Informatica® Multidomain MDM
10.3 HotFix 3

Data Steward Guide

Informatica Multidomain MDM Data Steward Guide
10.3 HotFix 3
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Preface

The *Multidomain MDM Data Steward Guide* introduces and provides an overview of the tools in the Data Steward Workbench in the Informatica® MDM Hub Console. It is recommended for the data stewards of Multidomain MDM.

This document assumes that you have read the *Multidomain MDM Overview Guide* and have a basic understanding of Informatica MDM Hub architecture and key concepts.

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CHAPTER 1

Introduction

This chapter includes the following topics:

Key Concepts

Data Stewards use the Merge Manager, Data Manager, and Hierarchy Manager tools in the MDM Hub Data Steward Workbench to consolidate and manage data. Understand the following key concepts before using the Data Steward tools.

Base Objects

A base object is a table containing consolidated data for an entity, such as a Customer or Address entity. Each base object consists of system columns and user-defined column. Common system columns include ROWID_OBJECT, CONSOLIDATION_IND, and LAST_UPDATE_DATE. Typical user-defined columns for a Customer base object could be FIRST_NAME, LAST_NAME, and MIDDLE_NAME.

The base object represents the Best Version of the Truth (BVT). There are two types of base objects:

- A merge-style base object contains the BVT data.
- A link-style base object contains links to the source data which can then be used to recreate the BVT when necessary.

The Data Steward oversees the process of merging and consolidating data to create a BVT.

Cross-Reference (XREF) Tables

Cross-Reference (XREF) Tables track the base object's data lineage. Each base object has an associated Cross-Reference (XREF) Table that tracks which source system cells contributed to the data in the base object's user-defined columns. For each cell of data in the base object, the XREF table contains:

- An identifier indicating which source system contributed the data.
- The primary key of the contributing record.
- The most recent data provided by the source system.

If more than one source system contributed to the data in a base object cell, the XREF table tracks the information for each contributing source system.

Trust Levels

Trust levels indicate, as a percent, the level of confidence in the accuracy of cell data. Trust levels can be defined for base object or source record data. The Trust level is dynamically determined based on various factors, including:

- The reliability of the source system providing the data.

- The change history.

- Data updates and refreshes.

- The age of the data. Trust can decay over time as determined by the trust decay graph.

- The validity of the data. Trust levels are downgraded by a predefined percentage for data that is considered invalid according to the validation rules.

If trust is not defined for a base object column, then the column contains the value from the system that most recently updated the base object.

You can manually override a calculated trust setting if you have direct knowledge that a particular value is correct. You can also enter a value directly into a record in a base object.

Related Topics:

- "Consolidating Data" on page 19

Data Consolidation Process

The goal of merging data in Informatica MDM Hub is to eliminate all duplicate records by combining them together into a single, consolidated record—while maintaining full traceability so you can determine which systems, and which cells from those systems, contributed to the BVT. Duplicate records are identified during the match process.

Informatica MDM Hub compares records at the cell level to detemine which cells have the highest trust level. The data in the cells with the highest trust level are consolidated to form the base object.

Informatica	Master ID	First Name	MI	Last Name	Address	City	State	Zip
	M-0001	Abel	Noel	Willan	161 Washington Ave	Buffalo	NY	14263

Sales Force	SFA_ID	First Name	MI	Last Name	Address	City	State	Zip
	12345	Abel		Willan	161 Washington Ave	Buffalo	NY	14263

Accounts	Cust_ID	First Name	MI	Last Name	Address	City	State	Zip
	00502068	Abel	Noel	Willan	161 Washington Ave	Buffalo	NY	14263

Marketing	Target_ID	First Name	MI	Last Name	Address	City	State	Zip
	willan005	Abel	N	Willan	Elm and Carlton Streets	Buffalo	NY	14263

Automatic and Manual Consolidation

Consolidation can be done manually using the Informatica MDM Hub Merge Manager, or it can be automated as a batch process executed through the Hub Console or any external application that uses the Informatica

MDM Hub Services Integration Framework (SIF). For more information about consolidation, see the chapter about the consolidate process in the *Multidomain MDM Configuration Guide* .

Consolidation Indicator

All base objects have a system column named CONSOLIDATION_IND.

The *consolidation indicator* represents the consolidation status of individual records as they progress through multiple processes in MDM Hub.

The following table describes the consolidation indicator values:

Value	State Name	Description
1	CONSOLIDATED	Indicates that the record is consolidated, determined to be unique, and represents the best version of the truth.
2	QUEUED_FOR_MERGE	Indicates that the record might have gone through the match process and is ready for a merge. Also, the record might have gone through the merge process and is ready for another merge.
3	Not MERGED or MATCHED	This record has gone through the match process and is ready to be consolidated. Also, if a record has gone through the manual merge process, where the matching is done by a data steward, the consolidation indicator is 2.
4	NEWLY_LOADED	Indicates that the record is a new insert or that the record is flagged to undergo the match process.
9	ON_HOLD	Indicates that the data steward has put the record on hold until further notice. You can put any record on hold, regardless of its consolidation indicator value. The match and consolidate processes ignore records that are on hold.

How the Consolidation Indicator Changes

Informatica MDM Hub updates the consolidation indicator for base object records in the following sequence.

1. During the load process, when a new record is loaded into a base object, Informatica MDM Hub assigns the record a consolidation indicator of 4, indicating that the record needs to be matched.

2. Near the start of the match process, when a record is selected as a match candidate, the match process changes its consolidation indicator to 3.

    Note: Any change to the match or merge configuration settings will trigger a reset match dialog, asking whether you want to reset the records in the base object (change the consolidation indicator to 4, ready for match).

3. Before completing, the match process changes the consolidation indicator of match candidate records to 2 (ready for consolidation). If you perform a manual merge, the data steward performs a manual match, and the consolidation indicator of the merged record is 2.

    Note: The match process may or may not have found matches for the record.

    A record with a consolidation indicator of 2 is visible in Merge Manager.

4. If Accept All Unmatched Rows as Unique is enabled, and a record has undergone the match process but no matches were found, then Informatica MDM Hub automatically changes its consolidation indicator to 1 (unique).

5. If Accept All Unmatched Rows as Unique is enabled, after the record has undergone the consolidate process, and once a record has no more duplicates to merge with, Informatica MDM Hub changes its consolidation indicator to 1, meaning that this record is unique in the base object, and that it represents the master record (best version of the truth) for that entity in the base object.

    Note: Once a record has its consolidation indicator set to 1, Informatica MDM Hub will never directly match it against any other record. New or updated records (with a consolidation indicator of 4) can be matched against consolidated records.

Assignment Lists

An assignment list is a list of records for manual merge that have been assigned to a particular data steward. Once records are in a data steward's assignment list, no other data steward can merge them. You can create and manage your assignment list using the Merge Manager.

RELATED TOPICS:

- "Merging Records" on page 20

State Management

Informatica MDM Hub supports workflow tools by storing pre-defined system states (ACTIVE, PENDING, and DELETED) for base objects and cross-reference records. By enabling state management on your data, Informatica MDM Hub offers the following additional flexibility:

- Allows integration with workflow integration processes and tools.
- Supports a change approval process.
- Tracks intermediate stages of the process (pending records).

State management is the process of managing the system state of base object and cross-reference records to affect the processing logic throughout the MDM data flow.

RELATED TOPICS:

- "Consolidating Data" on page 19

System States

Informatica MDM Hub supports the following system states: ACTIVE, PENDING, and DELETED.

You can assign a system state to base object records and cross-reference records at various stages of the data flow using the Hub tools that work with records. In addition, you can use the various Hub tools for managing your schema to enable state management for a base object, or to set user permissions for controlling who can change the state of a record.

Informatica MDM Hub also supports the concept of non-contributing cross-references (for PENDING states) for data changes that have not yet been approved. A non-contributing cross-reference record does not contribute to the Best Version of the Truth (BVT) of the base object record. As a consequence, the values in the cross-reference records do not appear in the base object record while they remain in the PENDING state.

Using System States

Here's an example of how the MDM Hub could enable a workflow scenario using system states:
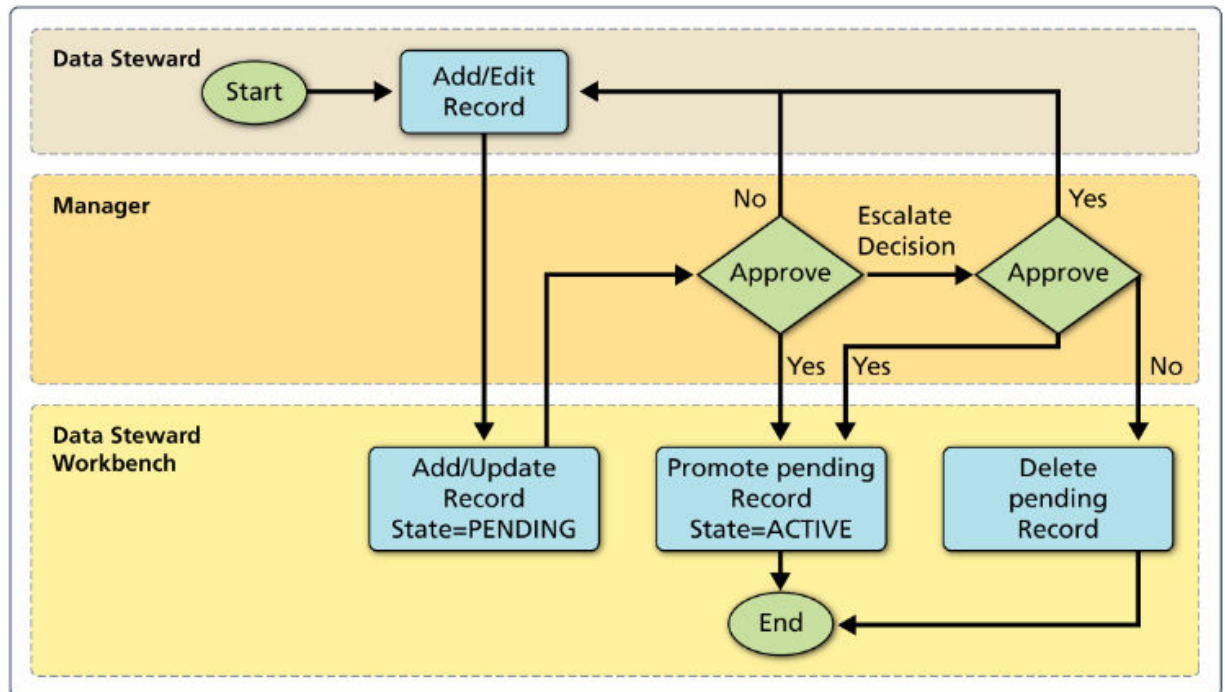
1. A data steward uses the Data Manager or Merge Manager to edit a record in the Hub. The system state of the record is initially defined as PENDING.

2. A manager then evaluates the record change and either approves it for promotion to the ACTIVE state, or escalates the decision.

3. Once the decision is made, the record is either deleted (if the approval is rejected), or approved, and the data steward can then promote the record to ACTIVE state.

For more information, see the chapter on state management in the *Multidomain MDM Configuration Guide*.

RELATED TOPICS:

- "Managing the State of Records" on page 44

Merge History

The Informatica MDM Hub tracks which records have merged together and when those merges occurred. You can view the merge history in the Hub Console.

To view the Merge History consolidated data, click the Complete Merge History button from the Data Manager or Merge Manager in the Data Steward workbench.

The Complete Merge History dialog displays a hierarchical view of what data matched, and where those matches were merged. The result of the search is displayed in the center of the merge history tree (using a different text color). You can also view the merge history chain by selecting the **Chain** radio button in the Complete Merge History dialog.

Informatica MDM Hub Tools for Data Stewards

The Data Steward Workbench contains the Data Manager, Merge Manager, and Hierarchy Manager tools.

The following table provides a brief description of the tools:

Icon	Tool	Description
	Merge Manager	Used to review and take action on the records that are queued for manual merging.
		The Merge Manager also shows any records that have been queued for automerge but not yet been through the automerge process. Depending on your configuration, the Merge Manager can also show records that have been through the match process without any matches being found for them.
		Typically, you use Merge Manager to view newly-loaded base object records that have been matched against other records in the base object. Based on this view, you can: - Combine duplicate records together to create consolidated records - Designate records that are not duplicates as unique records
	Data Manager	Used to edit base object data.
		You can also use the Data Manager to review the results of all merges—including automatic merges—and to correct data if necessary. It provides a view of the data lineage for each base object record.
		The Data Manager also allows you to display newly-loaded records, add and edit records (if you have the correct privileges), unmerge previously consolidated records, and to view different types of history on each consolidated record.
	Hierarchy Manager	Used to define and manage hierarchical relationships in the Hub Store.

For more information about the Hub Console, see the chapter "Getting Started with the Hub Console" in the *Multidomain MDM Configuration Guide*.

Data Steward Tasks

The following sections outline the various tasks data stewards can accomplish using tools in the Informatica MDM Hub.

Note: Access for performing data steward tasks can be limited by setting the appropriate security settings of the Security Access Manager. For more information, see the chapter "Setting Up Security" in the *Multidomain MDM Security Guide*.

Using Merge Manager

Use the Merge Manager to perform the following tasks.

- Review and merge matched records that have been queued for merging.
- Change the consolidation indicators for matched records.
- Specify a query to control which records are assigned to you for merging, or to filter the data you want to work with for a specific action.
- Customize the view of data in the selected base object by specifying the display and merge packages you want to use.
- Change the system state values for base object and cross-reference records (you can also perform this task using the Data Manager)
- Override the selection of which cross-reference record in a record provides a value to the consolidated base object.

RELATED TOPICS:

- "Overriding Merge Trust Behavior" on page 28
- "Consolidating Data" on page 19

Using Data Manager

Use the Data Manager to perform the following tasks.

- Search for records, view their cross-references, unmerge records, view history records.
- Create new records, edit records, and override trust settings.
- Change the system state values for base object and cross-reference records (you can also perform this task using the Merge Manager).

RELATED TOPICS:

- "Managing Data" on page 33

Using Hierarchy Manager

Use the Hierarchy Manager to perform the following tasks: create, manage, search, navigate, and consolidate relationship data across different applications and data sources. Hierarchy Manager is separately licensed from the Informatica MDM Hub. Depending on your installation and license, it may not appear in your console.

RELATED TOPICS:

- "Using the Hierarchy Manager" on page 51

CHAPTER 2

Getting Started with the MDM Hub Console

This chapter includes the following topics:

Overview

This chapter introduces the Hub Console and provides a high-level overview of the tools involved in configuring your Informatica MDM Hub implementation.

About the MDM Hub Console

Administrators and data stewards can access Informatica MDM Hub features using the Informatica MDM Hub user interface, which is called the Hub Console. The Hub Console comprises a set of tools. You can perform a specific action or a set of related actions with each tool.

Note: The available tools in the Hub Console depend on your Informatica license agreement.

Starting the Hub Console

To access the MDM Hub, start the Hub Console. Use an HTTP or HTTPS connection to start the Hub Console.

Ensure that you have a user name and password set up before you start the Hub Console.

1. Open a browser window and enter the following URL:

   ```
   http://<MDM Hub host>:<port number>/cmx/
   ```
   Check with your administrator for the correct port number.

The **Hub Console launch** window appears.

2. Launch the Hub Console.

3. Enter your user name and password, and then click **Log in**.

   Java Web Start downloads application files.

   The **Informatica MDM Hub Login** dialog box appears.

4. Enter your user name and password, and click **OK**.

   The **Change database** dialog box appears.

5. Select the target database.

   The target database is the MDM Hub Master Database.

6. Select a language from the list, and click **Connect.**

   The Hub Console user interface appears in the language that you select. If you need to change the language in which the Hub Console user interface appears, restart the Hub Console with the language of your choice.

Navigating the MDM Hub Console

The Hub Console is a collection of tools that you use to configure and manage your Informatica MDM Hub implementation.

Each tool allows you to focus on a particular area of your Informatica MDM Hub implementation.

Toggling Between the Processes and Workbenches Views

Informatica MDM Hub groups tools in two different ways:

View	Description
By Workbenches	Similar tools are grouped together by workbench. A workbench is a logical collection of related tools.
By Processes	Tools are grouped into a logical workflow that walks you through the tools and steps required to complete a task.

You can click the tabs at the left side of the Hub Console window to toggle between the **Processes** and **Workbenches** views.

Note: When you log into Informatica MDM Hub, you see only those workbenches and processes that contain the tools that your Informatica MDM Hub security administrator has authorized you to use.

Workbenches View

To view tools by workbench:

- Click the **Workbenches** tab on the left side of the Hub Console window.
  The Hub Console displays a list of available workbenches on the **Workbenches** tab. The **Workbenches** view organizes Hub Console tools by similar functionality.

  The workbench names and tool descriptions are metadata-driven, as is the way in which tools are grouped. It is possible to have customized tool groupings.

Processes View

To view tools by process:

- Click the **Processes** tab on the left side of the Hub Console window.
  The Hub Console displays a list of available processes on the **Processes** tab. Tools are organized into common sequences or processes.

  Processes step you through a logical sequence of tools to complete a specific task. The same tool can belong to multiple processes and can appear many times in one process.

Starting a Tool in the Workbenches View

Start the Hub Console from the **Workbenches** view.

1. In the **Workbenches** view, expand the workbench that contains the tool that you want to start.
2. If necessary, expand the workbench node to show the tools associated with that workbench.
3. Click the tool.

   If you selected a tool that requires a different database, the Hub Console prompts you to select it. All tools in the Configuration workbench, Databases, Users, Security Providers, Tool Access, Message Queues, Repository Manager, Enterprise Manager, and Workflow Manager require a connection to the MDM Hub Master Database. All other tools require a connection to an Operational Reference Store.

   The Hub Console displays the tool that you selected.

CHAPTER 3

Consolidating Data

This chapter includes the following topics:

Consolidating Data Overview

This chapter explains how to use the Merge Manager tool in the Data Steward workbench to manage your business data stored in Hub Store. To most effectively use this section, you must be familiar with the key concepts described in chapter 1.

RELATED TOPICS:

About the Merge Manager

Merge Manager is a component of the Informatica MDM Hub Data Steward workbench. Use Merge Manager to:

- Display the records queued for merging.
- Review and merge matched records that have been queued for merging.
- Change a record's consolidation indicator.
- Change the default survivorship behavior for the merge by overriding trust values for specific cells.

The Merge Manager consists of two screens:

Screen	Description
Setup	Allows you to select the information you want to work with: base object, packages, unmerged records, query settings, and display settings.
Merge Manager	Shows you the records that have been selected, along with the records to which they match. You can manually merge these records to change their consolidation flags.

Starting the Merge Manager

To start the Merge Manager tool:

▶   In the Hub Console, expand the Data Steward workbench, and then click **Merge Manager**.

The Hub Console displays the Setup screen of the Merge Manager tool.

Merging Records

This section describes how to set up a merge and how to merge records.

Entering Search Criteria

To enter search criteria:

1.   Start the Merge Manager.

The Merge Manager Setup screen appears.

2.   Perform the following tasks on the Merge Manager Setup screen:

a.   Required. Choose the base object to use for the merge from the Base Object menu.

Base objects are your business entities (such as Customer, Location, Vendor, Product, and so on). The Base Object menu displays only base objects that can consolidate data. Your base object choice determines some of the other choices on the setup screen, such as packages.

b.   Optional. Click the **Get Count** button to display the base object rows queued for manual merge.

c.   Required. Select which Merge package and Display package to use to display the data.

There are two kinds of packages:

Package	Description
Merge Package	Used for presenting the data in the cell-by-cell comparison area in the bottom section of the Merge screen. A merge package can only contain columns from the selected base object.
Display Package	Used for presenting the data in the top two sections of the Merge screen. The display package can be any package for which you have permission. The package is based on the base object, and can contain columns from additional tables besides the base object. **Note:** The display package can be the same as the Merge package. It can also contain columns from the additional tables (besides the base object) by creating a join to join the package to other tables—not the base object directly.

Packages determine which columns from the base object will be visible in the Merge screen. You must have permission from your Hub administrator to view packages. For more information about packages, see the *Multidomain MDM Configuration Guide* .

Note: If an administrator makes a change to the package you are using, these changes are not visible in the Merge Manager until you refresh the display.

d.   Optional. Specify the maximum number of unmerged records to add to your assignment list.

   Note: This step is optional, but if you do not specify a number, all the records that are queued for merge in the selected base object will be assigned to you, causing potential performance issues.)

e.   Optional. Click **Clear Assigned Records** to clear your assignment list and allow another data steward to add those records to their own assignment lists.

   Resetting your assignment list does not delete or remove any records from the manual merge queue.

f.   From the Query menu, specify the query to use when sorting which records will be assigned to you for merging.

Your assignment is a subset of the queued, unassigned records for the selected source system. To specify a query, use one of the following options:

Option	Description
Predefined Query	To populate your assignment list based on a pre-defined query, select a pre-defined query from the list. Your administrator defines these queries. To avoid conflicting queries, be familiar with the query parameters before you add additional filters. Conflicting queries produce an empty result set. For example: The pre-defined query specifies only records in which the state field is CA. Your filter specifies only records that have a state field of NJ. There will be no records that satisfy both conditions, so you will see an empty result set.
Search Wizard	You can define the assignment based on any search criteria using the columns in the selected display package.
None	If you select "None" from the Query drop down list, Informatica MDM Hub will simply assign queued records to you when you click **Begin Merge…** (for whatever number of records you entered).

Once records have been assigned to you, they are reserved for your use and no other users can merge them. Likewise, you will not be able to merge the records assigned to other users. If, after doing a query for your assignment, you get no records displayed in the Merge screen (even though there are records queued for merge), it is because all queued records have already been assigned to other users.

As you merge records, the number of records assigned to you is reduced until you have no further records to merge.

3.   Select the number of records to return per page from the Page Size menu.

Use this setting to control how many records are displayed per page when the merge screen is displayed.

Note: The more data you display, the slower the performance of the Merge Manager. For the most efficient processing, display only a small number of records at a time (for example, 20 to 50 records), and keep your assignment list as small as possible.

4.   Click **Begin Merge**.

The Merge Manager screen is displayed.

Note: For state management-enabled base objects, only ACTIVE records are displayed. Records in a PENDING or DELETE state cannot be the target of a merge.

Related Topics:

- "Starting the Merge Manager" on page 20
- "Using the Search Wizard to See a Subset of the Data" on page 31

Using the Merge Manager Screen to Merge Records

The Merge screen is divided horizontally into three main sections.

Section	Description
Unmerged / On hold	Lists the records that are queued for merging—either unmerged records or records that you have flagged as being on hold.
Matched data	Lists the matches for the record selected in the top section.
Cell data	Lists which cell values will be kept in the consolidated record after you click the Merge button.

Note: When you sort in Merge Manager, you are sorting the current page of data—not the entire data set.

The Reload button re-executes the same query as the one configured in the Setup Merge button.

Related Topics:

- "Matched Data" on page 24
- "Merging Cell Data" on page 27
- "Changing a Record to Unmerged or On Hold" on page 22

Changing a Record to Unmerged or On Hold

The Unmerged/On hold section of the Merge Manager screen lists the records that are queued for merging. These are either unmerged records or records that have been flagged as being on hold. Switch between the two queues by selecting either the **Unmerged** tab or the **On hold** tab.

Sometimes you might see multiple records for the same customer. This is due to the display package that you selected. For example, if you chose a display package that shows information for customers that includes their addresses, and a customer has two addresses, you will see two customer records in the grid.

The columns you see for each record in the Unmerged/On hold section are determined by the display package you selected on the Merge Manager Setup screen. To return to the Merge Manager Setup screen, click the **Setup Merge** button in the upper right corner of the page.

The buttons on the right-hand side of the Unmerged/On hold section allow you to perform certain actions on the records displayed in the section.

Selecting Multiple Records

Click the **Multiple Selection** check box to select multiple records. Press CTRL or SHIFT and click to select multiple records in the Unmerged or On hold tab. When two or more records are selected, the bottom two panes are cleared and only the following commands are available:

- Accept the unmerged record as unique
- Accept all records without a match
- Accept all records without a match in the assignment list as unique
- Put on hold
- Queue for Matching
- Reset as New Record
- Reassign

Accepting the Unmerged Record as Unique

 Click this button to flag the selected unmerged or on-hold record as a consolidated record without it being merged with any other records. Use this option to remove the record from the queue if you are sure that it does not have any matches.

Message Trigger Events

Use message triggers to identify which actions within Informatica MDM Hub are communicated to external applications, and where to publish XML messages. Message triggers can be turned on for a base object. In addition, you can configure an event to trigger a message when a particular event occurs, such as when a user accepts a record as unique.

When this type of configuration is in place, and a user accepts a record as unique, a message is sent to the message queue, where the record is pushed to consumer systems to ensure that no transactions related to that record are missed. In addition, a CMX user exit is invoked for any necessary post processing.

For more information regarding message triggers, see "Configuring Message Triggers" in the *Multidomain MDM Configuration Guide*. For more information regarding user exits, see "Configuring User Exits" in *Multidomain MDM Configuration Guide*.

Accepting All Records Without A Match in the Assignment List as Unique

 Click this button to flag all of the unmerged records that do not have any matches and that are in your assignment list as a consolidated record without it being merged with any other records. Use this option to remove records from the queue if you are sure that they have no matches.

Accepting All Records Without A Match

Click this button to flag as unique all records that do not have matches. This removes them from the queue. Use this option if you are sure that the affected records do not have matches to any other records. This will affect all records in the base object that have a consolidation indicator value of 2 and that have no matched records, even if those records are on someone else's assignment list.

Changing the Status of the Selected Record

Click this button to change the status flag of the selected record to one of the following values:

Status	Description
Put on hold	Removes the record from the list of merge candidates, adds it to a list of "on hold" records, and sets the Consolidation Indicator to 9 ("on hold" status). To work with these records, select the **On hold** tab.
Queue for matching	Removes the record from the list of merge candidates, queues the record for matching, and sets the Consolidation Indicator to 3. The record has the same status that records have part-way through the match job (after irrelevant data is removed but before the matched records are written to the match table). This is rarely a good idea. The standard way to re-queue a record for matching is to reset the record as new.
Reset as new record	Removes the record from the list of merge candidates, queues the record for matching, and sets the Consolidation Indicator to 4. The record has the same status that records have at the very beginning of the match job. Note that the record is still on the screen, in the same place. It is just no longer a candidate for merge.
Reassign	Allows you to reassign the record to another user for review. This will most likely be used if you want the match to be reviewed by an Admin user or other data stewards. **Note:** Once a record is reassigned, it no longer appears in your list, but appears in the list of the data steward or Admin user to whom it was reassigned.

Note: For state management-enabled base objects, only active base objects are displayed in the unmerged records panel. In the matched records panel, base object records in any state can be displayed. By default the Merge Manager does not show cross-reference records. For more information regarding how to enable state management for base objects and cross-reference records, see "State Management" in the *Multidomain MDM Configuration Guide* .

Custom-defined Buttons

If configured and enabled for your Informatica MDM Hub implementation, custom-defined buttons might be displayed in the top section of the Merge Manager screen. These custom-defined buttons can be used to invoke a particular external service or perform a specialized operation (such as launching a workflow). For more information, consult your administrator. To learn about implementing custom-defined buttons, see "Implementing Custom Buttons in Hub Console Tools" in the *Multidomain MDM Configuration Guide* .

Matched Data

The Matched Data section of the Merge Manager screen lists the matches for the selected record in the Unmerged/On hold section. The buttons on the right hand side of this section allow you to perform certain actions on the records displayed in the section.

Searching for Potential Matches

Click this button to open the Informatica MDM Hub Search Wizard to do a manual search for potential matches on conditions that the match rules might not be set up to use. Any records that the Search Wizard finds will be loaded into the Matched Data section to allow you to manually merge them with the record selected in the Unmerged/On hold section.

RELATED TOPICS:

- "Using the Search Wizard to See a Subset of the Data" on page 31

Viewing Cross-Reference Records

Click this button to view cross-reference records for a selected record in the Cross-Reference Viewer. Cross-references are the records that contributed information to this base object.

Editing a Record

Click this button to edit the data values in the selected record.

RELATED TOPICS:

- "Editing and Adding Records Manually" on page 47

Showing a Match Rule

Click this button to open the Match Rule Viewer to see the details of the match rule that resulted in the selected record in the Matched Data section being identified as a possible match for the selected record in the Unmerged/On hold section. This option is not available for records from a manual search.

Displaying the Relationship Dialog

Click this button to display the Relationship Viewer so that you can view the intertable match records. You can also double-click a record in the Matched Data grid to display the Relationship Viewer.

Displaying the Complete Match History

Click this button to view the complete history of matches associated with the selected record.

About Complete Match History

This feature helps visualize why certain records were consolidated to a particular record through Build Match Group (BMG) process, which removes redundant matching in advance of the consolidate process. By investigating the rules that originally triggered pairs of records to be matched, you can decide—on a case-by-case basis—whether to unmerge consolidated records.

For example, suppose a base object had the following match pairs:

- record 1 matches to record 2

- record 2 matches to record 3
- record 3 matches to record 4

After running the match process, during which the BMG was created, and before running consolidation process was run, you might see the following records:

- record 2 matches to record 1
- record 3 matches to record 1
- record 4 matches to record 1

In this example, there was no explicit rule that matched 4 to 1. Instead, the match was made indirectly due to the behavior of other matches (record 1 matched to 2, 2 matched to 3, and 3 matched to 4). An indirect matching is also known as a transitive match. By displaying the complete match history, you can expose the details of transitive matches.

Tree View

Click **Tree** at the bottom-left of the Complete Match window to display the tree view. The tree view shows the path back to the root object to which all other records will consolidate.

Chain View

Click **Chain** at the bottom-left of the Complete Match window to display the chain view. The chain view shows the chain (sequence) of matched pairs that contributed to the match.

Complete Match Tracking Properties

The tree and chain views contain the following information.

Area	Description
Merge History Tree	Tree view only. Displays the merge history in a tree format. The tree view shows the path back to the root object to which all other records will consolidate. The root object represents the surviving record.
Row ID	Tree view only. Allows you to search for a particular record by specifying its ROWID_OBJECT and clicking the **Search** button.
Match Pairs	Chain view only. Displays match pairs—two records in the base object that were identified as matches. Shows the chain (sequence) of matched pairs that contributed to the match. The last row at the bottom of this list represents the surviving record.
Rule Set	ID of the match rule set that was being executed when the match was made.
Rule No	Number of the match rule that identified the match pair.
Reverse	A reverse match, which means that the order of the match as it appears in the tree should be reversed. For example: record 1 matches to record 2 on rule 1 Reverse=True means that the actual original match was: record 2 matches to record 1 on rule 1
Rows Data	For the match pair that is selected in the left pane, shows the cell values (by column) for the source and target object.

Changing the System State of Records

The system state of a record describes how base object records are supported by Informatica MDM Hub. The Hub supports the following system states: ACTIVE, PENDING, and DELETED.

Promotion of a record is the process of changing the system state of individual records in Informatica MDM Hub from PENDING state to the ACTIVE state. You can set a record for promotion immediately using the Data Steward tools, or you can flag records to be promoted at a later time using the Promote batch process.

You can use the data steward tools to manage the following tasks for changing the system state for individual records:

- Display pending records
- Promote pending base object or cross-reference records to ACTIVE state
- Mark records as DELETED
- Delete pending records
- Restore deleted records

RELATED TOPICS:

-

Merging Cell Data

In the Merge Manager, the Cell data grid displays a list of the base object columns, which will be kept in the consolidated record after you click the **Merge** button. In the Unmerged Data and Matched Data columns, the value with the higher trust (the value that the consolidated row will have) is highlighted in bold text. If both values have the same trust value, the value in the Unmerged Data or Data column is highlighted.

Base Object Column Properties

In the Cell data section of the Merge Manager screen, each base object column has the following properties:

Property	Description
Column Name	Name of the column.
Trust	Trust level of the value from the selected row in the Unmerged/On hold list box.
Unmerged Cell	Value from the selected row in the Unmerged/On Hold list box.
Matched Cell	Value from the selected row in the Matched Data list box. This is not necessarily unmerged data. The records could even be records that have previously been merged with other records. The record in the Unmerged list box gets merged to the record in the Matched Data list box. **Note:** The rowid_object value that survives when two records merge is the ID of the record in the **Matched data** list box.
Trust	Trust level of the value from the selected row in the Matched data box.

Some Columns Might Not Have a Trust Value

Trust involves overhead in storage and calculation, and there is a limit to the number of columns that your administrator can enable for trust. So columns that do not require trust should not have trust values enabled.

If trust is enabled and trust values are set up, you will be able to see the trust scores. For more information on trust, see the *Multidomain MDM Configuration Guide* .

Overriding Merge Trust Behavior

You can override the selection of which row will provide a value to the consolidated base object by clicking on the cell that is not highlighted and does not have bold text. This clicking will change the cell that is highlighted and make the text in the newly highlighted cell bold. The highlighted cell is the one that provides the data to the consolidated record.

Guidelines for Overriding Consolidation Trust Behavior

When overriding consolidation trust behavior, consider the following guidelines:

- Only one overridden trust setting (the last one you set—either left or right) is used for consolidation. The trust score, displayed after the override trust settings change, is not applied to the database unless it is the one used for consolidation.

- The override applies only to manual merges. Override settings do not apply to automerges. If you do override trust, then you must use the Merge button to ensure that your changes are applied. Do not just set the automerge flag.

- If a column does not have trust rules defined for it, then the Unmerged Trust and Matched Trust will be blank, and the Unmerged data value will always be highlighted in bold text. In this case, the selection cannot be overridden.

Specifying the Confidence Level

For each override that you specify (by selecting a cell that was not previously highlighted), you can click the button and then specify how confident you are of the correctness of the change. The Merge Manager displays the Override Trust Settings wizard.

The confidence level you select determines the likelihood of whether the overridden value will be updated by a subsequent data change from one of the contributing source systems.

Confidence Level	Description
Low Confidence	The data value will keep the same trust settings that it had before. This will result in a low trust level. Remember that this was not the cross-reference cell with the highest trust level.
Medium Confidence	The maximum trust and minimum trust settings will be an average of the settings that you specified for the source system that provides the cell value and the settings that you specified for the Informatica MDM Hub Admin system. (In most cases, you should specify high trust settings for the Informatica MDM Hub Admin system.) The other trust settings (decay period and decay type) will be based on the source system that provides the cell value. Medium confidence is the default.

Confidence Level	Description
High Confidence	The maximum trust and minimum trust settings will be the settings that your administrator specified for the Informatica MDM Hub Admin source system. The cell's last-update-date will be changed to the current date. The other trust settings (decay period and decay type) will be based on the trust profile of the system that provides the cell value.
Custom	Merge Manager prompts you to provide trust settings that apply to this data value only, as shown in the figure below. You can specify the minimum and maximum trust, decay type, and decay time lines. For more information about trust settings, see "Configuring the Load Process" in the *Multidomain MDM Configuration Guide* .

Note: Low and Medium Confidence are not available to select.

If you selected a Custom confidence level, the Hub Console prompts you to specify the confidence level.
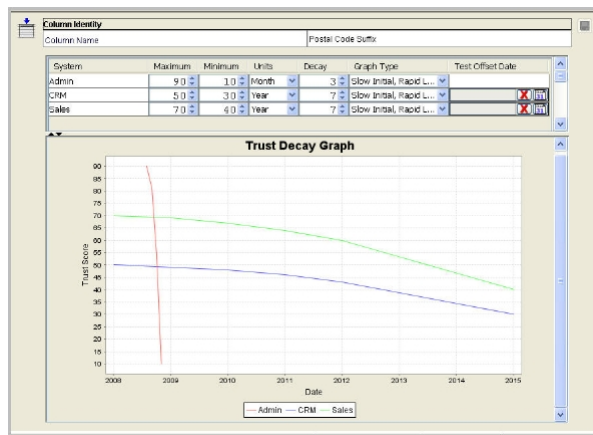
Consolidating the Unmerged Record with the Matched

 Click this button (in the Cell data portion of the window) to consolidate (merge) the record selected in the Unmerged data list box with the record selected in the Matched data list box.

Consolidating two records has the following effects:

- The row in the base object table that is displayed in the Matched Data pane disappears. The corresponding row in the cross-reference now points to the surviving row in the base object table. If the record that you consolidated into (the record in the Matched data list) was already a consolidated record, then the record will be removed from the queue entirely.

- The surviving row in the base object table contains the most-trusted values from the cross-reference table. If the trust levels are equal, then the data from the unmerged row prevails. The row ID from the matched row remains in the base object.

- The consolidated record can have a value that is a pointer to a value in another table. For example, suppose you have two base objects, a Customer and an Address. The Customer base object contains customer name information. The Address object contains address information, as well as a pointer to the Customer information, as these things must go together. If a Customer record and its associated Address are consolidated with another Customer/Address record, then a pointer from one of the Address records is lost in the consolidation. In this case, the pointer value is changed so that it points to the surviving row.

  Note: Values are never actually lost in the process of consolidating. Values that do not end up in the surviving record are always kept and managed by Informatica MDM Hub so that they are available should you choose to unmerge records.

If there are pointers to values in other tables that must be updated, the process of consolidating two records can result in many other records being affected.

 Use this option if you want the records to be merged, but you don't want to have to wait while they merge and any other impacted records are updated. This option will flag the match pair for automerge and will remove the match from your user assignment list. The next time the automerge procedure is run, the records you flagged for automerge will be merged.

Note: This button does not display if you did a "Search for potential matches" in the Matched Data panel.

 Use this option if you want to change the package that is used to display the data in this section.

Manually Merging Records

This section provides a step-by-step walkthrough of the process of manually consolidating (merging) records using the **Merge Manager** and example data. For this example, Informatica MDM Hub is configured to consolidate customer data. Data has been loaded into Informatica MDM Hub and has been processed through the Informatica MDM Hub batch processes. Some records have been queued for manual review.

To merge records:

1. Select the Merge Manager tool in the Data Steward workbench, or start the Consolidate Records process from the Processes tab.

2. In the Merge Manager setup screen, select the base object for which you want to merge records and then the package to use for displaying the data.

   At this point, you could click **Begin Merge** and Informatica MDM Hub will simply assign the first 50 queued records to you, or you can choose a query.

3. Either choose a predefined query or define a query by selecting Use Search Wizard from the drop down list. By default, None is selected.

4. Click **Begin Merge**.

5. If you selected Use Search Wizard, the Search Wizard is displayed. You need to specify query parameters.

   Click **Add Parameters** to add a parameter. You can, for example, set up the query parameter to find all records where the State contains the string 'IL'.

6. Click **Finish**.

7. In the Unmerged tab on the Merge Manager screen, select the record that has been queued for merging.

8. To further refine the search, click the **Search for Potential Matches** button ⬛. The **Search Wizard** is displayed. This is not a mandatory step.

   Click **Add Parameters** to add a parameter. Use the ➕ **Add Parameters** button to add a new parameter, and then specify the query parameters.

9. Click **Finish**.

   In this example, the selected record has one potential match, which is displayed in the Matched data list box.

   Note: When you sort in Merge Manager or Data Manager, you are sorting the current page of data—not the entire data set. To find rows that are similar you must do a search from the setup page of these tools.

10. In the Matched Data list box, select one of these rows.

    To view the Match Rule for the selected record, click the **Show Match Rule** ⬛ button. The Rule Properties show that the rule that resulted in the match was determined by the similarity between the full names and addresses on each record. In the Cell Data list box, you see a side-by-side comparison of the Unmerged and Matched Cell records, with comparative trust values for the columns that have trust settings defined for them.

In this example, Address Line1, City, State, and Zip Code all have trust settings, so trust values are calculated for them. Address Line2, Zip4, and Full Address do not have trust rules, so their trust values are blank.

Informatica MDM Hub highlights the most trustworthy values in bold text. If you merge the two records, the resultant consolidated record will have the values shown in bold text.

You can override Informatica MDM Hub by selecting a less trustworthy cell value over a more trustworthy cell value, and specifying a confidence factor for the override. This example keeps the trust recommendations made by Informatica MDM Hub.

RELATED TOPICS:

-

Using the Search Wizard to See a Subset of the Data

The Search Wizard allows you to filter the data you want to work with by specifying a query. You can access the Search Wizard in both the Data Manager and Merge Manager tools. The instructions in this section apply to both tools.

To use the Search Wizard to see a subset of the data:

1. In the **Query** list (of either the Data Manager or Merge Manager tool), choose **Use Search Wizard**.

2. After you have filled in the form, do one of the following:

   - In the Data Manager, click **Begin Administration**.
   - In the Merge Manager, click **Begin Merge**.

3. If the Welcome screen is displayed, click **Next**.

   The Informatica MDM Hub Search Wizard is displayed.

   Note: If you want to retrieve all rows, click **Finish** without specifying any parameters.

4. Click ➕ **Add Parameters** to add a new parameter.

5. For each query parameter, specify the following settings.

Parameter	Description
Logical Conjunction	Used when multiple query parameters are defined. One of the following values: - **AND**—Logical AND. Indicates that, for a given row, this query parameter must be True in order for the row to be included in the search results. - **OR**—Logical OR. Indicates that, for a given row, this query parameter (or another query parameter) must be True in order for the row to be included in the search results. **Note:** For queries involving multiple query parameters, the conjunctions must be either all AND or all OR, but never a mixture of both. Mixing both will yield unpredictable results.
Column Name	Name of a column in the selected table.
Search Operator	Expression used to determine whether a row is included in the search results. One of the following values: - **is exactly**—value in this column must be identical to the search value. - **begins with**—value in this column must begin with the search value. - **ends with**—value in this column must end with the search value. - **contains**—value in this column must contain the search value. - **does not contain**—value in this column must *not* contain the search value. - **is like**—value in this column must be like the search value (includes column values that match the search value). For example, if the search value is %JO% for the last_name column, then the parameter will match column values like "Johnson", "Vallejo", "Major", and so on. - **is not like**—value in this column must *not* be like the search value (*excludes* column values that match the search value). For example, if the search value is %JO% for the last_name column, then the parameter will omit column values like "Johnson", "Vallejo", "Major", and so on. - **is greater than**—value in this column must be greater than the search value. - **is less than**—value in this column must be less than the search value. - **is in between**—value in this column is in between two values. - **is empty**—this column must be empty (it cannot contain any value). - **is not empty**—this column cannot be empty (a value is required).
Search Value	Value used in conjunction with the column name and search operator to determine whether a given row is included in the search results. You can use the % wildcard, just as you would in SQL statements. To treat the % character as a literal character instead of a wildcard, precede it with the escape character (\), as in the following example: 50\% Sale.
Ignore case	If checked (selected), then the Search Wizard treats uppercase and lowercase letters as equivalent (for example, "CA = Ca"). If unchecked (cleared), then the Search Wizard treats uppercase and lowercase letters differently (for example, "CA does not equal Ca").

For example, you can set up the query parameter to find all records where the State column contains the string 'NY'.

6. Click **Finish**.

C H A P T E R 4

Managing Data

This chapter includes the following topics:

Managing Data Overview

This chapter explains how to use the **Data Manager** in the **Data Steward** workbench to unconsolidate and manage business data stored in Hub Store. To most effectively use this section, you must be familiar with the key concepts described in the chapter 1 in this guide.

Related Topics:

About the Data Manager

Data Manager is a component of the Data Steward workbench. Use Data Manager to:

- Search for and filter base object records
- View base objects and their associated cross-references in the same screen
- Unmerge two or more records
- View base object history records
- Create new base object records
- Edit base object records

- Override base object trust settings

The Data Manager consists of two screens:

Screen	Description
Setup	Allows you to select the search criteria for the information you want to work with: base object, packages, query settings, and display settings.
Data Manager	Displays your information, allows you to view the information's associated cross-references, provides a way to unmerge records, lets you view history records, allows you to create new records and edit existing records, and override a record's trust settings.

Note: The Data Manager and Merge Manager screens have a similar layout and both allow you to search for records and edit those records. What differentiates the two screens is their content. Data Manager displays base object records that meet your search criteria and their associated cross-references, whereas Merge Manager displays queued, base object records that have consolidation indicator set to 2, and their corresponding base object matches.

RELATED TOPICS:

- "Editing and Adding Records Manually" on page 47
- "Using the Search Wizard to See a Subset of the Data" on page 31

Starting the Data Manager

To start the Data Manager tool:

▶   In the Hub Console, expand the Data Steward workbench, and click **Data Manager**.

The Hub Console displays the Data Manager setup screen.

Displaying Data in the Data Manager

To display data in the Data Manager, start the Data Manager. The Hub Console displays the Data Manager Setup screen. This graphic shows a completed screen with base object and package choices. Both base objects and package choices are created by the administrator.

1.   In the **Select the base object to view** section, select your base object from the list of base objects defined in your Informatica MDM Hub environment.

These base objects were defined by your Hub architect. Your choice of base objects determines which packages are displayed in the package selection section.

2.   In the **Select the package to use to display the data** section, select a package.

The Informatica MDM Hub administrator creates these packages, depending on your business needs.

Use a PUT package (which consists of columns from the base object selected in the Setup screen) to edit data and view cell-level comparisons between the survived values in the base object and a selected cross-reference record.

Use a Display package for read-only purposes.

Note: Display packages can include data from many base objects, such as Customer and Address, and will show multiple records in the Data Manager if a customer has more than one address.

For more information about packages, see "Configuring Queries and Packages" in the *Multidomain MDM Configuration Guide* .

Note: Check with your Hub Administrator if you do not see the list of available packages. You must be granted permission to use this tool. In addition, you must also be granted the ability to use the GET and PUT commands for packages.

Note: If an administrator makes a change to the package you are currently using, you must refresh the display to see that change.

3. Select the single option (Search Wizard) in the Query drop-down box.

    The Search Wizard allows you to specify the criteria for displaying records.

4. Select the number of records to return per page.

    The Search Wizard allows you to specify the criteria for displaying records.

5. Click **Begin Administration**.

    If you selected the **<Use Search Wizard>** query, the Search Wizard prompts you to specify filter criteria for limiting the list of records displayed in the Data Manager screen. The filter parameters you see are based on your earlier base object choices and package choices.

    Note: You must enter search criteria or the Data Steward will return all the records in the database. If you do not enter any data, and your system has a very large data set, your query might take a long time and might impact your system's performance.

6. Click **Add Parameter** to add a query parameter. Your available choices in the second field depend on the choice you made in the first field.

7. Once you have set your query parameters, click **Finish**.

    The Data Manager records screen is displayed.
    The Data Manager records screen displays base object records that meet the criteria you entered, regardless of the state of the records (queued for merging, new, or consolidated).The number of records per page is determined by the setting on the Data Manager setup screen. If you have not defined that value, then Informatica MDM Hub uses the default page size your administrator defined for the schema.

    Note: When you sort in Merge Manager or Data Manager, you are sorting the current page of data—not the entire data set. To find rows that are similar, you must do a search from the setup page of these tools.

Related Topics:

- "Consolidating Data" on page 19
- "Using the Search Wizard to See a Subset of the Data" on page 31

Components of the Data Manager

The Data Manager has three main display sections and a set of buttons that allow you to manipulate the data that your query returned.

Data Manager Display Sections

When you highlight a record in the **Instances for...** section, the cross-reference and data information for that record are displayed in the **Cross Reference Instances** and **Cell Data** sections, respectively.

Instances for Base Object Records Through a Package

The **Instances for...** section lists the records that meet the filter criteria specified in the Search Wizard. The columns for each record in this section are determined by the Display Package you selected on the Data Manager setup screen. The records in this section are determined by the results of the search parameters you specified in the Search Wizard.

Select the **Multiple Selection** check box in the upper-left corner of the Data Manager screen to select multiple records. Press CTRL or SHIFT to select multiple records in the base object pane. When two or more records are selected, the bottom two panes are cleared and only the following commands are available: Queue for matching, Queue for merge, and Set as new.

To return to the Data Manager setup screen, click **Setup Administration** at the top of the Data Manager screen. To return to the Search Wizard, click **Search Again** at the top of the Data Manager screen.

RELATED TOPICS:

- "Consolidating Data" on page 19
- "Using the Search Wizard to See a Subset of the Data" on page 31

Cross-reference Instances

The Cross-reference Instances section of the Data Manager screen shows the cross-reference records for the record that is selected in the **Instances for...** list. The cross-reference records are the source system records that have been combined to form the record in the top list. The buttons on the right hand side of this section allow you to perform certain actions for the cross-reference records displayed in the section.

Cross-reference records that are created by manual edits can be removed from the base object by selecting that cross-reference record and clicking the Unmerge button. In this case, Informatica MDM Hub simply deletes the cross-reference record. This is the only situation in which Informatica MDM Hub deletes any data.

The pending cross-references are added into the existing cross-reference table, flagged as PENDING, and displayed in a different color. Since all records have a base object record associated with them, even PENDING cross-reference records, the Data Manager displays all PENDING records.

The Reload button re-executes the same query as the one configured in the Setup Merge button.

Cell Data

In the Data Manager screen, the Cell data section displays a list of the base object columns. Each base object column has the following properties.

Property	Description
Column Name	Name of the column.
Trust	Current trust level associated with the column value from the selected base object (calculated to current date and time). This will show only if the column has trust enabled for it. If the column does not have trust enabled, nothing will show in the trust cell.
Base Object Cell	Column value from the selected base object.

Property	Description
Cross-Reference Cell	Column value from the selected cross-reference row.
Trust	Current trust level associated with the cross-reference value (calculated to current day and time). This will show only if the column has trust enabled for it. If the column does not have trust enabled, nothing will show in the trust cell.

The buttons on the right hand side of the Cell data grid allow you to do data maintenance for the merged base object at the cell level.

Data Manager Buttons

The buttons on the right side of the Data Manager screen allow you to perform certain actions on the records displayed in the screen.

Reset

 Click this button to reset the consolidation flag to any of the following values:

Setting	Description
Queue for Matching	Queues the record for matching, but without the need for re-generating match tokens (which is what happens if the record is set as new—as described below). The record will be queued for merge again later in a future match batch job. The Consolidation Indicator is set to 3. This is not the usual process. The recommended option is to set the record as new.
Queue for Merge	Adds the record to the list of merge candidates. This row will appear the next time you use the Merge Manager tool for this base object. The Consolidation Indicator is set to 2. This option is useful if you have a consolidated record that you want to bring into Merge Manager to manually search for a match for it. For example, you know you want to merge two specific records together and there isn't enough similar data in the two records for the system to automatically match them. To merge two specific records: 1. Flag one of the records as queued for merge. 2. Go to the Merge Manager and search for that record to bring it into your assignment list. 3. Go to the Merge Manager and search for that record to bring it into your assignment list. 4. Use the Search for Matches option to search for the other record. Manually merge the records together.
Set as New	Queues the record for matching. The match tokens will be re-generated for the record and the record will be queued for merge again in a future match batch job. The Consolidation Indicator is set to 4.

Show History

 If history is enabled for the base object, click the **Show History** button to display the History Viewer window showing the history of changes on the selected base object record, as well as the merge history for the record.

The Merge History panel shows all of the rows that were merged into this row. The Base Object History panel shows the history for the selected base object row.

Edit Records

Click this button to edit the data values in a selected record.

RELATED TOPICS:

- "Editing and Adding Records Manually" on page 47

Add a Record

Click this button to display the Record Editor window that enables you to add new records.

RELATED TOPICS:

- "Editing and Adding Records Manually" on page 47

Display the Relationship Dialog

Click this button to display the Relationship Viewer, where you can view the record's relationships, as determined by the display package.

Unmerge a Cross-reference

There are two ways to unmerge records: a linear unmerge and a tree unmerge.

Unmerge Record

Click this button to linearly unmerge a cross-reference from the selected base object. When a linear unmerge occurs, only the unmerged record is removed from the unmerge tree. The selected row in the cross-reference table is reinstated as its own base object row and the influence of that row on the current base object is removed.

Tree Unmerge

Click this button to perform a tree unmerge on a cross reference from the selected base object. During a tree unmerge, an entire set of merged base object records become unmerged from the original structure into an intact substructure.

The following figure demonstrates the difference between a linear and a tree unmerge.
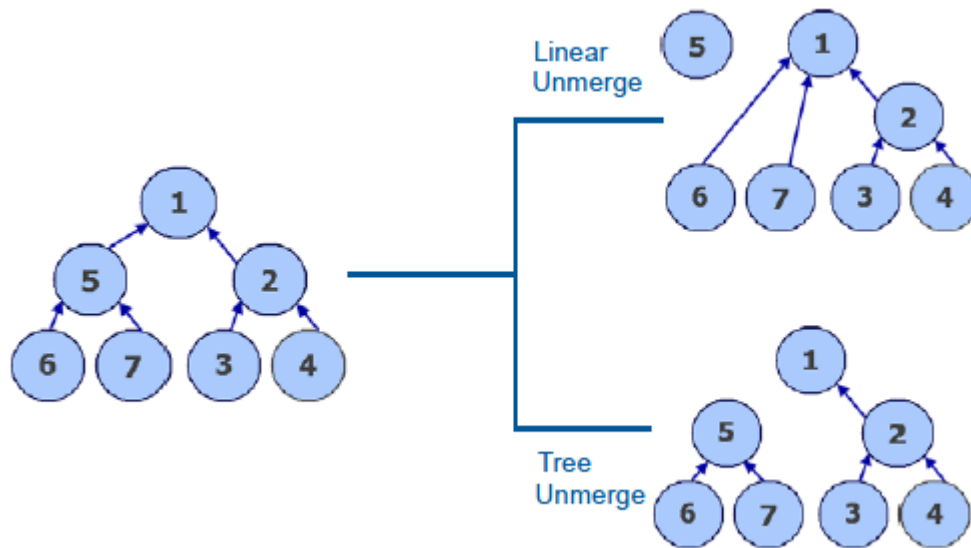
In a group of seven records, a linear unmerge for record 5 causes that record to separate from the rest of the merged records, and the records that were merged to it (in this case, records 6 and 7) become merged with record 1, the base object.

In the same group of seven records, a tree unmerge for record 5 causes that record and all of its merged records to separate from the base object and the other merged records as a unit.

Show Raw Records

 Click this button to display the Cross-Reference Viewer showing the raw source history for the cross-reference record. The raw source history contains the history of the record as it was received from the source system, prior to data cleansing and standardization.

Display the Complete Merge History

Display the Complete Merge History. Shows the complete history of merges associated with the selected record. The Complete Merge History dialog displays a hierarchical view of what data matched, and where those matches were merged. The result of the search is displayed in the center of the merge history tree (using a different text color).

You can also view the merge history chain by selecting the Chain radio button in the Complete Merge History dialog. Selecting the Tree radio button displays the path of merges for this data.

RELATED TOPICS:

- "About Complete Match History" on page 25

Tree View

The tree view shows the path back to the root object.

Chain View

The chain view shows the chain (sequence) of matched pairs that contributed to the match.

Complete Merge Tracking Properties

The tree and chain views contain the following information:

Area	Description
Merge History Tree	Tree view only. Displays the merge history in a tree format. The tree view shows the path back to the root object to which all other records will consolidate. The root object represents the surviving record.
Row ID	Tree view only. Allows you to search for a particular record by specifying its ROWID_OBJECT and clicking the **Search** button.
Match Pairs	Chain view only. Displays match pairs—two records in the base object that were identified as matches. Shows the chain (sequence) of matched pairs that contributed to the match. The last row at the bottom of this list represents the surviving record.
Rule Set	ID of the match rule set that was being executed when the match was made.
Rule No	Number of the match rule that identified the match pair.
Reverse	A reverse match, which means that the order of the match as it appears in the tree should be reversed. For example: `record 1 matches to record 2 on rule 1 Reverse=True` means that the actual original match was: `record 2 matches to record 1 on rule 1`
Rows Data	For the match pair that is selected in the left pane, shows the cell values (by column) for the source and target object.

Showing History

 If your Informatica MDM Hub administrator has enabled history for the cross-reference record, click the **Show History** button to display the history of changes on the selected record. If it is enabled, history is enabled for each base object.

The Show History button is available only if your Hub Store is configured to track history on raw source records.

Increase the Trust Score

 Click this button to increase the trust score of the selected cross-reference cell value to promote it over the cell value currently in the base object.

Increasing the trust score of a cross-reference value to higher than what is currently in the base object replaces the current value of the selected cell with the cell value from the selected cross-reference record. Typically, you do this when you want a lower trust value to be increased above a higher trust value.

Note: This button is only active for trusted columns.

The Increase trust score option is very similar to the Merge Manager trust override option. When you highlight a row with a trust value and then click the Increase trust score button, Informatica MDM Hub prompts you to specify how confident you are of the correctness of the change.

The confidence level that you select determines the likelihood of the overridden value being updated by a subsequent data change from one of the contributing source systems.

Confidence Level	Description
Low	The data value will keep the same trust settings that it had before. This will result in a low trust level. (Remember that this was not the cross-reference cell with the highest trust level.) If this choice is unavailable, the radio button appears grey on the screen.
Medium	The maximum trust and minimum trust settings will be an average of the settings that you specified for (a) the source system that provides the cell value, and (b) the Informatica MDM Hub Admin system. In most cases, you should specify high trust settings for the Informatica MDM Hub Admin system. The other trust settings (decay period and decay type) are based on the source system that provides the cell value. Medium confidence is the default. If this choice is unavailable, the radio button appears grey on the screen.
High	Sets the maximum trust and minimum trust settings to the settings you specified for the Informatica MDM Hub Admin source system. The cell's last update date will be changed to the current date. The other trust settings (decay period and decay type) will be based on the trust profile of the system that provides the cell value.
Custom	The Data Manager prompts you to provide trust settings that apply to only this data value (as shown in the figure below). You can specify the minimum and maximum trust, decay type, and other decay settings. For more information about trust settings, see "Configuring the Load Process" in the *Multidomain MDM Configuration Guide* .
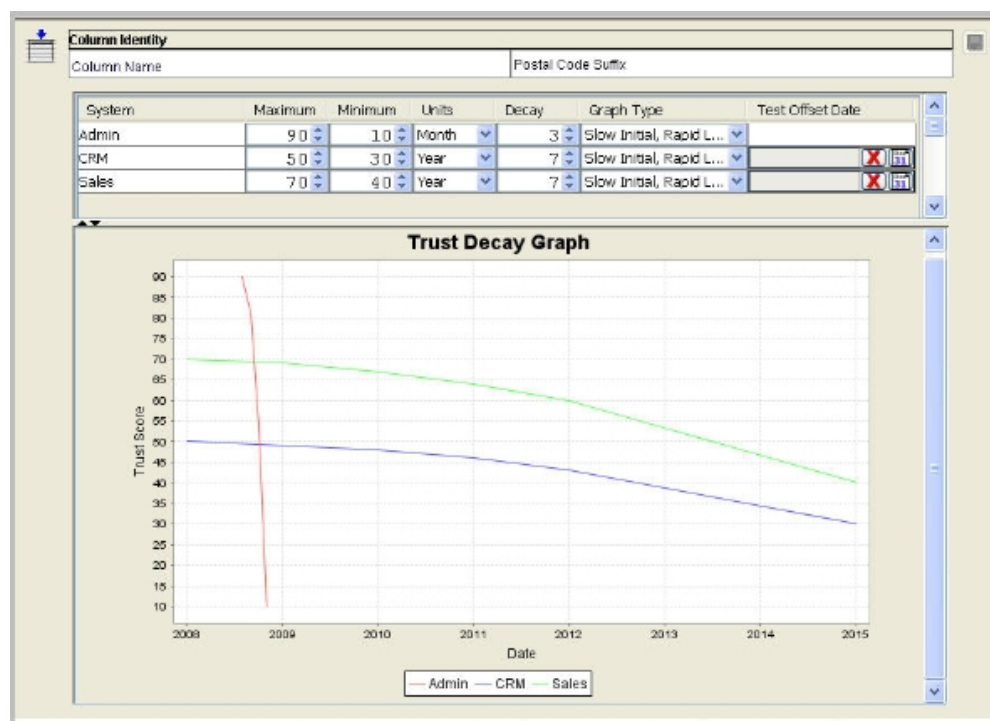
Note: To simplify data entry, if you change the trust score for one or more cross-reference rows and then click the **Commit** button, the Data Manager remembers your new trust settings and applies them to any subsequently selected cross-reference rows. As with any cross-reference row, you can choose to commit, change, or cancel these automatically-applied trust values. This note applies only when the **Always Commit My Updates** check box is disabled (unchecked).

For the Cell Data panel, you can have the Data Manager commit (save) any of your changes automatically, or you can configure the Data Manager to allow you to commit your changes manually. This feature applies whenever you override the trust setting or edit a record in the Cell Data panel.

Trust Score Example

In the following trust example, Rowid Object 61 is selected in the top list box.

Record 61 has two cross-reference records that are similar, each from a different source. These records should be the same but they are not.

The data steward must take the following steps to correct the data:

- Increase the trust score and confidence rating for one of the cross-references, based on the trustworthiness of the cross-reference sources.

- Select the less trustworthy cross-reference record and unmerge it from the base object record.

To increase the trust score, the data steward starts by clicking on the cell data for the cross-reference record.

The data steward then clicks the **Increase Trust Score** button to override trust settings for the selected cell value over the value currently in the base object.

The data steward chooses a trust setting of High Confidence and clicks **Finish**.

The base object detail is updated to display the correct record.

If the data steward is given new data for one of the values in the Cell Data area, he/she would select the erroneous value and type the correct value into the same cell.

3. Cell data:				
Column Name	Trust	Base Object Cell	Cross Reference Cell	Trust
Rowid Object		21	21	
Creator		admin	admin	
Create Date		2008-05-28 11:58:29.0	2008-05-28 11:58:29.0	
Updated By		admin	admin	
Last Update Date		2008-05-28 11:58:29.0	2008-05-28 11:58:29.0	
Deleted Ind				
Deleted By				
Deleted Date				

Finally, the data steward clicks the **Commit** button to save the data change.

The base object details will be updated to display the correct information.

An additional cross-reference record from the Informatica Admin source system will be shown in the cross-reference.

2. Cross reference instances:				
System Name	Pkey Source Object	Rowid Object	First Name	Middle Name
Accism Private Client	AXCIOM10	81	Elizabeth	
CIF Private Client	343434	81	Elizabeth	
Admin	81	81		Sarah

The data steward selects the cross-reference record, then he/she can click the **Linear Unmerge** button or the **Tree Unmerge** button to unmerge the cross-reference from the base object. The Data Manager asks for confirmation to proceed with the unmerge action.

When the data steward clicks **Yes**, Informatica MDM Hub confirms the unmerge, and then refreshes the Data Manager display to remove the unmerged record from the list of cross-reference records.

Committing Changes

If the **Always Commit My Updates** check box is checked (selected), then the Data Manager will commit any of your changes automatically. This applies whenever you override the trust setting or edit a record in the Cell Data panel.

Committing Changes Manually

Click the **Commit** button to edit the data in the base object to correct incorrect values, if required. This applies whenever you override the trust setting or edit a record in the Cell Data grid.

One way to do this is to double-click the base object cell in the Cell data grid at the bottom of the Data Manager screen, and then type the correct value in the cell. To save your changes, click the **Commit** button.

Alternatively, click the **Edit Record** button to the right of the Instances for Base Object grid at the top of the screen.

Custom-defined Buttons

If configured and enabled for your Informatica MDM Hub implementation, custom-defined buttons might be displayed in the top section of the Data Manager screen. These custom-defined buttons can be used to invoke a particular external service or perform a specialized operation (such as launching workflow). For more information, consult your Informatica MDM Hub administrator. To learn about implementing custom-defined buttons, see the "Implementing Custom Buttons in Hub Console Tools" in the *Multidomain MDM Configuration Guide* .

Managing the State of Records

This section describes the various state management settings and buttons data stewards use for managing the system state of state-enabled base object records.

Record States

The predefined MDM Hub record states are ACTIVE, PENDING, and DELETED.

Note: By default, only approved records in the ACTIVE state contribute to the Best Version of the Truth (BVT) record. You can modify operations to allow matches to and from ACTIVE and PENDING records.

The following table describes the record states:

Record State	Description
ACTIVE	Default. A record in the ACTIVE state is reviewed and approved. If records must go through a BPM approval workflow, the active records have been through that process and are approved. The following qualities apply to active records: - All MDM Hub processes include active records by default. - A base object record is active if at least one of its cross-reference records is in the ACTIVE state. - Only active cross-reference records contribute to the consolidated base object. - In tables, the HUB_STATE_IND system column displays a 1 for records in the ACTIVE state.
PENDING	A record in the PENDING state is awaiting a review. If records must go through a BPM approval workflow, the review tasks associated with the pending records are still open. You cannot edit a record which is participating in a workflow and pending approval. The following qualities apply to active records: - Records in the PENDING state are not approved for general use by the MDM Hub. - The MDM Hub processes exclude pending records by default. You can perform most operations on pending records, but you have to request the pending records. - If there are only pending cross-reference records, the MDM Hub determines the BVT on the base object through trust on the PENDING records. - If you delete a record that is in the PENDING state, the record is removed from the table, does not enter the DELETED state, and cannot be restored. - In tables, the HUB_STATE_IND system column displays a 0 for records in the PENDING state.
DELETED	A record in the DELETED state is no longer part of the MDM Hub data. The following qualities apply to active records: - The MDM Hub processes exclude deleted records by default. To include deleted records, you have to request them. - You can restore a record in the DELETED state. - In tables, the HUB_STATE_IND system column displays a -1 for records in the DELETED state.

Show PENDING Records

For state-enabled objects only, use the Informatica MDM Hub Search Wizard to specify a query that returns only PENDING records.

1. The records in this section are determined by the results of the search parameters you specified in the **Search Wizard**. To return to the **Search Wizard**, click the **Search Again** button at the top of the **Data Manager** screen.

2. Click **Next**.

   The Search Wizard is displayed.

   Note: To retrieve all rows, click **Finish** without specifying any parameters.

3. Click the **Add Parameter** button to add a new parameter.
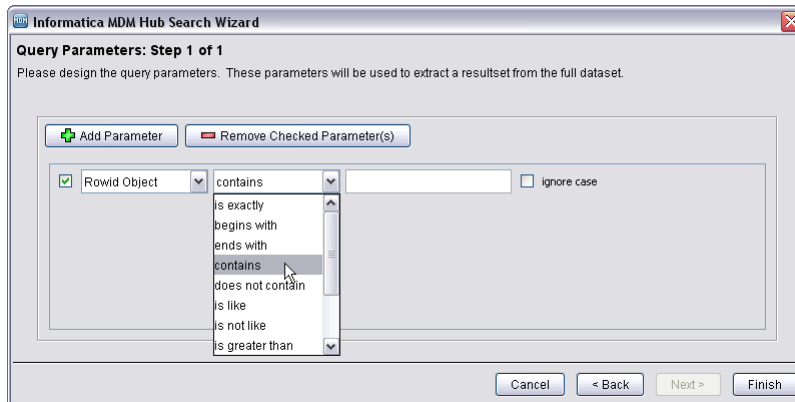
4. Click the check box to the left of the new parameter.

5. Select **Hub State Ind**.

6. Select **is exactly**.

7. Enter "0" (for PENDING records).

   Note: PENDING = 0; ACTIVE = 1; DELETED = -1

8. Click **Finish**.

   Note: PENDING records are displayed in a different color.

Promoting PENDING Base Object Records to ACTIVE

For state-enabled objects only, you can use the Data Manager or Merge Manager tools to promote PENDING base object records to ACTIVE state immediately, or you can mark a number of PENDING records to be promoted to ACTIVE state at a later time with the Promote batch job. To promote base object records to ACTIVE state, promote all of the associated cross-reference records for that base object to ACTIVE state.

Note: You can not use the data steward tools in the Hub Console to change the state of a base object or cross-reference record from PENDING to ACTIVE state if the interaction_ID is set. The Interaction ID column is used to protect a pending cross-reference record from updates that are not part of the same process as the original cross-reference record. For more information, see the *Multidomain MDM Configuration Guide* .

Promoting Records Immediately

In the Data Manager or Merge Manager tools, click the **Set Record State** button to change the state of the base object.

When you click this button a window displays with the allowed state transitions enabled. States that cannot be reached from the current state of the record are disabled in the menu.

Marking Records for Subsequent Promotion Using the Promote Batch Job

In the Data Manager or Merge Manager tools, click the **Flag for Promotion** button to set the selected base object record PROMOTE_IND column to 1.

All records you flag for promotion with this button are promoted to ACTIVE state when the subsequent Promote batch job is completed. For more information regarding the Promote batch job, see "Using Batch Jobs" in the *Multidomain MDM Configuration Guide* .

Marking Records as Deleted

For state-enabled objects only, click the **Set Record State button in the Date Manager** to display the allowed state transitions enabled. Select **DELETED**.

Note: When using the **Set Record State** button where you can select a specific state, the change is effective immediately.

Deleting PENDING Records

The only way to delete PENDING records is to perform the delete operation through an immediate change.

1. For state-enabled objects only, click the **Set Record State** button in the **Date Manager** or **Merge Manager** tool to display the allowed state transitions enabled. Select **DELETED**.

2. In the verification box, click **Yes**.

Restoring DELETED Cross-reference Records

The only way to restore soft-deleted records is to perform the restore operation through an immediate change.

▶ For state-enabled objects only, click the **Set Record State** button in the Data Manager to set the state of the selected cross-reference record to ACTIVE.

Promoting PENDING Cross-reference Records to ACTIVE

For state-enabled objects only, you can use the Data Manager or Merge Manager tools to promote PENDING cross-reference records to ACTIVE state immediately, or you can mark a number of PENDING cross-reference records to be promoted to ACTIVE state at a later time with the Promote batch job. To promote base object records to ACTIVE state, promote all of the associated cross-reference records for that base object to ACTIVE state.

Note: You can not use the data steward tools in the Hub Console to change the state of a base object or cross-reference record from PENDING to ACTIVE state if the interaction_ID is set. The Interaction ID column is used to protect a pending cross-reference record from updates that are not part of the same process as the original cross-reference record. For more information, see the *Multidomain MDM Configuration Guide* .

Promoting Cross-reference Records Immediately

Click the **Set Record State** button to set the state of the selected cross-reference record to ACTIVE.

Marking Cross-reference Records for Subsequent Promotion Using the Promotion Batch Job

Click the **Flag for Promotion** button to set the selected base object or cross-reference record PROMOTE_IND column to 1.

All records you flag for promotion with this button are promoted to ACTIVE state when the subsequent Promote batch job is completed. For more information regarding the Promote batch job, see "Using Batch Jobs" in the *Multidomain MDM Configuration Guide* .

Note: If HUB_STATE_IND is set to read-only for a package, the Set Record State button is disabled (greyed-out) in the Data Manager and Merge Manager tools for the associated records. However, the Flag for Promote button remains active because it does not directly alter the HUB_STATE_IND column for the record(s).

In addition, the Flag for Promote button will always be active for link-style base objects, since the Data Manager does not load the cross-references of link-style base objects.

Changing the State of a Record

Click the **Set Record State** button to change the state of the selected base object or cross-reference record.

Note: For state-enabled objects only, you can use the Data Manager or Merge Manager tools to promote PENDING records to ACTIVE state immediately, or you can mark a number of PENDING records to be promoted to ACTIVE state at a later time with the Promote batch job. For more information, see "Using Batch Jobs" in the *Multidomain MDM Configuration Guide* .

Editing and Adding Records Manually

Data Manager allows you to edit or add records manually. This section contains guidelines for making those edits, and provides procedures for how to edit and add records.

Guidelines for Editing Records

When you manually edit a record, you perform this action as an Informatica MDM Hub Admin, which has the same trust rules associated with it as other source systems have. This affects the way that manually edited records are saved.

During a manual edit, Informatica MDM Hub:

- Leaves the original cell values (which came from the source system) intact.
- Stores edited cell values in a new cross-reference, which is updated every time the same values are edited.
- Applies edits to a base object immediately if the edited cell does not have defined trust values.
- Compares trust settings for the edited cell value (based on the trust settings defined for the Informatica MDM Hub Admin) and the original cell value, if the edited cell has defined trust values. The Hub then applies edits to the base object if the trust settings for the edited values are higher than those of the original values.

- Lets you save an edit even if that edit fails any validation rules that have been defined for the base object, but not if the validation rule will result in the trust on the value being downgraded to 0.

- Regardless of the trust setting, the edit is always applied to the base object (except when a validation rule will result in a trust value of 0, as described above). In the rare case where the Informatica MDM Hub Admin system has been given a lower trust value than another source system, the update is still applied, but will most likely be overwritten the next time an update is received from the source systems.

Editing or Adding a Record

To edit an existing record or add a new one:

1. Do one of the following:

Click This Button	To
Edit Record	Edit the data values in a selected record. Be sure to select the record that you want to edit.
Add Record	Add a new record.

The Data Manager displays the Record Editor for the selected record.

2. Make the changes you want in the available fields.

3. If you want to see all cells (not just editable cells), clear the **Show only editable cells** check box.

4. Click **OK** to close this dialog box.

Null Values

The Record Editor supports null values in integer, date, and lookup fields. If these fields are edited, when you select OK, the values no longer are updated—a null value remains null.

Value	Description
Integer Value	When the value is null, the text is set to blank. You can set a value by typing a value in the field, or by clicking the up and down buttons.
Date Value	When the value is null, the date shows a blank field. You can use the standard editing features to set a date. As soon as you enter a value in any of the fields, the rest of the fields are populated with the current date and time.
Lookup Value	When the value is null, no items in the list are selected.

Overriding Trust Settings

You can set override trusts wherever a Set Trust Override Settings button is displayed. After choosing Custom or High Confidence, click the Set Default Trust Override button.

Showing Only Editable Cells

To show all cells, including system columns (such as rowid_object), clear the **Show only editable cells** check box.

Looking Up a Value

To look up a value for a cell:

1. Click the down arrow in the list for that field.

2. Select the value.

3. Click **OK** to save your changes with the selected value.

Best Practice Guidelines

Manual edits should be done only in exceptional cases. It is always better to have the data corrected in the source system, as that starts a process of continuous data improvement.

Before you do a manual edit, consider the consistency with which that change must be applied to data. If you are making a change that must be consistently applied to many records, then it is usually better to define a data cleansing function to apply the change consistently and to reduce the amount of manual work.

For example, if you change the abbreviation "Co" to "Company" in a record, chances are that there will be other records that should have the same change applied to them. In this case, your Informatica MDM Hub implementation team can create a cleansing rule that automatically replaces "Co" with "Company".

Effects of Unmerging a Row

To understand the implications of unmerging a row, consider the following example:

1. Start with four base object rows: A, B, C, and D. Merge A and B, and merge C and D. You later merge AB and CD. This gives you one row: ABCD.

2. If you unmerge C, you have two rows: C and ABD. Even though D was initially merged with C, it remains part of the merged base object ABD.

3. The new base object contains all of the cells in the current cross-reference row for C, and has the same value for ROWID_OBJECT that C originally had. If C does not contain some columns, the base object contains either the default value or NULL.

    Note: Informatica MDM Hub will reinstate the original ROWID_OBJECT value of the cross-reference record. When you merge two or more rows, the merged row gets the same value for ROWID_OBJECT as one of the original rows. If you unmerge this row, Informatica MDM Hub merges all of the remaining cross-reference records into a ROWID_OBJECT that originally belonged to one of the remaining cross references.

4. Every user-defined foreign key that pointed to base object ABCD continues to point to ABD, even if that foreign key originally pointed to C.

5. All influence of the values from C is removed from the existing base object ABD. For columns that have trust rules defined, the values with the highest trust from A, B, and D will be reflected in the base object. For columns that do not have trust rules defined, the values from the last record merged will be reflected in the base object.

Removing Cross-reference Records

The Informatica MDM Hub Admin cross-reference records that are created by manual edits can be removed from the base object by selecting that cross-reference record and clicking the **Unmerge** button. In this case, Informatica MDM Hub simply deletes the cross-reference record. This is the only situation in which Informatica MDM Hub deletes any data.

CHAPTER 5

Using the Hierarchy Manager

This chapter includes the following topics:

Using the Hierarchy Manager Overview

This chapter explains how to use Hierarchy Manager (HM) to deliver consolidated customer relationship views that enable you to create, manage, navigate, and consolidate relationship data across different applications and data sources.

About Hierarchy Manager

Hierarchy Manager (HM) works with relationship data that defines the relationships, affiliations, and hierarchies among various entities (such as individual to organization, organization to organization, or individuals within households). This introduction explains the challenges that organizations face in managing data, provides an example of how HM manages data from many sources, and explains how HM works.

Challenges of Managing Data in Enterprise Systems

Attracting, acquiring, and retaining customers are essential for a company's success. In order to perform these activities effectively, an organization must maintain accurate, complete, and timely customer entity and relationship data. The views associated with that data must also be maintained.

Maintaining unified views of multiple entities—such as product, supplier, employee, and contract, and the relationships between them—across disparate data silos can be challenging. There are multiple reasons for this:

- Master data (reference and relationship data) is created and locked in multiple silos (applications, data warehouses, data marts, external sources, or channels), which often contain duplicate or conflicting information.

- Different pieces of master data are owned by different parts of the business, isolated by organizational boundaries.

- Many of these data sources have proprietary fixed data models that present barriers to unification.

- It is difficult to govern changes to distributed master data.

- Legacy data hubs, such as a Customer Information File (CIF) are difficult to extend, but they cannot be abandoned until replacement systems are in place.

- Significant data quality issues and conflicting data and semantics (metadata) exist within and across data sources.

- Master data is fairly dynamic and changes quickly.

In the following scenario, the Lewis family has many different kinds of relationships with many different kinds of individuals and other types of entities, such as trusts. The information is housed in six source systems. The following figure depicts the discoverable relationships within the information.
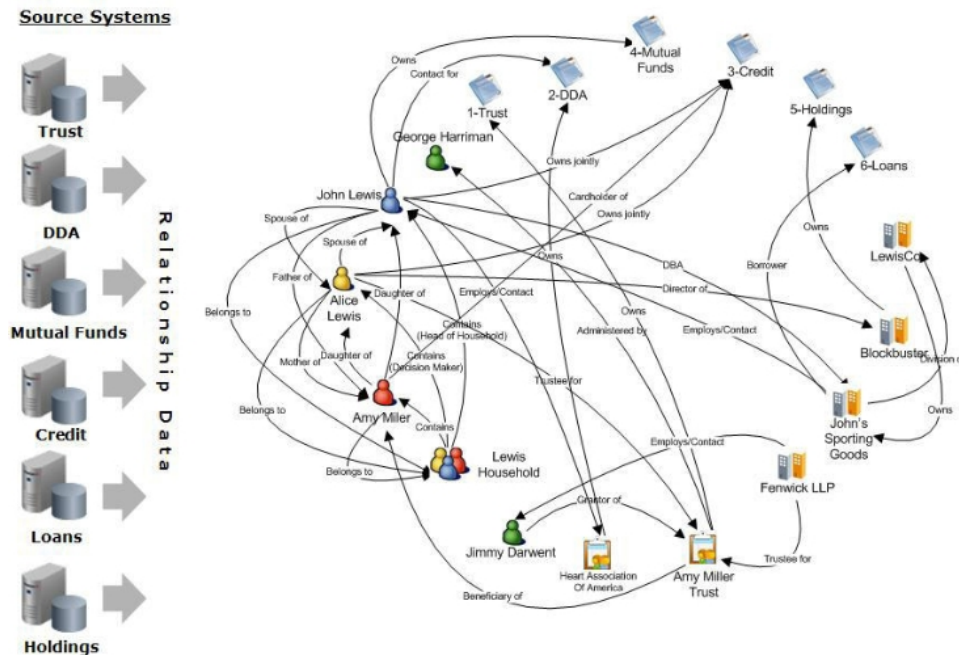
Trying to sort out John Lewis' sphere of influence from this data can be daunting, because it is not filtered or organized in a way that all of John's relationships are immediately obvious and easily retrieved.

What Hierarchy Manager Does

An intertwining and complex network of relationships can be difficult to work with. To simplify this process, the data should be filtered according to specific business concerns and organized by relationships, and data components should be placed in context to each other. In the following example, the data has been filtered and structured to display the sphere of influence of John Lewis, the father in the family whose data is shown in the previous section.
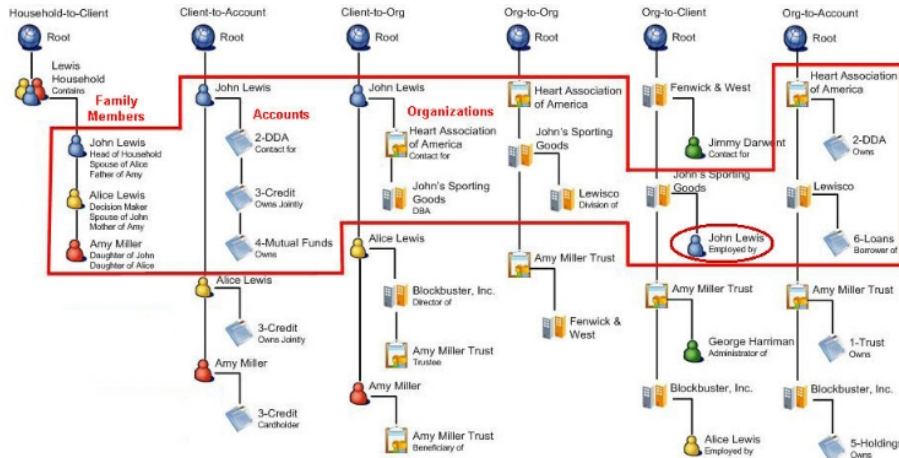
With HM you can do the sorting, filtering, and managing that results in this kind of easily accessed, comprehensive data arrangement. From the new data arrangement John Lewis' relationships are more clearly discerned. These relationships are enclosed within the red line and are summarized in red type in the figure above. John has a relationship with his wife (Alice) and his daughter (Amy Miller). He has three types of accounts: DDA, credit card, and mutual fund. He is associated with two organizations: Heart Association of America, and John's Sporting Goods, where he is also employed.

The data depicted in "Challenges of Managing Data in Enterprise Systems" could be viewed according to different business interests. Each business interest (for example, mutual funds company) could have their own customer view, their own applications, and their own data stores. This type of arrangement requires different hierarchies. The following examples show possible business unit hierarchies that capture important customer relationships, and that can be created in HM:

- Territory (Geographic-to-Account)
- Profitability (Product-to-Client)
- Contracts (Division-to-Client)
- Purchasing (Organization-to-Organization)

Related Topics:

- "Challenges of Managing Data in Enterprise Systems" on page 52

How Hierarchy Manager Works

Hierarchy Manager addresses the challenges of managing data in enterprise systems through a reliable source of unified views that capture the many relationships between customers and related entities across and within business units.

Hierarchy Manager builds on Informatica MDM and the repository managed by the MDM Hub, so that it can leverage MDM metadata management capabilities, such as history or lineage. Hierarchy Manager delivers reliable and consolidated customer relationship views, enabling businesses to view, navigate, analyze, and

manage relationships across multiple hierarchies, and across disparate applications and data sources. Hierarchy Manager defines the relationships, affiliations, and hierarchies among various entities (such as individual to organization, organization to organization, or individuals within households). In addition, Hierarchy Manager allow you to create new relationships between the existing entities, as business conditions change.

The way that Hierarchy Manager approaches relationship data consolidation makes it easy for you to add relationship data from new sources without the need for additional programming. The consolidated relationship data can be used by downstream applications or written back to other sources. The Hierarchy Manager console provides a user interface that allows relationship stewards (data stewards tasked with managing relationships and hierarchies) to navigate among multiple entities and hierarchies, at several levels of abstraction. Multiple cross-application hierarchies (such as Oracle) can be combined and reflected in one place, giving Hierarchy Manager the ability to produce the only unifying repository of hierarchy data.

Hierarchy Manager defines and manipulates both transactional data and master data during its transactions.

Transactional data

> Typically representing actions of one application, transactional data is usually maintained in one system, and includes (for example) banking actions involved in withdrawals, deposits, and transfers of funds

Master data (also known as reference data)

> Typically composed of common, core entities and their attributes and values, master data is usually maintained in two or more system that might not communicate with one another.

For example, information about a person who opens a checking account and savings account at different times might be kept in two different systems, making it more difficult to manage customer information across the entire bank system.

Note: Hierarchy Manager is a part of the MDM Hub—it is not a stand-alone product. It is used in conjunction with Informatica MDM and requires MDM Hub capabilities, such as match and merge.

RELATED TOPICS:

- "Challenges of Managing Data in Enterprise Systems" on page 52

Hierarchy Manager Functionality

The following table describes the two Hierarchy Manager tools (Hierarchies and Hierarchy Manager):

Tool	Description
Hierarchies (Model workbench)	Administrators use the Tool to set up the structures required to view and manipulate data relationships in Hierarchy Manager.
	For example, using the tool, administrators can add tables; define foreign key constraints, queries and packages; add entity types, hierarchies, and relationship types; and configure Hierarchy Manager packages.
	The Implementer then defines one or more HM Profiles, which describe what fields and records HM users may display, edit, or add.
	See the *Multidomain MDM Configuration Guide* for more information.
Hierarchy Manager (Data Steward workbench)	Data stewards use HM to define and manage hierarchical relationships in their Hub Store.
	The Hierarchy Manager is accessible through the Data Steward workbench.

Hierarchy Management

Organizing data into hierarchies is essential to manage large volumes of that data in any organization. Typically, companies have numerous applications to define and manage different types of hierarchical relationships, depending on the data involved. For example, a company might have a human resources (HR) application that provides the ability to define organizational hierarchies for personnel data, which include employees, managers, and groups. That same company might also have a Customer Relationship Management (CRM) application to define and create sales territories by geographical type. In some cases, companies might have a third application, such as an Enterprise Resource Planning (ERP) application, to define a company's product hierarchies.

Hierarchy Manager enables you to bring disparate company hierarchies together into one product. Bringing company hierarchies together highlights and simplifies the relationships between those hierarchies across the organization.

Hierarchy Manager Tools

This section introduces the HM components, including entities and entity types, relationships and relationship types, hierarchies, and profiles.

Entities and Entity Types

During its transactions, HM uses entities and entity types to define and manipulate data. Database designers create entities, relationships, entity and relationship types, and profiles in the Hierarchies tool before working in the Hierarchy Manager tool.

An entity is any object, person, organization, place or thing that has meaning and can be acted upon in your database. Entities are described by a particular entity type that makes them easy to identify. Entities and entity types have a one-to-many relationship. For example, an entity called Party could have an Entity Type called Person and an Entity Type called Organization.

The following table lists some entities and entity types.

| Entity	Entity Type
Nicole Simon	Doctor
909 La Crosse Road	Address
St. Mary's	Hospital

Relationships and Relationship Types

During its transactions, HM uses relationships and relationship types to define and manipulate data. Database designers create entities, relationships, entity and relationship types, and profiles in the Hierarchies tool before working in the Hierarchy Manager tool.

A relationship describes the affiliation between two specific entities. Hierarchy Manager relationships are defined by specifying the following properties:

Property	Description
Relationship type	General class of relationship to which this particular Hierarchy Manager relationship belongs.
Hierarchy type	General class of the hierarchy under which this relationship falls.
Start and end dates	Specific period of time during which the relationship is considered active. (If the current date is outside of that period, the relationship does not get deleted, it is just considered inactive.)
Additional Attributes	Any number of additional attributes that can be defined in a customer implementation to provide additional information about a relationship. For example: status code, percent ownership.

The following figure shows example relationships between data.
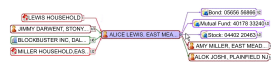
Depending on the criteria, you can define relationships broadly or narrowly. Hierarchy Manager places no limits on the number of HM relationships an entity can have.

Relationship types describe general classes of relationships. The relationship type defines the following:

- Types of entities that a relationship of this type can include
- Direction of the relationship (if any)
- How the relationship is displayed

For example, if your database has two entity types—doctor and hospital—the Hierarchy Manager relationship type between doctors and hospitals might be something like "Resident" or "Attending Physician." As with entity types, the label you give to each relationship type should be something that makes it easy to identify.

Note: Entity types can be shared between the relationship types. So it is possible to add a relationship type to profile, configure HM packages for entity types, then remove the relationship type. This will not remove the entity type/profile associations so these entity types and their packages can be reused later. You can also remove entity types - there is a special menu item for that shows up only when you click on the entity type below the profile item.

Hierarchies

Data stewards define hierarchy data using HM. Hierarchy Manager hierarchies are sets of relationship types. These relationship types are not ranked based on the place of the entities of the hierarchy, nor are they necessarily related to each other. They are merely relationship types that are grouped together for ease of classification and identification. For example, you might group organization-to-individual and organization-to-community relationships under the hierarchy Scholarships.

Another common example is a hierarchy based on the source system from which the relationship record came. For example, you might have Org-Customer relationship type in both Siebel and SAP hierarchies.

The association between relationship types and hierarchies is many-to-many. The same, non-relationship type can belong to multiple hierarchies and a hierarchy can have multiple relationship types. Foreign key relationship types can only belong to one hierarchy. A relationship record can have only one relationship type and hierarchy.

Profiles

The Hierarchy Manager implementer is responsible for designing and setting up the hierarchies, entity types and relationship types. The Implementer then defines one or more Hierarchy Manager profiles, which describe what fields and records Hierarchy Manager users may display, edit, or add. For example, there can be one profile that allows full read and write access to all entities and relationships and another profile that is read-only (no add or edit operations allowed).

Another situation where you might use a profile is where a user may be allowed to access certain relationship types but not others. For example, you have two relationship types, Org-Customer and Org-Org. One user may have access to both these relationship types but another user may only have access to Org-Org Rel type.

Hierarchy Manager profiles are assigned to users through MDM Hub roles. If a user ends up having access to multiple Hierarchy Manager profiles through MDM Hub roles, the user is prompted at the appropriate time to select the profile with which to work. Users specify which profile they want to use when the Hierarchy Manager starts.

Related Topics:

-

Working with the Hierarchy Manager

This section describes the prerequisites to work with HM and the general sequence of steps you might take to work with HM.

Prerequisites

Before you begin working with the Hierarchy Manager, verify the following prerequisites:

- Your data is suitably formatted for Hierarchy Manager. For more information, see the *Multidomain MDM Configuration Guide*).

- Your data is loaded into an Operational Reference Store. For more information, see the *Multidomain MDM Installation Guide*.

- You created profiles, entities, entity types, and relationships for your data in the Hierarchy Tool. For more information, see the *Multidomain MDM Configuration Guide*

Typical Hierarchy Manager Steps

A typical data steward will perform the following steps when they are using HM :

- Access HM through the Hub Console.

- Acquire a lock.

- Create a search filter (optional).

- Adjust HM properties (such as how many results to display in a window).

- Conduct an entity search in either the Graphic or Text view by clicking the **Search** button and entering search criteria.

- Choose the type of Graphic view to display results.

- Display search results in both Graphic and Text view.

- Bookmark a search's criteria so that the search can be used again (optional).
- Use the Fetch Hops function to retrieve relationships related to one or more entities.
- Add, delete, or edit an entity or relationship.
- Decide the trust level of entities.
- Save or print results.

Starting the Hierarchy Manager

You can access Hierarchy Manager by logging in to the Hub Console, selecting a profile, and acquiring a lock. Your software license must have Hierarchy Manager enabled in order to see the Data Steward workbench.

Note: Most data stewards have permissions to see Hierarchy Manager in the Data Steward workbench. However, you usually require special privileges to access the Hierarchies tool in the Model workbench. If you cannot see a workbench, contact your Informatica MDM Hub administrator.

Logging into Hierarchy Manager

To log into HM:

1. Log in to the Console.
2. Choose the ORS that has your HM-enabled data and click **Connect**.
3. In the Hub Console, expand the Data Steward workbench, and then click **Hierarchy Manager**. Alternatively, in the Hub Console toolbar, click the Hierarchy Manager quick launch button.

   The Hub Console displays HM.

Selecting Profiles

HM comes with one default profile already set up for you. You can use HM with this default automatically, without having to actively choose it.

However, if you created a profile with specific entries, you must actively select the profile before you use HM.

Select the profile for your HM and click **OK**. The HM interface is displayed.

You can also select the profile by choosing the following from the Hub Console menu: **Hierarchy Manager** > **Select profile/sandbox**.

For more information on creating profiles, see the *Multidomain MDM Configuration Guide* .

Acquiring and Releasing a Lock

You must acquire a lock before you use the Search functions in HM. To acquire a lock, from the Hub Console menu, choose **Write Lock** > **Acquire Lock**.

Before you log off, be sure to release the lock. To release a lock, in the Hub Console menu, choose **Write Lock** > **Release Lock**.

Managing Hierarchy Panes

You can manage the way that HM panes look and function, such as by expanding or hiding panes; or selecting HM properties, such as by changing the number of search results in a page.

Expanding or Hiding HM Panes

The first time you open a **Hierarchy Manager** window, it is in non-expanded form. Click the handles to expand all available windows.
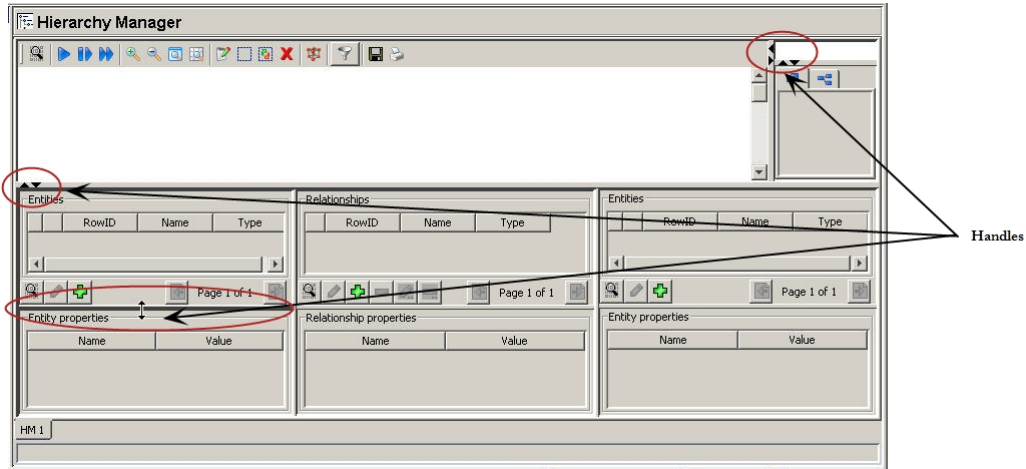
Setting HM Properties

This section discusses how to set properties in the **Hierarchy Manager Properties** window and the `cmxserver.properties` file.

Setting Properties in the HM Properties Window

To set HM properties in the Hierarchy Manager Properties window:

1. Start the Hierarchy Manager tool.
2. From the Hierarchy Manager menu, choose **HM Properties**.

   The Hierarchy Manager Properties screen is displayed.
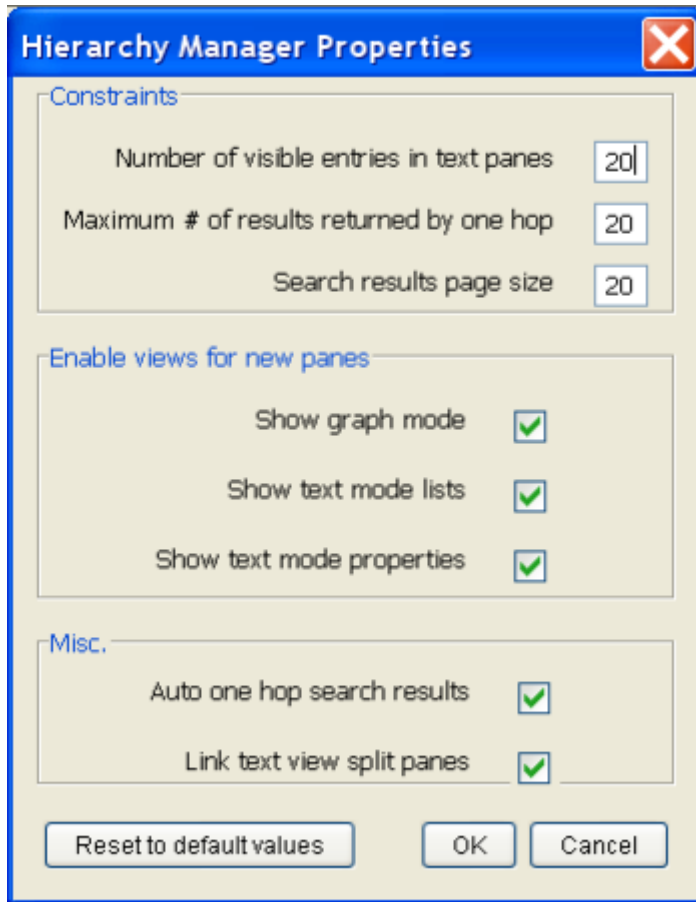
3. Set the HM properties, then click **OK**.

4. To reset the values to their defaults, choose **Reset to default values**.

   The following table describes settings that you can change.

Setting	Description
Number of visible entries in text panes	The number of items to display in the text panes. When you have more than this number of entities, the paging control at the bottom of the panel can be used to move between pages of entities. Default value is 20.
Maximum # of results returned by one hop	The maximum number of items to display when fetching one hop. Default value is 20.
Search results page size	The maximum number of matching items to display in the Search dialog results tab for any type of search. If the total items found exceeds this size, you can use the paging control to go to the next page of results. Default value is 20.
Show graph mode	Check this box to display the graphic mode when using HM. Default value is checked.
Show text mode	Check this box to display the text mode. Default value is checked.

Setting	Description
Show text mode lists	Check this box to display the properties portion of the Text View. The properties view displays attribute details for a selected entity or relationship with the text view. Default value is checked.
Show text mode properties	Check this box to enable text mode properties. Default value is checked.
Auto one hop search results	Check this box to automatically display one hop results when entities are added to text panel either from search results or by drag-and-drop from the graph view. Default value is checked.
Link text view split panes	Check this box to synchronize the resizing of all three text view properties panes—that second layer of panes below the entity and relationship lists. (For example, when you change the height of one text view properties pane, the other two properties panes are changed accordingly). Default value is checked.

For more information about Hierarchy Manager properties, see the *Multidomain MDM Configuration Guide* .

Related Topics:

- "Starting the Hierarchy Manager" on page 58

Changing HM Properties in cmxserver.properties

In addition to the properties that can be changed using the **HM Properties** menu, you can also override the default entity font size (38 pts) and maximum entity box width (600 pixels) using settings in the `cmxserver.properties` file.

To change default entity font size:

1. Open the following file for editing:

        <Infamdm_Install_Dir>/cmxserver.properties

2. Find the following values:

        sip.hm.entity.max.width=maxWidth
        sip.hm.entity.font.size=fontSize

3. Edit the values. The possible values for the entries are:

        sip.hm.entity.max.width (legal value = 20-5000)
        sip.hm.entity.font.size (legal font point size = 6-100)
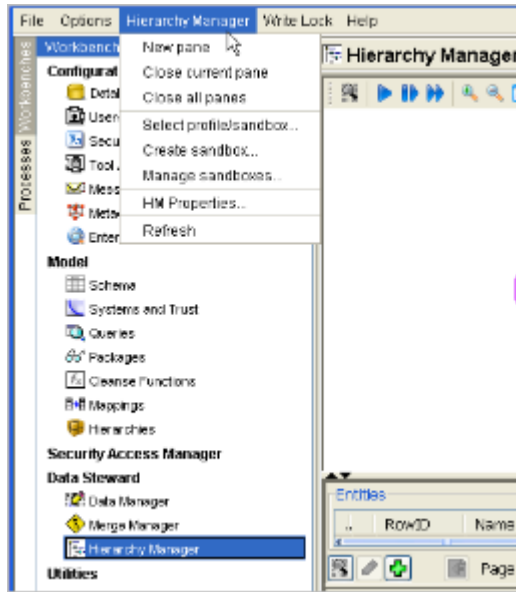
    If you specify a value outside the acceptable range, Hierarchy Manager resets them to either the minimum or maximum allowed value, whichever is closer. If you specify a non-numeric value, Hierarchy Manager resets the value to the default.

4. Save and close the file.
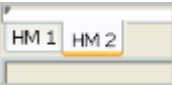
5. Restart the server.

Hierarchy Manager Tool Manager

The Hierarchy Manager tool menu controls all the operational characteristics of your Hierarchy Manager session.

To access the tool menu, click the **Hierarchy Manager** menu.

The **Hierarchy Manager** menu items are described in the following table:

Menu Option	Function
New pane	Opens up a new pane, allowing you to have several HM views open at the same time. You can access the view using the new tab that appears at the bottom of the screen, and switch to other views using their tabs. Here is an example of two tabs that allow you to view the **HM1** or **HM2** panes.
Close current pane	Closes the currently active pane.
Close all panes	Closes all currently active panes and opens a new pane.
Select profiles/ sandbox	HM comes with one default profile already set up for you. You can use HM with this default automatically, without having to actively choose it. However, if you created a profile with specific entries, you must actively select the profile before you use HM.
HM properties	Set HM properties in the **HM Properties** window
Refresh	Refreshes the pane view.

Related Topics:

- "Selecting Profiles" on page 58
- "Setting HM Properties" on page 59
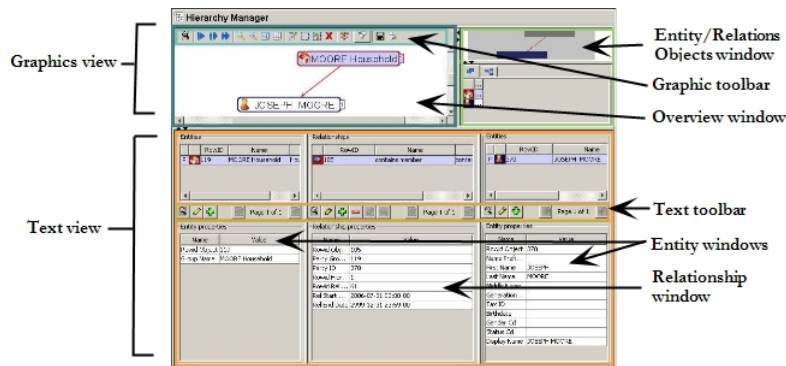
Working with HM Views and Search Windows

This section discusses HM views and context menus. When you work in HM, you work primarily in the HM views.

You can search and define search criteria within views and, using the right-click option, from context menus.

Graphic and Text Views

The HM window is divided into two basic sections, known as views: the Text view and the Graphic view.

The following graphic shows the location of the graphic and text views:

Graphic and Text views consist of the following components:

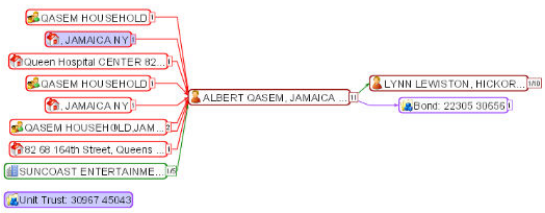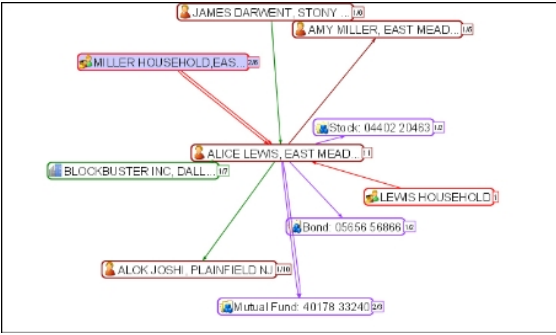| Component	Description	Graphic	Text
Overview window	Displays a telescoped view of all of the data in the graphic view. Used to navigate to the precise data of interest. Data navigated in this way displays in the graphic view window. Click the layout button to change the way that entities are displayed in the Graphic view.	R	
Entity/Relations Objects window	Displays details of individual entity and relationship objects shown in the graphic view.	R	
Toolbars	Displays a collection of quick start buttons that enable you to provide quick access to HM functions.	R	R
Window	Displays a detailed view (either graphic or textual) of entities and relationships.	R	R
Entity window	Displays information about the entity that was last dragged to the Entities panel in the Text view.		R
Relationship window	Displays information about the relationships between the entities that appear in the Entity windows in the Text view.		R
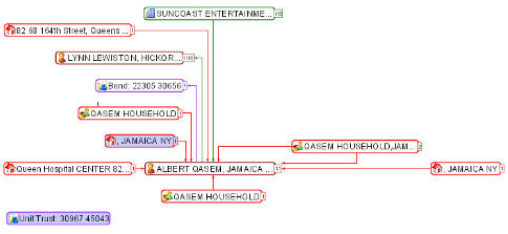
Related Topics:
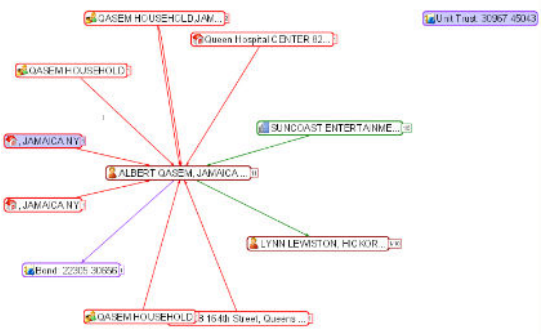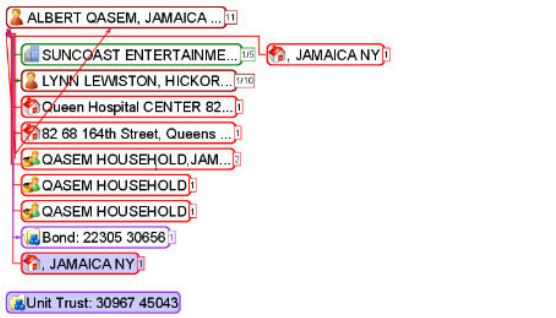
- "Graphic View Layouts" on page 64
- "Graphic View and Text View Toolbars" on page 80

Graphic View Layouts

The Graphic View window displays many levels of relationships in a graphical way.

The following table describes the different kinds of graphical layouts:

Name	View	Description
Hierarchical		The hierarchic layout highlights the main direction or flow within a directed graph.
Organic		The organic layout is a multi-purpose layout for undirected graphs, based on the force-directed layout paradigm.
Orthogonal		The orthogonal layout represents complex networks using the topology-shape-metrics approach.

Name	View	Description
Circular		The circular layout produces layouts that emphasize group and tree structures within a network.
Tree		The tree layout creates a top-down graph with branches for subsidiary information (tree-structured graph).

The graphic view allows you to add and display entities and relationships in a graphical format. You can also drag and drop entities and relationships from the Graphics view into the Text view in order to see more detailed information.

Note: In the graphic view, what you see is determined by the settings in your filter.

RELATED TOPICS:

- "Using Graphic View Filters" on page 74

Text View Layouts

The Text view displays a single level of relationship: one entity related directly to another. In addition, the Text view shows detailed information on entities and relationships in a table format, adding, editing, and displaying entities and relationships. You can start a search from either the Relationships list or the Entity list.

The following graphic shows a text view section.
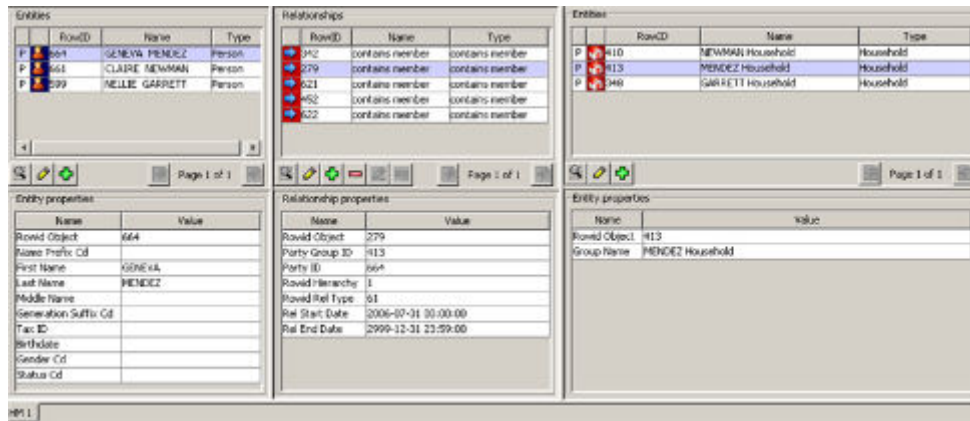
The text view has two entity panes and their corresponding Entity properties pane, and one relationship pane with one relationship properties pane. Notice that each type of entity has a different icon: individuals have the person icon and households have the house icon associated with them. Select an entity in the Entities section of the pane to display its properties in the Entity properties pane. Similarly, select a relationship in the Relationships section to display its properties in the Relationship properties fields.

All operations involving views are performed using either the toolbar or the context menus.

Note: Inactive relationships are not cleared from the middle panel of the text view automatically. To clear them, either click in the middle panel and use the context menu options, or specify **clear existing relationships** when executing a one-hop search.

Related Topics:

- "Graphic View and Text View Toolbars" on page 80
- "Context Menus" on page 82

Search Screens

This section describes the HM search screens.

Common Search Screen Elements

This section describes common elements for all search screens.
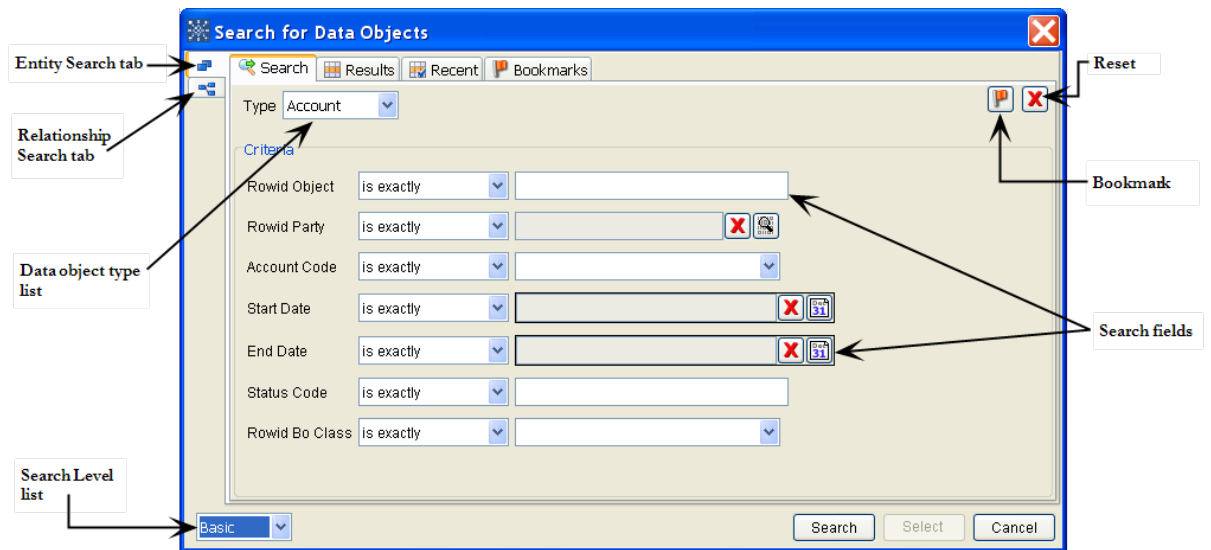
The screen above is specific for a basic graphic view search, but has similar elements to all the screens.
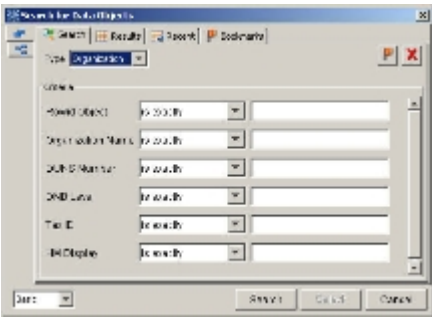
Search screens contain the following common elements:

- Reset buttons that clear all values in the fields.
- Bookmark buttons to set a bookmark for the search criteria you selected.
- Search fields to set search criteria.
- Search, Select, and Cancel buttons.
- Search Level list, where you choose to display either Basic, Advanced, or Indirect (Entities only) windows.
- Data object type list, which contains the type of entities available, as defined by data managers in the Hierarchies tool.
- Criteria type list (for Indirect search-level screen), which contains entity criteria available, as defined by data managers in the Hierarchies tool.

For more information on what determines screen content, see the Hierarchies tool section in the *Multidomain MDM Configuration Guide* .

Search Levels

Hierarchy Manager provides three levels of search: (each level has different screens).

Search Level	Description	Screen
Basic	Enables you to search for entities or relationships by any or all searchable fields, each of which can be included in the query once. You must specify a field's search value to include that field in the search.You can add criteria with the AND operator - all (not any) criteria must match to return a record. For more information about creating search fields in the Hierarchies tool, see the *Multidomain MDM Configuration Guide* .	
Advanced	Enables you to search for entities or relationships by any or all searchable fields, each of which can be included in the query more than once. Criteria are added to the search by use of AND or OR operators.	
Indirect (entity only)	Enables you to search for entities based on attributes of its relationships or related entities. It also allows you to search for entities based on the number of relationships of a specific type an entity has. For example: Households that have more than three members Customers who have a policy greater than $50,000 in value, which was created after 1 January 2006 (this assumes that the start date of the relationship between the customer and the policy is the date when the policy was created)	

Entity and Relationship Search Tabs

This following table describes the Search window entity and relationship search tabs.

Component	Description
Entity Search tab	Searches for entities based on criteria you supply. Available in searches initiated in Graphic View or in the Text View entity list.
Relationship Search tab	Searches for relationships based on criteria you supply. Available in searches initiated in Graphic View or in the Text View relationship list.

Component	Description
Search Level drop-down list	Select from search levels: Basic and Advanced for a relationship search. Basic, Advanced, and Indirect for the Entity search.
Reset button	Clears the criteria of the current search.
Save Search/Bookmark	Saves the current query (search criteria) as a bookmark on the local machine, for future retrieval.

RELATED TOPICS:

- "Search Levels" on page 68

Using Context Menus

Context menus have numerous options, depending on where your cursor is and, in some cases, how many entities or relationships are selected.

Context menus are accessed by right-clicking on an entity, a relationship, a mix of different items, or the background (where the cursor is not over any entity or relationship).

If a function has a context menu option equivalent, that option is described in that function's section.

RELATED TOPICS:

- "Context Menus" on page 82
- "Fetching One Hop (Graphic View)" on page 72

Searching For Entities and Relationships

This section describes how to search for and view entities and relationships within Hierarchy Manager.

You can search for records from the Graphic View window or from the Text View window. The available search options and the location where the chosen record is displayed vary, depending on which view was active when you launched the search.

RELATED TOPICS:

- "Graphic and Text Views" on page 63

Searching from Graphic and Text Views

This section descries how to search data objects, relationships, or entities from the Graphic and Text views.

Searching from the Graphic View or Text View

To conduct a search from the Graphic view or Text view:

1. In the HM Graphic or Text view toolbar, click the **Search** button. Alternatively, right-click an empty section in the Graphic window or an existing entity graphic and choose **Search**.

2. Choose the **Entity or Relationship Search** tab.

3. In the search level menu, choose Basic, Advanced, or Indirect (for entities only).

4. In the Type menu, choose the type of data to search for. If you chose the Indirect menu, choose the search criteria from the Criteria menu.

5. In the Criteria section, choose criteria for your search. The criteria choices are linked to your choice in the **Type** menu.

6. If you chose the Advanced or Indirect search levels, you can also add a parameter by clicking the **Add parameter** button.

7. Click **Search**.

   The screen displays the search results in the **Results** tab.

8. Select a result and click **Select** to see it displayed in the Graphic view. Alternatively, you can use standard key board interactions (including key combinations involving the CTRL and SHIFT) to multi-select items from the search results. After the objects have been selected (highlighted) in the search Results, press the **Select** button to display each of these in the Graphics view.

Search Results

After you have used the Search function to return results, you can select one or more records to display in HM.

The record is initially displayed in the Graphic view. To view more information bout the record, drag the object from the Graphic view into the Text view.
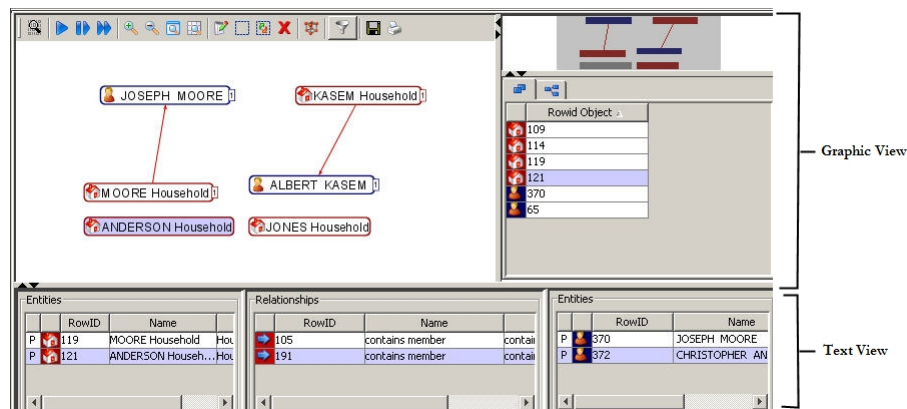
Recently Selected Entities and Relationships

You can work with and save entities and relationships that you have used during your session.There are two ways to do this: use the entries that appear in the **Recent** tab or use bookmarked searches.

Using Search Bookmarks

This section describes how to search again, how to bookmark your existing search, how to reuse a previous search, what the different levels of entity or relationship searches are, and how to create a new basic search.

Searching Again

To save the search you just made, you have to bookmark it.

To clear the screen and start again, click the **Reset** button. The records you selected are saved in the **Recent** tab for the rest of this working session.

RELATED TOPICS:

- "Bookmarking Your Search" on page 71

Bookmarking Your Search

If you expect to use a particular set of search criteria often, you can bookmark them to save them for later re-use.

Note: Bookmarks save search criteria only on the local machine.

To bookmark a search:

1. In the Search tab, click the **Bookmark** button.

   The **Bookmark name?** dialog box is displayed.

2. Enter a name for the new bookmark.

3. Click **OK**.

   The bookmarked search is now displayed on the Bookmarks tab.
   Once you save a bookmark, it will be available for future sessions.

RELATED TOPICS:

- "Using Bookmarked Searches" on page 72

Reusing a Previous Search

You can re-display records that you found and displayed during a search you made earlier in this working session, or re-use search criteria that were bookmarked in an earlier session on this machine.

Note: A search can result in many records but you will probably select only a few of those records to view in the Graphic or Text view panes. Only the records you selected are saved in the **Recent** tab.

Re-displaying Items You Examined in a Recent Unsaved Search

If you select any items from the Results tab, they are saved in the Recent tab.

To re-display results you examined earlier in this session:

1. In the HM toolbar, click the Search button.

2. On the Search for Data Objects screen, click the **Recent** tab.

3. Highlight the desired record from the list, and click **Select**.

   The HM Graphic view displays the highlighted record. To see more information about this record, drag it to the Text view Entities section.

   The records you examined the last time you used the same search criteria are present in the Recent tab for the rest of your working session.

Searching For Entities and Relationships   71

-

Using Bookmarked Searches

To reuse search criteria that have already been bookmarked:

1. In the HM toolbar, click the **Search** button.

2. On the **Search for Data Objects** screen, click the **Bookmarks** tab.

3. To view search criteria for the bookmark, highlight the desired record from the list, and click **Select**.

    The **Search for Data Objects** window displays the search results for the bookmark in the Search tab.

4. To view search results for the bookmark, click the **Search** button.

    The **Search for Data Objects** window displays the Results tab showing the results of the search associated with the bookmark.

Renaming and Removing Bookmarks

To rename or remove a bookmark:

1. In the HM toolbar, click the **Search** button.

2. On the **Search for Data Objects** screen, click the **Bookmarks** tab.

3. Right-click the bookmark and choose **Rename** or **Remove**.

    If you choose to remove the bookmark, it disappears from the Bookmarks tab.

4. If you choose to rename the bookmark, the **Bookmark name?** dialog box is displayed. Enter a new name in the name field and click **OK**.

Fetching Relationships

This section describes how to fetch entities and relationships from the Hub Server and how to work with them after they have been fetched. It describes how to add and modify entities and relationships and how to create copies of relationships for analysis.

The instructions in this section assume that you are already familiar with the Graphic View and Text View features, and that you understand how to display entities and relationships in those views.

After performing a search on a particular entity, you can view its relationships to other entities. Retrieving information about relationships is called fetching.

Fetching One Hop (Graphic View)

To retrieve relationships directly related to one or more entities, use fetch one hop. For example, you would use this type of hop to search for Sam Jones, who lives in the Jones household, from the Jones household entity. However, if the Jones household is in Townsend, which is a suburb of Baltimore, you could not fetch the entity Sam Jones from the entity Baltimore using Fetch One Hop.

To fetch one hop in the Graphic view:

1. Select one or more entities of interest.

2. Right-click on the entity to display the context menu, and choose **Fetch One Hop**.

   The Graphic view displays the new entity (or entities).

   Note: You can also go to the HM tool bar and click the **Fetch One Hop** button.

Fetching One Hop (Text View)

To retrieve relationships directly related to one or more entities, use fetch one hop.

To fetch one hop in the Text view:

1. Select one or more entities in the Text view.
2. Right-click one of the selected entities and choose **Find All Relationships**.

   Hierarchy Manager fetches relationships directly related to the selected entities and displays them in the Relationship properties fields.

Fetching Many Hops (Graphics View)

To retrieve multiple levels of relationships for one or more entities, use the **Fetch Many Hops** option. Because fetching many hops can retrieve a lot of data, it is a good idea to set limits on how much data to display.

If a fetch function does not return the entities and/or relationships you expect, it is probably due to limits or filters you have set.

Note: In the graphic view, what you see is determined by the settings in your filter.

RELATED TOPICS:

- "Using Graphic View Filters" on page 74

Fetching Many Hops With Existing Limits

The limits are always applied. In this case, the existing limits are used.

To fetch many hops with existing limits:

1. Highlight one or more entities of interest.
2. Right-click on the entity to display the context menu, and choose **Fetch Many Hops**. Alternatively, go to the Hierarchy Manager Tool bar and click the **Fetch Many Hops** button.

   Hierarchy Manager fetches multiple levels of relationships related to the selected entities.
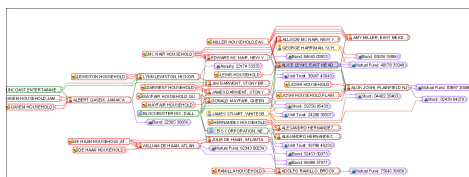
Fetching Many Hops With New Limits

The limits are always applied.

In this case, the user can modify the limits before fetching many hops. Users can set the limits once and use fetch over and over again without modifying the limits every time.

To fetch many hops with new limits:

1. Highlight one or more entities of interest.

2. Right-click on the entity to display the context menu, and choose **Fetch Many Hops**. Alternatively, go to the HM Tool bar and click the **Fetch Many Hops**.

   The Fetch Many Hops dialog box, which allows you to set limits, is displayed.

3. You can modify any of the following fetch criteria:

Fetch Criteria	Description
Maximum relationships per entity	Maximum number of relationships to fetch from the starting entities.
Maximum relationships levels	Maximum number of relationship levels to fetch per entity
Maximum total number of relationships	Maximum total number of relationships to fetch for the whole graph.

4. Move the slider to increase or decrease values as desired, then click **OK**:

   Hierarchy Manager returns relationships based on the criteria you just set.

   For example, with high limits, the following search returns several dozen results.
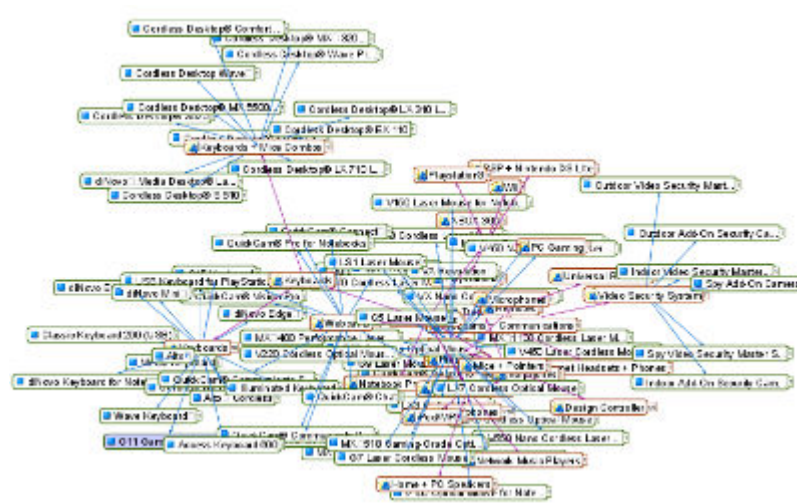
Using Graphic View Filters

You can use the **Filter** button to set the type of information to display in the graphic view when you perform a search. A filter controls the type of relationships you see.

- Filters apply to the data you already have in the display. It removes items that do not match the filter criteria.

- Filters also apply to subsequent fetch operations (but not to subsequent Search operations). Only items that match the filter criteria are displayed.

To create a filter:

1. On the HM toolbar, click the **Filter** button.

   The Filter Graph View screen is displayed.

2. Select and deselect the appropriate filter criteria in the Hierarchies, Relationship Type, and Relationship Directions lists. Use SHIFT-Click to select multiple items.

3. If needed, select a filter.

Filter	Description
Show Inactive Relationships	Displays relationships whose duration has expired. The inactive relationships are shown using dotted lines in the graphic view window, and with a red background in the list.
Perform Layout	Rearranges the entities and relationships using the selected layout. It also removes unconnected entities from the graphic view.
Hide Unconnected Entities	Removes unconnected entities from the graphic view.
Count relationships for leaf nodes	Calculates the total number of relationships for the leaf entities. If leaf entities have many relationships, un-check this option for better performance. A leaf node (or external node) is a node of a tree data structure that has zero child nodes.

4. Click **OK**.

   When data is present in a display before you set a filter, setting a filter may remove relationships which do not match the filter criteria. It may also disconnect entities which previously connected to other items in the display, but now do not.

Filtering (Text View)

You cannot filter from the text view.

Find all Relationships (Text View)

You can use the Text view context menu to find all relationships for an entity.

To find all relationships for an entity:

1. Select an entity in the Text view.

2. Right-click the entity and choose **Find All Relationships**.

   The Fetching One Hop window is displayed.

3. If the search yields any results, the results are displayed in the Relationships section of the Text view.

Search Related Entities (Group and Text Views)

The Search Related Entities menu option provides the ability to specify a specific entity type and a criteria for which you would like to search.

When you click **OK**, a one hop search is performed, based on the search criteria. The **Search Related Entities** option is available in both the graphic and text views.

Managing Entities and Relationships

This section describes how to add and edit entities and relationships and how to launch the dialog. After you launch the dialog, the rest of the steps are the same for entities and relationships.

Managing Entities

This section describes how to add and edit entities.

Adding an Entity

You can add an entity in either Graphic View or Text View.

To add an entity:

1. From the Graphic View: right-click in the View window and choose **Add Entity**.

   In the Text View, click the **Add** button in one of the Entity panels (right or left panels).

   The Entity Record Editor is displayed.

2. From the Type drop-down list, select the type for the desired entity. This provides the attributes for the entity being added.

3. Fill in the attributes for the new entity in the appropriate fields. Note that if any of the default fields for this type of entity are trust-enabled, the Trust Setting button is displayed. If you have already used the Data Manager record editor, this will look familiar to you.

4. If necessary, click **Set Override Trust Settings** for any trusted criteria you are editing. For more information about trust settings, see the *Multidomain MDM Configuration Guide* .

5. To add the new entity, click **OK**.

Editing an Entity

You can edit entities in either Graphic View or Text View.

To edit an entity:

1. Highlight an entity or relationship.

2. In the Graphic View: right-click and choose **Edit**. In the Text View, click the **Edit** button.

   The Entity Record Editor is displayed.

   Note: You cannot change the entity type when editing entities.

3. Edit the attributes.

   Note: If any of the fields for this type of entity are trust-enabled, the trust setting button is activated. If you have already used the Data Manager record editor, this will look familiar to you.

4. If necessary, click **Set Override Trust Settings** for any trusted criteria you are editing.

5. To save your changes, click **OK**.

Managing Relationships

This section describes how to add and edit entities and relationships and how to launch the dialog. After you launch the dialog, the rest of the steps are the same for entities and relationships.

Adding a Relationship in the Graphic View

In the Graphic View, relationships are created by dragging and dropping.

To add a relationship:

1. Highlight the entity for which you want to create a new relationship.

2. Drag the selected entity to the entity you want to relate it to.

3. Drop the first entity onto the second entity.

    The Relationship Record Editor is displayed.

    The selections for hierarchy and relationship type vary depending on the HM configuration and the types of the entities being related.

4. Enter the start and end dates for the new relationship, and edit any other attributes for the relationship as desired. Foreign key relationship types do not allow you to modify the start and end date.

5. If necessary, click **Set Override Trust Settings** for any trusted criteria you are editing.

6. Click **OK**.

    The new relationship is indicated by an arrow joining the entities if both the entities are also there in the text view. The relationship is shown in the middle panel in text view.

Adding a Relationship in the Text View

You can create relationships in text view with the **Add** button in the text view.

To add a relationship:

1. Select one entity in the left Entity panel, and one entity in the right Entity Panel.

    Note: You can only add new relationships one at a time. If both entities you want to relate are in the same panel (left or right) then just select one entity. When you click the **Add Rel** button, you will be prompted to select the second entity.

2. Go to the Relationship panel and click the **Add** button.

    The Relationship Record Editor is displayed.

    The selections for hierarchy and relationship type vary depending on the HM configuration and the types of the entities being related.

3. Enter the start and end dates for the new relationship, and edit any other attributes for the relationship as desired. Foreign key relationship types do not allow you to modify the start and end date.

4. If necessary, click **Set Default Trust Override Settings** for any trusted criteria you are editing.

5. Click **OK**.

    The new relationship is displayed in the Relationship panel in the middle .

Editing a Relationship

This section describes how to edit relationships and how to launch the dialog. After you launch the dialog, the rest of the steps are the same for entities and relationships.

You can edit entities and relationships in either Graphic View or Text View.

To edit an entity or relationship:

1. Highlight an entity or relationship.

2. Right-click to display the context menu, then choose **Edit**. Alternatively, in the Text View you can also click the **Edit** button.

The Entity Record Editor or Relationship Record Editor is displayed, as applicable.

Note: You cannot change the entity type when editing entities.

3. Edit the attributes.

   Note: If any of the fields for this type of entity are trust-enabled, the trust setting button is activated. If you have already used the Data Manager record editor, this will look familiar to you.

4. If necessary, click **Set Override Trust Settings** for any trusted criteria you are editing.

5. To save your changes, click **OK**.

Removing a Relationship

Informatica MDM Hub does not delete records from a base object. Entities cannot be removed. When a relationship is removed (it is not really removed from the base object), it is just marked inactive by setting the end date to the current time.

Multiple Relationships (Graphics View)

Bulk operations enable you to work with multiple relationships at the same time. You can create many new relationships, reassign many existing relationships, modify many relationships, and remove many relationships at the same time.

Any operations involving multiple relationships work only in Graphic View.

Creating New Relationships

When creating new relationships, the group of entities must all be the same entity type. If they are not, an error message displays. The Relationship Record Editor is displayed, allowing you to select the hierarchy and relationship types, start and end dates, and any attributes specific to the relationship type.

To create new relationships using a bulk operation:

1. Select two or more entities of the same type.

2. Taking care to remain in Select Mode, drag the selected entities to the entity you wish to relate them to, and drop them.

   Note: One or more of these relationships may already exist. Be careful not to create duplicates.

   The Relationship Record Editor is displayed.

   The selections for hierarchy and relationship type vary depending on the HM configuration and the types of the entities being related.

3. Enter the start and end dates for the new relationships, and edit any other attributes for the relationship.

4. If necessary, click **Set Default Trust Override Settings** for any trusted criteria you are editing.

5. Click **OK**.

   The relationships are added and a screen shows how many relationships were added, how many duplicates were found, and so on.

   Note: Creating new relationships can only be done in the graphic view.

Editing All Relationships

To edit all relationships:

1. Select two or more relationships in either the text or graphic view.

2. Right-click and select **Edit All Relationships**.

3. Edit the relationships. If necessary, click **Set Default Trust Override Settings** for any trusted criteria you are editing. For more information about trust settings, see the *Informatica MDM Hub Overview*.

   The Relationship Record Editor is displayed.

4. Click **OK**.

Removing All Relationships

To remove all relationships:

1. Select two or more relationships in either the text or graphic view.

2. Right-click and select **Remove All Relationships**.

3. Click **OK**.

Reassigning Relationships (Graphic view only)

You can reassign relationships between entities of the same type.

To reassign individual relationships, just drag the relationship to the new entity.

To reassign relationships using a bulk operation:

1. Select the entities in the Graphic view.

2. Right-click and choose **Reassign Relationships**.

3. In the Reassign Relationships screen:

   - Switch the **From** and **To** entities.

   - Choose the relationships to assign.

4. Click **OK**.

   Information about the reassignments are displayed on a screen.

Saving and Printing Your Results (Graph Mode)

To save your results, click the **Save** button in the Graph mode and enter a file name.Your results will be saved as a `.jpg` file.

To print your results:

1. Click the print icon on the Graphics toolbar.

2. In the **Print** window, choose:

   - Whether to print all content or only viewable content.

   - Choose page settings, such as page size and orientation.

   - Choose Printer settings, such as appearance options.

   - Choose whether to print to file or not. If you choose this option, you will be prompted for a file name. You can give the file name any extension.

3. Click **Print**.

Viewing the History and Cross-References (Text Mode)

You can view the history and cross references in the text view through the Context menu.

History

Use the History Viewer to view the merge and base object history for your data source.

To view the history:

1. Highlight an entity or relationship in the Text view.
2. Right-click to display the context menu, choose **History**.

    The History Viewer appears displaying the base object history.

3. Click **Close** to close the view.

Viewing Cross-References

Use the cross-reference viewer to see a history of cross-reference and source data for the data source.

To view the cross-references:

1. Highlight an entity or relationship.
2. Right-click to display the context menu, choose **Xref viewer**.

    The Cross-Reference Viewer is displayed.

    The Cross-Reference Viewer used in Hierarchy Manager is the same Viewer used in Merge Manager.

3. When you are finished viewing the cross-reference history, click **Close**.

Hierarchy Manager Interface Reference

This section is a reference section and describes the Graphic and Text view toolbar choices and the context menu choices.

Graphic View and Text View Toolbars

The following table describes the Graphic View and Text View toolbars. Some of the icons are the same for both views.

Button	Description	Graphic Toolbar	Text Toolbar
Search	Search for entities and relationships.	R	R
Fetch One Hop	For the selected entities, fetch multiple levels of immediate relationships and related entities using current filter.	R	
Fetch Many Hops	For the selected entities, fetch multiple levels of relationships and related entities using current filter and many hops.	R	
Fetch Many Hops...	For the selected entities, allow changing the many hop options and fetch multiple levels of relationships and related entities using current filter.	R	

Button	Description	Graphic Toolbar	Text Toolbar
Zoom In	Zoom in and enlarge the graphic view.	R	
Zoom Out	Zoom out and make the graphic view smaller.	R	
Zoom All	Zoom in to display entire graphic view.	R	
Zoom Selected	Zoom in on selected entities and relationships.	R	
Select Mode– Change to Edit Mode	Toggle between Select mode and Edit mode. In Select Mode, you can select entities in the graphic view and drag and drop to transfer them to the text view or to create new relationships by dragging one or more entities of the same type and dropping them over another entity. In Edit Mode, you can select an entity in the graphic view and drag and drop to rearrange entities.	R	
Select All	Select all entities and relationships in graphic view.	R	
Select Unselected	Reverse the selection of entities and relationships in the graphic view.	R	
Clear Selected	Remove selected entities and relationships from the graphic view. No changes are made to these items in the database, they are just removed from the display.	R	
Layout	Change graphic view layout. For example, hierarchic, orthogonal, or tree layout.	R	
Filter	Set type of information to display in graphic view.	R	
Save	Save the graphic view to a .jpg file.	R	
Print	Print the graphic view.	R	
Edit	Edit the selected entity or relationship using the Record Editor.		R
Add	Add an entity or relationship.		R
Remove	Remove an entity or relationship.		R

Button	Description	Graphic Toolbar	Text Toolbar
Edit All	Edit all selected relationships (available if all selected relationships have the same Relationship Type).		R
Remove All	End date of all selected relationships.		R

Note: The toolbar choices are explained in the sequence that they appear on the Graphic toolbar.

RELATED TOPICS:

- "Search Levels" on page 68
- "Graphic View Layouts" on page 64
- "Using Graphic View Filters" on page 74
- "Fetching One Hop (Graphic View)" on page 72
- "Fetching Many Hops (Graphics View)" on page 73
- "Fetching Many Hops With Existing Limits" on page 73

Context Menus

This section describes context menus that are not described earlier in the chapter.

Menu Choice	Software Action	Your Action
Add...	Displays the Entity Record Editor. After you enter the search criteria, HM returns search results in the Entities Text window.	In the Entity Record Editor window: Choose an entity type. Choose search criteria for that entity type. Click **Set Default Trust Overview Settings** to set the default trust for the new entity. For more information about trust settings, see the *Multidomain MDM Configuration Guide*.
Edit...	Displays the Entity Record Editor. After you enter the search criteria, HM returns search results in the Entities Text window.	In the Entity Record Editor window: Choose an entity type. Choose search criteria for that entity type. Click **Set Default Trust Overview Settings** to set the default trust for the edited entity. For more information about trust settings, see the *Multidomain MDM Configuration Guide*.
Clear list	Deletes the content of the list of entities or relationships in the Text view section where you performed the right-click.	In the Entities pane of the Text view, right-click a record. Choose **Clear List**.
Clear all lists	Deletes the content of all the lists in the Text view.	In the Entities pane of the Text view, right-click a record. Choose **Clear All Lists**.

Menu Choice	Software Action	Your Action
Clear list except selected	Deletes the content of that list in the Text view, except for the items selected.	In the Entities pane of the Text view, right-click a record. Choose **Clear List Except Selected**.
Clear all lists except selected	Deletes the contents of all lists except for the items selected.	In the Entities pane of the Text view, right-click a record. Choose **Clear All Lists Except Selected**.

RELATED TOPICS:

- "Adding an Entity" on page 76
- "Editing an Entity" on page 76

Glossary

accept limit

A number that determines the acceptability of a match. The accept limit is defined by Informatica within a population in accordance with its match purpose.

active state (records)

A state associated with a base object or cross reference record. A base object record is active if at least one of its cross reference records is active. A cross reference record contributes to the consolidated base object only if it is active.

Active records participate in MDM Hub processes by default. These are the records that are available to participate in any operation. If records are required to go through an approval process, then these records have been through that process and have been approved.

Admin source system

Default source system. Used for manual trust overrides and data edits from the Data Manager or Merge Manager tools. See *source system* on page 108.

auditable events

Activities in MDM Hub that can be tracked by the internal audit mechanism. MDM Hub stores audit information in the audit log table C_REPOS_AUDIT.

authentication

Process of verifying the identity of a user to ensure that they are who they claim to be. In Informatica MDM Hub, users are authenticated based on their supplied credentials—user name / password, security payload, or a combination of both. Informatica MDM Hub provides an internal authentication mechanism and also supports user authentication using third-party authentication providers.

authorization

Process of determining whether a user has sufficient privileges to access a requested Informatica MDM Hub resource. In Informatica MDM Hub, resource privileges are allocated to roles. Users and user groups are assigned to roles. A user's resource privileges are determined by the roles to which they are assigned, as well as by the roles assigned to the user group(s) to which the user belongs.

automerge

Process of merging records automatically. For merge-style base objects only. Match rules can result in automatic merging or manual merging. A match rule that instructs Informatica MDM Hub to perform an automerge will combine two or more records of a base object table automatically, without manual intervention.

base object

A table that contains information about an entity that is relevant to your business, such as customer or account.

batch group

A collection of individual batch jobs (for example, Stage, Load, and Match jobs) that can be executed with a single command. Each batch job in a group can be executed sequentially or in parallel to other jobs.

batch job

A sequence of commands processed in batch mode. This means that a sequence of commands is listed in a file, called a batch file, and submitted to run as a single process.

batch mode

Way of interacting with MDM Hub through batch jobs, which can be executed in the Hub Console or using third-party management tools to schedule and execute batch jobs.

best version of the truth (BVT)

A record that has been consolidated with the best cells of data from the source records.

For merge-style base objects, the base object record is the BVT record, and is built by consolidating the most-trustworthy cell values from the corresponding source records.

BI vendor

A company that produces Business Intelligence software products.

bulk merge

See *automerge* on page 84.

business entity

A nested structure of base objects. Use the Entity 360 framework in Informatica Data Director to view all the information that relates to the root base object of a business entity. Perform a search in Informatica Data Director to find data within a business entity.

business entity service

A business entity service is a set of operations that run MDM Hub code to create, update, delete, and search for base object records in a business entity.

business process

A business process is a workflow that achieves an organizational goal and implements a business function. A business process contains the activities that are required to achieve the goal and defines paths of execution through the activities. Multidomain MDM ships with predefined Informatica ActiveVOS business processes that are managed by the ActiveVOS Server. The organizational goal of these processes is to ensure that authorized personnel, such as business managers or data stewards, review all updates to master data.

business process management (BPM)

Business process management focuses on adapting an organization's processes. Informatica MDM ships with an embedded business process management engine. Using this engine, you can automate the review-and-approval processes for master data.

BVT

See *best version of the truth (BVT)* on page 85.

cascade delete

An operation that deletes associated records in a child object when a record in the parent object is deleted. To enable a cascade delete operation, set the CASCADE_DELETE_IND parameter to 1.

cascade unmerge

Feature that specifies what happens if records in the parent base object are unmerged. If the feature is enabled, when records in a parent object are unmerged, the MDM Hub also unmerges affected records in the child base object.

cell

Intersection of a column and a record in a table. A cell contains a data value or null.

change list

List of changes to make to a target repository. A *change* is an operation in the change list—such as adding a base object or updating properties in a match rule—that is executed against the target repository. Change lists represent the list of differences between Hub repositories.

cleanse

See *data cleansing* on page 88.

cleanse engine

A cleanse engine is a third party product used to perform data cleansing with the Informatica MDM Hub.

cleanse function

Code changes the incoming data during Stage jobs, converting each input string to an output string. Typically, these functions are used to standardize data and thereby optimize the match process. By combining multiple cleanse functions, you can perform complex filtering and standardization.

cleanse list

A logical grouping of rules for replacing parts of an input string during the cleanse process.

column

In a table, a set of data values of a particular type, one for each row of the table. See *system column* on page 109, *user-defined column* on page 111.

comparison change list

A change list that is the result of comparing the contents of two repositories and generating the list of changes to make to the target repository. Comparison change lists are used in Repository Manager when promoting or importing design objects.

complete match tracking

The display of the complete or original match chain that caused two records to be matched through intermediate records.

conditional mapping

A mapping between a column in a landing table and a staging table that uses a SQL WHERE clause to conditionally select only those records in the landing table that meet the filter condition.

Configuration workbench

Includes tools for configuring a variety of MDM Hub objects, including the Operational Reference Store, users, security, message queues, and metadata validation.

consolidated record

See *master record* on page 97.

consolidation indicator

Represents the consolidation state of a record in a base object. Stored in the CONSOLIDATION_IND column.

consolidation process

Process of merging or linking duplicate records into a single record. The goal in Informatica MDM Hub is to identify and eliminate all duplicate data and to merge or link them together into a single, consolidated record while maintaining full traceability.

constraint table

A database table where a unique or foreign key constraint is defined.

content metadata

Data that describes the business data that has been processed by Informatica MDM Hub. Content metadata is stored in support tables for a base object, including cross-reference tables, history tables, and others. Content metadata is used to help determine where the data in the base object came from, and how the data changed over time.

contiguous effective period

The effective period of a record version that is contiguous with the effective period of other record versions such that there is no break in the effective period of the record.

control table

A type of system table in an Operational Reference Store that Informatica MDM Hub automatically creates for a base object. Control tables are used in support of the load, merge, and unmerge processes. For each trust-enabled column in a base object, Informatica MDM Hub maintains a record (the last update date and an identifier of the source system) in a corresponding control table.

creation change list

A change list that is the result of exporting the contents of a repository. Creation change lists are used in Repository Manager for importing design objects.

cross-reference table

A type of system table in an Operational Reference Store that Informatica MDM Hub automatically creates for a base object. For each record of the base object, the cross-reference table contains zero to n (0-n) records per source system. This record contains the primary key from the source system and the most recent value that the source system has provided for each cell in the base object table.

Data Access Services

These application server level capabilities enable Informatica MDM Hub to support multiple modes of data access and expose numerous Informatica MDM Hub data services via the InformaticaServices Integration Framework (SIF). This facilitates both real-time synchronous integration, as well as asynchronous integration.

database

Organized collection of data in the Hub Store. Informatica MDM Hub supports two types of databases: a Master Database and an Operational Reference Store (ORS).

data change event

A change to data that is effective for a time period.

data cleansing

The process of standardizing data content and layout, decomposing and parsing text values into identifiable elements, verifying identifiable values (such as zip codes) against data libraries, and replacing incorrect values with correct values from data libraries.

Data Integration Service

An application service that performs data integration jobs for Informatica Developer. Data integration jobs include previewing data and running mappings.

data integration staging

The process of reading data directly from a source system to cleanse the data by using the Data Quality transformations, and moving the cleansed data into the corresponding staging table in the MDM Hub.

Data Manager

Tool used to review the results of all merges—including automatic merges—and to correct data content if necessary. It provides you with a view of the data lineage for each base object record. The Data Manager also allows you to unmerge previously merged records, and to view different types of history on each consolidated record.

Use the Data Manager tool to search for records, view their cross-references, unmerge records, unlink records, view history records, create new records, edit records, and override trust settings. The Data Manager displays all records that meet the search criteria you define.

datasource

In the application server environment, a datasource is a JDBC resource that identifies information about a database, such as the location of the database server, the database name, the database user ID and password, and so on. Informatica MDM Hub needs this information to communicate with an Operational Reference Store.

data steward

Informatica MDM Hub user who has the primary responsibility for data quality. Data stewards access Informatica MDM Hub through the Hub Console, and use Informatica MDM Hub tools to configure the objects in the Hub Store.

Data Steward workbench

Part of the Informatica MDM Hub UI used to review consolidated data as well as matched data queued for exception handling by data analysts or stewards who understand the data semantics and are guardians of data reliability in an organization.

Includes tools for using the Data Manager, Merge Manager, and Hierarchy Manager.

data type

Defines the characteristics of permitted values in a table column—characters, numbers, dates, binary data, and so on. Informatica MDM Hub uses a common set of data types for columns that map directly data types for the database platform used in your Informatica MDM Hub implementation.

decay curve

Visually shows the way that trust decays over time. Its shape is determined by the configured decay type and decay period.

decay period

The amount of time (days, weeks, months, quarters, and years) that it takes for the trust level to decay from the maximum trust level to the minimum trust level.

decay type

The way that the trust level decreases during the decay period.

deleted state (records)

Deleted records are records that are no longer desired to be part of the Hub's data. These records are not used in process (unless specifically requested). Records can only be deleted explicitly and once deleted can be restored if desired. When a record that is Pending is deleted, it is permanently deleted and cannot be restored.

delta detection

During the stage process, the MDM Hub processes new or changed records when this feature is enabled. Delta detection can be done either by comparing entire records or through a date column.

design object

Parts of the metadata used to define the schema and other configuration settings for an implementation. Design objects include instances of the following types of Informatica MDM Hub objects: base objects and columns, landing and staging tables, columns, indexes, relationships, mappings, cleanse functions, queries

and packages, trust settings, validation and match rules, Security Access Manager definitions, Hierarchy Manager definitions, and other settings.

distinct mapping

A mapping between a column in a landing table and a staging table that selects only the distinct records from the landing table. Using distinct mapping is useful in situations in which you have a single landing table feeding multiple staging tables and the landing table is denormalized. For example, a landing table might contain both customer and address data.

distinct source system

A source system that provides data that gets inserted into the base object without being consolidated.

distribution

Process of distributing the master record data to other applications or databases after the best version of the truth has been establish via reconciliation.

downgrade

Operation that occurs when inserting or updating data using the load process or using cleansePut & Put APIs when a validation rule reduces the trust for a record by a percentage.

duplicate

One or more records in which the data in certain columns (such as name, address, or organization data) is identical or nearly identical. Match rules executed during the match process determine whether two records are sufficiently similar to be considered duplicates for consolidation purposes.

Dynamic Data Masking

A data security product that operates between a client and a database to prevent unauthorized access to sensitive information. Dynamic Data Masking intercepts requests sent to the database and applies data masking rules to the request to mask the data before it is sent back to the client.

effective period

The period of time for which a record is effective. The effective period is defined by a start date and an end date.

entity

In Hierarchy Manager, an entity is a typed object that can be related to other entities. Examples of entities include individual, organization, product, and household.

entity base object

An entity base object is a base object used to store information about Hierarchy Manager entities.

entity type

In Hierarchy Manager, entity types define the kinds of objects that can be related using Hierarchy Manager. Examples are individual, organization, product, and household. All entities with the same entity type are stored in the same entity base object. In the HM Configuration tool, entity types are displayed in the navigation tree under the Entity Object with which the Type is associated.

exact match

A match / search strategy that matches only records that are identical. If you specify an exact match, you can define only exact match columns for this base object (exact-match base objects cannot have fuzzy match columns). A base object that uses the exact match / search strategy is called an exact-match base object.

exclusive lock

In the Hub Console, a lock that is required in order to make exclusive changes to the underlying schema. An exclusive lock prevents all other Hub Console users from making changes to the target database at the same time. An exclusive lock must be released by the user with the exclusive lock; it cannot be cleared by another user.

execution path

The sequence in which batch jobs are executed when the entire batch group is executed in the Informatica MDM Hub. The execution path begins with the Start node and ends with the End node. The Batch Group tool does not validate the execution sequence for you—it is up to you to ensure that the execution sequence is correct.

export process

In Repository Manager, the process of exporting metadata in a repository to a portable change list XML file, which can then be used to import design objects into another repository or to save it in a source control system for archival purposes. The export process copies all supported design objects to the change list XML file.

external application user

MDM Hub user who accesses MDM Hub data indirectly through third-party applications.

For more information about user configuration, see the *Multidomain MDM Security Guide*.

external cleanse

The process of cleansing data prior to populating the landing tables. External cleansing is typically performed outside of Informatica MDM Hub using an extract-transform-load (ETL) tool or some other data cleansing utility.

external match

Process that allows you to match new data (stored in a separate input table) with existing data in a fuzzy-match base object, test for matches, and inspect the results—all without actually changing data in the base object in any way, or changing the match table associated with the base object.

extract-transform-load (ETL) tool

A software tool (external to Informatica MDM Hub) that extracts data from a source system, transforms the data (using rules, lookup tables, and other functionality) to convert it to the desired state, and then loads (writes) the data to a target database. For Informatica MDM Hub implementations, ETL tools are used to extract data from source systems and populate the landing tables.

farming deployment

A type of deployment to deploy applications into a JBoss cluster. You deploy the application archive file in the farm directory of any of the cluster member and the application is automatically duplicated across all nodes in the same cluster.

foreign key

In a relational database, a column (or set of columns) whose value corresponds to a primary key value in another table (or, in rare cases, the same table). The foreign key acts as a pointer to the other table. For example, the Department_Number column in the Employee table would be a foreign key that points to the primary key of the Department table.

function

See *cleanse function* on page 86.

fuzzy match

A match / search strategy that uses probabilistic matching, which takes into account spelling variations, possible misspellings, and other differences that can make matching records non-identical. If selected, Informatica MDM Hub adds a special column (Fuzzy Match Key) to the base object. A base object that uses the fuzzy match / search strategy is called a fuzzy-match base object. Using fuzzy match requires a selected population.

fuzzy match key

Special column in the base object that the Schema Manager adds if a match column uses the fuzzy match / search strategy. This column is the primary field used during searching and matching to generate match candidates for this base object. All fuzzy base objects have one and only one Fuzzy Match Key.

geocode

An address of a location based on geographic coordinates such as latitude, longitude, and optionally elevation.You need geocodes to perform a proximity search.

global business identifier (GBID)

A column that contains common identifiers (key values) that allow you to uniquely and globally identify a record based on your business needs. Examples include:

- identifiers defined by applications external to Informatica MDM Hub, such as ERP or CRM systems.
- Identifiers defined by external organizations, such as industry-specific codes (AMA numbers, DEA numbers. and so on), or government-issued identifiers (social security number, tax ID number, driver's license number, and so on).

hard delete

A base object or cross-reference record is physically removed from the database.

Hierarchies Tool

Informatica MDM Hub administrators use the design-time Hierarchies tool (was previously the "Hierarchy Manager Configuration Tool") to set up the structures required to view and manipulate data relationships in Hierarchy Manager. Use the Hierarchies tool to define Hierarchy Manager components—such as entity types, hierarchies, relationships types, packages, and profiles—for your Informatica MDM Hub implementation. The Hierarchies tool is accessible via the Model workbench.

hierarchy

In Hierarchy Manager, a set of relationship types. These relationship types are not ranked based on the place of the entities of the hierarchy, nor are they necessarily related to each other. They are merely relationship types that are grouped together for ease of classification and identification.

Hierarchy Manager

The Hierarchy Manager allows users to manage hierarchy data that is associated with the records managed in the MDM Hub. For more information, see the *Multidomain MDM Configuration Guide* and the *Multidomain MDM Data Steward Guide*.

hierarchy type

In Hierarchy Manager, a logical classification of hierarchies. The hierarchy type is the general class of hierarchy under which a particular relationship falls. See *hierarchy* on page 92.

history table

A type of table in an Operational Reference Store that contains historical information about changes to an associated table. History tables provide detailed change-tracking options, including merge and unmerge history, history of the pre-cleansed data, history of the base object, and history of the cross-reference.

HM package

A Hierarchy Manager package represents a subset of an MDM package and contains the metadata needed by Hierarchy Manager.

hotspot

In business data, a group of records representing overmatched data—a large intersection of matches.

Hub Console

Informatica MDM Hub user interface that comprises a set of tools for administrators and data stewards. Each tool allows users to perform a specific action, or a set of related actions, such as building the data model, running batch jobs, configuring the data flow, running batch jobs, configuring external application access to Informatica MDM Hub resources, and other system configuration and operation tasks.

hub object

A generic term for various types of objects defined in the Hub that contain information about your business entities. Some examples include: base objects, cross reference tables, and any object in the hub that you can associate with reporting metrics.

Hub Server

A run-time component in the middle tier (application server) used for core and common services, including access, security, and session management.

Hub Store

In a Informatica MDM Hub implementation, the database that contains the Master Database and one or more Operational Reference Store (ORS) database.

immutable source

A data source that always provides the best, final version of the truth for a base object. Records from an immutable source will be accepted as unique and, once a record from that source has been fully consolidated, it will not be changed—even in the event of a merge. Immutable sources are also distinct systems. For all source records from an immutable source system, the consolidation indicator for Load and PUT is always 1 (consolidated record).

implementer

Informatica MDM Hub user who has the primary responsibility for designing, developing, testing, and deploying Informatica MDM Hub according to the requirements of an organization. Tasks include (but are not limited to) creating design objects, building the schema, defining match rules, performance tuning, and other activities.

import process

In Repository Manager, the process of adding design objects from a library or change list to a repository. The design object does not already exist in the target repository.

incremental load

Any load process that occurs after a base object has undergone its initial data load. Called incremental loading because only new or updated data is loaded into the base object. Duplicate data is ignored.

indirect match

See *transitive match* on page 110.

initial data load

The very first time that you data is loaded into an empty base object. During the initial data load, all records in the staging table are inserted into the base object as new records.

internal cleanse

The process of cleansing data during the stage process, when data is copied from landing tables to the appropriate staging tables. Internal cleansing occurs inside Informatica MDM Hub using configured cleanse functions that are executed by the Process Server in conjunction with a supported cleanse engine.

job execution log

In the Batch Viewer and Batch Group tools, a log that shows job completion status with any associated messages, such as success, failure, or warning.

key match job

A Informatica MDM Hub batch job that matches records from two or more sources when these sources use the same primary key. Key Match jobs compare new records to each other and to existing records, and then identify potential matches based on the comparison of source record keys as defined by the primary key match rules.

key type

Identifies important characteristics about the match key to help Informatica MDM Hub generate keys correctly and conduct better searches. Informatica MDM Hub provides the following match key types: Person_Name, Organization_Name, and Address_Part1.

key width

During match, determines how fast searches are during match, the number of possible match candidates returned, and how much disk space the keys consume. Key width options are Standard, Extended, Limited, and Preferred. Key widths apply to fuzzy match objects only.

landing table

A table where a source system puts data that will be processed by Informatica MDM Hub.

land process

Process of populating landing tables from a source system.

lineage

Which systems, and which records from those systems, contributed to consolidated records in the Hub Store.

linear decay

The trust level decreases in a straight line from the maximum trust to the minimum trust.

linear unmerge

A base object record is unmerged and taken out of the existing merge tree structure. Only the unmerged base object record itself will come out the merge tree structure, and all base object records below it in the merge tree will stay in the original merge tree.

load insert

When records are inserted into the target base object. During the load process, if a record in the staging table does not already exist in the target table, then Informatica MDM Hub inserts the record into the target table.

load process

Process of loading data from a staging table into the corresponding base object in the Hub Store. If the new data overlaps with existing data in the Hub Store, Informatica MDM Hub uses trust settings and validation rules to determine which value is more reliable. See *trust* on page 111, *validation rule* on page 112, *load insert* on page 95, *load update* on page 95.

load update

When records are inserted into the target base object. During the load process, if a record in the staging table does not already exist in the target table, then Informatica MDM Hub inserts the record into the target table.

lock

See *write lock* on page 112, *exclusive lock* on page 91.

logical data object

An object that describes a logical entity in an organization. It has attributes and keys, and it describes relationships between attributes.

logical data object mapping

A mapping that links a logical data object to one or more physical data objects. It can include transformation logic.

logical data object model

A data model that describes data in an organization and the relationship between the data. It contains logical data objects and defines relationships between them.

logical data object read mapping

A mapping that provides a view of data through a logical data object. It contains one or more physical data objects as sources and a logical data object as the mapping output.

logical data object write mapping

A mapping that writes data to targets using a logical data object as input. It contains one or more logical data objects as input and a physical data object as the target.

lookup

Process of retrieving a data value from a parent table during Load jobs. In the MDM Hub, when you configure a staging table associated with a base object, if a foreign key column in the staging table (as the child table) is related to the primary key in a parent table, you can configure a lookup to retrieve data from that parent table.

manual merge

Process of merging records manually. Match rules can result in automatic merging or manual merging. A match rule that instructs Informatica MDM Hub to perform a manual merge identifies records that have enough points of similarity to warrant attention from a data steward, but not enough points of similarity to allow the system to automatically merge the records.

manual unmerge

Process of unmerging records manually.

mapping

Defines a set of transformations that are applied to source data. Mappings are used during the stage process (or using the SiperianClient CleansePut API request) to transfer data from a landing table to a staging table. A mapping identifies the source column in the landing table and the target column to populate in the staging table, along with any intermediate cleanse functions used to clean the data. See *conditional mapping* on page 87, *distinct mapping* on page 90.

mapplet

A set of transformations that you build in the Mapplet Designer. Create a mapplet when you want to reuse the logic in multiple mappings.

master data

A collection of common, core entities—along with their attributes and their values—that are considered critical to a company's business, and that are required for use in two or more systems or business processes. Examples of master data include customer, product, employee, supplier, and location data.

Master Database

Database that contains the Informatica MDM Hub environment configuration settings—user accounts, security configuration, ORS registry, message queue settings, and so on. A given Informatica MDM Hub environment can have only one Master Database. The default name of the Master Database is CMX_SYSTEM. See also *Operational Reference Store (ORS)* on page 101.

Master Data Management

The controlled process by which the master data is created and maintained as the system of record for the enterprise. MDM is implemented in order to ensure that the master data is validated as correct, consistent, and complete, and—optionally—circulated in context for consumption by internal or external business processes, applications, or users.

master record

Single record in the base object that represents the "best version of the truth" for a given entity (such as a specific organization or person). The master record represents the fully-consolidated data for the entity.

match

The process of determining whether two records should be automatically merged or should be candidates for manual merge because the two records have identical or similar values in the specified columns.

match candidate

For fuzzy-match base objects only, any record in the base object that is a possible match.

match column

A column that is used in a match rule for comparison purposes. Each match column is based on one or more columns from the base object.

match column rule

Match rule that is used to match records based on the values in columns you have defined as match columns, such as last name, first name, address1, and address2.

match key

Encoded strings that represent the data in the fuzzy match key column of the base object. Match keys consist of fixed-length, compressed, and encoded values built from a combination of the words and numbers in a name or address such that relevant variations have the same match key value. Match keys are one part of the match tokens that are generated during the tokenize process, stored in the match key table, and then used during the match process to identify candidates for matching.

match key table

System table that stores the match tokens (match keys + unencoded, raw data) that are generated during the tokenize process. This data is used during the match process to identify candidates for matching, comparing the match keys according to the match rules that have been defined to determine which records are duplicates.

match list

Define custom-built standardization lists. Functions are pre-defined functions that provide access to specialized cleansing functionality such as address verification or address decomposition.

Match Path

Allows you to traverse the hierarchy between records—whether that hierarchy exists between base objects (*inter-table paths*) or within a single base object (*intra-table paths*). Match paths are used for configuring match column rules involving related records in either separate tables or in the same table.

match process

Process of comparing two records for points of similarity. If sufficient points of similarity are found to indicate that two records probably are duplicates of each other, Informatica MDM Hub flags those records for merging.

match purpose

For fuzzy-match base objects, defines the primary goal behind a match rule. For example, if you're trying to identify matches for people where address is an important part of determining whether two records are for the same person, then you would use the Match Purpose called Resident. Each match purpose contains knowledge about how best to compare two records to achieve the purpose of the match. Informatica MDM Hub uses the selected match purpose as a basis for applying the match rules to determine matched records. The behavior of the rules is dependent on the selected purpose.

match rule

Defines the criteria by which Informatica MDM Hub determines whether records might be duplicates. Match columns are combined into match rules to determine the conditions under which two records are regarded as being similar enough to merge. Each match rule tells Informatica MDM Hub the combination of match columns it needs to examine for points of similarity.

match rule set

A logical collection of match rules that allow users to execute different sets of rules at different stages in the match process. Match rule sets include a search level that dictates the search strategy, any number of automatic and manual match rules, and optionally, a filter that allows you to selectively include or exclude records during the match process Match rules sets are used to execute to match column rules but not primary key match rules.

match search strategy

Specifies the reliability of the match versus the performance you require: fuzzy or exact. An exact match / search strategy is faster, but an exact match will miss some matches if the data is imperfect. See *fuzzy match* on page 92, *exact match* on page 91., *match process* on page 98.

match subtype

Used with base objects that containing different types of data, such as an Organization base object containing customer, vendor, and partner records. Using match subtyping, you can apply match rules to specific types of data within the same base object. For each match rule, you specify an *exact* match column that will serve as the "subtyping" column to filter out the records that you want to ignore for that match rule.

match table

Type of system table, associated with a base object, that supports the match process. During the execution of a Match job for a base object, Informatica MDM Hub populates its associated match table with the ROWID_OBJECT values for each pair of matched records, as well as the identifier for the match rule that resulted in the match, and an automerge indicator.

match token

Strings that represent both encoded (match key) and unencoded (raw) values in the match columns of the base object. Match tokens are generated during the tokenize process, stored in the match key table, and then used during the match process to identify candidates for matching.

match type

Each match column has a match type that determines how the match column will be tokenized in preparation for the match comparison.

maximum trust

The trust level that a data value will have if it has just been changed. For example, if source system A changes a phone number field from 555-1234 to 555-4321, the new value will be given system A's maximum trust level for the phone number field. By setting the maximum trust level relatively high, you can ensure that changes in the source systems will usually be applied to the base object.

Merge Manager

Tool used to review and take action on the records that are queued for manual merging.

merge process

Process of combining two or more records of a base object table because they have the same value (or very similar values) in the specified match columns. See *consolidation process* on page 87, *automerge* on page 84, *manual merge* on page 96.

merge-style base object

Type of base object that is used with Informatica MDM Hub's match and merge capabilities.

message

In Informatica MDM Hub, refers to a Java Message Service (JMS) message. A message queue server handles two types of JMS messages:

- inbound messages are used for the asynchronous processing of Informatica MDM Hub service invocations
- outbound messages provide a communication channel to distribute data changes via JMS to source systems or other systems.

message queue

A mechanism for transmitting data from one process to another (for example, from Informatica MDM Hub to an external application).

message queue rule

A mechanism for identifying base object events and transferring the effected records to the internal system for update. Message queue rules are supported for updates, merges, and records accepted as unique.

message queue server

In Informatica MDM Hub, a Java Message Service (JMS) server, defined in your application server environment, that Informatica MDM Hub uses to manage incoming and outgoing JMS messages.

message trigger

A rule that gets fired when which a particular action occurs within Informatica MDM Hub. When an action occurs for which a rule is defined, a JMS message is placed in the outbound message queue. A message trigger identifies the conditions which cause the message to be generated (what action on which object) and the queue on which messages are placed.

metadata

Data that is used to describe other data. In Informatica MDM Hub, metadata is used to describe the schema (data model) that is used in your Informatica MDM Hub implementation, along with related configuration settings.

metadata validation

See *validation process* on page 112.

minimum trust

The trust level that a data value will have when it is "old" (after the decay period has elapsed). This value must be less than or equal to the maximum trust. If the maximum and minimum trust are equal, the decay curve is a flat line and the decay period and decay type have no effect. See also *decay period* on page 89.

Model repository

A relational database that stores the metadata for projects and folders that you can access through the Developer tool.

Model Repository Service

An application service in the Informatica domain that runs and manages the Model repository. The Model repository stores metadata created by Informatica products in a relational database to enable collaboration among the products.

Model workbench

Part of the Informatica MDM Hub UI used to configure the solution during deployment by the implementers, and for on-going configuration by data architects of the various types of metadata and rules in response to changing business needs.

Includes tools for creating query groups, defining packages and other schema objects, and viewing the current schema.

noncontiguous effective period

The effective period of a record version that is not contiguous with the effective period of other record versions such that there are breaks in the effective period of the record.

non-contributing cross reference

A cross-reference (XREF) record that does not contribute to the BVT (best version of the truth) of the base object record. As a consequence, the values in the cross-reference record will never show up in the base object record. Note that this is for state-enabled records only.

non-equal matching

When configuring match rules, prevents equal values in a column from matching each other. Non-equal matching applies only to exact match columns.

operation

Deprecated term. See *request* on page 105.

Operational Reference Store (ORS)

A database that contains master data and the rules that act on the master data. Rules include the rules for processing the master data, the rules for managing the set of master data objects, and the processing rules and auxiliary logic that the MDM Hub uses to define the best version of the truth. An MDM Hub configuration can have one or more Operational Reference Stores. The default name of an ORS is CMX_ORS.

overmatching

For fuzzy-match base objects only, a match that results in too many matches, including matches that are not relevant. When configuring match, the goal is to find the optimal number of matches for your data.

package

A *package* is a public view of one or more underlying tables in Informatica MDM Hub. Packages represent subsets of the columns in those tables, along with any other tables that are joined to the tables. A package is based on a query. The underlying query can select a subset of records from the table or from another package.

password policy

Specifies password characteristics for Informatica MDM Hub user accounts, such as the password length, expiration, login settings, password re-use, and other requirements. You can define a global password policy for all user accounts in a Informatica MDM Hub implementation, and you can override these settings for individual users.

path

See *Match Path* on page 97.

pending state (records)

Pending records are records that have not yet been approved for general usage in the Hub. These records can have most operations performed on them, but operations have to specifically request Pending records. If records are required to go through an approval process, then these records have not yet been approved and are in the midst of an approval process.

period end date

The time when the effective period of a record version ends.

period start date

The time when the effective period of a record version starts.

physical data object

A physical representation of data that is used to read from, look up, or write to resources.

policy decision points (PDPs)

Specific security check points that authenticate user identity and authorize user access to MDM Hub resources.

policy enforcement points (PEPs)

Specific security check points that enforce, at run time, security policies for authentication and authorization requests.

population

Defines certain characteristics about data in the records that you are matching. By default, Informatica MDM Hub comes with the US population, but Informatica provides a standard population per country. Populations account for the inevitable variations and errors that are likely to exist in name, address, and other identification data; specify how Informatica MDM Hub builds match tokens; and specify how search strategies and match purposes operate on the population of data to be matched. Used only with the Fuzzy match/search strategy.

primary key

In a relational database table, a column (or set of columns) whose value uniquely identifies a record. For example, the Department_Number column would be the primary key of the Department table.

primary key match rule

Match rule that is used to match records from two systems that use the same primary keys for records. See also *match column rule* on page 97.

private resource

A Informatica MDM Hub resource that is hidden from the Roles tool, preventing its access through Services Integration Framework (SIF) operations. When you add a new resource in Hub Console (such as a new base object), it is designated a PRIVATE resource by default.

privilege

Permission to access an MDM Hub resource. With MDM Hub internal authorization, each role is assigned one of the following privileges.

Privilege	Allows the User To....
READ	View data.
CREATE	Create data records in the Hub Store.
UPDATE	Update data records in the Hub Store.
MERGE	Merge and unmerge data.
EXECUTE	Execute cleanse functions and batch groups.
DELETE	Delete data records from the Hub Store.

Privileges determine the access that external application users have to MDM Hub resources. For example, a role might be configured to have READ, CREATE, UPDATE, and MERGE privileges on particular packages and package columns. These privileges are not enforced when using the Hub Console, although the settings still affect the use of Hub Console to some degree.

process

See *business process* on page 85.

Process Server

A server that performs cleanse, match, and batch jobs. The Process Server is deployed in an application server environment. The Process Server interfaces with cleanse engines, such as Trillium Director to standardize the data. The Process Server is multi-threaded so that each instance can process multiple requests concurrently.

profile

In Hierarchy Manager, describes what fields and records an HM user may display, edit, or add. For example, one profile can allow full read/write access to all entities and relationships, while another profile can be read-only (no add or edit operations allowed).

promotion process

Meaning depends on the context:

- **Repository Manager:** Process of copying changes in design objects from one repository to another. Promotion is used to copy incremental changes between repositories.
- **State Management:** Process of changing the system state of individual records in Informatica MDM Hub (for example from PENDING state to ACTIVE state).

provider

See *security provider* on page 107.

provider property

A name-value pair that a security provider might require in order to access for the service(s) that they provide.

proximity search

A process that matches records that are within the geocode radius that you specify. Proximity search is performed on base objects for which columns are populated with latitude, longitude, and optionally elevation.

publish

Process of submitting a Informatica MDM Hub message to a message queue for distribution to other applications, databases, and so on.

query

A request to retrieve data from the Hub Store. Informatica MDM Hub allows administrators to specify the criteria used to retrieve that data. Queries can be configured to return selected columns, filter the result set with a WHERE clause, use complex query syntax (such as GROUP BY, ORDER BY, and HAVING clauses), and use aggregate functions (such as SUM, COUNT, and AVG).

query group

A logical group of queries. A query group is simply a mechanism for organizing queries. See *query* on page 103.

raw table

A table that archives data from a landing table.

real-time mode

Way of interacting with Informatica MDM Hub using third-party applications, which invoke Informatica MDM Hub operations via the Services Integration Framework (SIF) interface. SIF provides operations for various services, such as reading, cleansing, matching, inserting, and updating records. See also *batch mode* on page 85, *Services Integration Framework (SIF)* on page 107.

reconciliation

For a given entity, Informatica MDM Hub obtains data from one or more source systems, then reconciles "multiple versions of the truth" to arrive at the master record—the best version of the truth—for that entity. Reconciliation can involve cleansing the data beforehand to optimize the process of matching and consolidating records for a base object. See *distribution* on page 90.

record

A row in a table that represents an instance of an object. For example, in an Address table, a record contains a single address. See also *source record* on page 108, *consolidated record* on page 87.

record version

The version of a record that is effective or valid for a specific period of time. A record can have multiple versions, and each version can be effective for a different time period.

referential integrity

Enforcement of parent-child relationship rules among tables based on configured foreign key relationship.

regular expression

A computational expression that is used to match and manipulate text data according to commonly-used syntactic conventions and symbolic patterns. In Informatica MDM Hub, a regular expression function allows you to use regular expressions for cleanse operations. To learn more about regular expressions, including syntax and patterns, refer to the Javadoc for java.util.regex.Pattern.

reject table

A table that contains records that Informatica MDM Hub could not insert into a target table, such as:

- staging table (stage process) after performing the specified cleansing on a record of the specified landing table
- Hub store table (load process)

A record could be rejected because the value of a cell is too long, or because the record's update date is later than the current date.

relationship

In Hierarchy Manager, describes the affiliation between two specific entities. Hierarchy Manager relationships are defined by specifying the relationship type, hierarchy type, attributes of the relationship, and dates for when the relationship is active. See *relationship type* on page 105, *hierarchy* on page 92.

relationship base object

A relationship base object is a base object used to store information about Hierarchy Manager relationships.

relationship type

Describes general classes of relationships. The relationship type defines:

- the types of entities that a relationship of this type can include
- the direction of the relationship (if any)
- how the relationship is displayed in the Hub Console

See *relationship* on page 104, *hierarchy* on page 92.

repository

An Operational Reference Store (Operational Reference Store). The Operational Reference Store stores metadata about its own schema and related property settings. In Repository Manager, when copying metadata between repositories, there is always a *source repository* that contains the design object to copy, and the *target repository* that is destination for the design object.

Repository Manager

The Repository Manager tool in the Hub Console is used to validate metadata for a repository, promote design objects from one repository to another, import design objects into a repository, and export a repository to a change list. .

request

Informatica MDM Hub request (API) that allows external applications to access specific Informatica MDM Hub functionality using the Services Integration Framework (SIF), a request/response API model.

resource

Any Informatica MDM Hub object that is used in your Informatica MDM Hub implementation. Certain resources can be configured as secure resources: base objects, mappings, packages, remote packages, cleanse functions, HM profiles, the audit table, and the users table. In addition, you can configure secure resources that are accessible by SIF operations, including content metadata, match rule sets, metadata, batch groups, the audit table, and the users table.

resource group

A collection of secure resources that simplify privilege assignment, allowing you to assign privileges to multiple resources at once, such as easily assigning resource groups to a role. See *resource* on page 105, *privilege* on page 102.

Resource Kit

The Informatica MDM Hub Resource Kit is a set of utilities, examples, and libraries that provide examples of Informatica MDM Hub functionality that can be expanded on and implemented.

RISL decay

Rapid Initial Slow Later decay puts most of the decrease at the beginning of the decay period. The trust level follows a concave parabolic curve. If a source system has this decay type, a new value from the system will probably be trusted but this value will soon become much more likely to be overridden.

role

Defines a set of privileges to access secure Informatica MDM Hub resources.

row

See *record* on page 104.

rule

A statement that defines valid behavior or that defines calculations and comparisons. MDM Hub manages rules and applies rules to master data. See also *match rule* on page 98, *message queue rule* on page 99, *state transition rules* on page 108, *timeline rules* on page 110, and *validation rule* on page 112.

rule set

See *match rule set* on page 98.

rule set filtering

Ability to exclude records from being processed by a match rule set. For example, if you had an Organization base object that contained multiple types of organizations (customers, vendors, prospects, partners, and so on), you could define a match rule set that selectively processed only vendors.

schema

The data model that is used in a customer's Informatica MDM Hub implementation. Informatica MDM Hub does not impose or require any particular schema. The schema is independent of the source systems.

Schema Manager

The Schema Manager is a design-time component in the Hub Console used to define the schema, as well as define the staging and landing tables. The Schema Manager is also used to define rules for match and merge, validation, and message queues.

Schema Viewer Tool

The Schema Viewer tool is a design-time component in the Hub Console used to visualize the schema configured for your Informatica MDM Hub implementation. The Schema Viewer is particularly helpful for visualizing a complex schema.

search levels

Defines how stringently Informatica MDM Hub searches for matches: narrow, typical, exhaustive, or extreme. The goal is to find the optimal number of matches for your data—not too few (undermatching), which misses significant matches, or too many (overmatching), which generates too many matches, including insignificant ones.

secure resource

A protected Informatica MDM Hub resource that is exposed to the Roles tool, allowing the resource to be added to roles with specific privileges. When a user account is assigned to a specific role, then that user account is authorized to access the secure resources using SIF according to the privileges associated with that role. In order for external applications to access a Informatica MDM Hub resource using SIF operations, that resource must be configured as SECURE. Because all Informatica MDM Hub resources are PRIVATE by

default, you must explicitly make a resource SECURE after the resource has been added. See also *private resource* on page 102, *resource* on page 105.

Status Setting	Description
SECURE	Exposes this Informatica MDM Hub resource to the Roles tool, allowing the resource to be added to roles with specific privileges. When a user account is assigned to a specific role, then that user account is authorized to access the secure resources using SIF requests according to the privileges associated with that role.
PRIVATE	Hides this Informatica MDM Hub resource from the Roles tool. Default. Prevents its access via Services Integration Framework (SIF) operations. When you add a new resource in Hub Console (such as a new base object), it is designated a PRIVATE resource by default.

security

The ability to protect information privacy, confidentiality, and data integrity by guarding against unauthorized access to, or tampering with, data and other resources in your Informatica MDM Hub implementation.

Security Access Manager (SAM)

Security Access Manager (SAM) is the security module for protecting MDM Hub resources from unauthorized access. At run time, SAM enforces your organization's security policy decisions for your MDM Hub implementation, handling user authentication and access authorization according to your security configuration.

Security Access Manager workbench

Includes tools for managing users, groups, resources, and roles.

security payload

Raw binary data supplied to an MDM Hub operation request that can contain supplemental data required for further authentication or authorization.

security provider

A third-party application that provides security services (authentication, authorization, and user profile services) for users accessing Informatica MDM Hub.

segment matching

Way of limiting match rules to specific subsets of data. For example, you could define different match rules for customers in different countries by using segment matching to limit certain rules to specific country codes. Segment matching is configured on a per-rule basis and applies to both exact-match and fuzzy-match base objects.

Services Integration Framework (SIF)

The part of Informatica MDM Hub that interfaces with client programs. Logically, it serves as a middle tier in the client/server model. It enables you to implement the request/response interactions using any of the following architectural variations:

- Loosely coupled Web services using the SOAP protocol.
- Tightly coupled Java remote procedure calls based on Enterprise JavaBeans (EJBs) or XML.

- Asynchronous Java Message Service (JMS)-based messages.

- XML documents going back and forth via Hypertext Transfer Protocol (HTTP).

SIRL decay

Slow Initial Rapid Later decay puts most of the decrease at the end of the decay period. The trust level follows a convex parabolic curve. If a source system has this decay type, it will be relatively unlikely for any other system to override the value that it sets until the value is near the end of its decay period.

soft delete

A base object or a cross-reference record is marked as deleted in a user attribute or in the HUB_STATE_IND.

source record

A raw record from a source system.

source system

An external system that provides data to Informatica MDM Hub.

stage process

Process of reading the data from the landing table, performing any configured cleansing, and moving the cleansed data into the corresponding staging table. If you enable delta detection, Informatica MDM Hub only processes new or changed records.

staging table

A table where cleansed data is temporarily stored before being loaded into base objects via load jobs.

state-enabled base object

A base object for which state management is enabled.

state management

The process for managing the system state of base object and cross-reference records to affect the processing logic throughout the MDM data flow. You can assign a system state to base object and cross-reference records at various stages of the data flow using the Hub tools that work with records. In addition, you can use the various Hub tools for managing your schema to enable state management for a base object, or to set user permissions for controlling who can change the state of a record.

State management is limited to the following states: ACTIVE, PENDING, and DELETED.

state transition rules

Rules that determine whether and when a record can change from one state to another. State transition rules differ for base object and cross-reference records.

stripping

Deprecated term.

strip table

Deprecated term.

surviving cell data

When evaluating cells to merge from two records, Informatica MDM Hub determines which cell data should survive and which one should be discarded. The *surviving cell data* (or *winning cell*) is considered to represent the *better* version of the truth between the two cells. Ultimately, a single, consolidated record contains the best surviving cell data and represents the *best* version of the truth.

survivorship

Determination made by Informatica MDM Hub when evaluating cells to merge from two records. Informatica MDM Hub determines which cell data should survive and which one should be discarded. Survivorship applies to both trust-enabled columns and columns that are not trust enabled. When comparing cells from two different records, Informatica MDM Hub determines survivorship based on properties of the data. For example, if the two columns are trust-enabled, then the cell with the highest trust score wins. If the trust scores are equal, then the cell with the most recent LAST_UPDATE_DATE wins. If the LAST_UPDATE_DATE is equal, Informatica MDM Hub uses other criteria for determining survivorship.

system column

A column in a table that Informatica MDM Hub automatically creates and maintains. System columns contain metadata. Common system columns for a base object include ROWID_OBJECT, CONSOLIDATION_IND, and LAST_UPDATE_DATE.

Systems and Trust Tool

Systems and Trust tool is a design-time tool used to name the source systems that can provide data for consolidation in Informatica MDM Hub. You use this tool to define the trust settings associated with each source system for each trust-enabled column in a base object.

system state

Describes how base object records are supported by Informatica MDM Hub. The following states are supported: ACTIVE, PENDING, and DELETED.

table

In a database, a collection of data that is organized in rows (records) and columns. A table can be seen as a two-dimensional set of values corresponding to an object. The columns of a table represent characteristics of the object, and the rows represent instances of the object. In the Hub Store, the Master Database and each Operational Reference Store (Operational Reference Store) represents a collection of tables. Base objects are stored as tables in an Operational Reference Store.

target database

In the Hub Console, the Master Database or an Operational Reference Store (Operational Reference Store) that is the target of the current tool. Tools that manage data stored in the Master Database, such as the Users tool, require that your target database is the Master Database. Tools that manage data stored in an Operational Reference Store require that you specify which Operational Reference Store to

timeline

The data change events of business entities and their relationships over a period of time. You define data change events through effective periods.

timeline action

The action to perform for entities for which you track data change events. You can perform actions such as add a record, edit a record, and edit effective period.

timeline granularity

The time measurement that you want to use to define effective periods for versions of records. For example, you can choose the effective periods to be in years, months, or seconds.

timeline rules

Pre-defined rules that the MDM Hub enforces to track data change events. Based on the timeline rules, the data change events are captured in record versions and their effective periods.

tokenize process

Specialized form of data standardization that is performed before the match comparisons are done. For the most basic match types, tokenizing simply removes "noise" characters like spaces and punctuation. The more complex match types result in the generation of sophisticated match codes—strings of characters representing the contents of the data to be compared—based on the degree of similarity required.

token table

Deprecated term.

traceability

The maintenance of data so that you can determine which systems—and which records from those systems— contributed to consolidated records.

transactional data

Represents the actions performed by an application, typically captured or generated by an application as part of its normal operation. It is usually maintained by only one system of record, and tends to be accurate and reliable in that context. For example, your bank probably has only one application for managing transactional data resulting from withdrawals, deposits, and transfers made on your checking account.

transitive match

During the Build Match Group (BMG) process, a match that is made *indirectly* due to the behavior of other matches. For example, if record 1 matches to record 2, record 2 matches to record 3, and record 3 matches to record 4, after the BMG process removes redundant matches, it might produce results in which records 2, 3, and 4 match to record 1. In this example, there was no explicit rule that matched record 4 to record 1. Instead, the match was made indirectly.

tree unmerge

Unmerge a tree of merged base object records as an intact sub-structure. A sub-tree having unmerged base object records as root will come out from the original merge tree structure. (For example, merge a1 and a2 into a, then merge b1 and b2 into b, and then finally merge a and b into c. If you then perform a tree unmerge on a, and then unmerge a from a1, a2 is a sub tree and will come out from the original tree c. As a result, a is the root of the tree after the unmerge.)

trust

Mechanism for measuring the confidence factor associated with each cell based on its source system, change history, and other business rules. Trust takes into account the age of data, how much its reliability has decayed over time, and the validity of the data.

trust level

For a source system that provides records to Informatica MDM Hub, a number between 0 and 100 that assigns a level of confidence and reliability to that source system, relative to other source systems. The trust level has meaning only when compared with the trust level of another source system.

trust score

The current level of confidence in a given record. During load jobs, Informatica MDM Hub calculates the trust score for each records. If validation rules are defined for the base object, then the Load job applies these validation rules to the data, which might further downgrade trust scores. During the consolidation process, when two records are candidates for merge or link, the values in the record with the higher trust score wins. Data stewards can manually override trust scores in the Merge Manager tool.

undermatching

For fuzzy-match base objects only, a match that results in too few matches, which misses relevant matches. When configuring match, the goal is to find the optimal number of matches for your data.

unmerge

Process of unmerging previously-merged records. For merge-style base objects only.

user

An individual (person or application) who can access Informatica MDM Hub resources. Users are represented in Informatica MDM Hub by *user accounts*, which are defined in the Master Database.

user-defined column

Any column in a table that is not a system column. User-defined columns are added in the Schema Manager and usually contain business data.

user exit

User exits consists of Java code that runs at specific points in the batch or SIF API processes to extend the functionality of MDM Hub.

Developers can extend Informatica MDM Hub batch processes by adding custom code to the appropriate user exit for pre- and post-batch job processing.

user group

A logical collection of user accounts.

user object

User-defined functions that are registered with the MDM Hub to extend its functionality.

The MDM Hub has the following types of user objects:

User Object	Description
User Exits	Java code that includes a set of fixed, pre-defined parameters. The user exit is configured, on a per-base object basis, to execute at a specific point during a Informatica MDM Hub batch process run.
Custom Java Cleanse Functions	Java cleanse functions that supplement the standard cleanse libraries with customer logic. These functions are basically Jar files and stored as BLOBs in the database.
Custom Button Functions	Custom UI functions that supply additional icons and logic in Data Manager, Merge Manager and Hierarchy Manager.

Utilities workbench

Includes tools for auditing application event, configuring and running batch groups, and generating the SIF APIs.

validation process

Process of verifying the completeness and integrity of the metadata that describes a repository. The validation process compares the logical model of a repository with its physical schema. If any issues arise, the Repository Manager generates a list of issues requiring attention.

validation rule

Rule that tells Informatica MDM Hub the condition under which a data value is not valid. When data meets the criteria specified by the validation rule, the trust value for that data is downgraded by the percentage specified in the validation rule. If the Reserve Minimum Trust flag is set for the column, then the trust cannot be downgraded below the column's minimum trust.

workbench

In the Hub Console, a mechanism for grouping similar tools. A workbench is a logical collection of related tools. For example, the Model workbench contains tools for modelling data such as Schema, Queries, Packages, and Mappings.

workflow

In Informatica Multidomain MDM, a workflow represents a business process within an organization. See *business process* on page 85.

write lock

In the Hub Console, a lock that is required in order to make changes to the underlying schema. All non-data steward tools (except the Operational Reference Store security tools) are in read-only mode unless you acquire a write lock. Write locks allow multiple, concurrent users to make changes to the schema.

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