



Whitemarsh  
Information Systems Corporation

# Whitemarsh Metabase System Use Case Management Users Guide

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## 1.0 Introduction

The purpose of this Metabase System module, Use Cases, is to provide:

- Identification and description of use cases.
- Interrelationship among different use cases.
- Detailing Use Cases into:
  - ◆ Use Case Pre-Conditions
  - ◆ Use Case Post-Conditions
  - ◆ Use Case Special Conditions
  - ◆ Use Case Events
  - ◆ Use Case Facts
  - ◆ Use Case Actors
  - ◆ Use Case Actor Roles
  - ◆ Use Case Event Actors
- Mapping:
  - ◆ Use Cases to Use Case Facts
  - ◆ Use Case Pre Conditions to Use Case Facts
  - ◆ Use Case Post Conditions to Use Case Facts
  - ◆ Use Case Events to Use Case Facts
  - ◆ Use Case Facts to Columns
  - ◆ Use Case Events to Business Information Systems
  - ◆ Use Case Actors to Mission Organization Function Position Person
  - ◆ Use Case Events to Mission Organization Function

The Use cases Management module permits recording of the characteristics of the use cases associated with the enterprise. Each use case can be described and interrelated with other use cases. Once use cases are identified and described, they can be allocated to any of the “mapping” items above. This permits enterprises to know the use cases needed by whom within the different organizations in the performance enterprise missions.

### Presumed Knowledge

This user guide, and all the other metabase user guides presume that the reader has read and is completely familiar with the following documents: Metabase Common Processes, and Metabase Bill of Materials and Single File Recursion (BOM/SFR Guide). These two documents serve as metabase teaching guides for processes that commonly occur throughout the metabase system.

F7 invokes automatic spell checking on all text fields like names and descriptions.



## Metabase Example

The metabase example, Movies, is a complete example of a business which is available from the Whitemarsh website. The Movies Rental Corporation was modeled after the largest movies rental corporation in the United States. As such, the example has national, regional, and retail outlets. There are two data models, one for an original data capture, store based system, and another which is a data warehouse for rented movies.

## 2.0 Software Installation

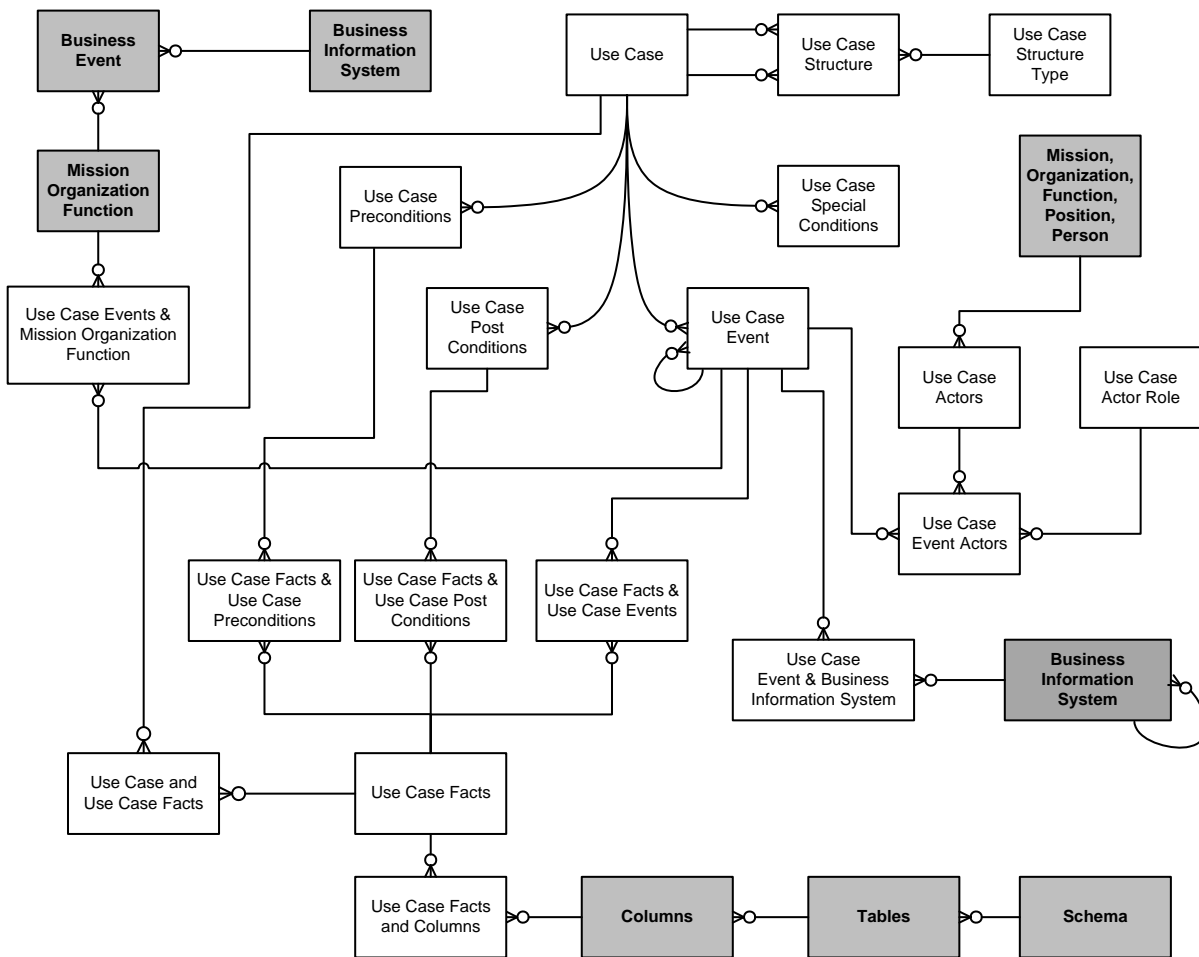
Metabase installation is explained in the Metabase Administrators Guide.

## 3.0 Database Design

Use case data is represented in 18 different tables in this metabase database application. The tables, depicted in Figure 1, are:

- Use Case
- Use Case & Use Case Facts
- Use Case Actor Role
- Use Case Actors
- Use Case Event
- Use Case Event & Business Information System
- Use Case Event Actors
- Use Case Events & Mission Organization Function
- Use Case Facts
- Use Case Facts & Use Case Events
- Use Case Facts & Columns
- Use Case Facts & Use Case Pre-conditions
- Use Case Facts & Use Case Post-conditions
- Use Case Post Conditions
- Use Case Preconditions
- Use Case Special Conditions
- Use Case Structure
- Use Case Structure Type





**Figure 1.** Data Model for Use Cases.

The following entities that are shaded in Figure 1 are read-only within this module:

- Business Event
- Business Information System
- Column
- Mission Organization Function
- Mission Organization Function Position Person
- Schema
- Table

These shaded entities are created/updated in the following modules:





- Business Information Systems
- Implemented Data Model
- Mission Organization Function Position Assignment

Figure 1 presents the overall data model.

The design permits the creation of specifications, descriptions, and interrelationships among one or more use cases. Once the use cases are specified, they can be related to:

- Business Information Systems
- Columns
- Mission Organization Function Position Person
- Mission-Organization-Functions

The definition for each entity is as follows:

**Business Event:** A business event is an intersection between a business information system and a business function. A business event is a triggering event. It is invoked by the business function and the business information systems executes in response. Business events may be set within business event cycles and calendar cycles, or both.

**Business Information System:** A Business Information System is a computer based information system that is being managed through the metabase. It is know by its characteristics, its operation cycles (business event and calendar), subordinate business information systems, employed databases, views, and associated resource life cycle nodes.

**Column:** A Column is the manifestation of the semantics of a data element within a table of a schema. Additionally, a column is a deployment of the semantics of an attribute. Columns may have additional semantics that further refine the column within th e context of either the attribute or the data element. The order of processing these additional semantics is that the column must first be a subset of the attribute, which in turn must be a subset of the data element. Not all the columns of a table must map to attributes from a single entity.

**Mission Organization Function:** A Mission-Organization-Function is the association of a mission-organization with a function. A mission-organization can be associated with multiple functions and a function can be associated with multiple mission-organizations. One or more mission-organization-functions may be associated with a business information system. When they are, business events are created. The business event process is accomplished within the Business Information Systems module.

**Mission Organization Function Position Person:** A Mission Organization Function Position Person is a mission organization function that is further defined to be performed by a specific position and person.



**Schema:** A Schema represent a database structure of tables and relationships within the enterprise. Implemented data models data models are cast within the domain of a schema. The set of all tables within a schema is not required to be taken from a single set of entities within a subject area.

**Table:** A Table is intended to be a well defined expression of one policy within a schema. Ideally, the collection of all the tables within a schema area should define a coherent collection policy. Although unlikely, some tables and even some schemas may never be represented within operational data models. Additionally, some columns within an table may never be employed. A table may contains columns that map to attributes from multiple entities. Tables can be sub-typed.

**Use Case:** A Use Case is the identified, named, and described collection of interactions between a business information system module and an external agent such as a person or a component of a business information system. Use cases can be interrelated within network structures, contain pre-, post-, and special-conditions, have use case events, are related to mission-organization-functions, business information systems, and can include use case facts. Use case facts are, in turn, related to database table columns. Use Case Events are related to Use Case Actors as they preform certain Use Case Event roles.

An example of a use case might be to Adjust Outstanding Balance that a customer owes the enterprise and to reflect that adjusted balance in the database. To fully understand this use case there would be pre-conditions, post conditions, possible special conditions, use case events, use case event actors, and use case facts that would be associated with some aspect of the use case.

**Use Case & Use Case Fact:** A Use Case & Use Case Fact is the association of a use case with a use case fact. Use case facts can be assigned in a more refined manner to pre- and post-conditions. For example, the use case facts might the customer's name, number, other identifying information, order numbers, and the like.

**Use Case Actor Role:** A Use Case Actor Role is a classification of activity that the actor performs during the accomplishment of a use case event. For example, the role might be to review a payment for an order to ensure that the amount is correct and that the payment is accepted.

**Use Case Actor:** A Use Case Actor is a person who occupies a position in the performance of a function within an organization in support of a mission. Use Case Actors perform certain roles with respect to accomplishing use case event. For example, the actor might be the Accounts Receivables person who receives and determines the acceptability of the payment.

**Use Case Event:** A Use Case Event is a component or discrete step of a use case that is to be performed within the overall use case. Use case events can be hierarchical. Use case events can be assigned use case event actors, use case facts, business information systems that ultimately perform the use case event, and allocated to one or more mission organization functions. For



example an use case event might be to query the database to ensure that the payment received on an order for a customer in fact matches and existing customer.

**Use Case Event & Business Information System:** A Use Case Event & Business Information System is the association of a use case event with an instance of business information system. This implies that a particular use case event is associated with a particular business information systems. Given that a business information system is hierarchical, the association can be as low as desired. For example, the association of the customer's validation through the customer information system that indicates that the customer is real or not.

**Use Case Event Actor:** A Use Case Event Actor is the association of of a use case actor with a use case actor role. These use case event actors are then assigned to use case events. Each assignment is able to be named and described. For example, John Jones, the Accounts Receivables person reviewing monies received during the process that adjusts a customer's outstanding balance.

**Use Case Events & Mission Organization Function:** A Use Case Events & Mission Organization Function is the association of a use case event with an instance of mission organization function. This implies that a particular use case event is associated with a particular mission organization function. For example, the function, Perform Customer Balance Management is performed by the use case event step, Adjust Customer Invoice Balance.

**Use Case Facts:** A Use Case Fact is defined data that is either used, created, updated, or reported by a use case and/or a contained component of a use case, that is, use case pre-conditions, use case post-conditions, or use case events. Use case facts are able to be mapped, as appropriate to columns of tables within a schemas. For example, Customer Name, Number, Address, Order Number, Payment Amount, and the like.

**Use Case Facts & Use Case Events:** A Use Case Facts & Use Case Event is the association of a use case event with one or more use case events. For example, the facts associated with the use case event, Adjust Customer Invoice Balance might be the amount tendered, the amount owed, the date of payment, late charges if any, and the like.

**Use Case Facts & Use Case Post-conditions:** A Use Case Facts & Use Case Post-condition is the association of a use case fact with one or more instances of a use case post condition. For example, the post condition might be the updating of an invoice balance when the overall use case is to adjust an invoice balance. Under this scenario, several steps might be performed with the final result of an adjusted invoice balance. For example, the now remaining balance for the invoice, whether the Customer is in good standing as a consequence of an existing payment.

**Use Case Facts & Columns:** A Use Case Facts & Column is the association of a use case event with one or more instances of a column. For example, if a use case fact is Person Full Name, the associated columns might be First, Middle, and Last Names.



**Use Case Facts & Use Case Pre-conditions:** A Use Case Facts & Use Case Pre-conditions is the association of a use case event with an instance of mission organization function. This implies that a particular use case event is associated with a particular mission organization function. For example, the Customer Number, and Customer Name that would be required to be valid before the customer's balance could be affected.

**Use Case Post Conditions:** A Use Case Post Condition is an identified, named, and described condition that must be true when a use case completes. For example, if the use case is to add a new customer to the database, the use case post condition would specify the use case facts that have to be valued according to a set of rules. For example is that the Invoice Balance is correct in consequence of reducing the amount owed by the amount paid.

**Use Case Preconditions:** A Use Case Preconditions is an identified, named, and described condition that must exist before a use case starts. For example, if the use case is to adjust an invoice balance for an order, the preconditions might be that the customer must exist, and order must have been placed, and a full or partial payment must have been received so as to then adjust the invoice balance. For example that a customer must exist before the use case can proceed.

**Use Case Special Conditions:** A Use Case Special Condition is the identification, name and description of some special condition that applies to a use case. For example, that the only customers can be in good standing are those who's balance owed has been current for within the past 90 days.

**Use Case Structure:** A Use Case Structure is a collection of use cases of a certain classification that is specified in through a Use Case Structure Type. For example, the Adjust Outstanding Balance might include the use cases, Validate Customer, Validate Credit Card Payment, and Generate Payment Receipt.

**Use Case Structure Type:** A Use Case Structure Type is the identified, named, and described categorization of a collection of use cases within a use case structure. For example the use cases that affect a customer balance, or determine customer validity.

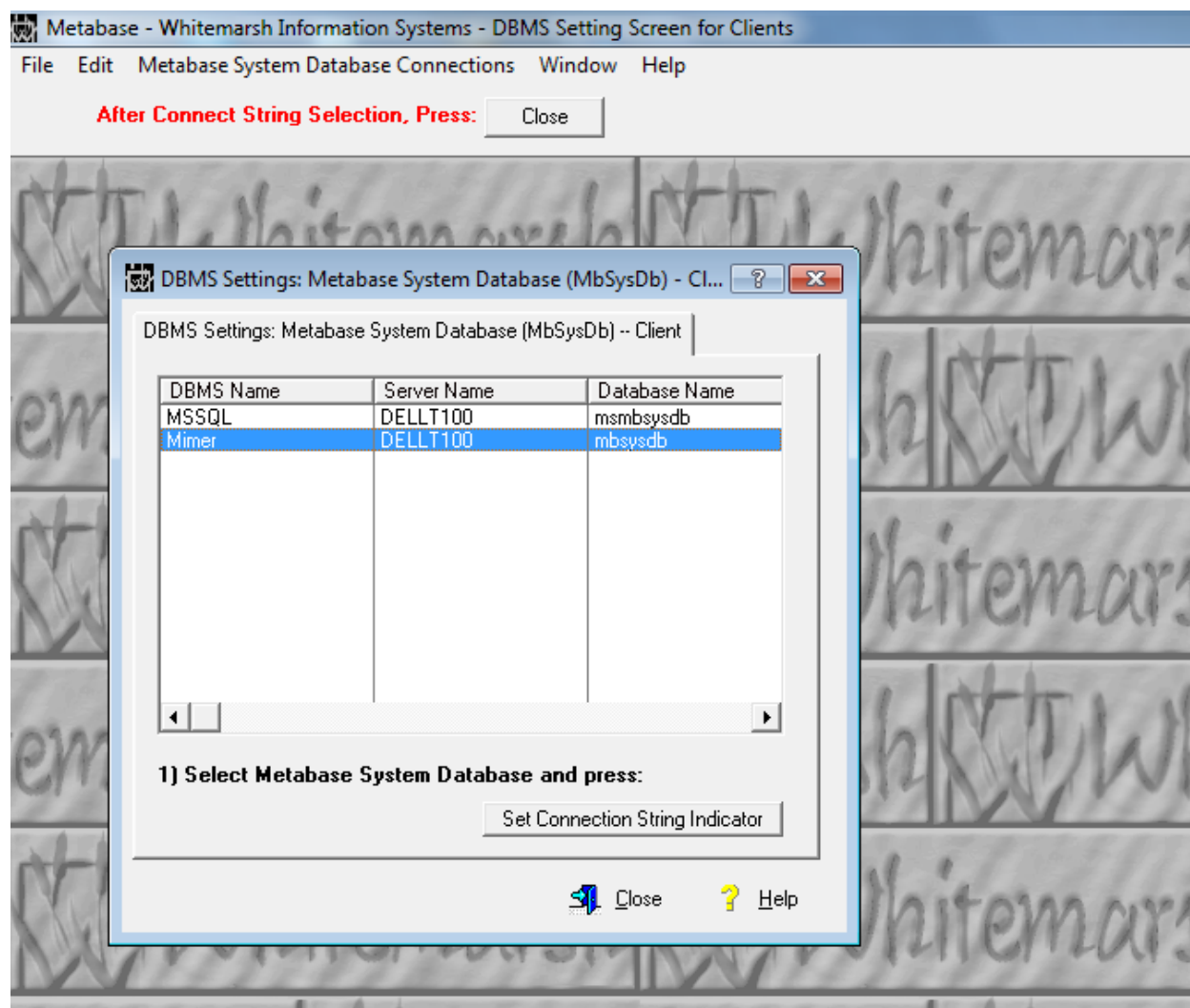
## 4.0 Operation

Once the application is installed it is ready to use. Just invoke the software from the metabase program. The application is a traditional windows application. Metabase reports are accomplished through any ODBC class report writer such as Crystal Reports.

### 4.1 Log In Process

Figure 2 shows the log-in screen that appears immediately after the application is started. Choose the specific DBMS that is to be accessed and then press the Close button.



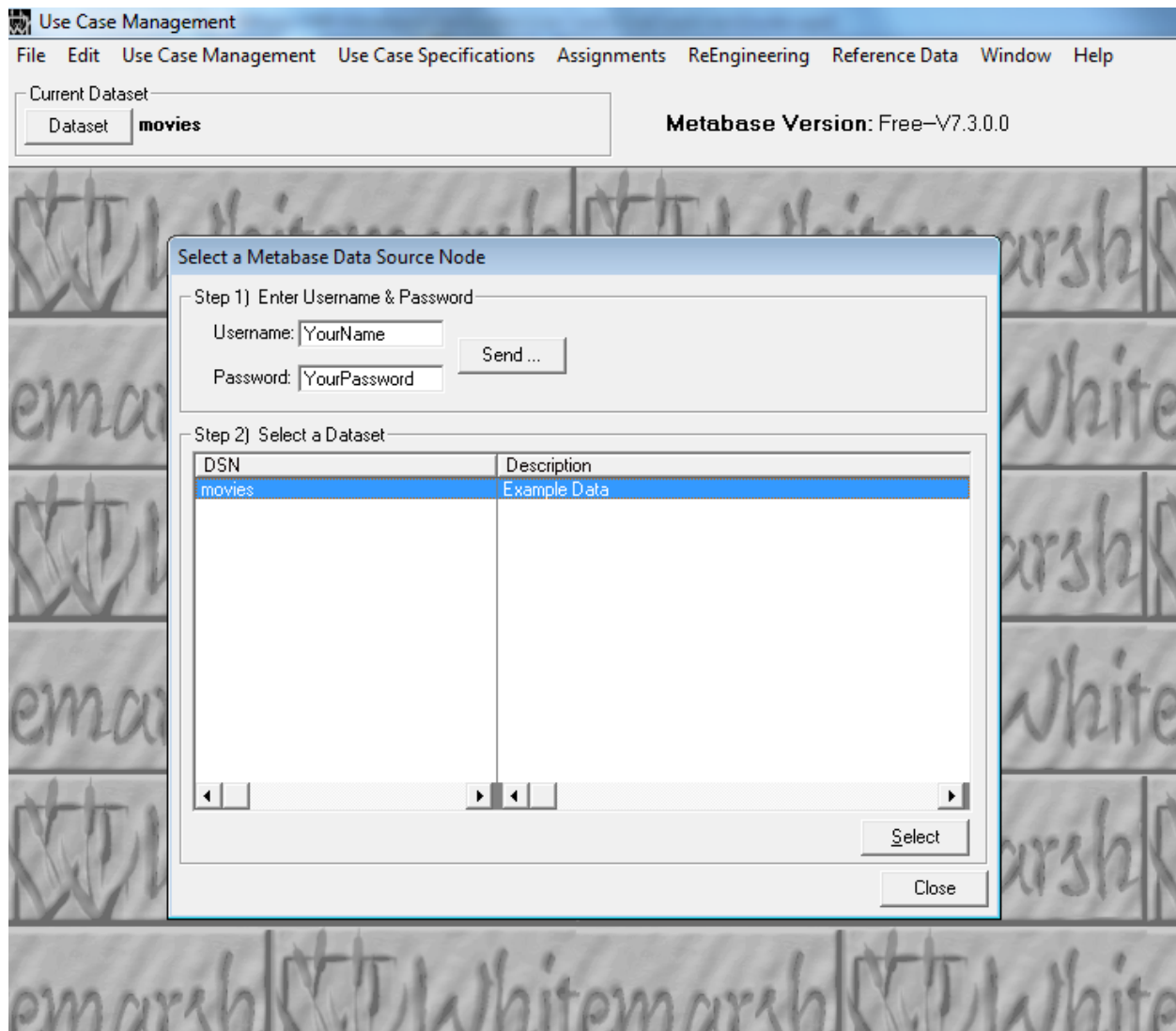


**Figure 2.** DBMS Selection Screen.

Figure 3 shows the screen that appears after the DBMS is chosen. Enter your user name and your password. These are created by the Metabase Administrator through the metabase administration module. Please contact your metabase administrator to set up your user name and password. Once a user name and password is established, all the user's information can be changed by the user through a restricted use version of the administrator software. Once the send button is pressed the specific metabase database instances that can be accessed by the user is presented. The metabase is such that users are allowed to use specific metabase instances and specific metabase modules.

In this particular example, the user, once they sent their user name and password are shown the metabase database that they can access, that is, Movies. Highlight the choice and press the Select button. Once that is done then the metabase name, Movies, is shown as the data set that is being accessed.





**Figure 3.** User Name and Password screen.

## 5.0 Process Model

### 5.1 Menu Structure

The top level of the Use Cases management module includes the following:

- Use Case Management
- Use Case Specifications
- Assignments
- Re-Engineering
- Reference Data

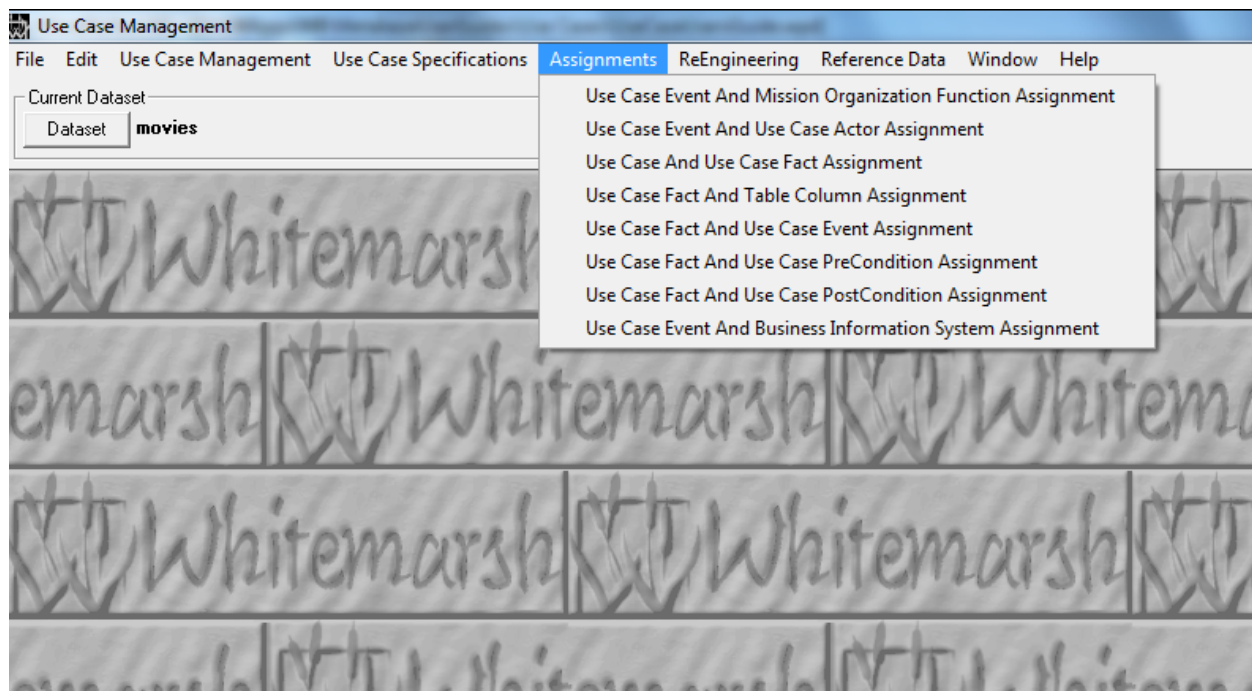


A complete menu is provided in the table that follows.

Menu for Use Cases
<ul style="list-style-type: none"><li>-- Use Case Management<ul style="list-style-type: none"><li>-- Use Case</li><li>-- Use Case Structure</li><li>-- Use Case Structure Type</li></ul></li><li>-- Use Case Specifications<ul style="list-style-type: none"><li>-- Use Case Events</li><li>-- Use Case Facts</li><li>-- Use Case Pre-Conditions</li><li>-- Use Case Post-Conditions</li><li>-- Use Case Special Use cases</li></ul></li><li>-- Assignments<ul style="list-style-type: none"><li>-- Use Case Event And Mission Organization Function Assignment</li><li>-- Use Case Event And Use Case Actor Assignment</li><li>-- Use Case And Use Case Fact Assignment</li><li>-- Use Case Fact And Table Column Assignment</li><li>-- Use Case Fact And Use Case Event Assignment</li><li>-- Use Case Fact And Use Case Pre-Condition Assignment</li><li>-- Use Case Fact And Use Case Post-Condition Assignment</li><li>-- Use Case Event And Business Information System Assignment</li></ul></li><li>-- Re-Engineering<ul style="list-style-type: none"><li>-- Use Case Event And Mission Organization Function Re-Assignment</li><li>-- Use Case Event and Use Case Actor Re-Assignment</li><li>-- Use Case And Use Case Fact Re-Assignment</li><li>-- Use Case Fact And Table Column Re-Assignment</li><li>-- Use Case Fact And Use Case Event Re-Assignment</li><li>-- Use Case Fact And Use Case Pre-Condition Re-Assignment</li><li>-- Use Case Fact And Use Case Post-Condition Re-Assignment</li><li>-- Use Case Event And Business Information System Re-Assignment</li><li>-- Use Case And Use Case Event Re-Assignment</li></ul></li><li>-- Reference Data<ul style="list-style-type: none"><li>-- Use Case Actors</li><li>-- Use Case Actor Role</li></ul></li></ul>

Figure 4 shows an example of navigating the menu structure.





**Figure 4.** Example Menu from Use Case Module.

## 5.2 Use Case Management

Use cases consist of three tables:

- ◆ Use cases
- ◆ Use case Structure
- ◆ Use case Structure Type

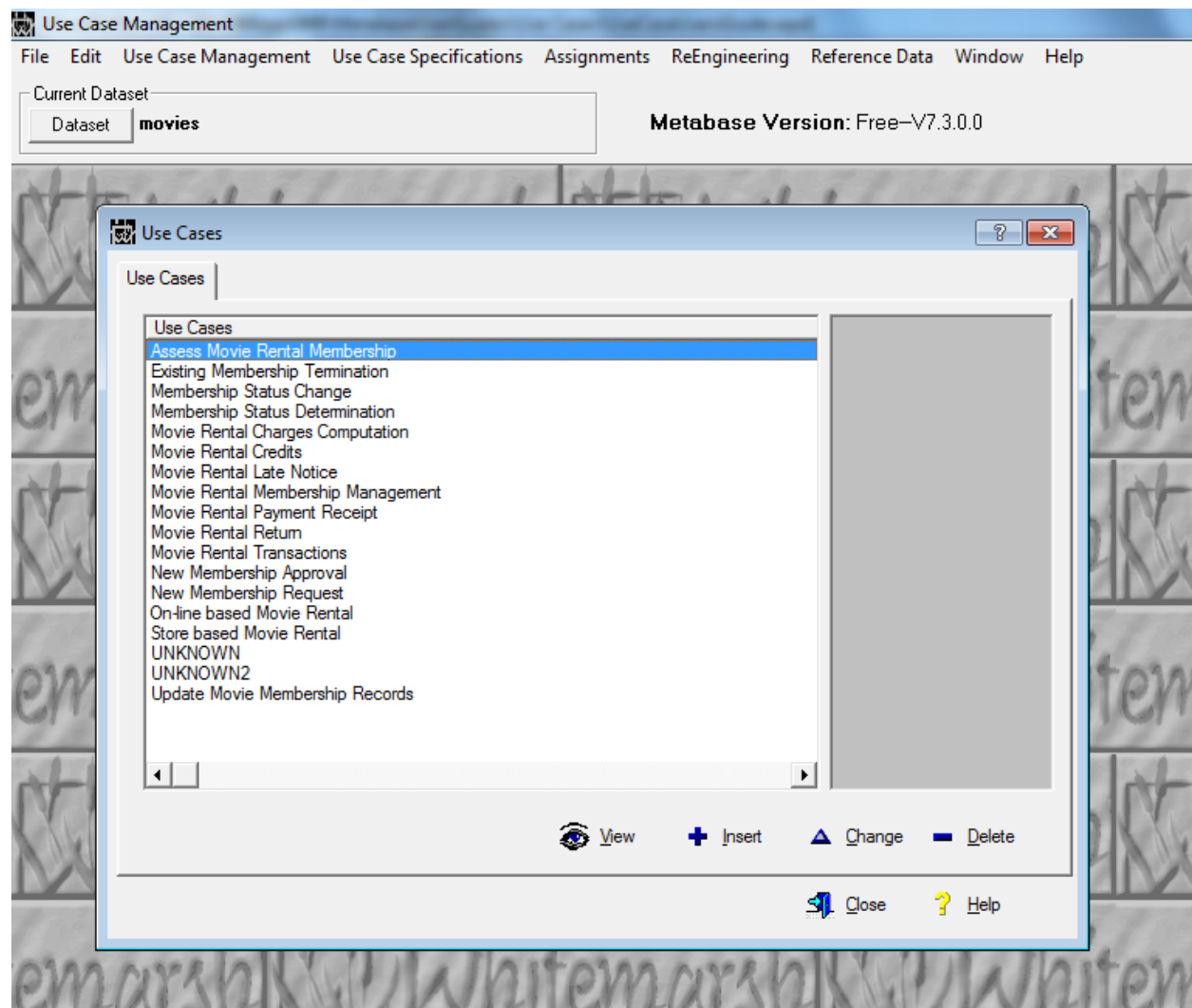
### 5.2.1 Use Cases

Figure 5 provides a list of use cases that are currently stored in the metabase. Since use cases do not exist in isolation, each use case is subject to DELETE referential integrity rules. In this case, a use case may be allocated to one or more use case structures. These relationships are shown in Figure 1. Regardless of the cause of the attachment, the effects are felt in this module. If a use case deletion is attempted, the deletion will be rejected if there is an attached use case structure.

Figure 6 presents the update screen for a use case.

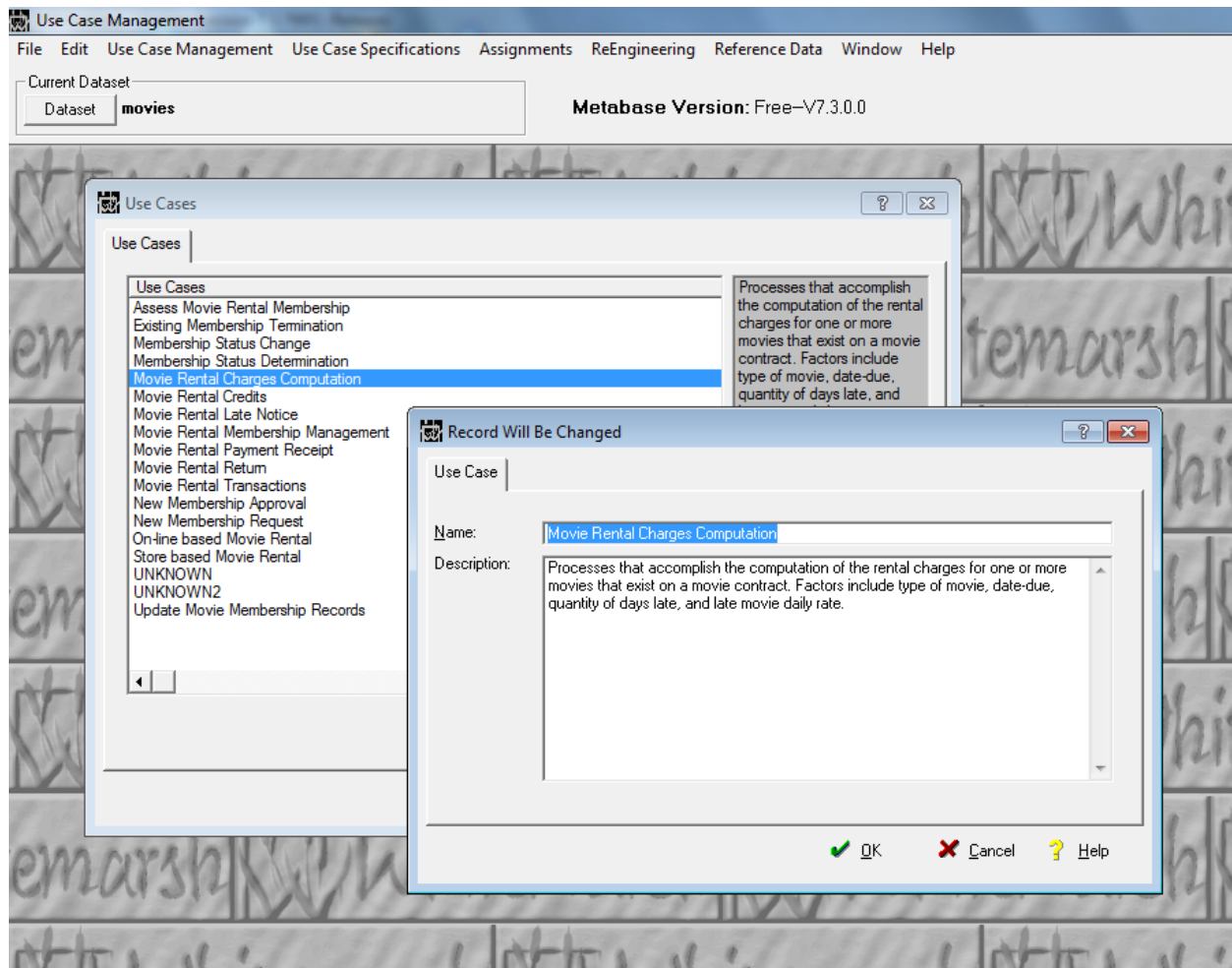






**Figure 5.** Use Case List.





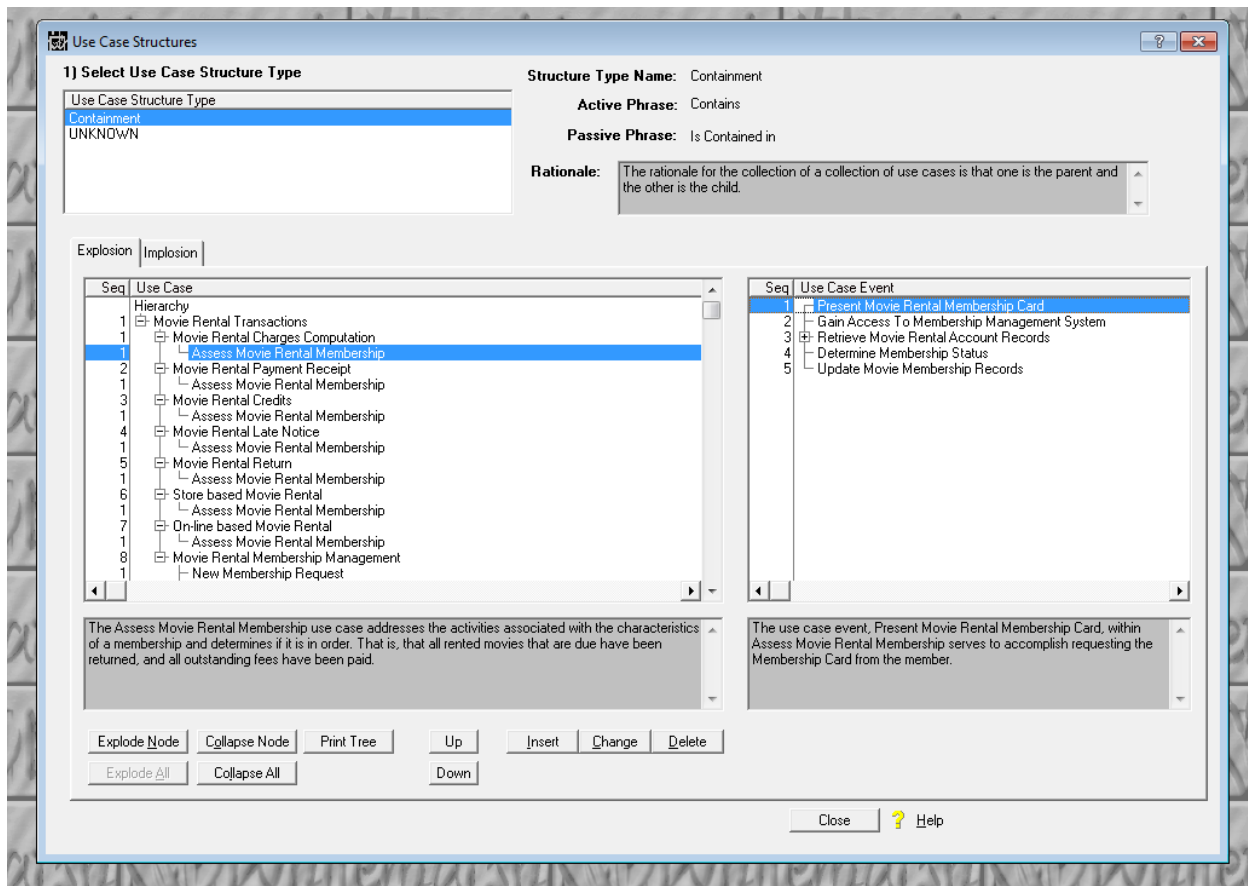
**Figure 6.** Use Case update screen.



## 5.2.2 Use Case Structure

Figure 7 provides a list of use case structures that are currently stored in the metabase. Use cases can exist singly or in hierarchies, or networks. In the last case, Use cases form a traditional bill of materials data structure.

From above, Figure 6 presents a set of use cases. These use cases are not displayed within structures. To create a structure among a collection of Use cases, select the menu item, Use case Structure. Figure 7 presents the current set of Use case Structures. If, after highlighting the appropriate Use case Structure Type row, there are no acceptable use case structures, press the Insert button so that Figure 8 is then presented.



**Figure 7.** Use Case Structures.



On Figure 7, there are two tabs. Explosion and Implosion. An explosion is a collection of “active tense” relationships, Movie Rental Transactions contain Movie Rental Charges Computation coverage which in turn contains Access Movie Rental Membership..

Implosion is the reverse. Figure 9 shows a existing set of Use case Structure inversions. In this example, Distribution Timeliness is contained in Business Event Coverage which, in turn is contained in Business Information Systems.

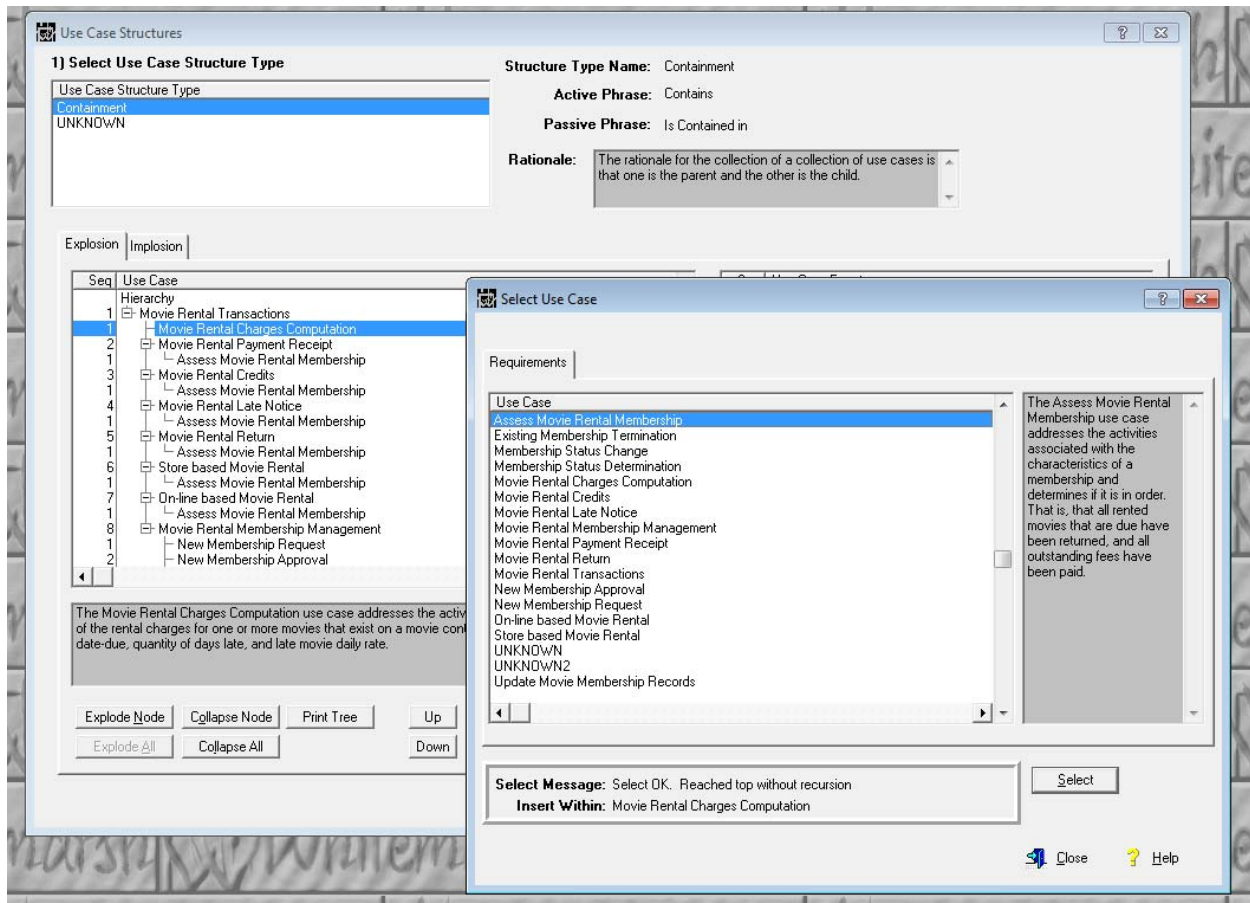
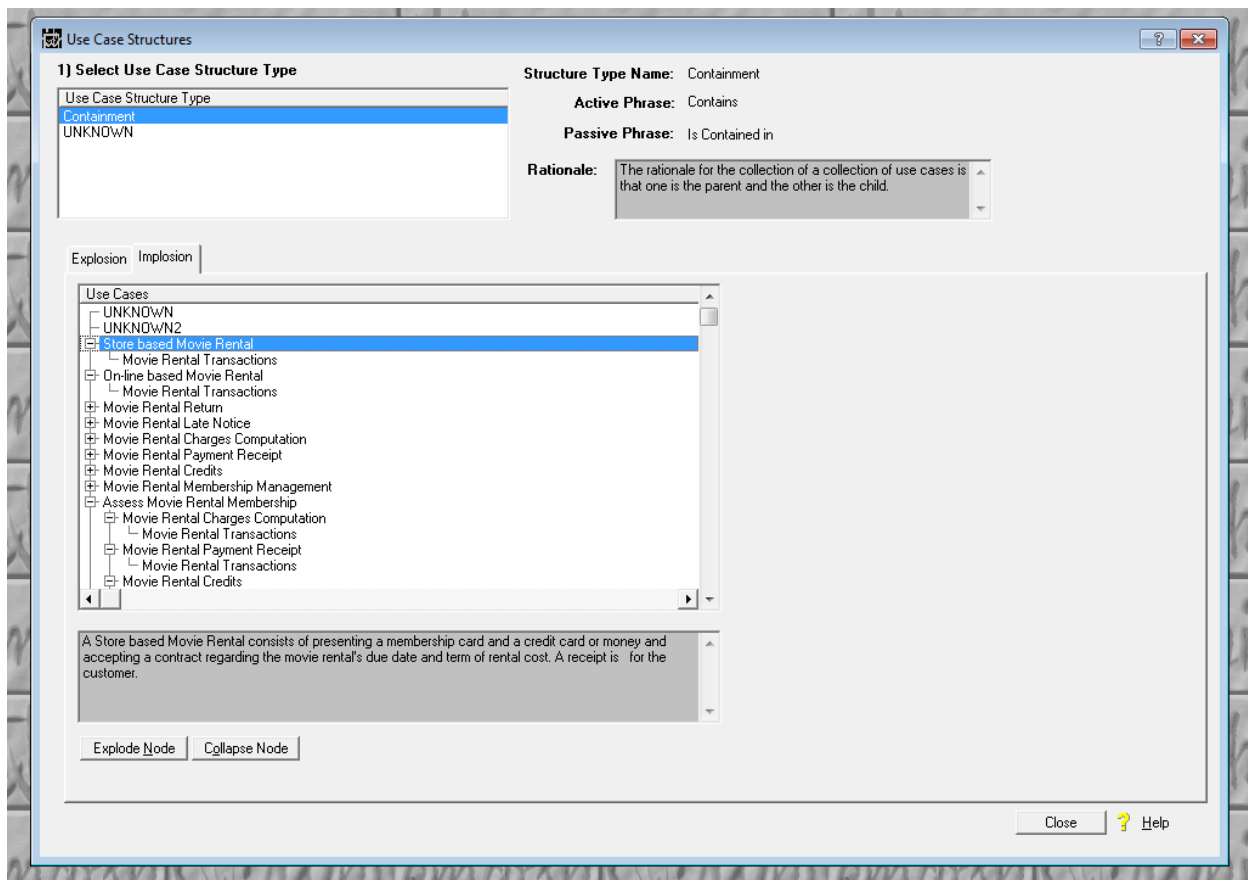


Figure 8. Updating a Use Case Structure.





**Figure 9.** Use Case Structure Implosion

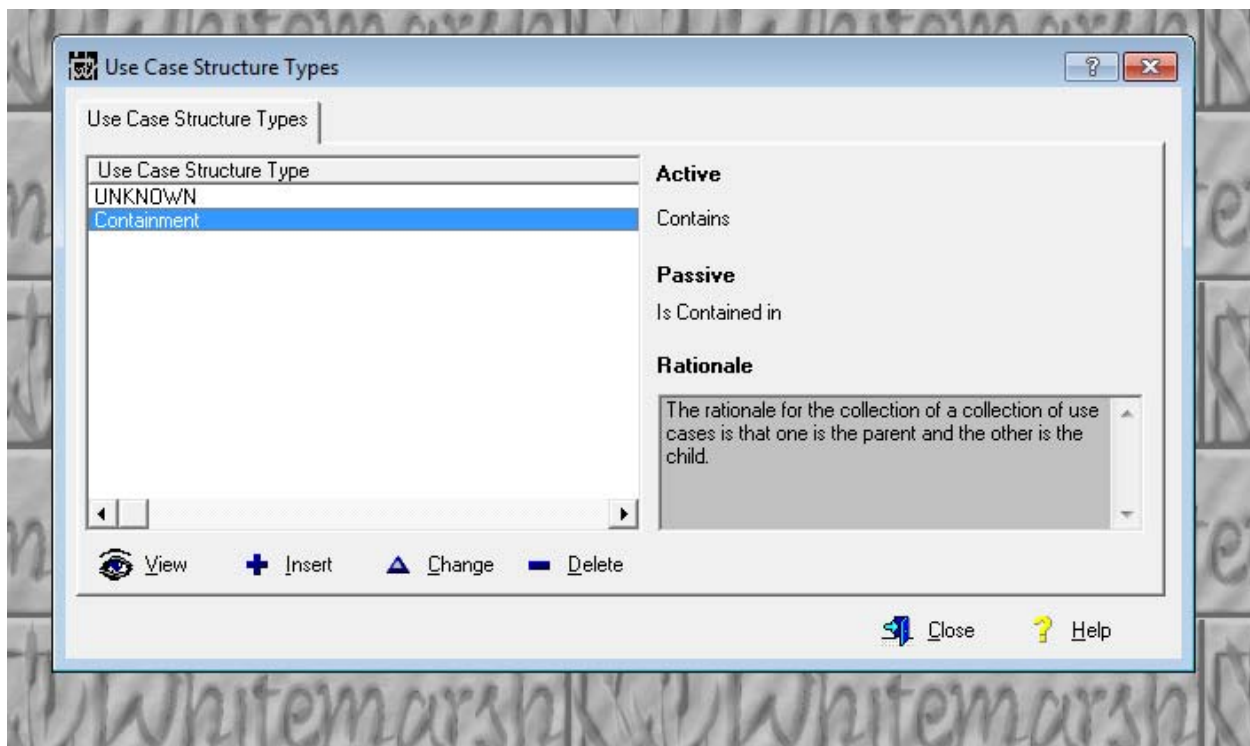
When a new Use case is to be inserted within an existing Use case Structure, the name is highlighted and the Insert button is pressed, a screen like Figure 8 is presented. The specific Use case that is desired as the containing Use case is highlighted and the select button is pressed. In this particular example, (as shown in Figure 8), Movie Rental Charge Computation was highlighted as the parent, and Assess Movie Rental Membership is the child. The message at the bottom of the Select window indicated that the insert process is acceptable. At that point, press the Select button. The three cases that are automatically screened out are presented in the BOM/SFR user guide.



### 5.2.3 Use Case Structure Type

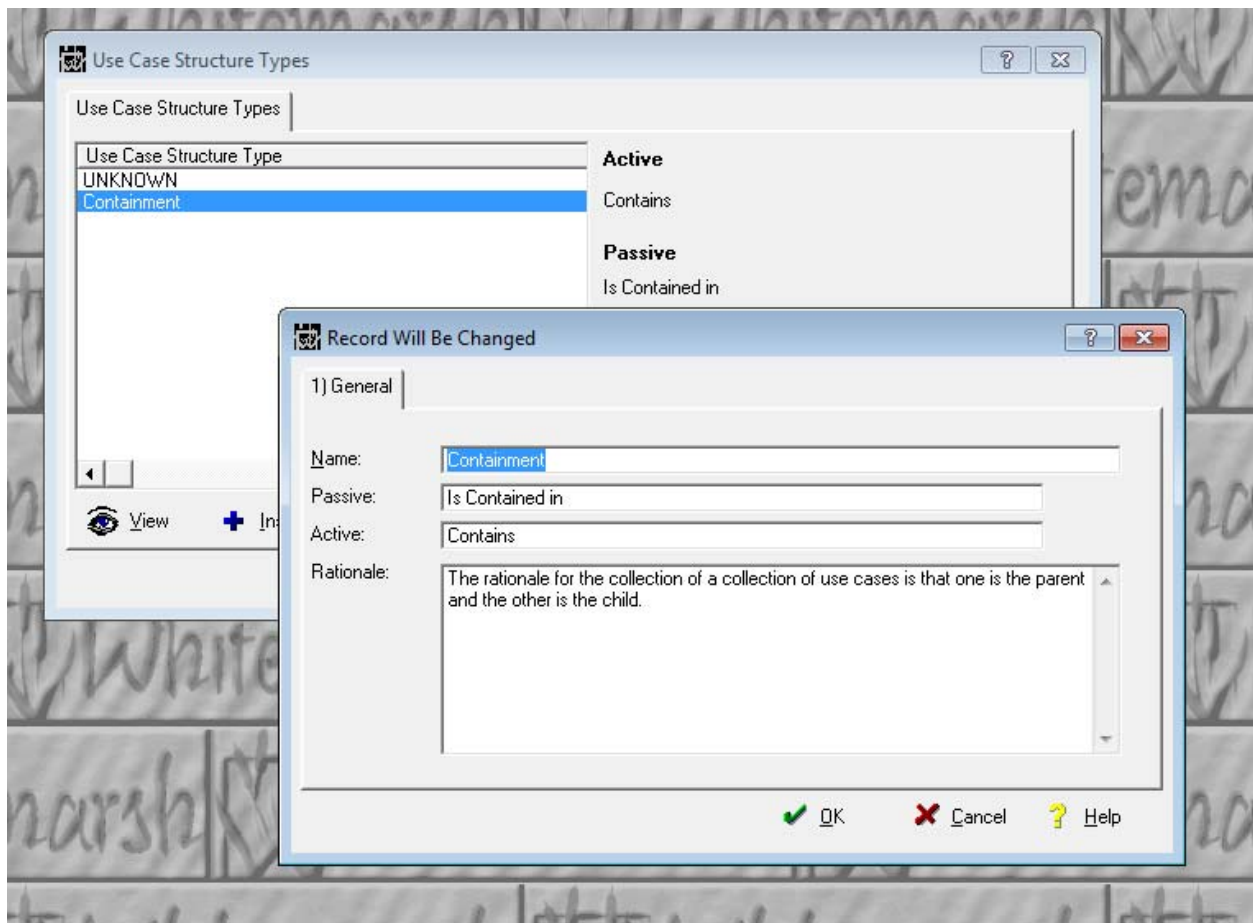
The Use case Structure type is a way of distinguishing one collection of use case structures from another. Figure 10 presents the current list. If two different classification hierarchies are interconnected, it may be that the intersection is distinguished from the others by means of a different Use case structure type.

Figure 11 presents the Use case structure type update form. Not only is the name and description of the Use case structure type provided, so too is the active phrase and the passive phrase. The active phrase is employed by the Whitemarsh metabase system when a down-ward structure is presented. For example, <parent> contains <child 1>, <child 2>, ... , <child n>. The passive phrase enables the reverse phrases to be presented. That is, <child 2> is contained in <parent>.



**Figure 10.** Use Case Structure Types.





**Figure 11.** Use Case Structure Type update.



## 5.3 Use Case Specifications

Specification of a specific use case involves creation, update, and interrelationships for:

- Use Case Events
- Use Case Facts
- Use Case Preconditions
- Use Case Post Conditions
- Use Case Special Conditions

### 5.3.1 Use Case Events

Figure 12 presents the use case events that are stored in a metabase for a particular use case. Use case events can be hierarchically organized and their sequence can be altered. The sequence is shown in the first column of the use case event browse. To alter the sequence, select a use case event and press the Up or Down button. The use case event then moves up or down and its sequence number is changed.

To select a particular use case subset of use case events, select the use case in the top browse of Figure 12. The contained use case events are listed.

Use case events can be sequenced as shown in this figure. For each selected use case event, the use-case-event use-case-facts are shown in the browse below that. And below that browse are shown the database columns, tables, and database schemas that have been associated with the each use case fact.

In this example, the use case event, Present Movie Rental Membership Card contains three use case facts, Last Name, Membership Number, and Phone Number. The selected one, Last Name can be found in a number of different database tables. The one shown is Customer Name from the Customer table of the Movies Original Data Capture schema.

To create a new root level use case event, select the entry, Hierarchy, and present insert. In this example, the action is to change the selected use case to for example, enter its description. The update screen is shown on Figure 13.





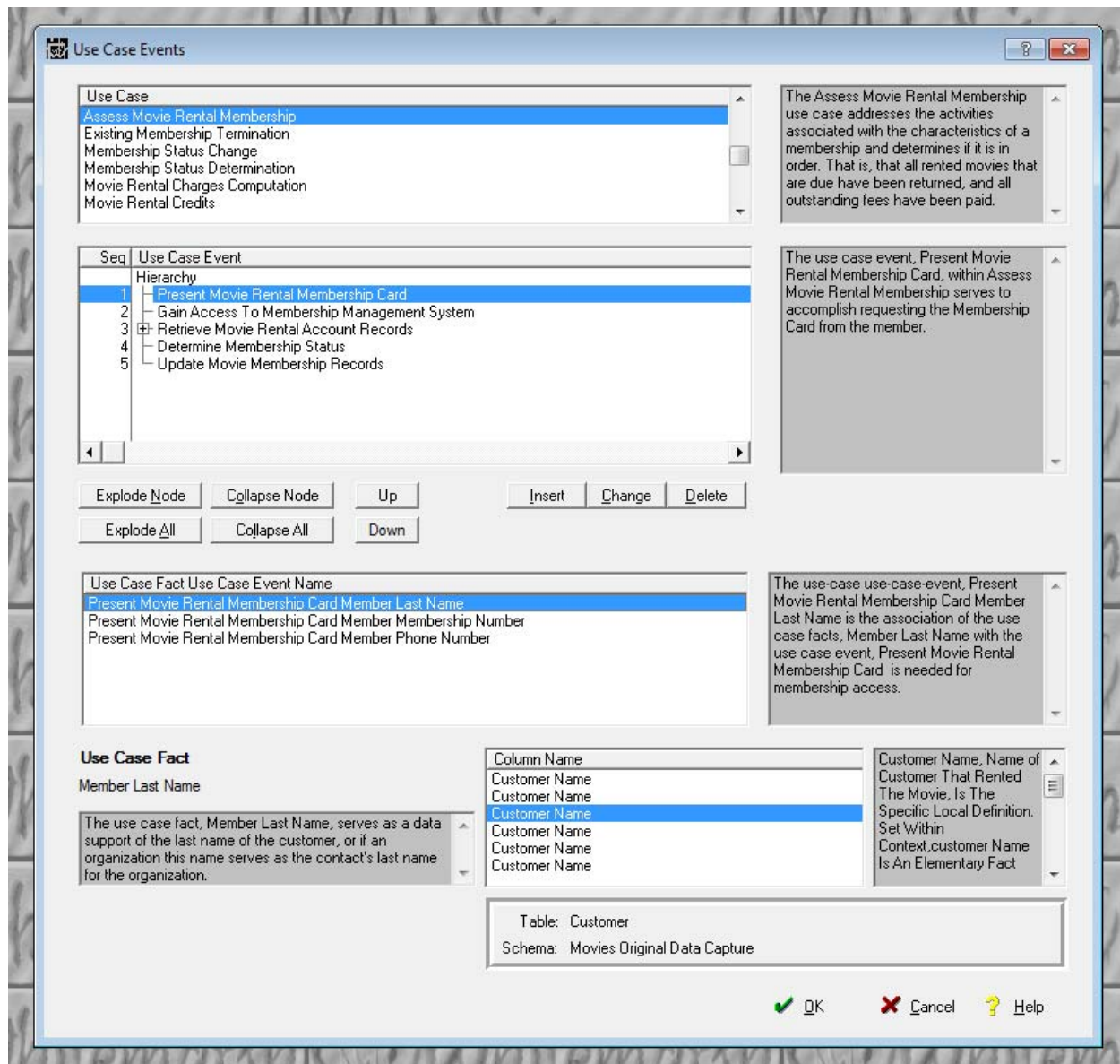
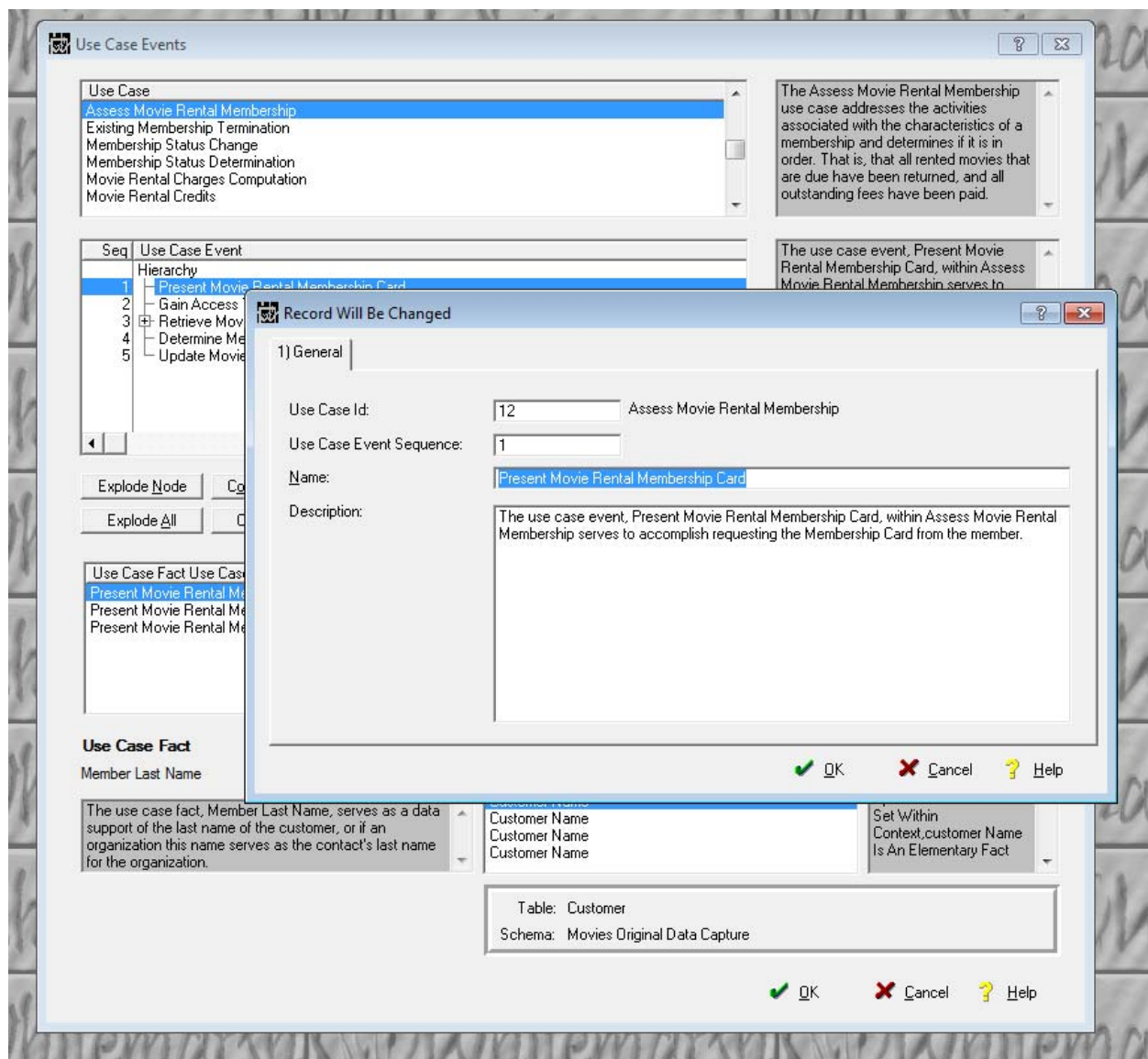


Figure 12. Use Case Events.





**Figure 13.** Use Case Event Update.



### 5.3.2 Use Case Facts

Use case facts are created independently from any particular use case. Once created, they can be associated with multiple use cases. Once within the context of a particular use case, a use case fact can be allocated to a use case precondition, post condition, or use case event.

Figure 14 shows use cases, and use case events. These are shown merely as a way of enabling the discovery of possible use case facts. The heavy lines below the top left two browses are employed to illustrate the separation of these two browses from the use case fact, and its associated set of use-case-fact-columns that are in the brows that is below it. As a use-case-fact-column is selected, its related-to column, table and schema is presented.

I insert a new use case fact, press the Insert button. When that is done, a screen like that shown in Figure 15 is shown. Enter the use case fact's name, and provide its description.

**1) Select and Review Use Cases**

Use Case

- Assess Movie Rental Membership
- Existing Membership Termination
- Membership Status Change
- Membership Status Determination
- Movie Rental Charges Computation
- Movie Rental Credits
- Movie Rental Late Notice
- Movie Rental Membership Management
- Movie Rental Payment Receipt
- Movie Rental Return
- Movie Rental Transactions
- New Membership Approval
- New Membership Request
- On-line based Movie Rental

The Assess Movie Rental Membership use case addresses the activities associated with the characteristics of a membership and determines if it is in order. That is, that all rented movies that are due have been returned, and all outstanding fees have been paid.

**2) Select and Review Use Case Events**

Seq Use Case

- 1 Present Movie Rental Membership Card
- 2 Gain Access To Membership Management System
- 3 Retrieve Movie Rental Account Records
- 4 Determine Membership Status
- 5 Update Movie Membership Records

The use case event, Present Movie Rental Membership Card, within Assess Movie Rental Membership serves to accomplish requesting the Membership Card from the member.

**3) Create or Update Use Case Facts**

Use Case Fact

- UNKNOWN
- Member First Name
- Member Last Name
- Member Membership Number
- Member Phone Number
- Member Street Address
- Member City
- Member State
- Member Zip Code

+ Insert    ▲ Change    - Delete

The use case fact, Member First Name, serves as a data support of the first name of the customer, or if an organization this name serves as the contact's first name for the organization.

**Use Case Fact Column Description**

Unknown

**Column Description**

Customer Name, Name of Organization Or Individual Renting The Movie, Is The Specific Local Definition. Set Within Context, Customer Name Is An Elementary Fact Within The

**Select to display column, table and schema.**

Cid	UCFCid	TID	Use Case Fact Column Name	Column Name
261	6	52	Movie Rental Membership Customer Name	Customer Name

Table: Movie Rental Record

Schema: Movie Rental Record

Movie Rental Record, A Movie Rental Business Transaction, Is The Specific Local Definition. Set Within

The movie sales data warehouse is a database that contains the movie rental record as the fact table, and

Close Help

Figure 14. Use Case Facts.



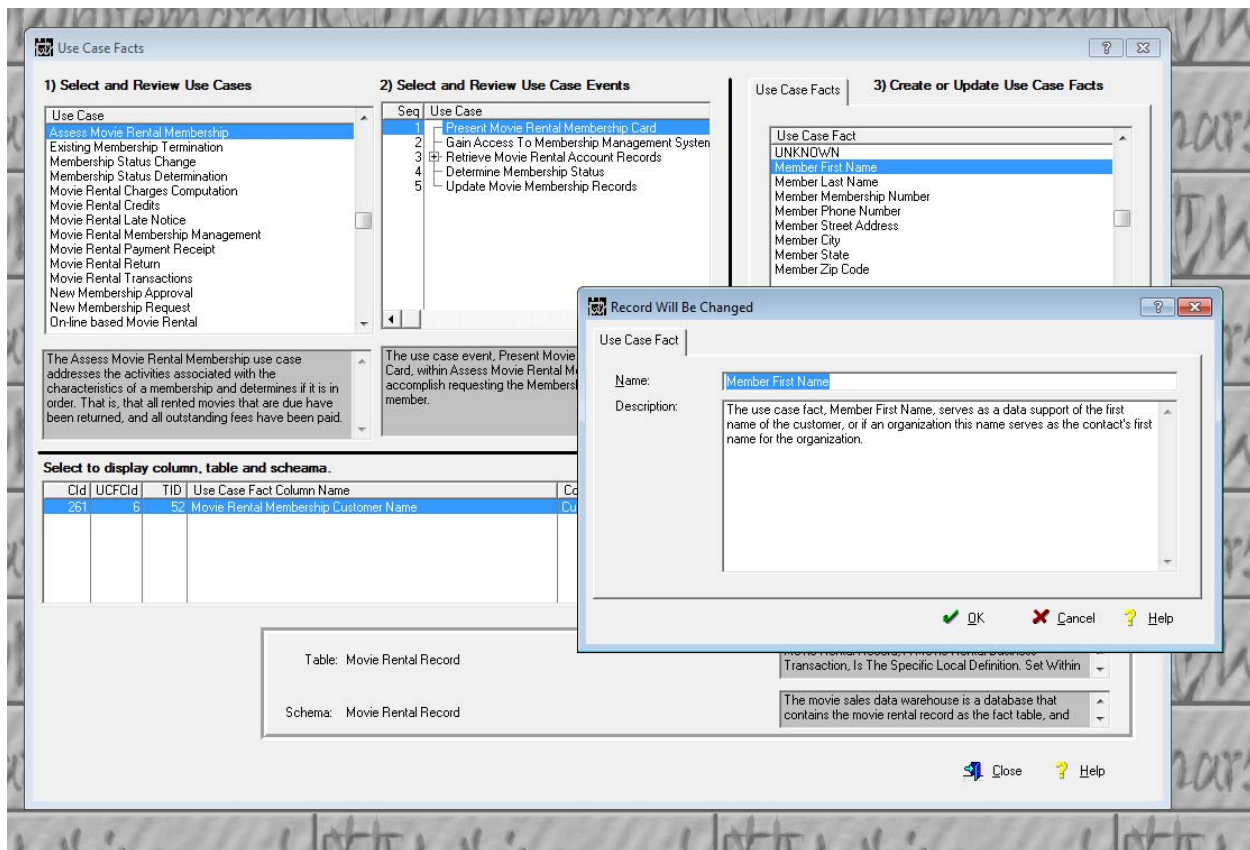


Figure 15. Use Case Fact Updates.

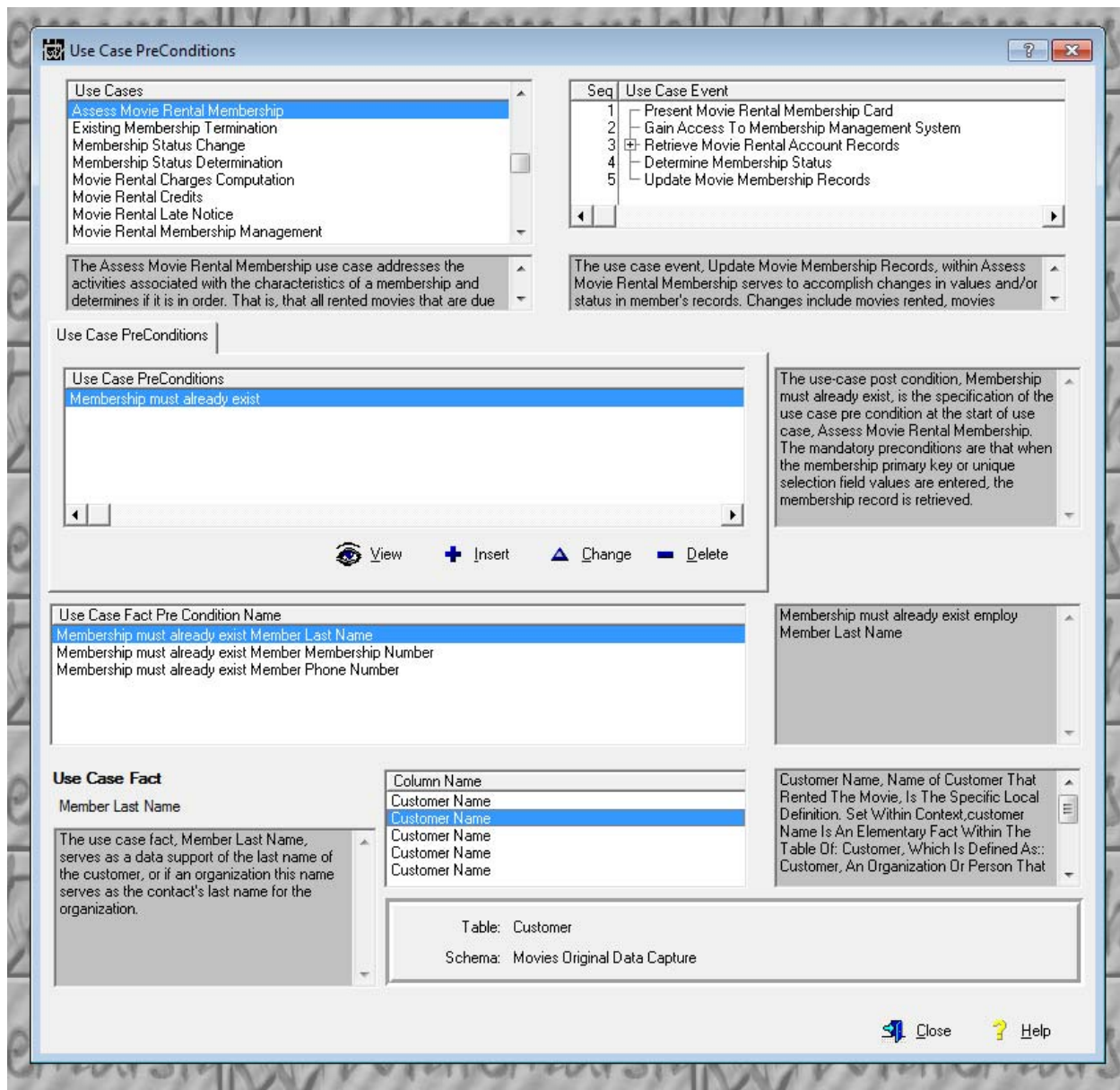




### 5.3.3 Use Case Pre Conditions

Figure 16 presents the Use Case Pre Conditions that are contained in the metabase. Use case pre conditions are set within the context of a given use case. At the top of this screen, the use cases are shown. As one is selected, its contained set of use case events are presented.

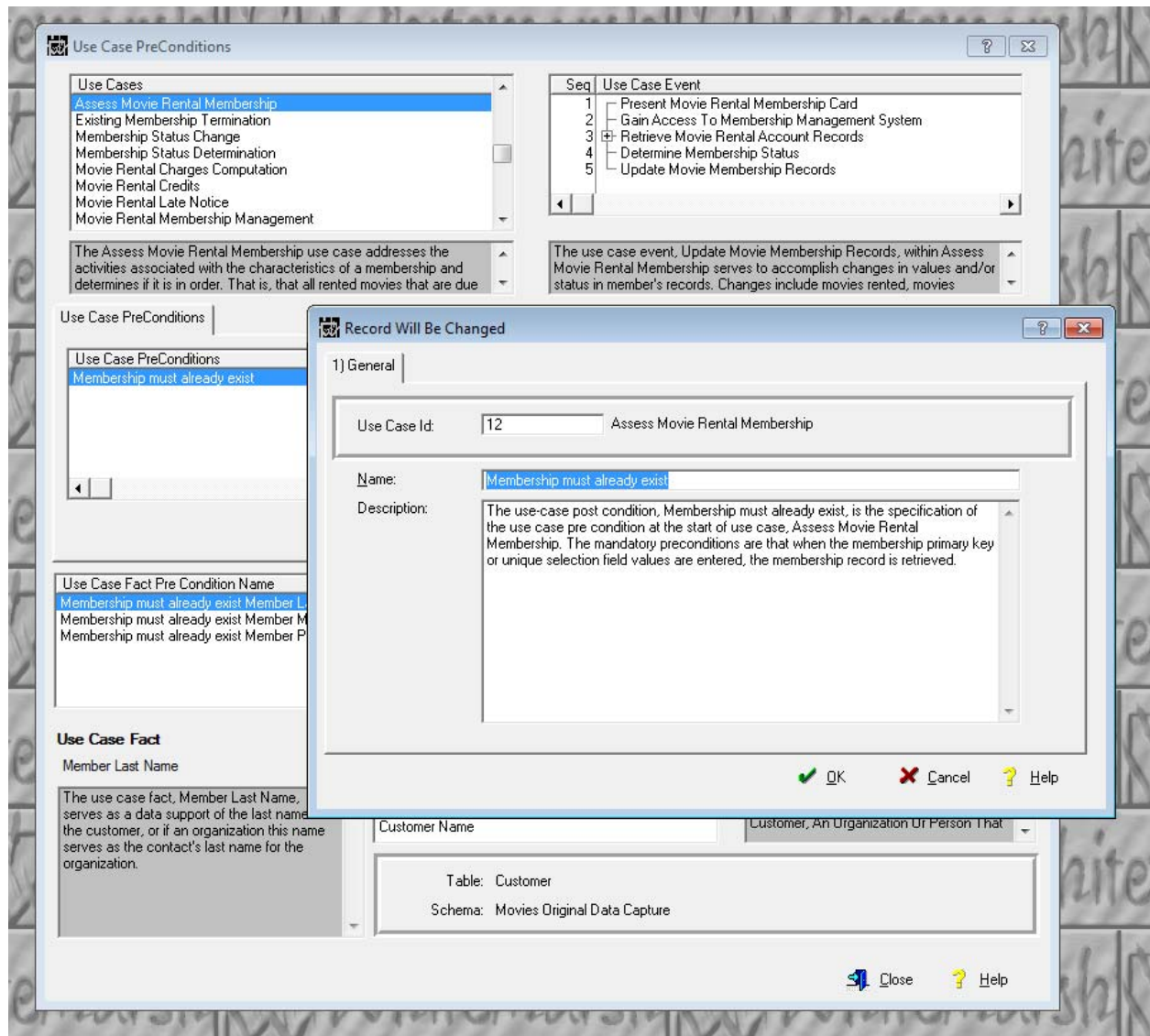
The current set of use case pre conditions are similarly shown for each selected use case. For each use case pre condition, shown are the use case pre condition's associated use case facts, and for each such fact their associated columns.



**Figure 16.** Use Case Pre Conditions



To create a new use case pre condition, select the appropriate use case and press the Insert button. Figure 17 is then presented. Shown at the top is the use case within which the use case pre condition is to be contained. Create a use case pre condition name and then provide a description of the pre condition that must be met before the use case can start to be accomplished.



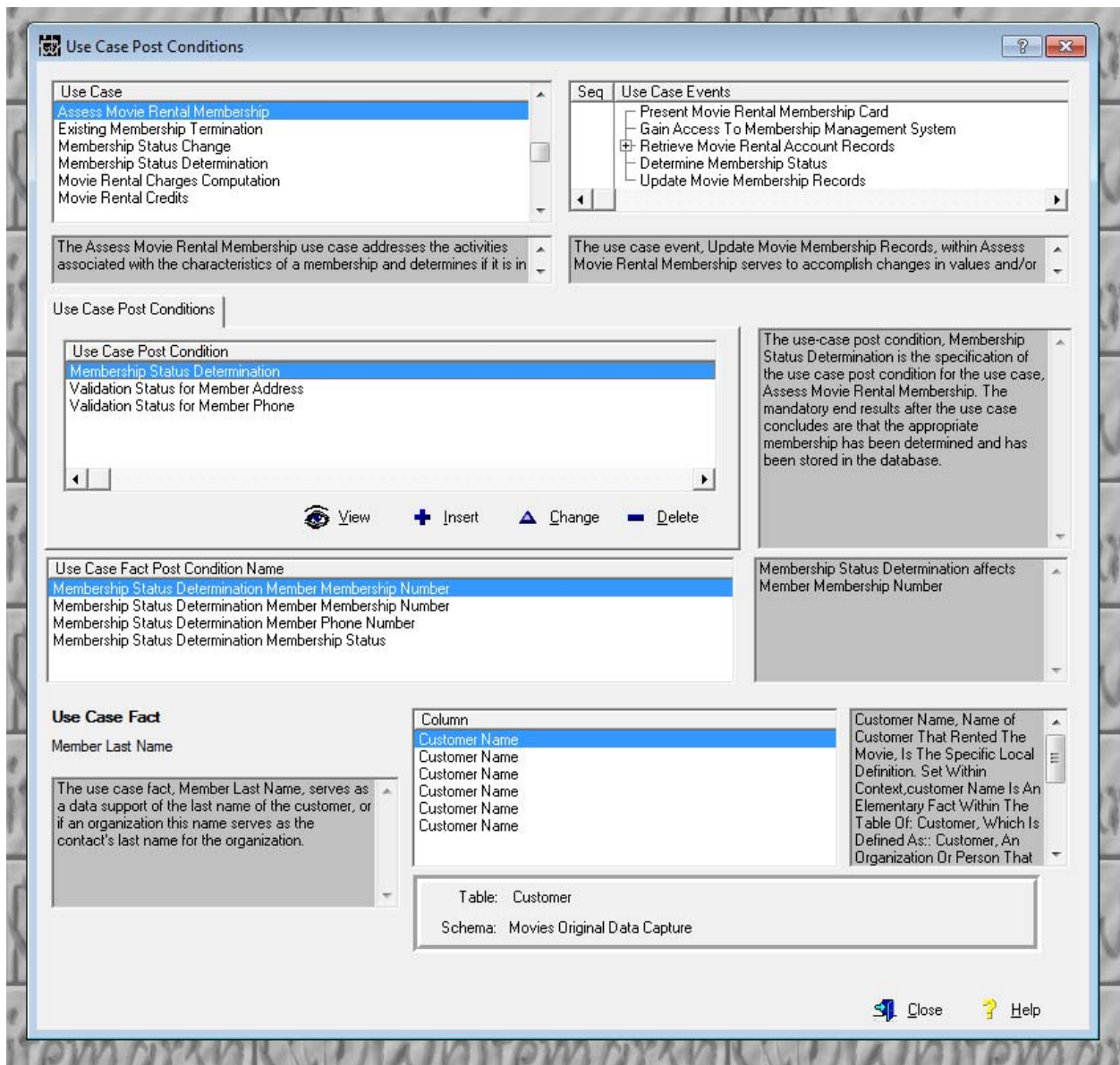
**Figure 17.** Use Case Pre Conditions Updates.



### 5.3.4 Use Case Post Conditions

Figure 18 presents the Use Case Post Conditions that are contained in the metabase. Use case post conditions are set within the context of a given use case. At the top of this screen, the use cases are shown. As one is selected, its contained set of use case events are presented.

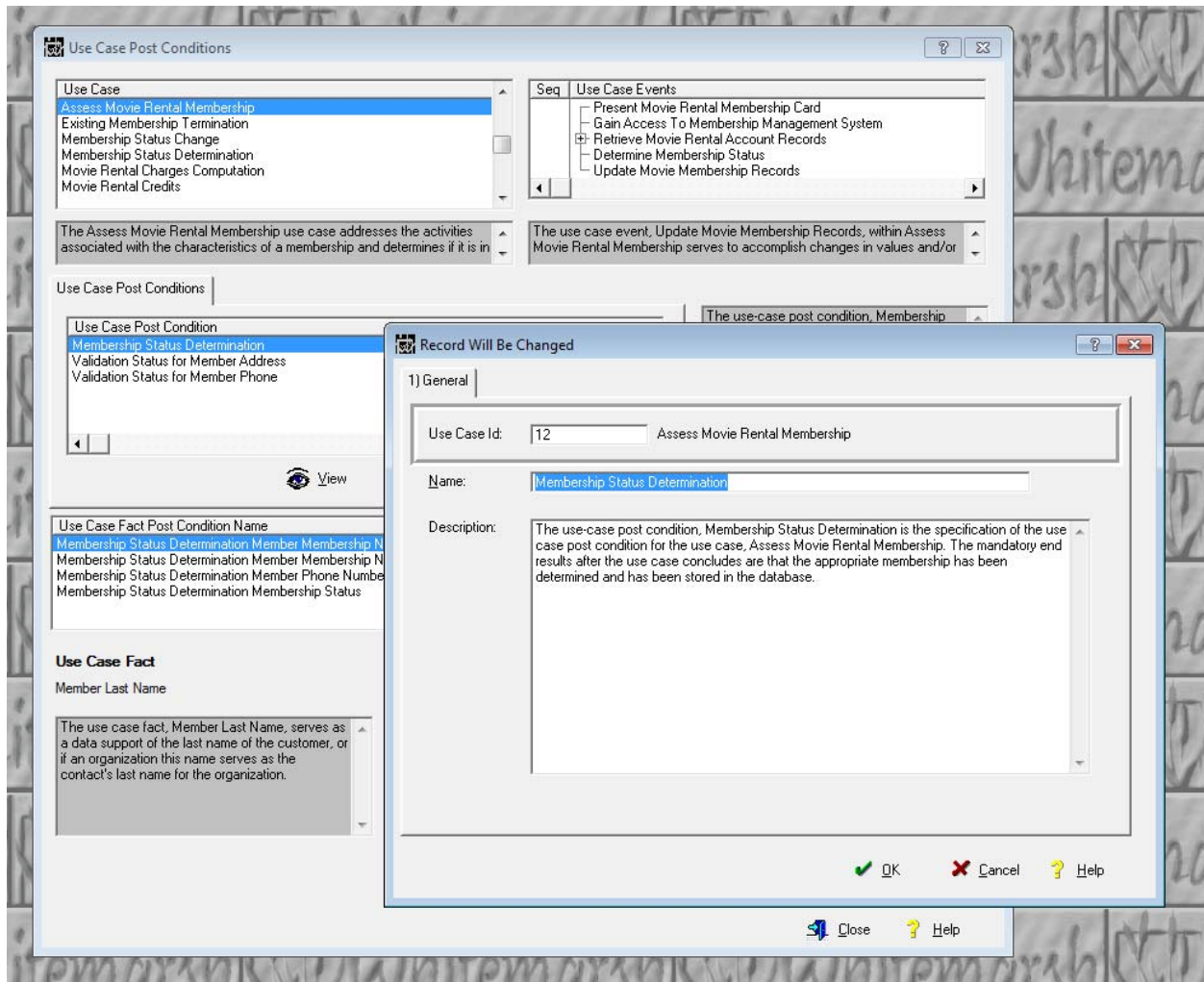
The current set of use case post conditions are similarly shown for each selected use case. For each use case post condition, shown are the use case post condition's associated use case facts, and for each such fact their associated columns.



**Figure 18.** Use Case Post Conditions.



To create a new use case post condition, select the appropriate use case and press the Insert button. Figure 19 is then presented. Shown at the top is the use case within which the use case post condition is to be contained. Create a use case post condition name and then provide a description of the post condition that must be achieved after a use case and all its included events have completed.



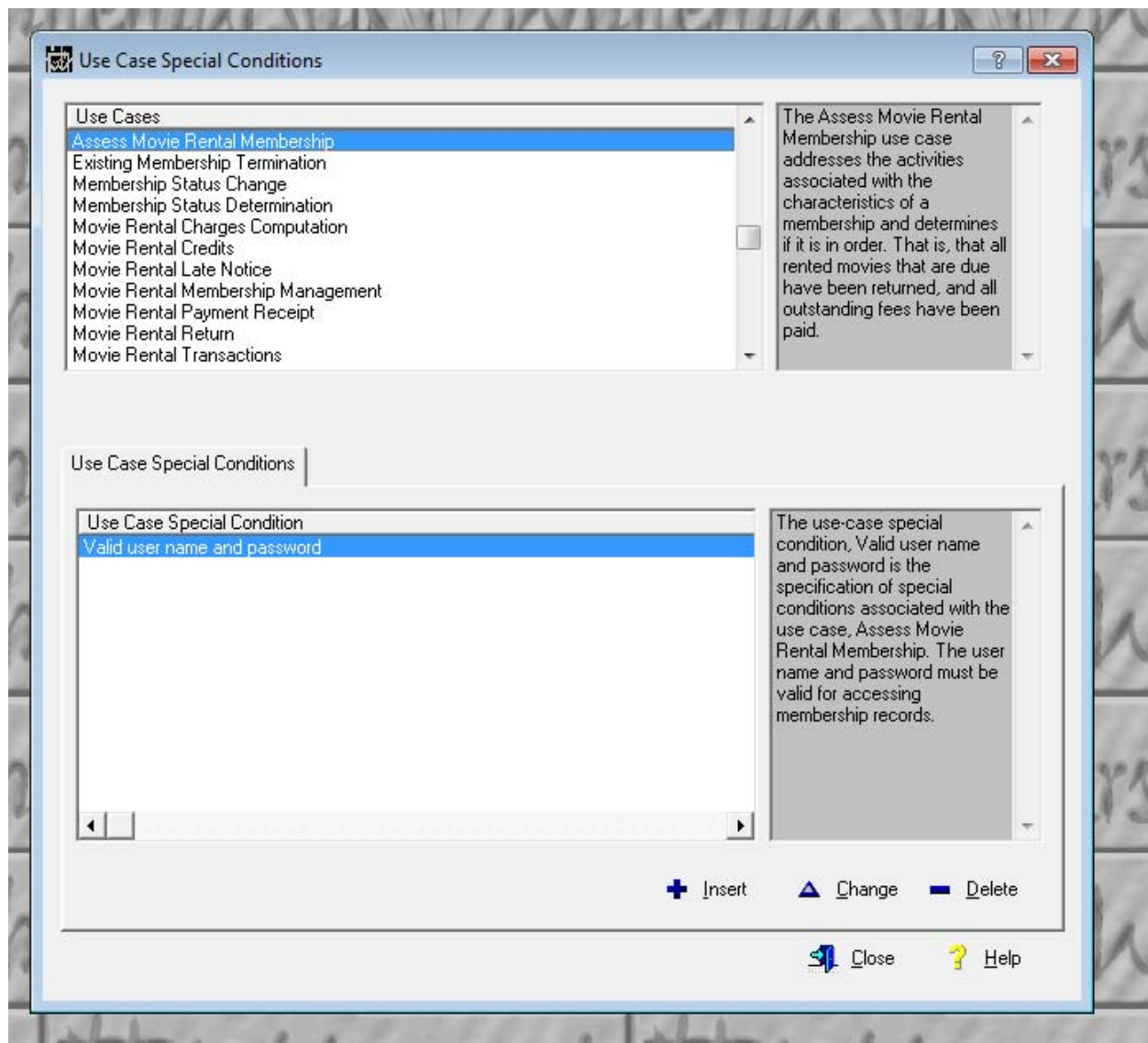
**Figure 19.** Use Case Post Conditions Updates.





### 5.3.5 Use Case Special Conditions

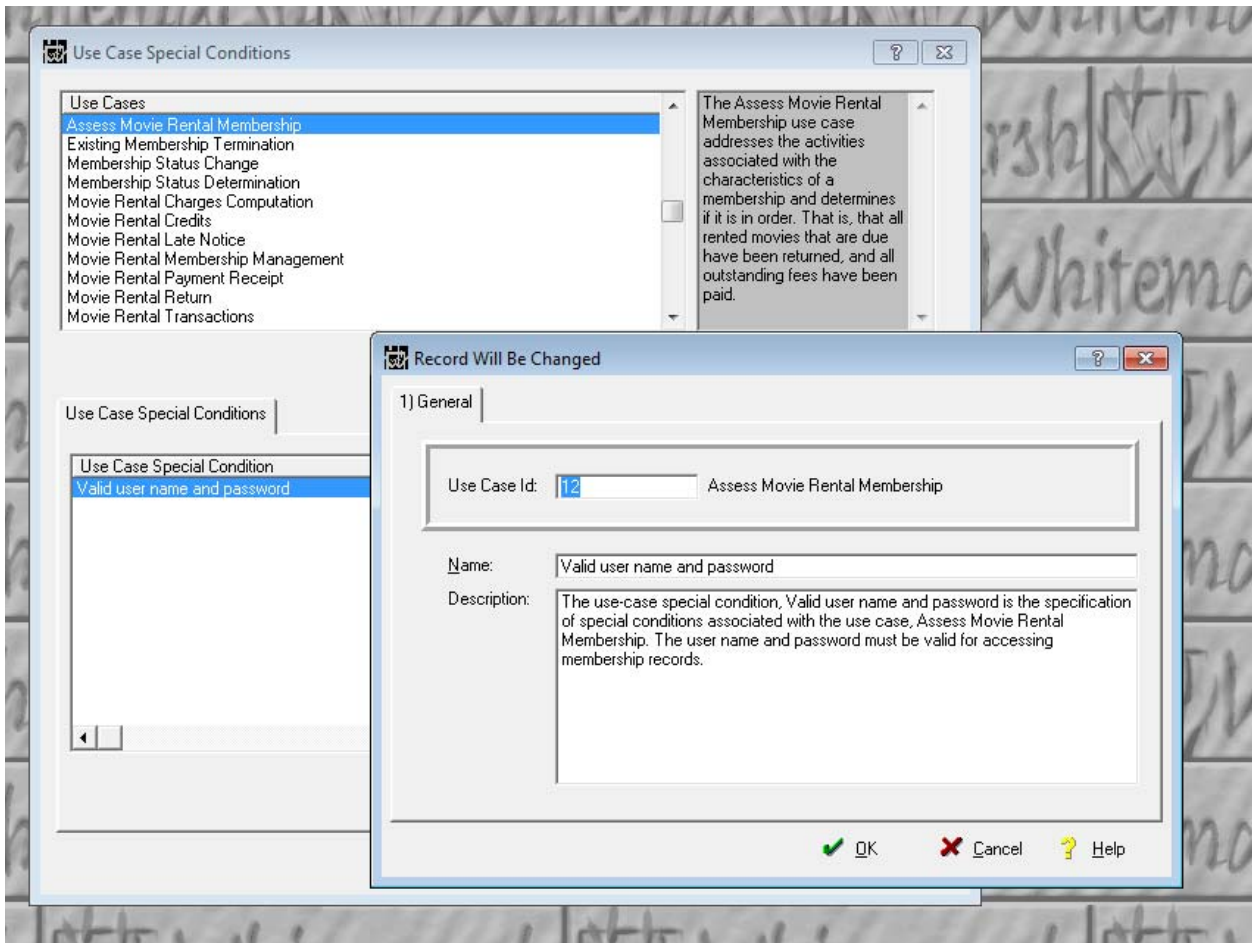
Figure 20 presents the Use Case Special Conditions that are contained in the metabase. Use case post conditions are set within the context of a given use case. At the top of this screen, the use cases are shown. As one is selected, its contained set of use case special conditions are presented. Special conditions are not associated with either a pre or post state, nor are they associated with any specific use case fact.



**Figure 20.** Use Case Special Conditions.



To create a new use case special condition, select the appropriate use case and press the Insert button. Figure 21 is then presented. Shown at the top is the use case within which the use case special condition is to be contained. Create a use case special condition name and then provide a description of the special condition that must exist for that use case.



**Figure 21.** Use Case Special Conditions Updates.



## 5.4 Assignments

The previous sections build the actual use cases that, in turn, need to be interrelated with other components. These associations include:

- Use Case Event and Mission Organization Function Assignment
- Use Case Event and Use Case Actor Assignment
- Use Case and Use Case Fact Assignment
- Use Case Fact and Table Column Assignment
- Use Case Event and Use Case Fact Assignment
- Use Case Pre Conditions and Use Case Fact Assignment
- Use Case Post Condition and Use Case Fact Assignment
- Use Case Event And Business Information System Assignment

Each assignment process consists of selecting and tagging one source entry from the left side and then selecting one or more entries from the right side. Once the Build button is pressed the association records are created. Since the majority of the associations have both a name and a description, the Build process automatically creates a name. The description also has a prototype description created that can be deleted, changed, or extended as may be appropriate.

### 5.4.1 Use Case Event And Mission Organization Function Assignment

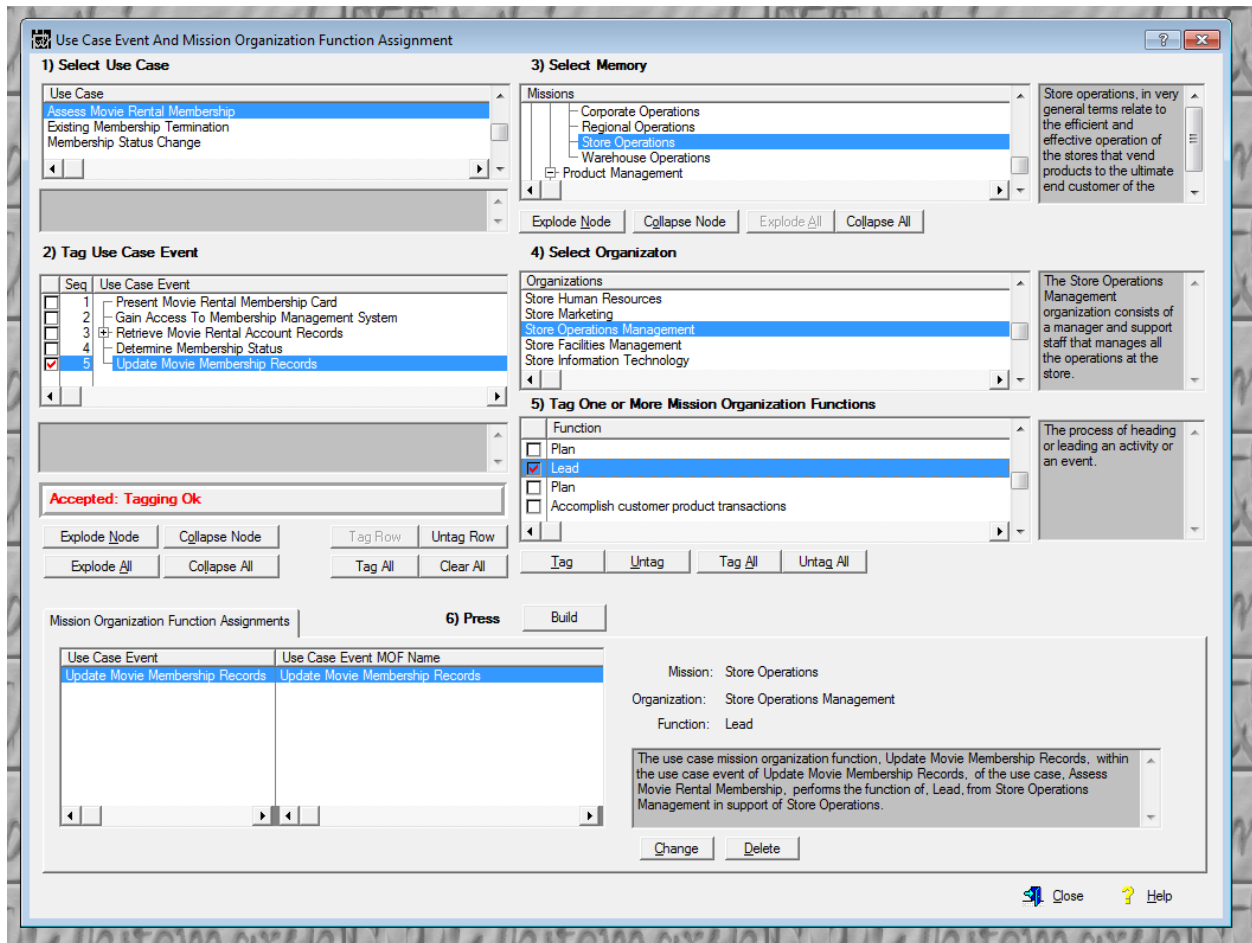
This assignment process associates a particular use case event with one or more mission-organization-functions. Figure 22 presents the screen through which the association takes place.

To accomplish this association, on the left side, Select the use case, then tag one of the displayed use case events. If a use case event contains other use case events, as indicated by a “+” icon, it must be opened so that the tagging occurs only on a leaf use case event.

On the right side, open and then select a mission. Once selected, the organizations associated with that mission are displayed. Select an appropriate organization. From the selected organization, select and tag one or more of the appropriate functions. Once all the appropriate functions are selected and tagged, press the Build button. The association records are then built.

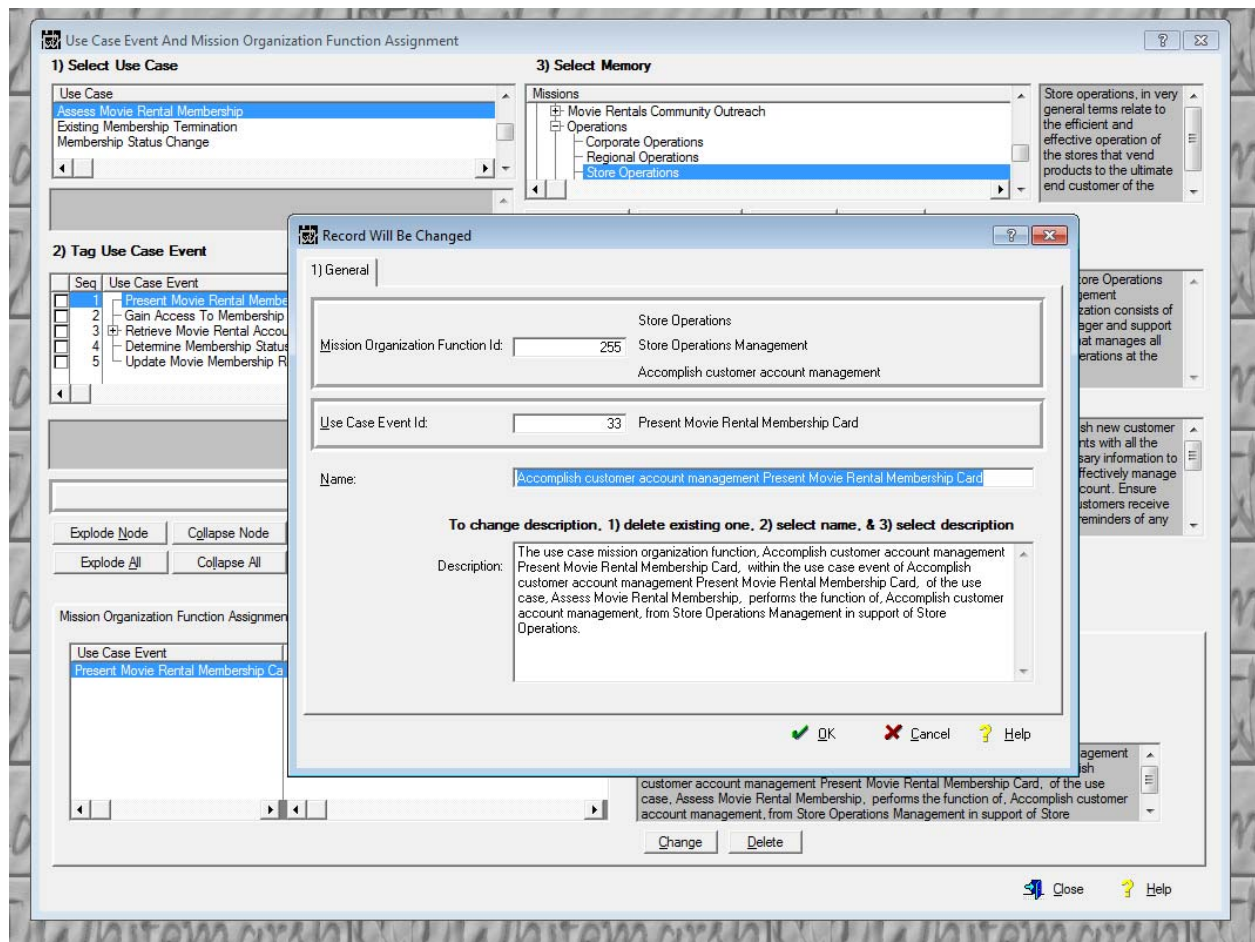
As each use-case-event mission-organization-function record is selected in the bottom browse, its mission, organization and function are shown along with its description is displayed. To change the description, press the Change button. Figure 23 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.





**Figure 22.** Use Case Event Mission Organization Function Assignment.





**Figure 23.** Use Case Event Mission Organization Function Assignment Update.



## 5.4.2 Use Case Event And Use Case Actor Assignment

This assignment process associates a particular use case event with one or more use case actors that exist within the context of a specific use case actor role. Figure 24 presents the screen through which the association takes place.

To accomplish this association, on the left side, Select the use case. Then tag one of the displayed use case events. If a use case event contains other use case events, as indicated by a “+” icon, it must be opened so that the tagging occurs only on a leaf use case event.

On the right side, open and then select a mission. Once selected, the organizations associated with that mission are displayed. Select an appropriate organization. From the selected organization, select and tag one or more of the appropriate functions. Select a specific position that is performing that function. A set of persons appears. Associated with each person is the date they were assigned to that position. Tag the appropriate date.

**1) Select Use Case**

Use Case

- Assess Movie Rental Membership
- Existing Membership Termination
- Membership Status Change
- Membership Status Determination
- Movie Rental Charges Computation
- Movie Rental Credits
- Movie Rental Late Notice
- Movie Rental Membership Management
- Movie Rental Payment Receipt
- Movie Rental Return
- Movie Rental Transactions

The Assess Movie Rental Membership use case addresses the activities associated with the characteristics of a membership and determines if it is in

**2) Tag One Use Case Event**

Seq Use Case Event

- 1 Present Movie Rental Membership Card
- 2 Gain Access To Membership Management System
- 3 Retrieve Movie Rental Account Records
- 4 Determine Membership Status
- 5 Update Movie Membership Records

The use case event, Present Movie Rental Membership Card, within Assess Movie Rental Membership serves to accomplish requesting the

**Accepted: Tagging OK**

Explode Node Collapse Node Tag Row Untag Row

Explode All Collapse All Tag All Clear All

**3) Select Mission**

Seq Mission

- 7 Movie Rental Programs
- 8 Movie Rentals Community Outreach
- 9 Operations
  - 1 Corporate Operations
  - 2 Regional Operations
  - 3 Store Operations
  - 4 Warehouse Operations
- 10 Product Management

Explode Node Collapse Node Explode All Collapse All

**4) Select Organization**

Organizations

- Store Human Resources
- Store Information Technology
- Store Marketing
- Store Operations Management

The Store Operations Management organization consists of a manager

**5) Select Function**

Functions

- Lead
- Plan
- Accomplish customer product transaction
- Accomplish customer account management

**6) Select Position**

Positions

- Customer Service Representative

**7) Select Person**

First Name	Last Name	Start Date	End Date
Dorothy	Alderwood	12/20/2010	12/20/2011
Synthia	Buckingham	12/20/2010	12/20/2011
John	Cash	12/20/2010	12/20/2011
Harry	Jones	12/20/2010	12/20/2011

**8) Tag One or More Use Case Actor Creation Date**

Use Case Actor Creation Date

- 12/26/2010

Accomplish processes appropriate for a customer service representative.

Tag Untag Tag All Untag All

**9) Press**

Build

Use Case Event and Use Case Actor Assignment

Use Case Event	Role Name	Start Date	End Date	First Name	Last Name	Position
Present Movie Rental Membership Card	Data Analysis	12/20/2010	12/20/2010	Harry	Jones	Customer Service Representative
Present Movie Rental Membership Card	Process Analysis	12/20/2010	12/20/2010	May	Smith	Customer Service Representative
Present Movie Rental Membership Card	Requirements Analysis	12/20/2010	12/20/2010	Dorothy	Alderwood	Customer Service Representative
Present Movie Rental Membership Card	Business Requirements	12/20/2010	12/20/2010	Synthia	Buckingham	Customer Service Representative

Synthia Buckingham is involved with Present Movie Rental Membership Card use case event in the role, Business Requirements Satisfaction

Change Delete

Close Help

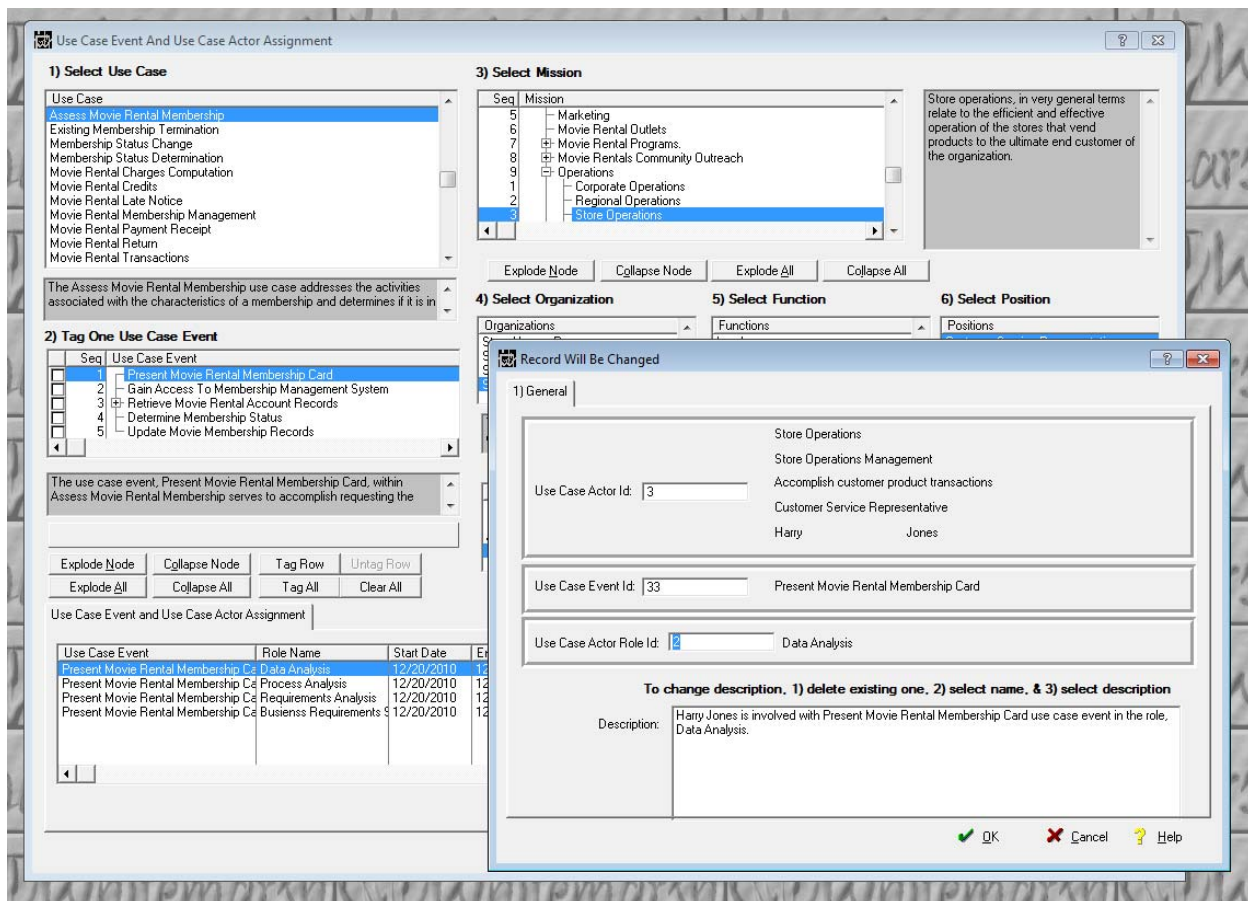
**Figure 24.** Use Case Event and Use Case Actor Assignment.





Once all the appropriate use case actors are selected and tagged, press the Build button. The association records are then built.

As each use-case-event use-case-actor record is selected in the bottom browse, its appropriate information along with its description is displayed. To change the description and/or to select the appropriate role that the use case actor will perform, press the Change button. Figure 25 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes. To select the appropriate role, enter a Zero in the Use Case Actor Role Id field and a set of use case actor roles will be displayed. Choose the appropriate one and press Select button.



**Figure 25.** Use Case Event and Use Case Actor Assignment Update.



### 5.4.3 Use Case And Use Case Fact Assignment

This assignment process associates a particular use case with one or more use case facts. Figure 26 presents the screen through which the association takes place.

To accomplish this association, on the left side, Select the use case. Shown are the use case events associated with the use case. Tag the appropriate use case.

On the right side, tag one or more use case facts. Once all the appropriate use case facts are selected and tagged, press the Build button. The association records are then built.

To change the description, press the Change button. Figure 27 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.

**1) Tag One Use Case**

Use Cases

- ☒ Assess Movie Rental Membership
- ☐ Existing Membership Termination
- ☐ Membership Status Change
- ☐ Membership Status Determination
- ☐ Movie Rental Charges Computation
- ☐ Movie Rental Credits
- ☐ Movie Rental Late Notice
- ☐ Movie Rental Membership Management
- ☐ Movie Rental Payment Receipt
- ☐ Movie Rental Return
- ☐ Movie Rental Transactions
- ☐ New Membership Approval
- ☐ New Membership Request
- ☐ On-line based Movie Rental

The Assess Movie Rental Membership use case addresses the activities associated with the characteristics of a membership and determines if it is in

**2) Tag One or More Use Case Facts**

Use Case Events within Use Case

Seq	Use Case Event
1	Present Movie Rental Membership Card
2	Gain Access To Membership Management Sys
3	Retrieve Movie Rental Account Records
4	Determine Membership Status
5	Update Movie Membership Records

Use Case Facts

- ☒ Employee Password
- ☒ Employee User Name
- ☐ Member Amount Paid
- ☐ Member City
- ☐ Member First Name
- ☒ Member Last Name
- ☒ Member Membership Number

Tag Untag Tag All Untag All

Use Case Fact Column Name

Access Movie Rental Membership Member Membership Number Customer Number  
Access Movie Rental Membership Movie Rental Record Number  
Movie Rental Membership Movie Rental Record Number

Column: Movie Rental Record Number  
Table: Movie Rental Record  
Schema: Movie Sales

**3) Press Build**

Use Case	Use Case Fact Name	Use Case Use Case Fact Name
Assess Movie Rental Membership	Employee Password	Assess Movie Rental Membership Employee Password
Assess Movie Rental Membership	Employee User Name	Assess Movie Rental Membership Employee User Name
Assess Movie Rental Membership	Member Last Name	Assess Movie Rental Membership Member Last Name
Assess Movie Rental Membership	Member Membership Number	Assess Movie Rental Membership Member Membership
Assess Movie Rental Membership	Member Phone Number	Assess Movie Rental Membership Member Phone Num
Assess Movie Rental Membership	Member Zip Code	Assess Movie Rental Membership Member Zip Code
Assess Movie Rental Membership	Membership Status	Assess Movie Rental Membership Membership Status

Change Delete

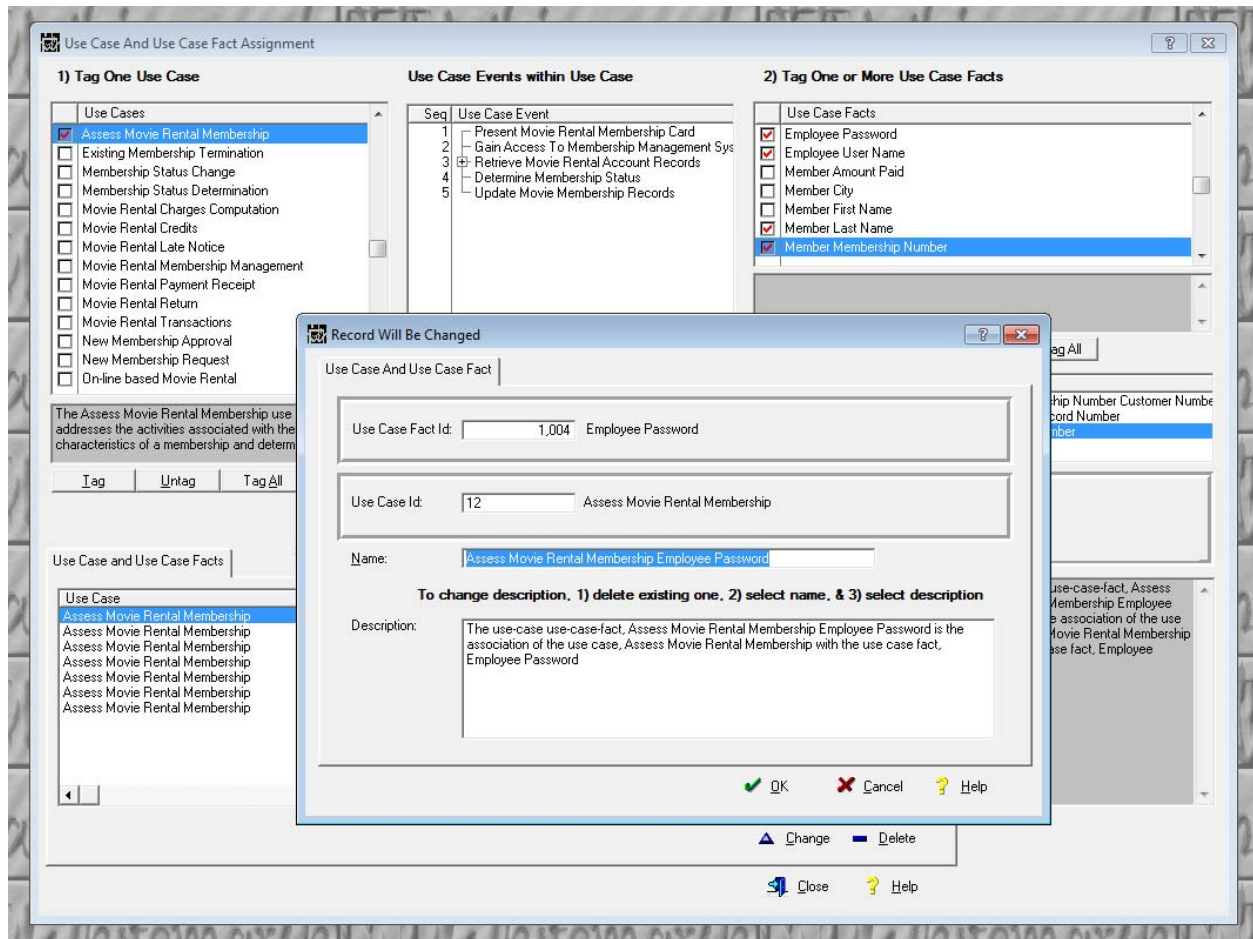
Close Help

The use-case use-case-fact, Assess Movie Rental Membership Membership Status is the association of the use case, Assess Movie Rental Membership with the use case fact, Membership Status

**Figure 26.** Use Case And Use Case Fact Assignment.







**Figure 27.** Use Case And Use Case Fact Assignment Update.



### 5.4.4 Use Case Fact And Table Column Assignment

This assignment process associates a particular use case fact with one or more use case facts columns. Figure 28 presents the screen through which the association takes place.

To accomplish this association, on the left side, Select the use case. Shown are the use case facts associated with the use case. Tag the appropriate use case fact.

On the right side, select a schema, then tag one or more use case facts. Once all the appropriate use case facts are selected and tagged, press the Build button. The association records are then built.

To change the description, press the Change button. Figure 29 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.

**1) Select Use Case**

Use Case

- Assess Movie Rental Membership
- Existing Membership Termination
- Membership Status Change
- Membership Status Determination
- Movie Rental Charges Computation
- Movie Rental Credits
- Movie Rental Late Notice
- Movie Rental Membership Management

The Assess Movie Rental Membership use case addresses the activities associated with the characteristics of a membership and

**2) Tag One Use Case Fact**

Use Case Facts

- ☒ Member Membership Number
- ☐ Member Last Name
- ☐ Member Phone Number
- ☐ Employee Password
- ☐ Employee User Name

The use case fact, Member Membership Number, serves as a data support of the retrieval of the member's records.

Tag Untag Tag All Untag All

**3) Select Schema**

Schema

- Movie Sales
- Movies Data Warehouse
- Movies Original Data Capture

The movie original data capture schema is a collection of tables, columns, relationships, and constraints that form the database necessary to capture customer movie rental transactions within a

**4) Select Table**

Seq	Table Name
6	Movie Rental Record
7	Payment
8	Store

Movie Rental Record, A Movie Rental Business Transaction, Is The Specific Local Definition. Set Within Context, Movie Rental Record Exists Within The Schema Of Movies Original Data Capture. The Meaning Of A Movies Original Data Capture Is: The Movie Original Data Capture Schema Is A

Explode Node Collapse Node Explode All Collapse All

**5) Tag One or More Columns**

Seq	Columns
1	Customer Number
2	Employee Id
3	Movie Copy Number
4	Movie Number
5	Movie Rental Record Date Date
6	Movie Rental Record Due Date

Customer Number, Identifier Assigned To The Customer, Is The Specific Local Definition. Set Within Context, customer Number Is An Elementary Fact Within The Table Of: Movie Rental Record, Which Is Defined As: Movie Rental Record, A Movie Rental Business Transaction, Is The Specific Local Definition. Set Within Context, Movie Rental Record Exists Within The Schema Of Movies Original Data Capture. The Meaning Of A

Explode Node Collapse Node Tag Row Untag Row Explode All Collapse All Tag All Clear All

**6) Press Build**

Use Case Fact Columns

Use Fact Column Name	Use Case Fact	Column	Table Name
Access Movie Rental Membership Member Membership Number	Member Membership Number	Movie Rental Record Number	Movie Rental Record
Movie Rental Membership Movie Rental Membership Number	Member Membership Number	Movie Rental Record Number	Movie Rental Record
Access Movie Rental Membership Member Membership Number	Member Membership Number	Customer Number	Movie Rental Record

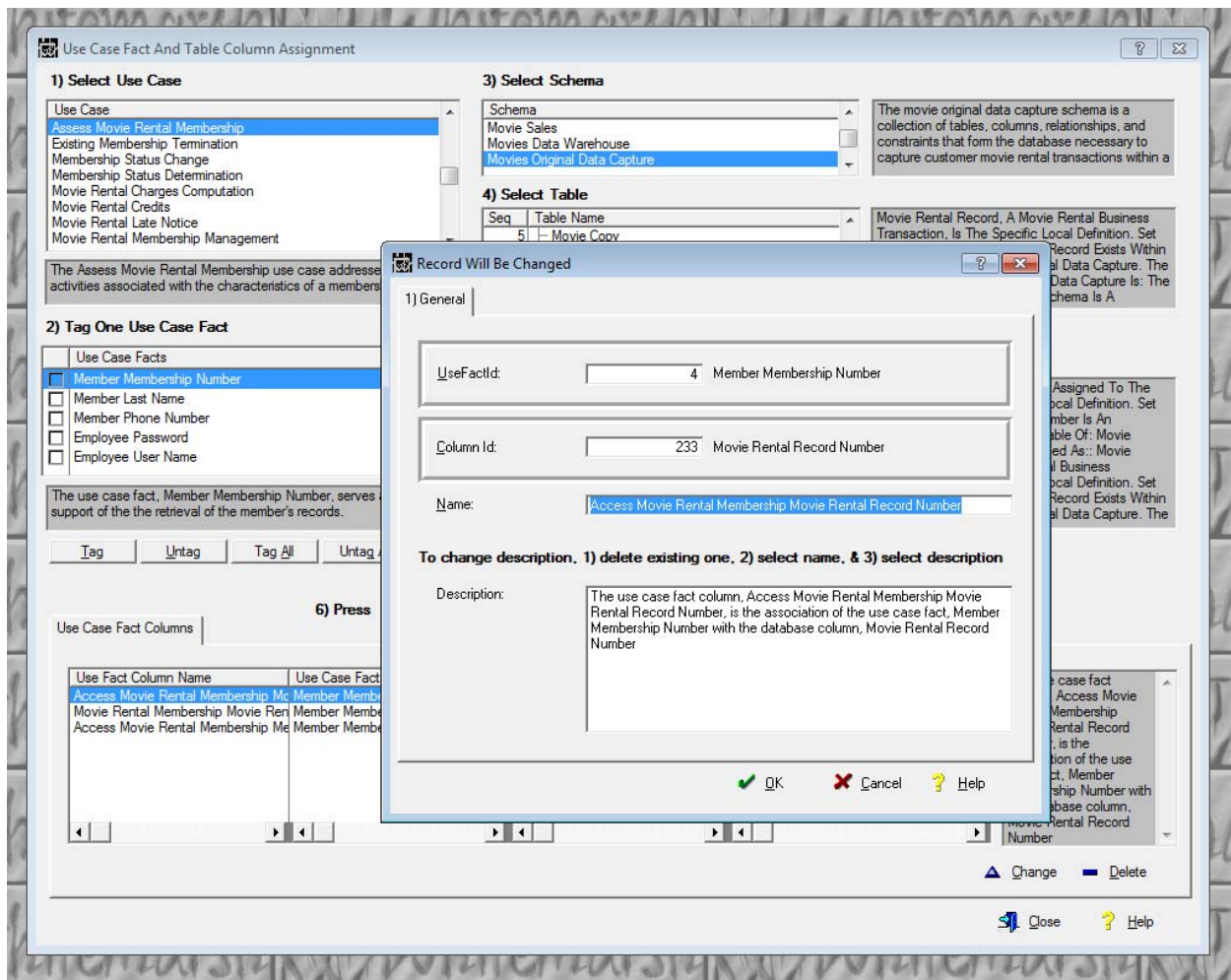
Access Movie Rental Membership Member Membership Number is valued by Customer Number from the Movie Rental Record within the Movies Original Data Capture schema.

Change Delete

Close Help

**Figure 28.** Use Case Fact And Table Column Assignment.





**Figure 29.** Use Case Fact and Table Column Assignment Update.

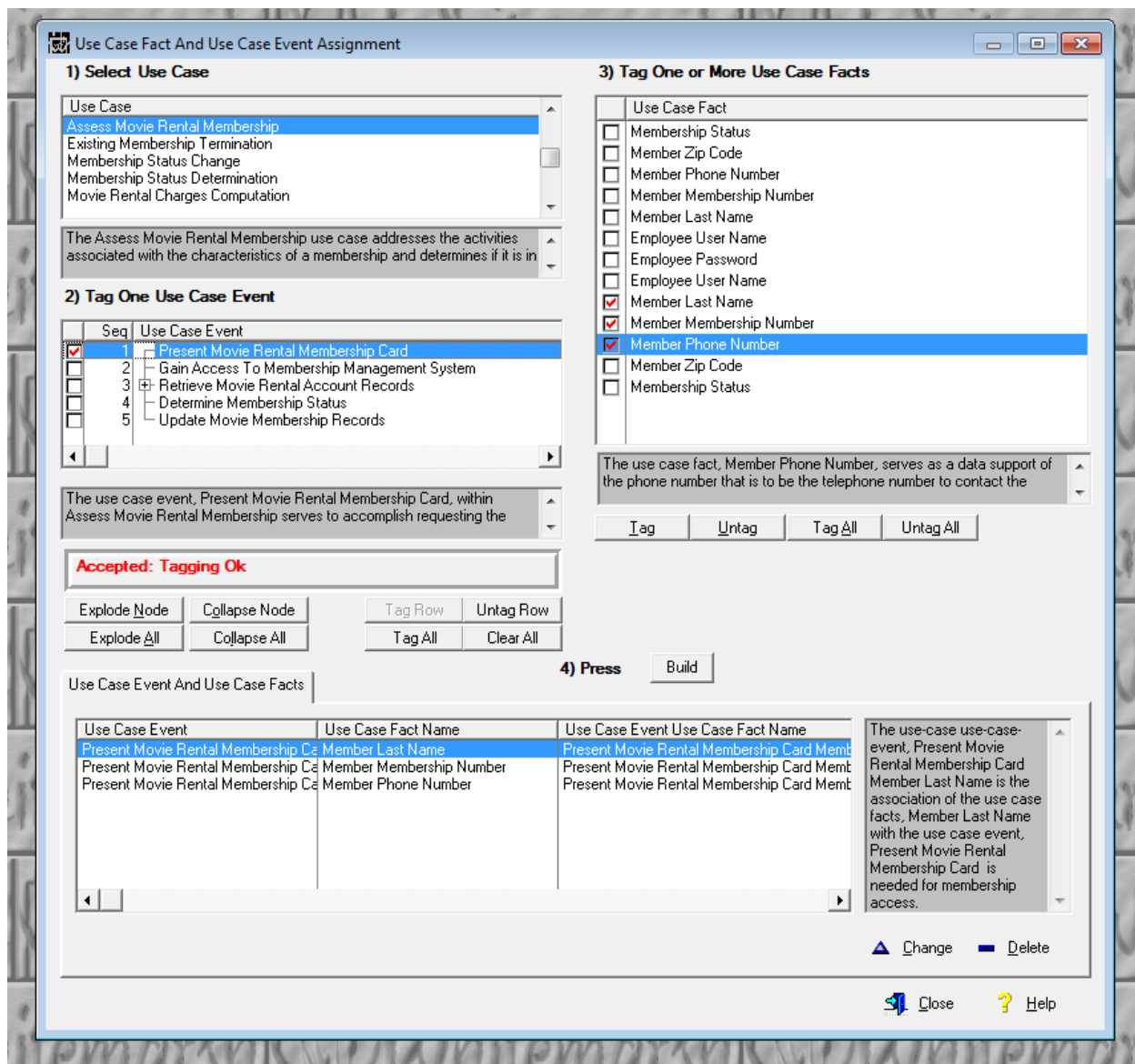


### 5.4.5 Use Case Event And Use Case Fact Assignment

This assignment process associates a particular use case event with one or more use case facts. Figure 30 presents the screen through which the association takes place.

To accomplish this association, on the left side, Select the use case, then select and tag an appropriate use case event.

On the right side, select and tag one or more use case facts. Once all the appropriate use case facts are selected and tagged, press the Build button. The association records are then built. The only use case facts that are displayed are those that had been previously associated with the

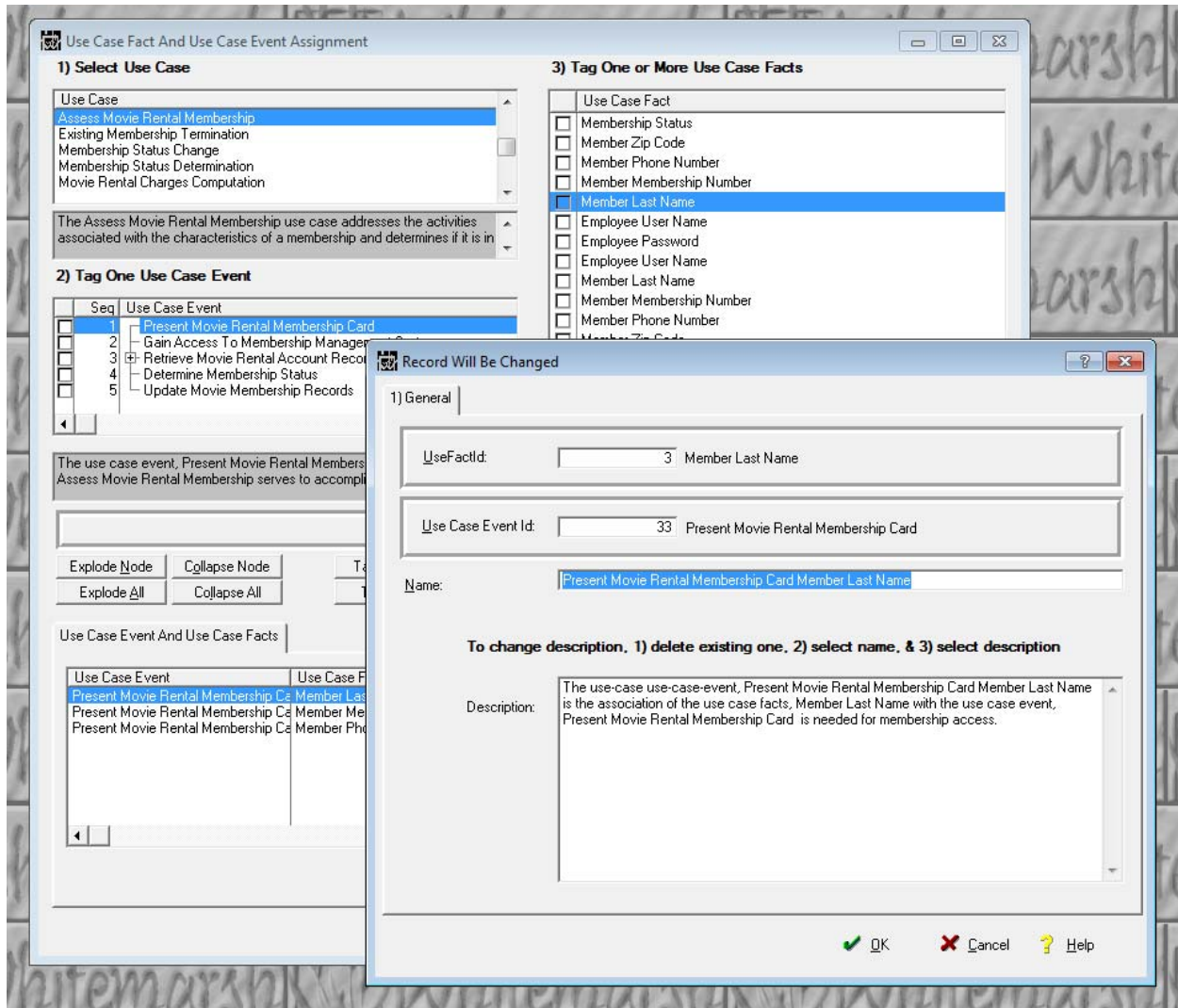


**Figure 30.** Use Case Event And Use Case Fact Assignment.



selected use case. If a needed use case fact is not shown then it has yet to be associated with a given use case. Proceed back to the use cases to use case facts assignment process and allocate the use case fact to the use case. Once allocated it will be displayed.

To change the description, press the Change button. Figure 31 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.



**Figure 31.** Use Case Event And Use Case Fact Assignment Update.





### 5.4.6 Use Case Pre Conditions And Use Case Fact Assignment

This assignment process associates a particular use case pre condition with one or more use case facts. Figure 32 presents the screen through which the association takes place.

To accomplish this association, on the left side, Select the use case, then select and tag an appropriate use case pre condition.

On the right side, select and tag one or more use case facts. Once all the appropriate use case facts are selected and tagged, press the Build button. The association records are then built. The only use case facts that are displayed are those that had been previously associated with the selected use case. If a needed use case fact is not shown then it has yet to be associated with a given use case. Proceed back to the use cases to use case facts assignment process and allocate the use case fact to the use case. Once allocated it will be displayed.

**1) Select Use Case**

Use Case

- Assess Movie Rental Membership
- Existing Membership Termination
- Membership Status Change
- Membership Status Determination

The Assess Movie Rental Membership use case addresses the activities associated with the characteristics of a membership and determines if it is in order. That is, that all rented movies that are due have been returned, and all outstanding fees have been paid.

**2) Tag One Use Case Pre Condition**

Use Case Pre Conditions

- ☒ Membership must already exist

The use-case post condition, Membership must already exist, is the specification of the use case pre condition at the start of use case, Assess Movie Rental Membership. The mandatory preconditions are that when the membership primary key or unique selection field values are

**3) Tag One or More Use Case Facts**

UseCase UseCaseFact Use Case Fact

- ☐ Assess Movie Rental Membership Employee Pass Employee Password
- ☐ Assess Movie Rental Membership Employee User Employee User Name
- ☐ Assess Movie Rental Membership Member Last N Member Last Name
- ☒ Assess Movie Rental Membership Member Membership Number
- ☐ Assess Movie Rental Membership Member Phone Member Phone Number
- ☐ Assess Movie Rental Membership Member Zip Code Member Zip Code

The use case fact, Member Membership Number, serves as a data support of the the retrieval of the member's records.

**4) Press Build**

Use Case Fact Post ConditionsCondFKey

Use Case Fact	Use Case Pre Condition	Use Case Fact PreCondition
Member Last Name	Membership must already exist	Membership must already exist Member Last Name
Member Membership Number	Membership must already exist	Membership must already exist Member Membership Number
Member Phone Number	Membership must already exist	Membership must already exist Member Phone Number

Membership must already exist employ Member Last Name

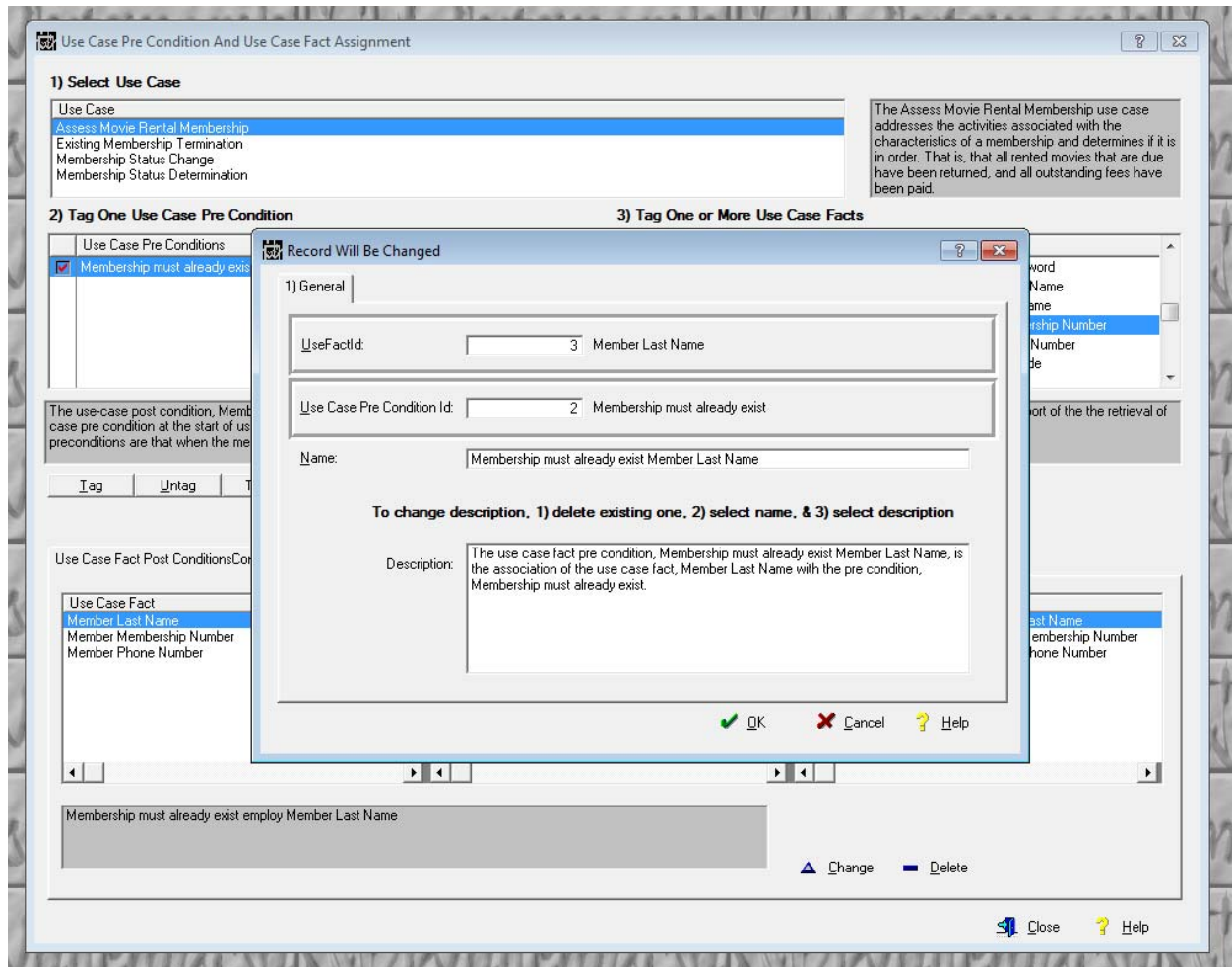
Change Delete

Close Help

**Figure 32.** Use Case Pre Conditions And Use Case Fact Assignment.



To change the description, press the Change button. Figure 33 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.



**Figure 33.** Use Case Pre Conditions And Use Case Fact Assignment Update.



### 5.4.7 Use Case Post Condition And Use Case Fact Assignment

This assignment process associates a particular use case post condition with one or more use case facts. Figure 34 presents the screen through which the association takes place.

To accomplish this association, on the left side, Select the use case, then select and tag an appropriate use case post condition.

On the right side, select and tag one or more use case facts. Once all the appropriate use case facts are selected and tagged, press the Build button. The association records are then built.

The only use case facts that are displayed are those that had been previously associated with the selected use case. If a needed use case fact is not shown then it has yet to be associated with a given use case. Proceed back to the use cases to use case facts assignment process and allocate the use case fact to the use case. Once allocated it will be displayed.

**1) Select Use Case**

Use Case
Assess Movie Rental Membership
Existing Membership Termination
Membership Status Change
Membership Status Determination

The Assess Movie Rental Membership use case addresses the activities associated with the characteristics of a membership and determines if it is in order. That is, that all rented movies that are due have been returned, and all outstanding fees have been paid.

**2) Tag One Use Case Post Condition**

Use Case Post Condition
<input checked="" type="checkbox"/> Membership Status Determination
<input type="checkbox"/> Validation Status for Member Address
<input type="checkbox"/> Validation Status for Member Phone

The use-case post condition, Membership Status Determination is the specification of the use case post condition for the use case, Assess Movie Rental Membership. The mandatory end results after the use case concludes are that the appropriate membership has been determined

Tag Untag Tag All Untag All

**3) Tag One or More Use Case UseCaseFacts**

Use Case Use Case Fact Name	Use Case Fact
<input checked="" type="checkbox"/> Assess Movie Rental Membership Member Membership Number	Member Membership Number
<input checked="" type="checkbox"/> Assess Movie Rental Membership Member Last Name	Member Last Name
<input checked="" type="checkbox"/> Assess Movie Rental Membership Member Phone	Member Phone Number
<input type="checkbox"/> Assess Movie Rental Membership Employee Password	Employee Password
<input type="checkbox"/> Assess Movie Rental Membership Employee User	Employee User Name
<input type="checkbox"/> Assess Movie Rental Membership Member Zip Code	Member Zip Code

The use case fact, Member Membership Number, serves as a data support of the the retrieval of the member's records.

Tag Untag Tag All Untag All

**4) Press Build**

Use Case Fact Post ConditionsCondFKey

Use Case Post Condition	Use Case Fact	Use Case Post Condition Fact
Membership Status Determination	Member Membership Number	Membership Status Determination Member Membership Number
Membership Status Determination	Member Last Name	Membership Status Determination Member Last Name
Membership Status Determination	Member Phone Number	Membership Status Determination Member Phone Number
Membership Status Determination	Membership Status	Membership Status Determination Membership Status

Membership Status Determination affects Member Membership Number

Change Delete

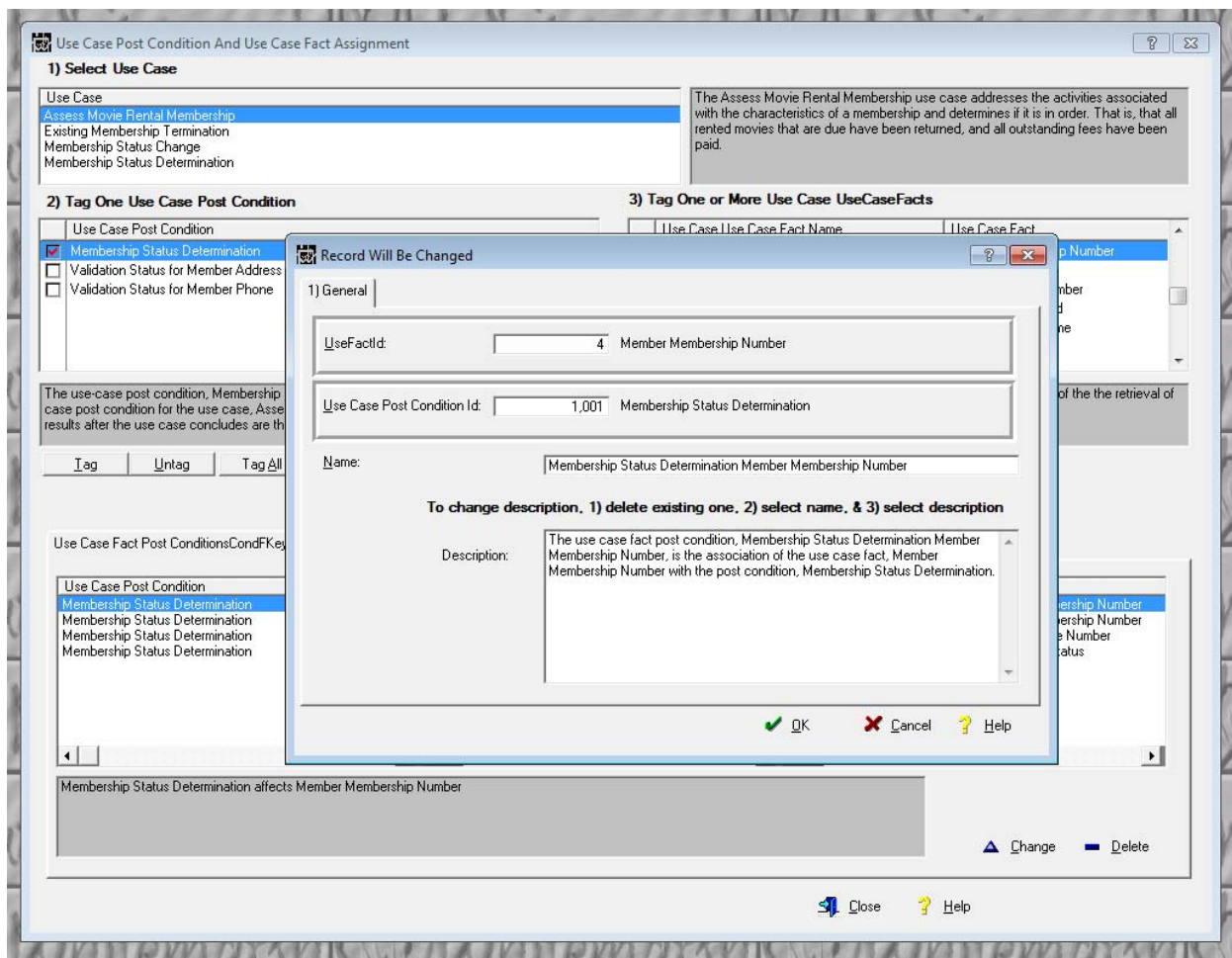
Close Help

**Figure 34.** Use Case Post Condition And Use Case Fact Assignment.





To change the description, press the Change button. Figure 35 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.



**Figure 35.** Use Case Post Condition And Use Case Fact Assignment Update.



### 5.4.8 Use Case Event And Business Information System Assignment

This assignment process associates a particular use case event with one or more business information systems. Figure 36 presents the screen through which the association takes place.

To accomplish this association, on the left side, Select the use case, and then select and tag the use case event.

On the right side, select and tag one or more business. Once all the appropriate use case facts are selected and tagged, press the Build button. The association records are then built.

To change the description, press the Change button. Figure 37 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.

**Use Case Event And Business Information System Assignment**

**1) Select Use Case**

Use Case

- Assess Movie Rental Membership
- Existing Membership Termination
- Membership Status Change

**2) Tag Use Case Event**

Seq	Use Case Event
<input checked="" type="checkbox"/>	1 Present Movie Rental Membership Card
<input type="checkbox"/>	2 Gain Access To Membership Management System
<input type="checkbox"/>	3 Retrieve Movie Rental Account Records
<input type="checkbox"/>	4 Determine Membership Status
<input type="checkbox"/>	5 Update Movie Membership Records

**3) Tag One or More Business Information Systems**

Seq	Business Information System
<input type="checkbox"/>	1 UNKNOWN
<input type="checkbox"/>	2 Customer Management
<input type="checkbox"/>	3 Distributor Management
<input type="checkbox"/>	4 Movie Management
<input type="checkbox"/>	5 Movie Rental Transaction Management
<input checked="" type="checkbox"/>	6 Store Management
<input type="checkbox"/>	7 Movie Sales Management
<input type="checkbox"/>	8 Human Resources Management

Explode Node Collapse Node Tag Row Untag Row  
Explode All Collapse All Tag All Clear All

**Business Problem** The store management system performs all the store management functions including creation, management, and setting the store hours.

**Architecture** The store management system is a client server system that operates from the store manager's office. The database is able to be accessed from the region.

**Plans** None really other than normal maintenance.

Accepted: Tagging Ok

Explode Node Collapse Node Tag Row Untag Row  
Explode All Collapse All Tag All Clear All

**4) Press Build**

Use Case Event	Business Information System	Use Case Event Business Information
Present Movie Rental Membership Card	Store Management	Present Movie Rental Membership Card

The use case event business information system, Present Movie Rental Membership Card Store Management, within Present Movie Rental Membership Card and Store Management

App Type Sales and marketing  
Const Type Custom  
Status Production  
Level Operational  
Data Arch Original Data Capture  
Prog Lang 2  
Env Type Server  
Pred User UNKNOWN  
DBMS Env Single-brand

Change Delete

Close Help

**Figure 36.** Use Case Event And Business Information System Assignment.



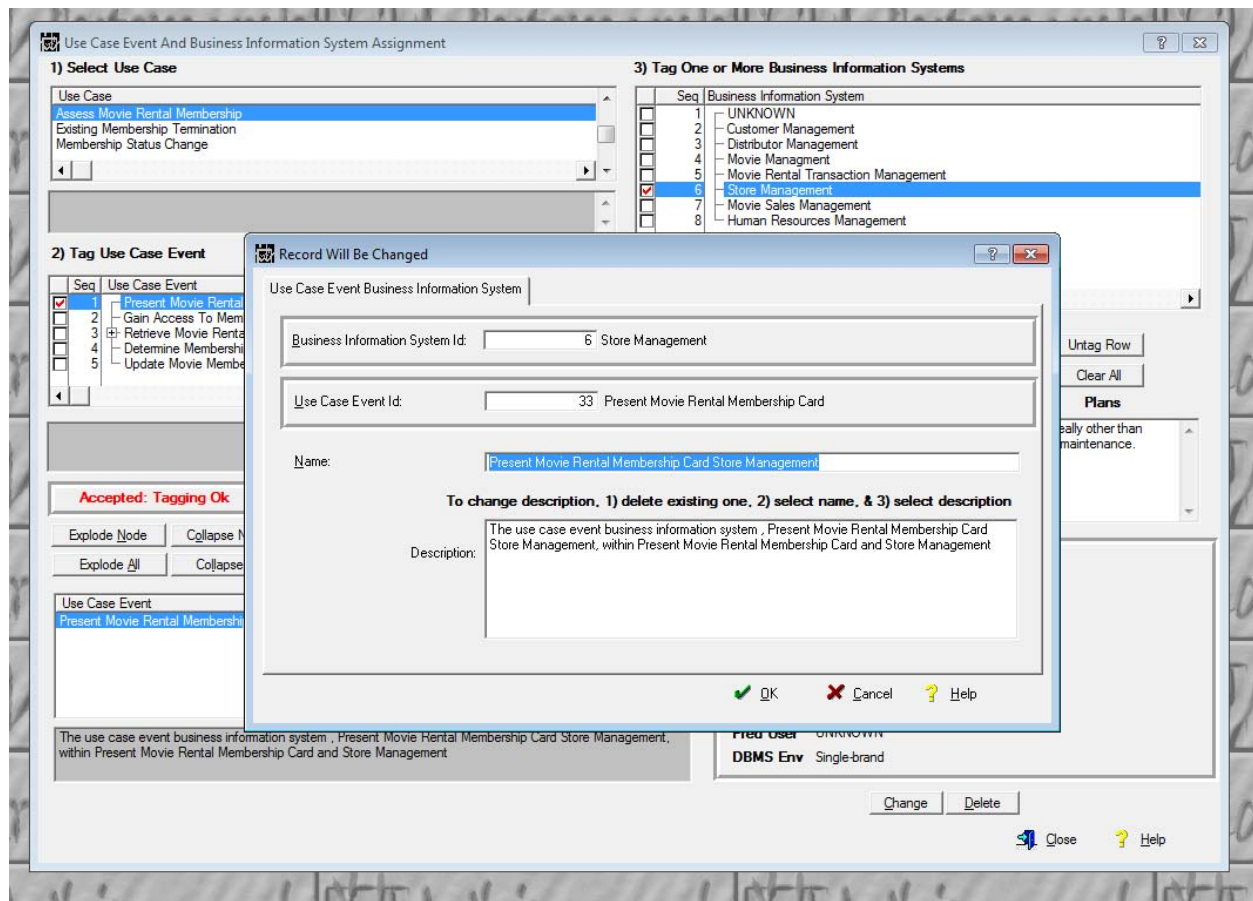


Figure 37. Use Case Event And Business Information System Assignment Update.



## 5.5 Re-Engineering

The previous section created associations between components. These associations are over time, subject to change. The Re-Engineering processes include:

- Use Case Event And Mission Organization Function Re-Assignment
- Use Case Event Actor Role and Use Case Actor Re-Assignment
- Use Case And Use Case Fact Re-Assignment
- Use Case Fact And Table Column Re-Assignment
- Use Case Event And Use Case Fact Re-Assignment
- Use Case Fact And Use Case Pre-Condition Re-Assignment
- Use Case Fact And Use Case Post-Condition Re-Assignment
- Use Case Event And Business Information System Re-Assignment
- Use Case And Use Case Event Re-Assignment

### 5.5.1 Use Case Event And Mission Organization Function Re-Assignment

This re-assignment process change the association of a particular use case event with one mission-organization-function. Figure 38 presents the screen through which the re-association takes place.

To accomplish this re-association, on the left side, Select the use case and then the use case event for which a use-case-event mission-organization-function association already exists. Tag the association that is to change.

On the right side, open and then select a mission. Once selected, the organizations associated with that mission are displayed. Select an appropriate organization. From the selected organization, select and tag one or more of the appropriate functions.

If the change-to entry is the same as the one that's already associated, an error message will appear after the Build button is pressed. Other wise, the existing association will be deleted and a new association will be created.

To change the description of the re-assigned association, press the Change button. Figure 39 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.



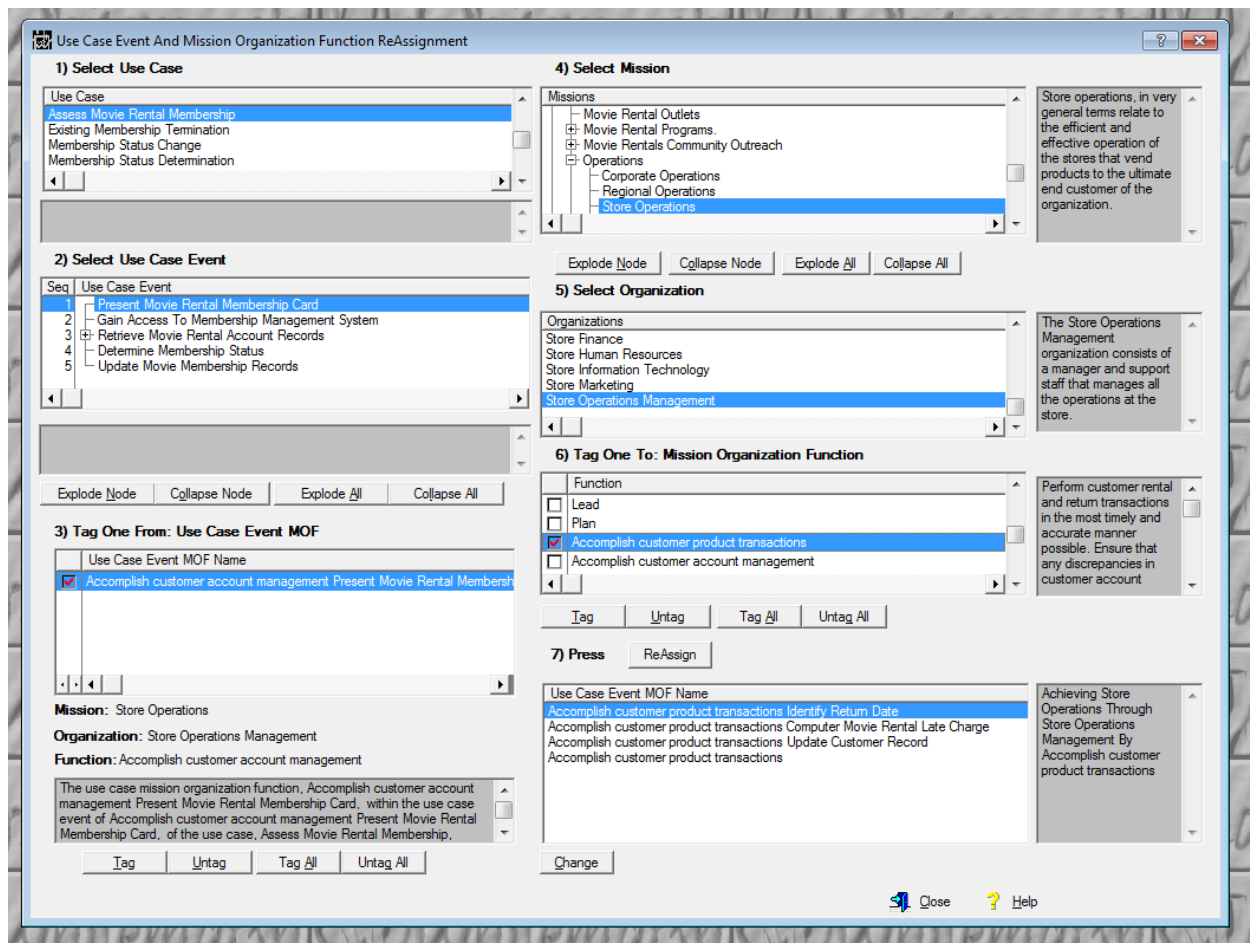
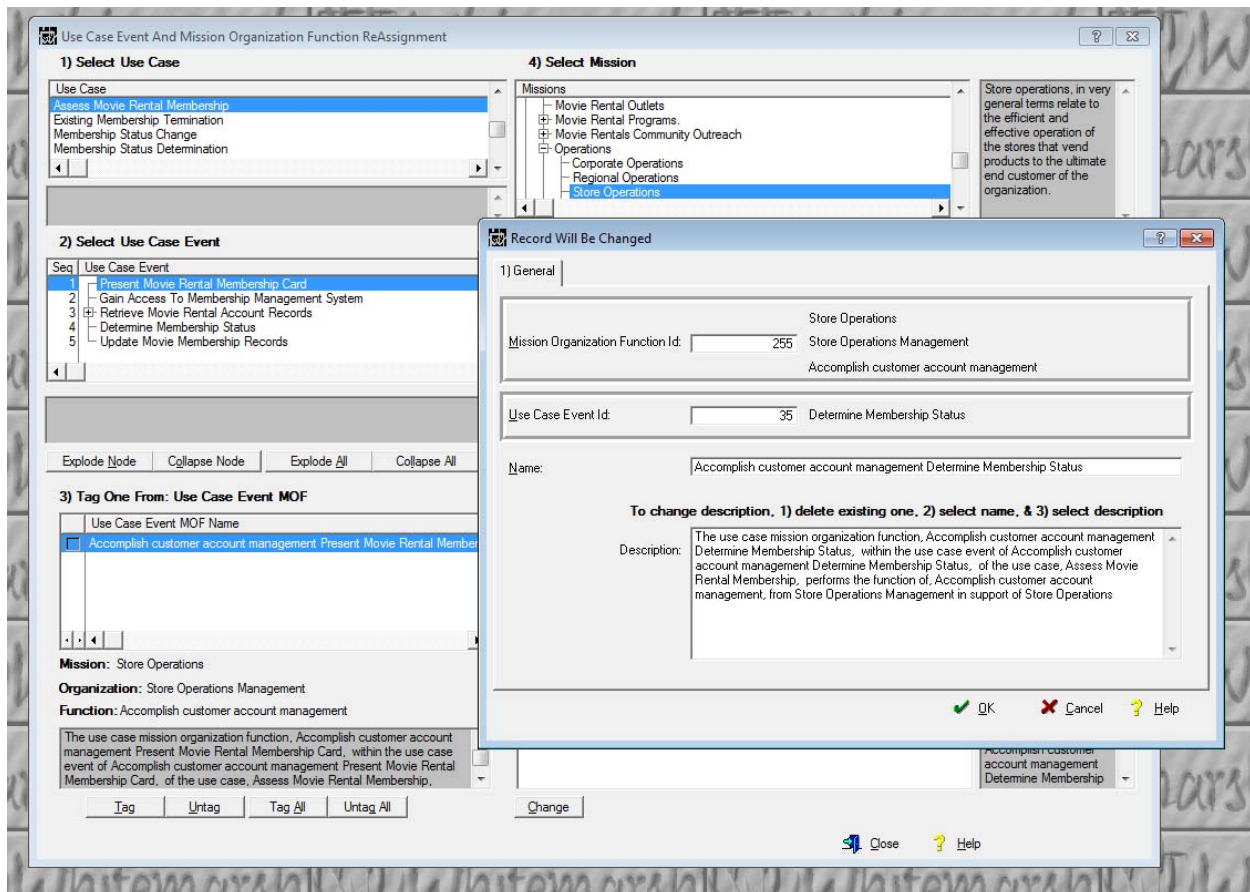


Figure 38. Use Case Event And Mission Organization Function Re-Assignment.





**Figure 39.** Use Case Event And Mission Organization Function Re-Assignment Update.





## 5.5.2 Use Case Event Actor Role and Use Case Actor Re-Assignment

This re-assignment process change the association of a particular use case event actor role with one use case actor. Figure 40 presents the screen through which the re-association takes place.

To accomplish this re-association, on the left side, Select the use case and then the use case event for which a use case-actor-role association already exists. Tag the association that is to change.

On the right side, open and then select a mission. Once selected, the organizations associated with that mission are displayed. Select an appropriate organization. From the selected organization. Select the position, and then choose a different person for the re-assignment. Tag the appropriate Use Case Actor Creation.

If the change-to entry is the same as the one that's already associated, an error message will appear after the Build button is pressed. Other wise, the existing association will be deleted and a new association will be crated.

**1. Select Use Case**

Use Case: Assess Movie Rental Membership

**2. Select Use Case Event**

Seq: 1 Present Movie Rental Membership Card

**3. Tag One From: Use Case Event Actor Assignment with Role**

Role Name	Start Date	End Date	First Name	Last Name	Position
<input checked="" type="checkbox"/> Data Analysis	12/20/2010	12/20/2010	Harry	Jones	Customer S
<input type="checkbox"/> Process Analysis	12/20/2010	12/20/2010	John	Cash	Customer S
<input type="checkbox"/> Requirements Ana	12/20/2010	12/20/2010	Dorothy	Alderwood	Customer S
<input type="checkbox"/> Business Requir	12/20/2010	12/20/2010	Synthia	Buckingham	Customer S

Harry Jones is involved with Present Movie Rental Membership Card use case event in the role, Data Analysis.

**4. Select Mission**

Seq: 3 Store Operations

**5. Select Organization**

Organizations: Store Operations Management

**6. Select Function**

Functions: Accomplish customer product transac

**7. Select Positions**

Positions: Customer Service Representative

**8. Select Reassign-To Person to same role**

First Name	Last Name	Start Date	End Date
Dorothy	Alderwood	12/20/2010	12/20/2010
Synthia	Buckingham	12/20/2010	12/20/2010
John	Cash	12/20/2010	12/20/2010
Harry	Jones	12/20/2010	12/20/2010
Jan	McClure	12/20/2010	12/20/2010

**9. Tag One Reassign-To: Use Case Actor Date**

Use Case Actor Creation: ☒ 12/26/2010

**10. Press ReAssign**

Role Name	Start Date	End Date	First Name	Last Name	Position
-----------	------------	----------	------------	-----------	----------

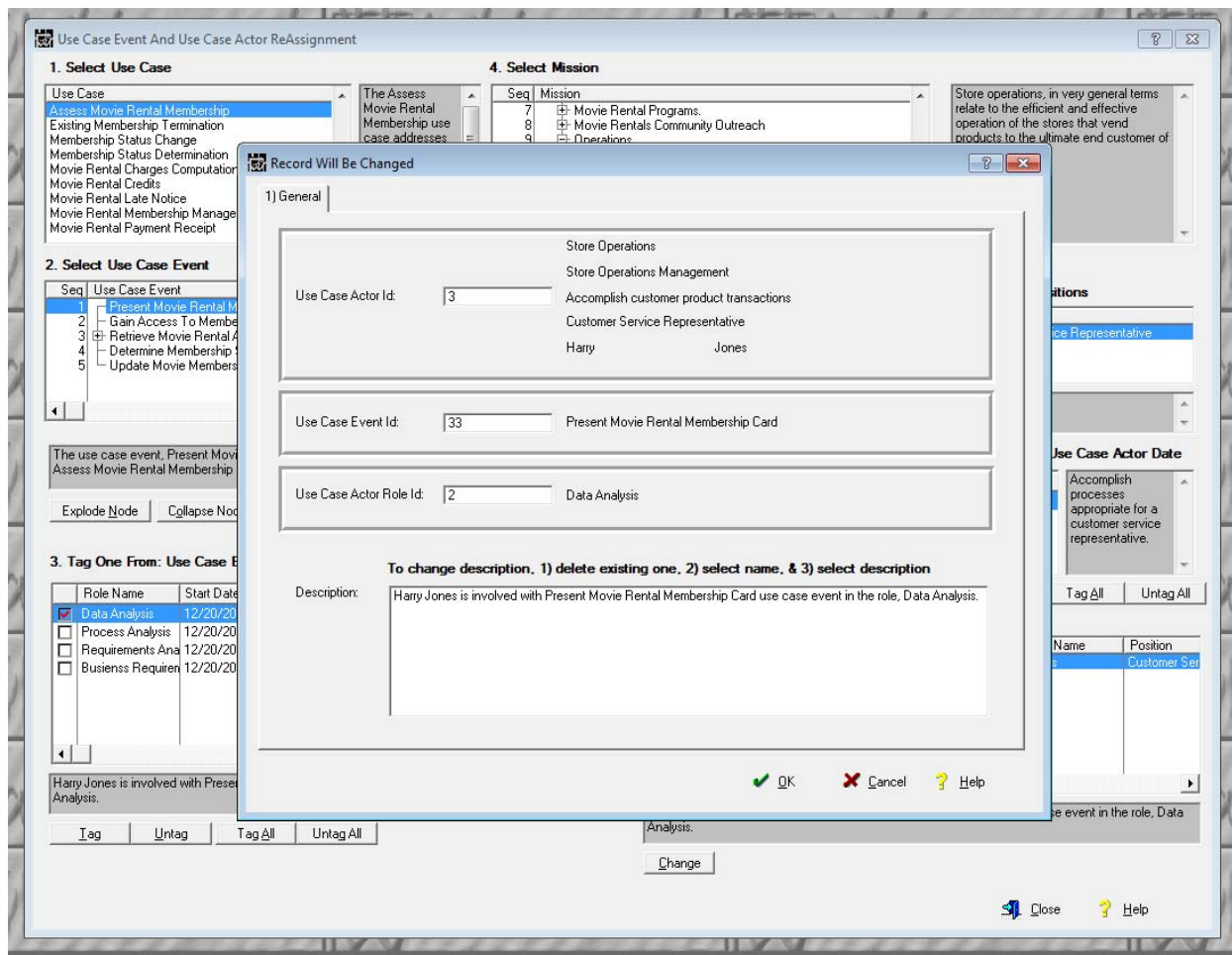
Change

Close Help

Figure 40. Use Case Event Actor Role and Use Case Actor Re-Assignment



To change the description of the re-assigned association, press the Change button. Figure 41 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.



**Figure 41.** Use Case Event Actor Role and Use Case Actor Re-Assignment Update.





### 5.5.3 Use Case And Use Case Fact Re-Assignment

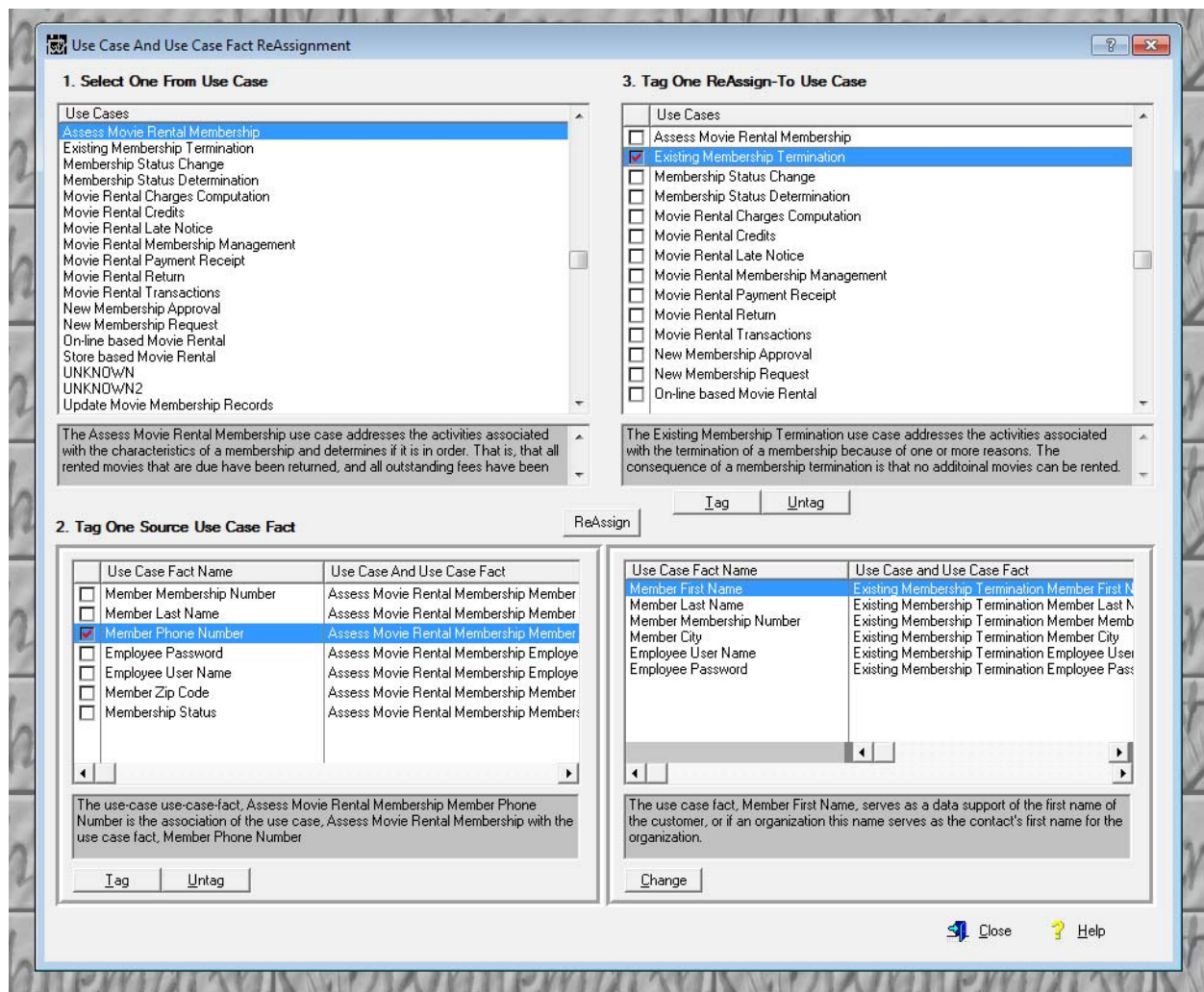
This re-assignment process change the association of a particular use case with one use case fact. Figure 42 presents the screen through which the re-association takes place.

To accomplish this re-association, on the left side, Select the use case and then the use case fact for which an association already exists. Tag the association that is to change.

On the right side, open and then select and tag a use case to which the use case fact is to be reassigned.

If the change-to entry is the same as the one that's already associated, an error message will appear after the Build button is pressed. Other wise, the existing association will be deleted and a new association will be created.

To change the description of the re-assigned association, press the Change button. Figure

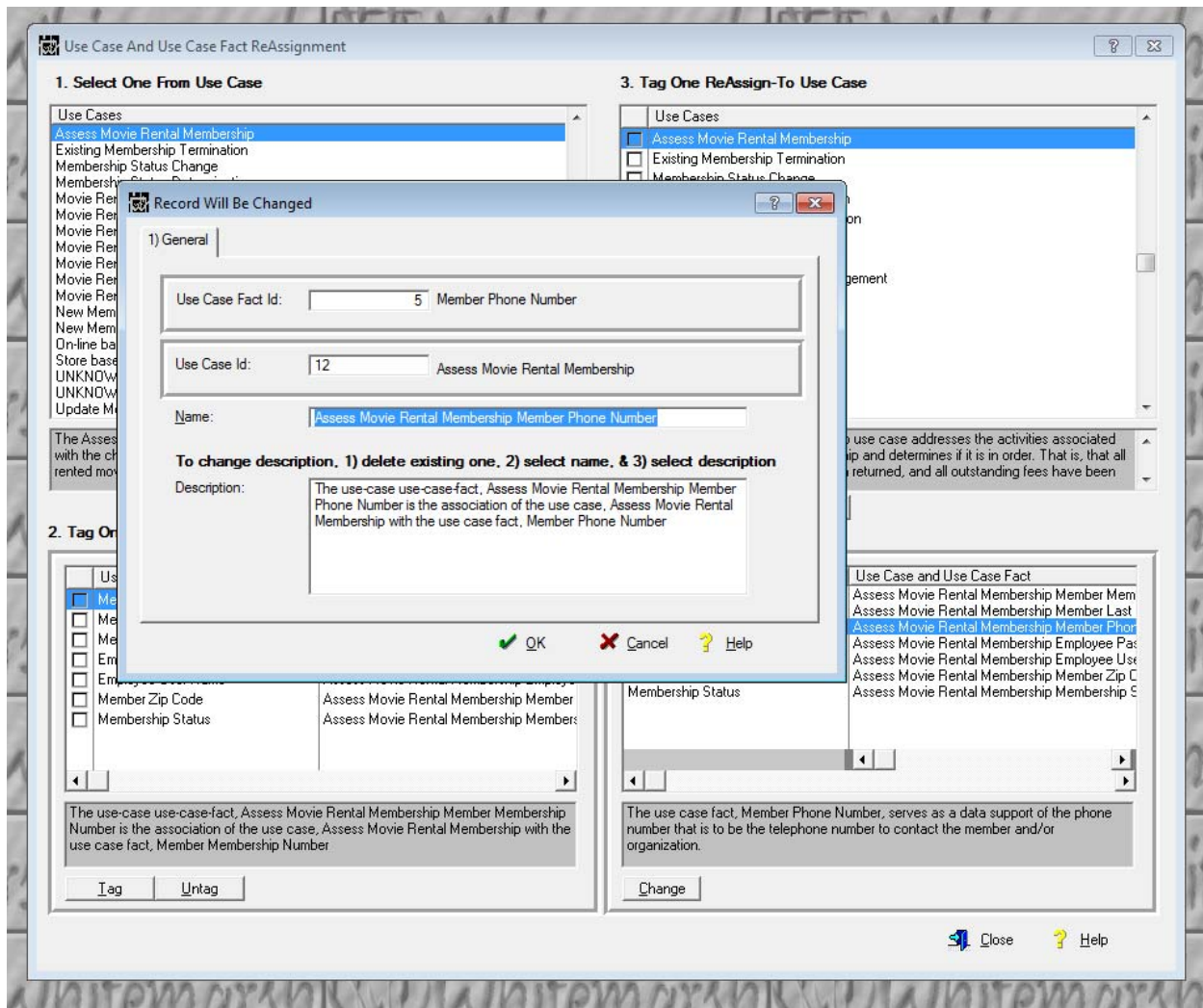


**Figure 42.** Use Case And Use Case Fact Re-Assignment

43 is then shown. If the description is blank, select the name entry field and then the description



entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.



**Figure 43.** Use Case And Use Case Fact Re-Assignment Update.



### 5.5.4 Use Case Fact And Table Column Re-Assignment

This re-assignment process change the association of a particular use case fact with one table column. Figure 44 presents the screen through which the re-association takes place.

To accomplish this re-association, on the left side, Select the use case and then the use case fact for which an association already exists. Tag the association that is to change.

On the right side, open and then select a schema then table, then select and tag a change to column.

If the change-to entry is the same as the one that's already associated, an error message

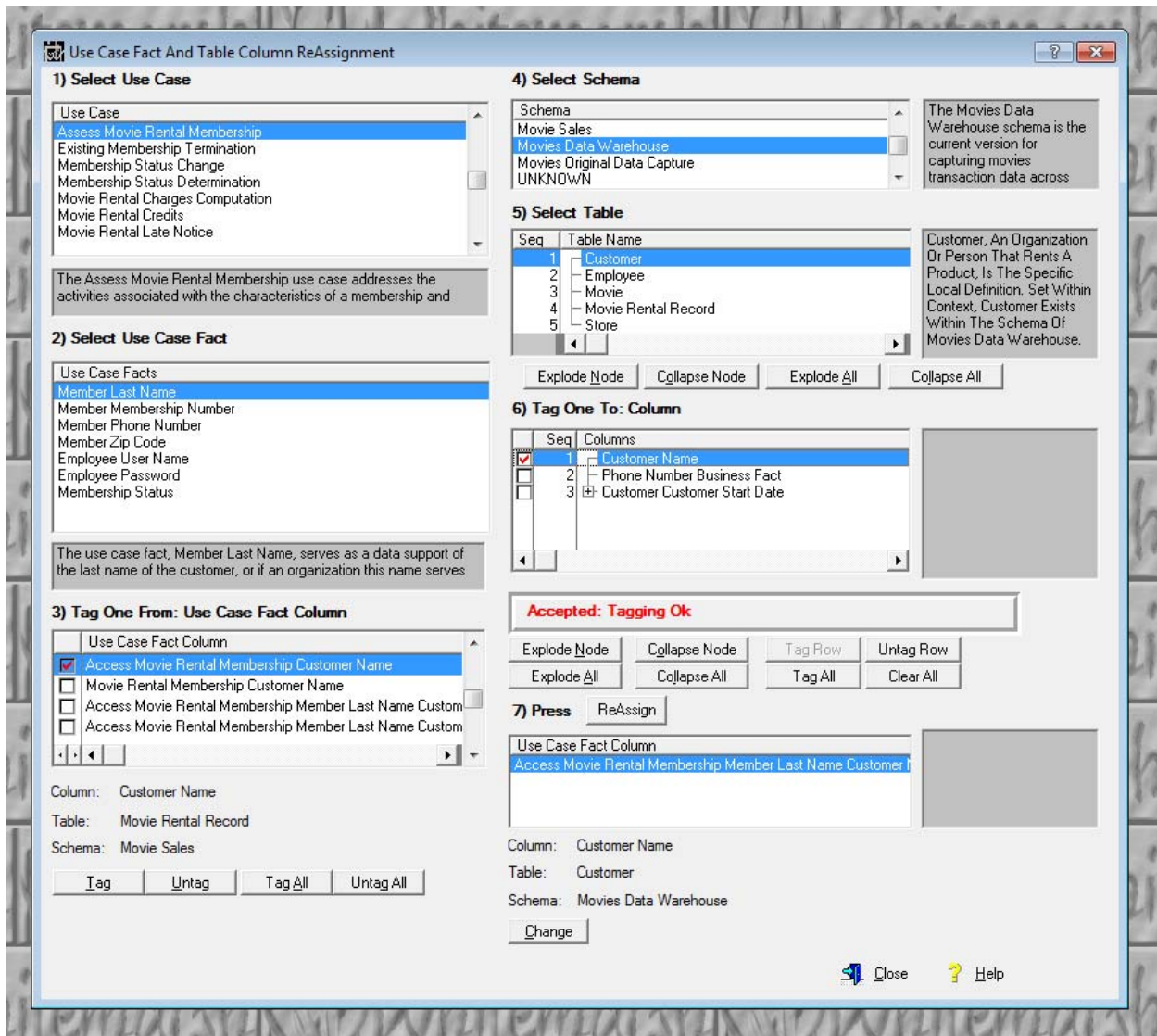
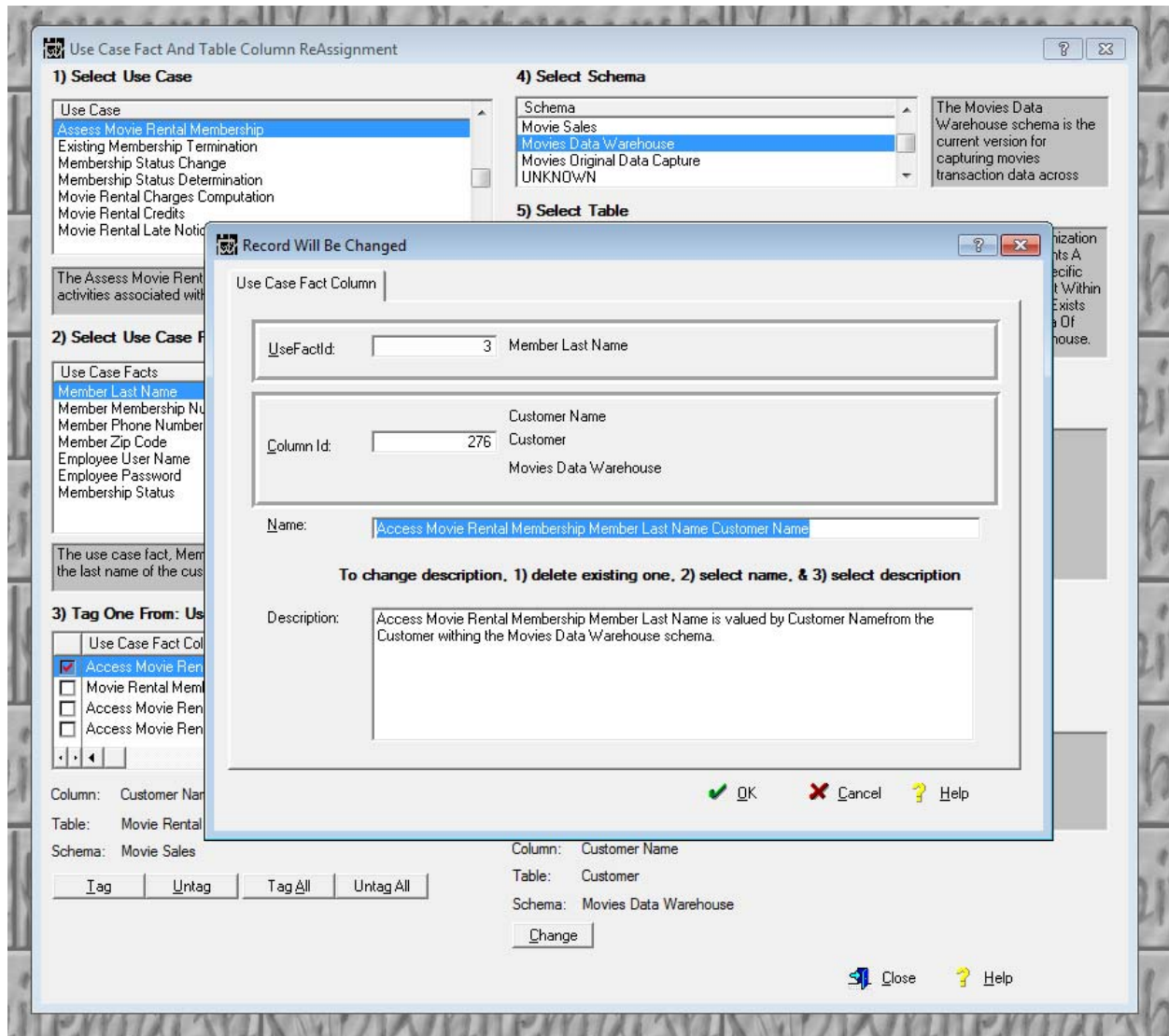


Figure 44. Use Case Fact And Table Column Re-Assignment.



will appear after the Build button is pressed. Other wise, the existing association will be deleted and a new association will be created.

To change the description of the re-assigned association, press the Change button. Figure 45 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.



**Figure 45.** Use Case Fact And Table Column Re-Assignment Update.



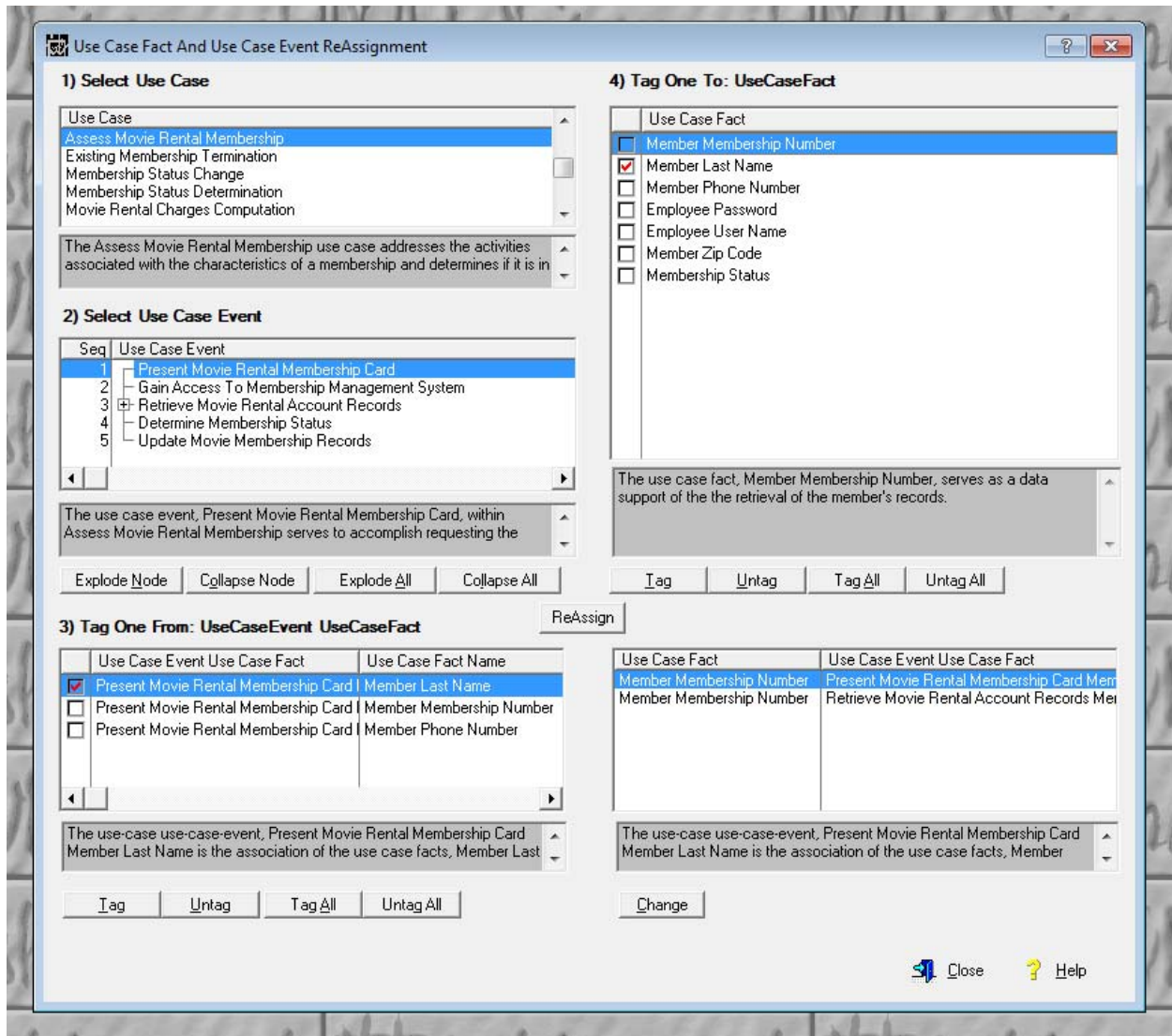


### 5.5.5 Use Case Event And Use Case Fact Re-Assignment

This re-assignment process change the association of a particular use case event with one use case fact. Figure 46 presents the screen through which the re-association takes place.

To accomplish this re-association, on the left side, Select the use case and then the use case event, and then use-case-event use-case-fact for which an association already exists. Tag the association that is to change. On the right side, open and then select and tag a change-to use case fact.

If the change-to entry is the same as the one that's already associated, an error message will appear after the Build button is pressed. Other wise, the existing association will be deleted



**Figure 46.** Use Case Event And Use Case Fact Re-Assignment.

and a new association will be created.



To change the description of the re-assigned association, press the Change button. Figure 47 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.

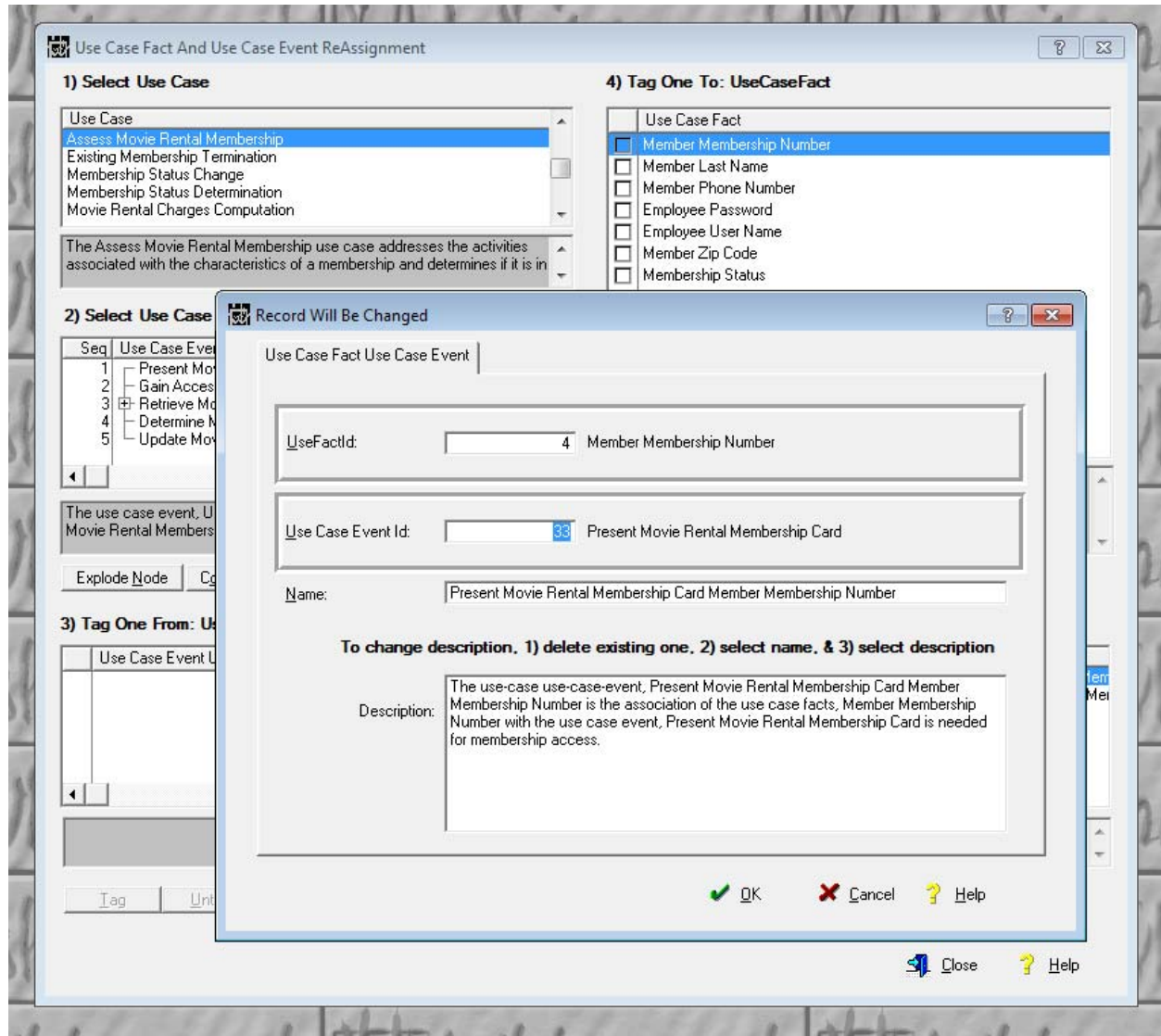


Figure 47. Use Case Event And Use Case Fact Re-Assignment Update.



### 5.5.6 Use Case Fact And Use Case Pre-Condition Re-Assignment

This re-assignment process change the association of a particular use case fact with one use case pre condition. Figure 48 presents the screen through which the re-association takes place.

To accomplish this re-association, on the left side, Select the use case, then the use case pre condition, and then select the use-case-pre-condition use-case fact association that already exists. Tag the association that is to change. On the right side, select and tag a change-to use case pre-condition.

**Use Case PreCondition And Use Case Fact ReAssignment**

**1) Select Use Case**

Use Case

- Membership Status Change
- Membership Status Determination
- Movie Rental Charges Computation**
- Movie Rental Credits

The Movie Rental Charges Computation use case addresses the activities associated with the computation of the rental charges for one or more movies that exist on a movie contract. Factors include type of movie, date-due, quantity of days late, and late movie daily rate.

**2) Select One Use Case Pre Condition**

Use Case Pre Conditions

- Membership must already exist**
- Movie must be selected for rental.

The use-case post condition, Membership must already exist, is the specification of the use case pre condition at the start of use case, Movie Rental Charges Computation. The mandatory preconditions are when the

**3) Tag One From: Use Case Facts**

Use Case Fact	Use Case Fact PreCondition
<input type="checkbox"/> Member Last Name	Membership must already exist Mer
<input type="checkbox"/> Member Membership Number	Membership must already exist Mer
<input type="checkbox"/> Employee User Name	Membership must already exist Emp
<input checked="" type="checkbox"/> Employee Password	Membership must already exist Emp

Membership must already exist employ Employee Password

**4) Tag One To: Use Case Pre Condition**

Use Case PreCondition

- ☐ Membership must already exist
- ☒ Movie must be selected for rental.

The use-case post condition, Membership must already exist, is the specification of the use case pre condition at the start of use case, Movie Rental Charges Computation. The mandatory preconditions are when the

Tag Untag Tag All Untag All

**5) Press ReAssign**

Use Case Fact	Use Case Fact Pre Condition
<b>UNKNOWN</b>	<b>UNKNOWN</b>
Member Membership Number	Membership must already exist Membe
Member Last Name	Membership must already exist Membe
Member Phone Number	Membership must already exist Membe
Member Zip Code	Membership must already exist Membe
Membership Status	Membership must already exist Membe
Employee User Name	Membership must already exist Employ
Member First Name	Membership must already exist Membe
Member Last Name	Membership must already exist Membe
Member Membership Number	Membership must already exist Membe

UNKNOWN

Change

Close Help

**Figure 48.** Use Case Fact And Use Case Pre-Condition Re-Assignment.





If the change-to entry is the same as the one that's already associated, an error message will appear after the Build button is pressed. Other wise, the existing association will be deleted and a new association will be created.

To change the description of the re-assigned association, press the Change button. Figure 49 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.

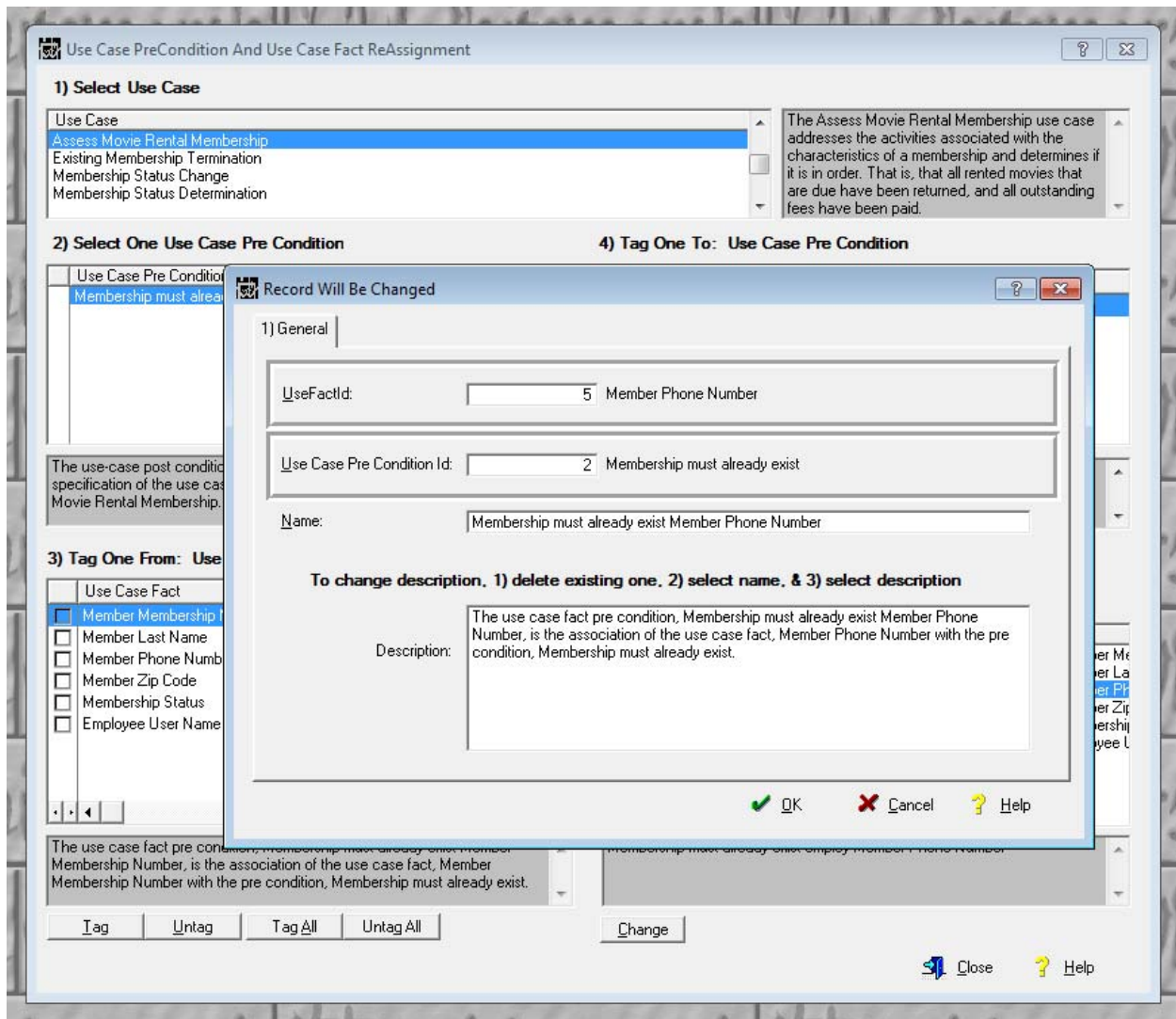


Figure 49. Use Case Fact And Use Case Pre-Condition Re-Assignment Update.



### 5.5.7 Use Case Fact And Use Case Post-Condition Re-Assignment

This re-assignment process change the association of a particular use case fact with one use case post condition. Figure 50 presents the screen through which the re-association takes place.

To accomplish this re-association, on the left side, Select the use case, then the use case post condition, and then select the use-case-post-condition use-case fact association that already exists. Tag the association that is to change. On the right side, select and tag a change-to use case post-condition.

If the change-to entry is the same as the one that's already associated, an error message will appear after the Build button is pressed. Other wise, the existing association will be deleted

**1) Select Use Case**

Use Case  
☒ Assess Movie Rental Membership  
☐ Existing Membership Termination  
☐ Membership Status Change  
☐ Membership Status Determination

The Assess Movie Rental Membership use case addresses the activities associated with the characteristics of a membership and determines if it is in order. That is, that all rented movies that are due have been returned, and all outstanding fees have been paid.

**2) Select Use Case Post Condition**

Use Case Post Condition  
☒ Membership Status Determination  
☐ Validation Status for Member Address  
☐ Validation Status for Member Phone

The use-case post condition, Membership Status Determination is the specification of the use case post condition for the use case, Assess Movie Rental Membership. The mandatory end results after the use case concludes

**3) Tag One From: Use Case Fact Post Condition**

Use Case Fact	Use Case Post Condition Fact
<input type="checkbox"/> Member Membership Number	Membership Status Determination Mer
<input checked="" type="checkbox"/> Member Last Name	Membership Status Determination Mer
<input type="checkbox"/> Member Phone Number	Membership Status Determination Mer
<input type="checkbox"/> Membership Status	Membership Status Determination Mer

The use case fact post condition, Membership Status Determination Member Last Name, is the association of the use case fact, Member Last Name with the post condition, Membership Status Determination

**4) Tag One To: Use Case Post Condition**

Use Case Post Condition  
☐ Membership Status Determination  
☐ Validation Status for Member Address  
☒ Validation Status for Member Phone

The use-case post condition, Validation Status for Member Phone is the specification of the use case post condition for the use case, Assess Movie Rental Membership. The mandatory end results after the use case concludes

Tag Untag Tag All Untag All

**5) Press ReAssign**

Use Case Fact	Use Case Fact Post Condition

Change

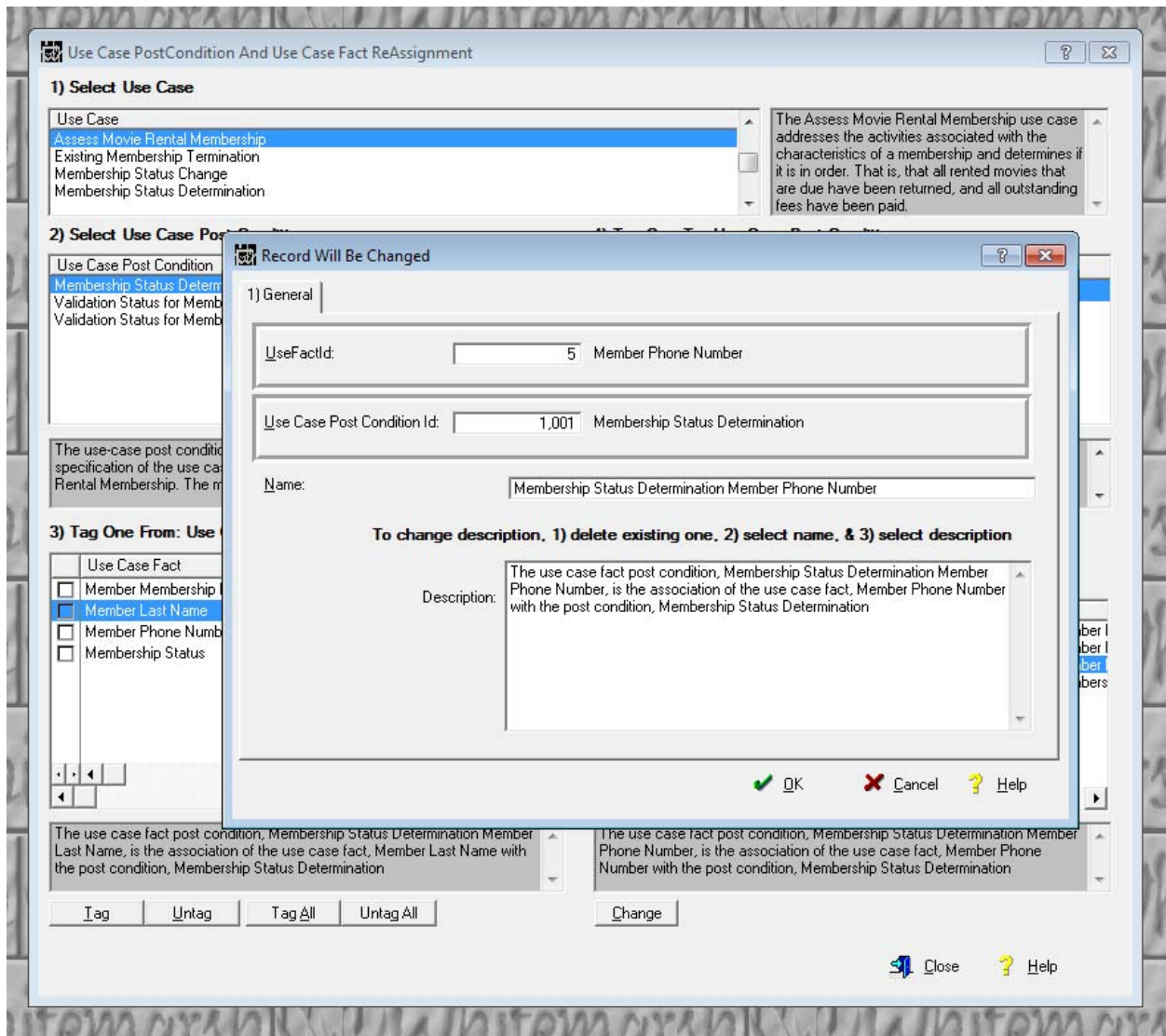
Close Help

**Figure 50.** Use Case Fact And Use Case Post-Condition Re-Assignment.

and a new association will be created.



To change the description of the re-assigned association, press the Change button. Figure 51 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the appropriate changes.



**Figure 51.** Use Case Fact And Use Case Post-Condition Re-Assignment Update.



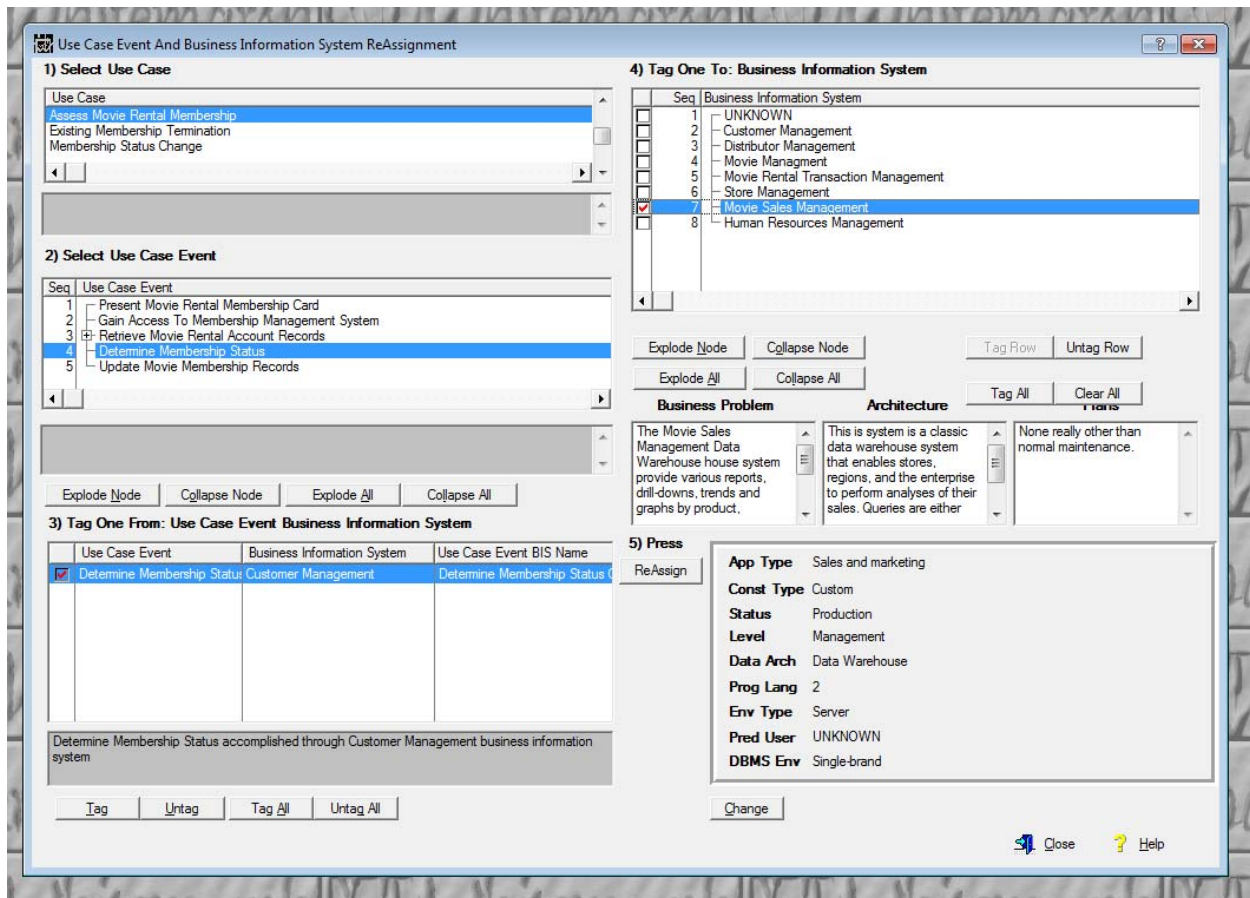
### 5.5.8 Use Case Event And Business Information System Re-Assignment

This re-assignment process change the association of a particular use case event with one business information system. Figure 52 presents the screen through which the re-association takes place.

To accomplish this re-association, on the left side, Select the use case, the use case event, and then the use-case-event business-information-system for which an association already exists. Tag the association that is to change. On the right side, select and then tag the change-to business information system.

If the change-to entry is the same as the one that's already associated, an error message will appear after the Build button is pressed. Other wise, the existing association will be deleted and a new association will be created.

To change the description of the re-assigned association, press the Change button. Figure 53 is then shown. If the description is blank, select the name entry field and then the description entry field. A prototype description is then automatically created. To change it, just key in the



**Figure 52.** Use Case Event And Business Information System Re-Assignment

appropriate changes.





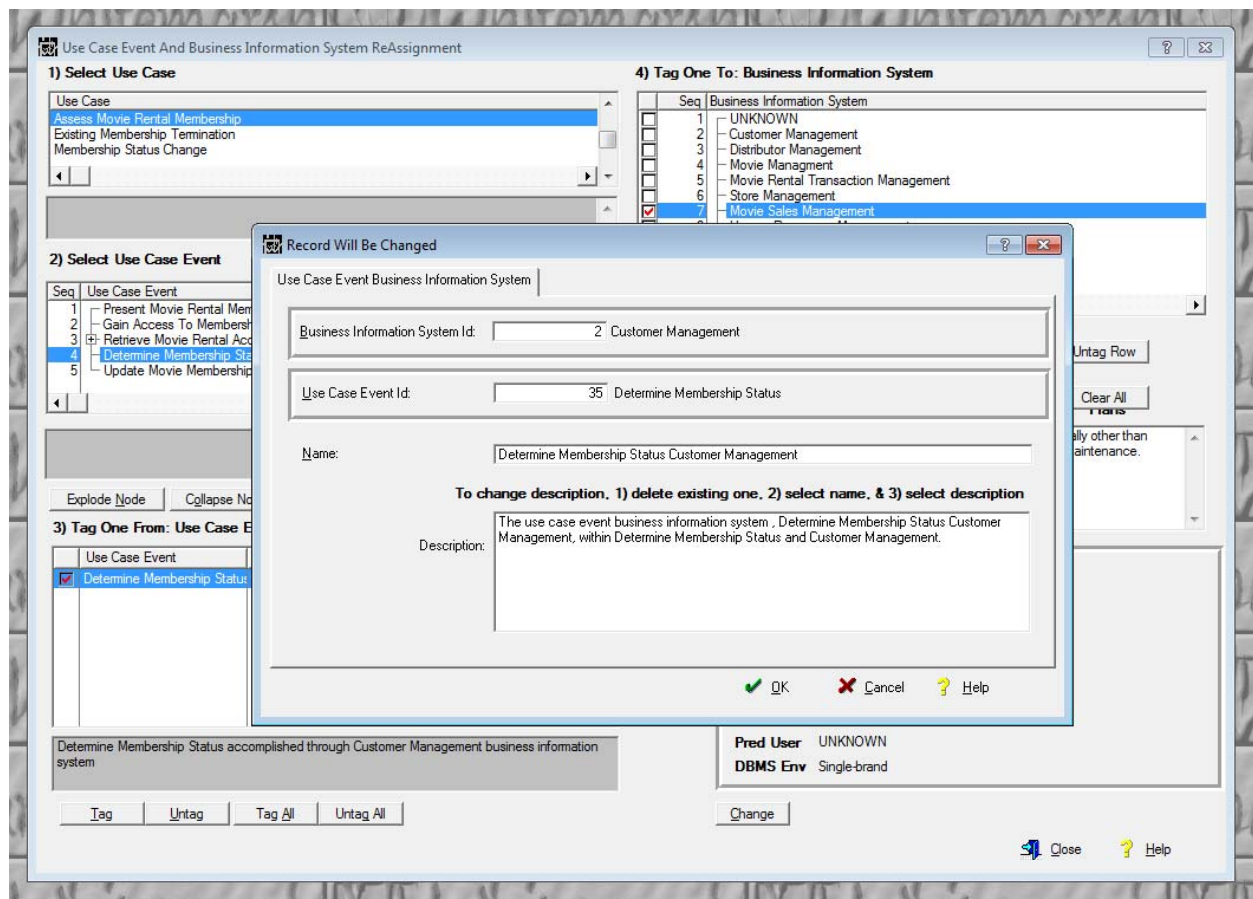


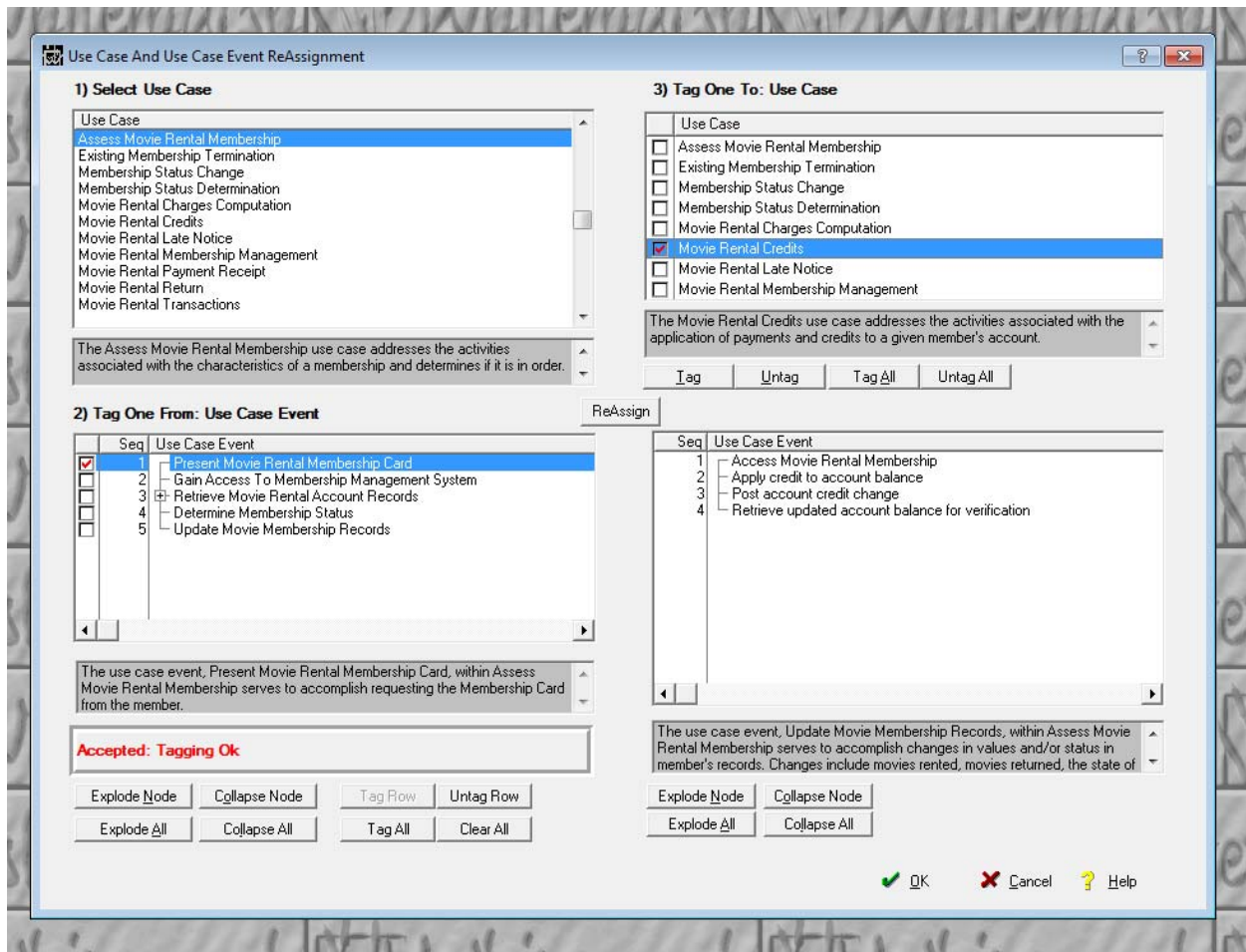
Figure 53. Use Case Event And Business Information System Re-Assignment Update.



### 5.5.9 Use Case Event And Use Case Re-Assignment

This re-assignment process change the association of a particular use case event with one use-case. Figure 54 presents the screen through which the re-association takes place.

To accomplish this re-association, on the left side, Select the use case and then the use case event for which an association already exists. Tag the association that is to change. On the



**Figure 54.** Use Case Event And Use Case Re-Assignment.

right side, select and then tag a change-to use case.

If the change-to entry is the same as the one that's already associated, an error message will appear after the Build button is pressed. Other wise, the existing association will be deleted and a new association will be created.



## 5.6 Reference Data

The reference data associated with the Use Case module include:

- Use Case Actors
- Use Case Actor Role

### 5.6.1 Use Case Actors

Figure 55 provides a list of use case actors that are currently stored in the metabase. Use cases actors do not exist in isolation. Rather, they are persons who occupy certain positions as they accomplish one or more functions for an organization that is charged with completing enterprise missions. To add a person who is to function as a use case actor, the user case actor must first exist as a person. If the person is not available, employ the Mission Organization Function Position assignment module (MOFPA) to add it.

To create a specific use case actor, select an appropriate mission, then organization, then function, then position, and finally, person. Once selected, press the insert button. Figure 56 presents the update screen for a use case. It shows the mission, organization, function, position, and person. Enter the description that the person is to perform.





**Use Case Actors**

**1. Select Mission**

Seq	Mission
5	Marketing
6	Movie Rental Outlets
7	Movie Rental Programs
8	Movie Rentals Community Outreach
9	Operations
1	Corporate Operations
2	Regional Operations
3	Store Operations

Store operations, in very general terms relate to the efficient and effective operation of the stores that vend products to the ultimate end customer of the organization.

Explode Node   Collapse Node   Explode All   Collapse All

**2. Select Organiz**

Organizations

- Store Human Resources
- Store Information Technology
- Store Marketing
- Store Operations Management

The Store Operations Management organization consists of a manager and support staff that manages all the operations at the store.

**3. Select Function**

Functions

- Lead
- Plan
- Accomplish customer product transactions
- Accomplish customer account management

**4. Select Position**

Positions

- Store Manager

**5. Select Person**

First Name	Last Name	Start Date	End Date
Dorothy	Alderwood	12/20/2010	12/20/2010
Synthia	Buckingham	1/03/2011	2/28/2012
Jennifer	Overbrook	12/20/2010	12/20/2010
UNKNOWN	UNKNOWN	12/20/2010	12/20/2010
John	Wildwood	12/20/2010	12/20/2010

**6. Insert, Change, or Delete Use Case Actor**

Creation	Position	Function	Organization	Mission
12/26/2010	Store Manager	Lead	Store Operations M	Store Operations

Accomplish lead operations of a shift of customer service representatives.

Insert   Change   Delete

Close   Help

Figure 55. Use Case Actors.



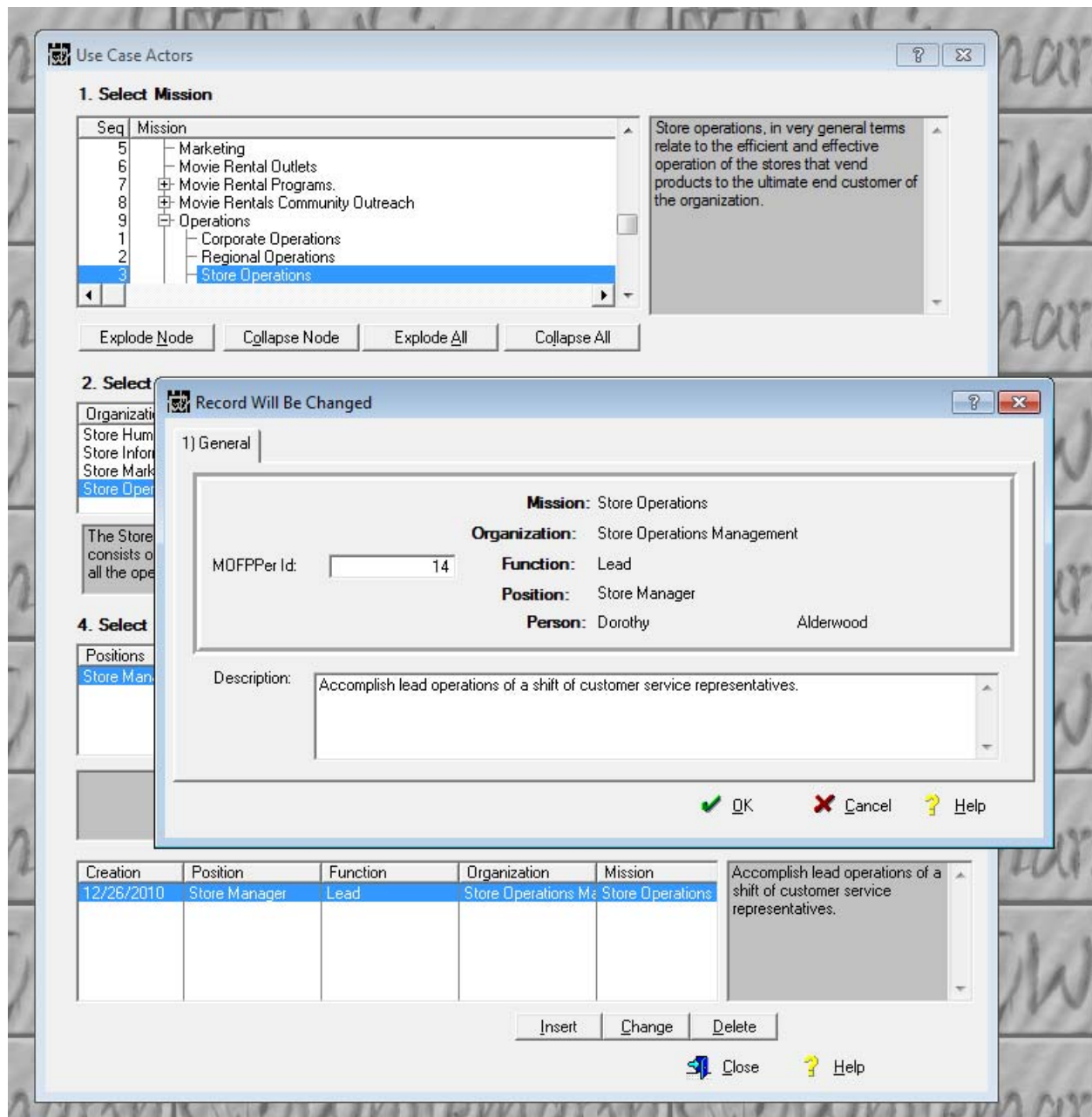
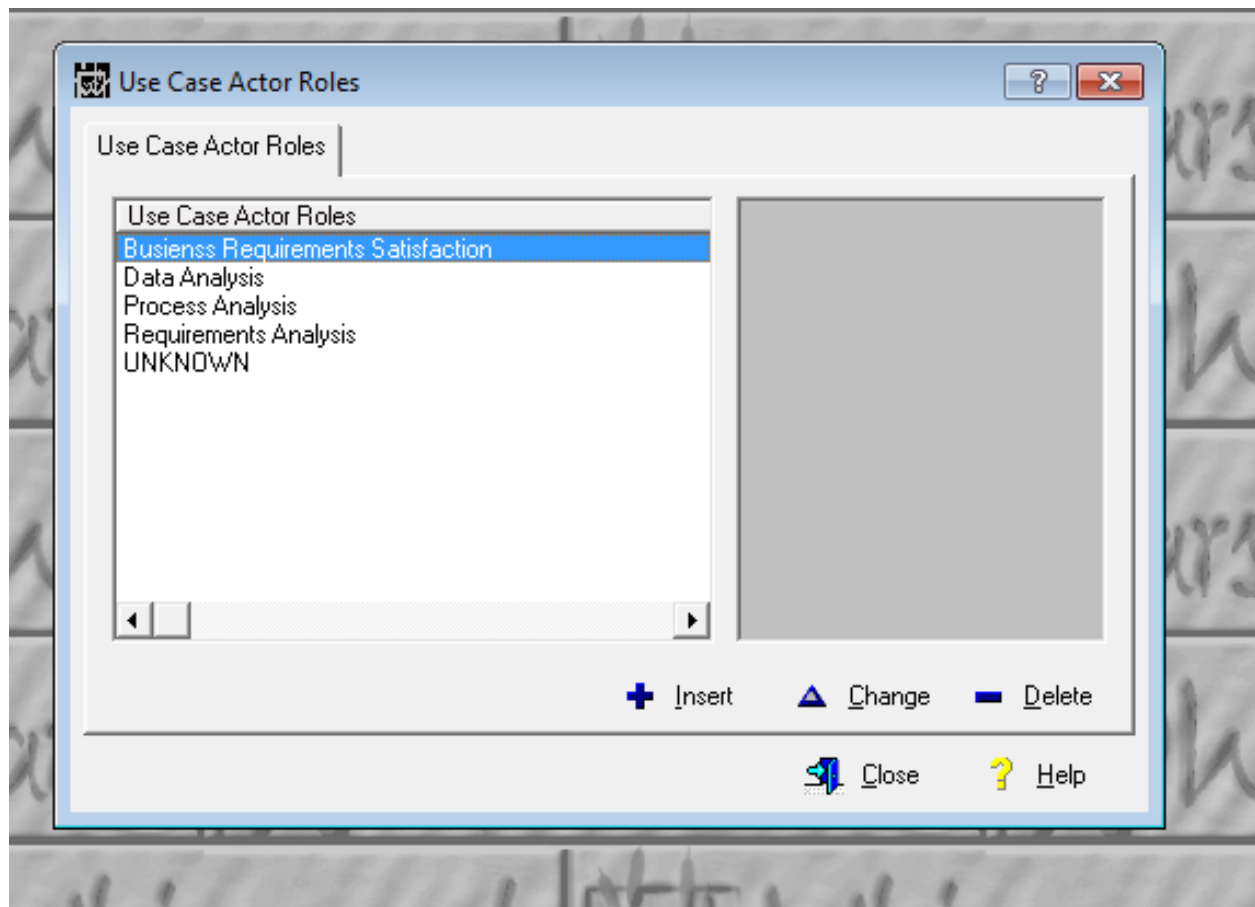


Figure 56. Use Case Actors Update.



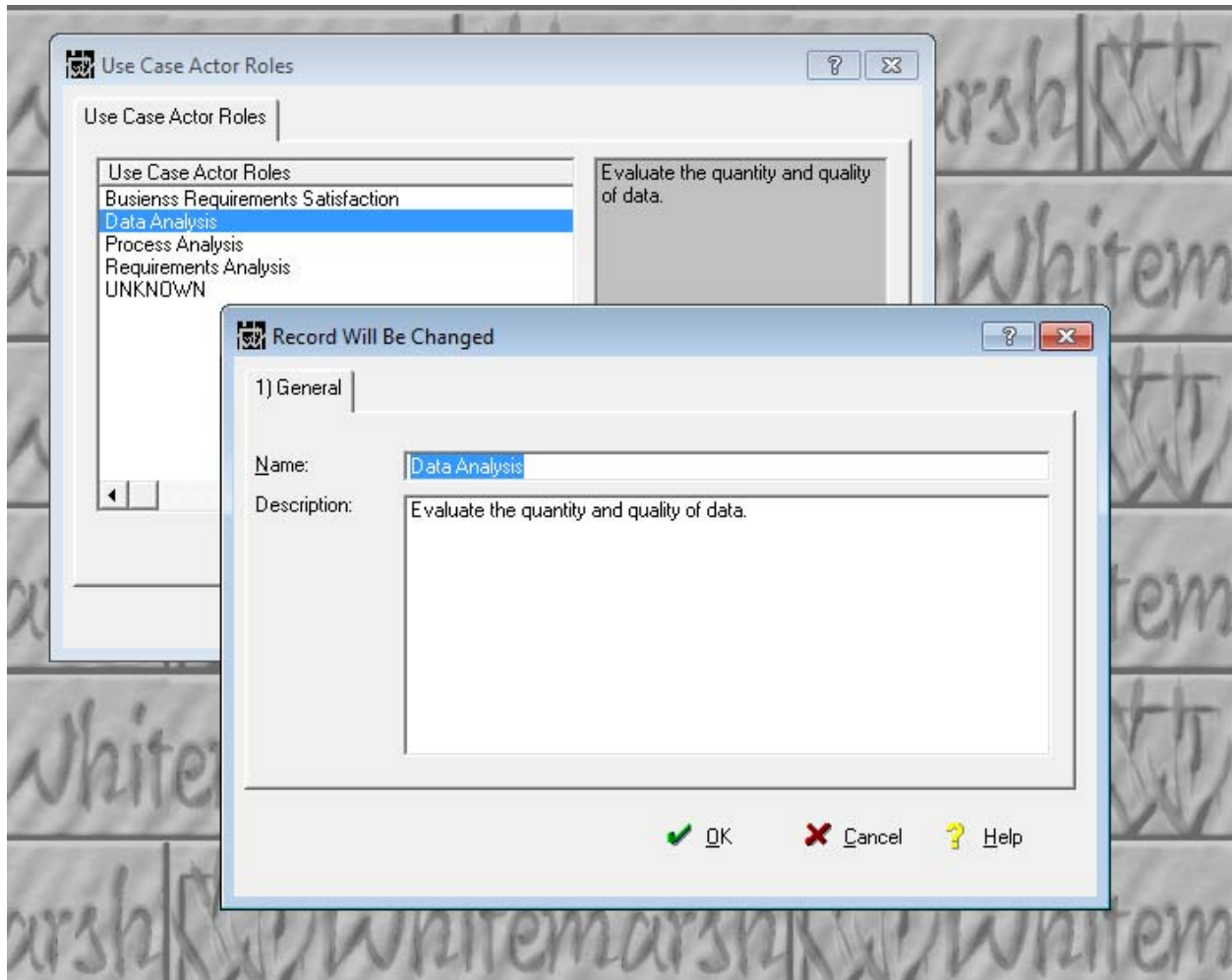
## 5.6.2 Use Case Actor Role

Figure 57 provides a list of use case actor roles that are currently stored in the metabase. Use case actor roles are to be assigned to use case event actors as a way to describe the activity that the use case actor is to perform within the context of a use case event. Figure 58 presents the update screen for a use case.



**Figure 57.** Use Case Actor Role.





**Figure 58.** Use Case Actor Role Update.



## **5.14 Reports**

Reports are accomplished through access to a particular metabase database instance through commercial report writers such as Crystal Reports. Whitemarsh provides about 100 such report templates for Crystal Report access from the Whitemarsh website.

