by the area(s) of the database that you wish to or are permitted to modify.

## PDF Index in Report Template Builder Reports

The Report Template Builder Properties dialog has been enhanced to include an option for generating an index when you choose the PDF output format. On the Property Tree tab of the Properties Dialog, select the check box for "Table of Contents/Index for PDF" to generate an index in your PDF output. The index is based on the model object names.

The index in the PDF output file includes the following features:

- Generates an alphabetic index grouped into sections based on the first index term.
- Creates a hyperlink on all page referenced for the index term so that you can quickly navigate to the location in your model.
- Is based on and includes the names of all model objects.

## Change to Subtype Discriminator UI

When you right-click a subtype relationship, an editor appears. In earlier versions of AllFusion ERwin DM, this editor was called "Subtype Relationships". In those versions, a category discriminator could only be an attribute that existed in the supertype (or generic) entity. This rule limited your ability to select from the pool of valid IDEF1x discriminators.

In r7.2 this editor has been renamed "Subtype Properties" and has been redesigned to provide expanded support for IDEF modeling features. In the new dialog:

- The discriminator can be a single attribute or a combination of multiple attributes.
- The discriminator can be from one or more candidate entities, where a candidate entity is defined as the generic entity, an ancestor entity, or a child entity.
- If the discriminator is from a candidate entity that is not the generic entity, and the categorization type is "complete," then the cardinality of all relationships between the generic entity and the candidate entity will be 1:1.
- The discriminator cannot already be the discriminator in another category relationship emerging from a candidate entity.
- The discriminator may be part of the primary/alternate key(s) of the generic entity, but cannot be the entire key itself.

Additional features have been added so you can toggle the display of discriminators on or off, either globally or within a subject area. Right-click in the workplace and choose Relationship Display, then select Subtype Discriminator on the submenu. You can also set the display from the Relationship Display option on the Format menu, or the Stored Displays Settings option on the Format menu.

When you turn off the display of the subtype discriminators, you can still display a tool tip with the discriminator information when you move the cursor over the relationship symbol.

## Enhancements to Complete Compare

### Enhancements to the Resolve Differences Dialog

The Resolve Differences dialog in the Complete Compare wizard has been enhanced to allow you to create a snapshot of known differences, which you can then use as a filter to hide those differences when comparing models.

Toolbar icons have been added to allow you to quickly mark a row as a known and acceptable difference, then save those items as a snapshot. You can later load your saved snapshot to bring in the criteria for the known differences to your compare session. While working in the Resolve Differences dialog, you can also toggle the display of known differences on or off.

Snapshots can also be saved, loaded, and managed independently for reuse at a later date. To open the Manage Model Snapshots dialog, click Complete Compare on the Tools menu, then select Snapshots.

The toolbars on the Resolve Differences dialog have been redesigned. The new ordering groups functionality into areas that better reflect typical compare actions. The new toolbars include:

**Standard Toolbar**

Perform a specific action on a selected item in the list of differences. For example, you can copy an item from one model to the other, or match or unmatch items.

**Impact Analysis Toolbar**

Invoke additional functionality as you resolve differences. You can view the Impact Analysis dialog and the Message Log. In some cases, you can generate an alter script for either the left or right model using the Left Alter Script or Right Alter Script buttons.

**Known Differences Toolbar**

Mark known differences and work with snapshots.

**Standard Filters Toolbar**

Filter the display of differences in order to refine the compare process.

**Navigation Toolbar**

Navigate the list of known differences, search for an item, and expand or collapse the trees.

The online help includes detailed information about each of the new toolbars.

## New Advanced Option - Include Only Generated Objects

A check box labeled "Include Only Generated Objects" has been added to the Advanced pane of the Complete Compare wizard. Each editor for a physical object includes a 'Generate' check box, which is selected by default. The 'Generate' check box indicates that you want to generate SQL for this object during forward engineering. When working with a database-level compare in Complete Compare, the 'Include Only Generated Objects' check box is selected by default on the Advanced pane. If you clear the 'Include Only Generated Objects' check box, the compare session will also include those objects for which you cleared the 'Generate' check box in the property editor.

## Reverse Engineer Enhancement for DB2 Cardinality

An enhancement has been added for DB2 z/OS version 7 and higher. When reverse engineering, if a unique index is found to exist on a child table containing the same columns as an FK index, the related relationship is automatically assigned the "Zero or One to One" cardinality. This enhancement has been added to ensure that cardinality is correctly identified based on information provided in the DB2 database catalog.

## Enhancements to Check Model/Validate SQL Feature

You can create a Model Validation report before you forward engineer your model. The validation process checks for corrupt objects and reports other errors associated with correct forward engineering. Enhancements have been added to expand the scope of model validation. In a physical model, from the Tools menu choose Forward Engineering, then Check Model. You can also click the Check Model icon on the Database toolbar.

Click F1 in the Model Check dialog for detailed information about the objects and properties that are validated during a model check.

## Macro Enhancements

A new macro, %ValidationLogicalName, has been created as a Constraint macro in the Macro Toolbox. Use %ValidationLogicalName to return the logical name of a validation rule.

This macro has been added to resolve a potential problem when "self-referencing" macros are entered in the Name Mapping tab of the Model Naming Options dialog. Each of the following is an example of a "self-referencing" macro definition:

- Using %TableName when mapping Entity to Table
- Using %IndexName when mapping Key Group to Index
- Using %ColumnName when mapping Attribute to Column
- Using %ValidationName for the Validation Rule

A warning message now appears when you enter "self-referencing" macros, advising you to correct the entry.

## Enhancement to the Relationships Editor

An enhancement has been made to the Relationships Editor on the physical side in a Logical/Physical model. You can now enter a blank foreign key constraint name on the General tab of the Relationships editor.

A reset button has been added next to the Foreign Key Constraint Name label in the editor. When you click reset, the text in the constraint name field is inherited from the logical name. If you delete the text from the Foreign Key Constraint Name field, the constraint name is set to an empty string.

## Support Added for Save As 7.1.0

Support has been added to allow you to save a r7.2 model in r7.1 format. This option has been added to the "Save as type" list in the Save As dialog you can open from the File menu.

## AllFusion Data Model Validator Available on Tools Menu

If you have installed AllFusion Data Model Validator, you can now start this program from the Tools menu in AllFusion ERwin DM. This feature enables you to quickly access the database validation features provided with AllFusion Data Model Validator, at the same time you are working with data models in AllFusion ERwin DM.