

## BMC Atrium CMDB 2.1.00

# User's Guide



August 2007



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#### **United States and Canada**

Address BMC SOFTWARE INC Telephone 713 918 8800 or Fax 713 918 8000

2101 CITYWEST BLVD 800 841 2031

HOUSTON TX 77042-2827

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- Product information
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  - Product version (release number)
  - License number and password (trial or permanent)
- Operating system and environment information
  - Machine type
  - Operating system type, version, and service pack
  - System hardware configuration
  - Serial numbers
  - Related software (database, application, and communication) including type, version, and service pack or maintenance level
- Sequence of events leading to the problem
- Commands and options that you used
- Messages received (and the time and date that you received them)
  - Product error messages
  - Messages from the operating system, such as file system full
  - Messages from related software



# **Contents**

Preface	7	
Audience	8	
Chapter 1 Using the CMDB Console	1	
Understanding BMC Atrium CMDB The CMDB Console tabs. Accessing the CMDB Console With BMC Remedy User With a browser. Understanding the CMDB Home tab The Overview page Controls on the CMDB Home tab Using common buttons. Performing common console tasks Sorting data in a table Setting preferences for a table Browsing data in a table	The CMDB Console tabs	
Chapter 2 Searching BMC Atrium CMDB data	25	
Browsing instances Using the Quick Search option Using the Advanced Search option Working with searches Saving searches Managing saved searches Copying saved searches Deleting saved searches	. 26 . 30 . 31 . 33 . 34	
Chapter 3 Working with instances	3!	
Creating CI and relationship instances	. 30 . 38	

Viewing instance history	44
Viewing related CIs	46
Viewing related CIs using class forms	46
Viewing related CIs using the CI Relationship Viewer	48
Comparing instances	<b>55</b>
Identifying instances	58
Deleting relationships	58
Glossary	61
Index	69



# **Preface**

The *BMC Atrium CMDB 2.1.00 User's Guide* explains how to work with configuration items (CIs) and relationships using the CMDB Console interface of the BMC Atrium Configuration Management Database (CMDB) product. BMC Atrium CMDB runs on top of the BMC Remedy Action Request System application (AR System) and allows you to manage data about your IT environment.

## **Audience**

This guide is intended for users who work with the CIs and need to understand the relationships that exist within BMC Atrium CMDB.

# **BMC Atrium CMDB documentation**

The following table lists the documentation available for BMC Atrium CMDB. Unless otherwise noted, softcopy documentation is available in the Docs directory of the product DVD and the Support site at http://www.bmc.com/support\_home.

Title	Document provides	Audience	Format
Common Data Model Diagram	Hierarchical diagram of all classes in the Common Data Model (CDM) including unique attributes and applicable relationships	Administrators	Print and PDF
Concepts and Best Practices Guide	Information about CMDB concepts and best practices for planning your BMC Atrium CMDB implementation	IT leaders and administrators	Print and PDF
Data Model Help	Description and details of superclasses, subclasses, attributes, and relationship classes for each class. Contains only information about the Common Data Model at first, but can be updated to include information about data model extensions you install.	Administrators	HTML (product DVD only)
Developer's Reference Guide	Information about creating API programs, using C and web services API functions and data structures, and a list of error messages	Administrators and programmers	Print and PDF
Installation and Configuration Guide	Information about installing and configuring BMC Atrium CMDB, including permissions, class definitions, reconciliation, and federation	Administrators	Print and PDF
Javadoc API Help	Information about Java classes, methods, and variables that integrate with BMC Atrium CMDB	Programmers	HTML (product DVD only)
Mapping Your Data to BMC Atrium CMDB Classes	Mappings of common IT objects to the appropriate class in which to store them, whether part of the Common Data Model or an extension. Also includes information about further categorizing instances using key attributes.	Administrators	Spreadsheet, print and PDF
Master Index	Combined index of all guides	Everyone	Print and PDF
Online Help	Help for using and configuring BMC Atrium CMDB, available by clicking Help in the product interface	Users and administrators	Product Help (available from Help links once installed)
Release Notes	Information about new features, open issues, and resolved issues	Everyone	Print and PDF

Title	Document provides	Audience	Format
Troubleshooting Guide	Information about resolving issues with BMC Atrium CMDB components, including API, filter, and console error messages and their solutions.	Administrators, programmers, and BMC Support personnel	Print and PDF
User's Guide	Information about using BMC Atrium CMDB, including searching for and comparing CIs and relationships, relating CIs, viewing history, and launching federated data	Users	Print and PDF

# **Related documentation**

The following table lists some documentation for related BMC products that might be of interest to BMC Atrium CMDB users. This documentation is available from the Support site at http://www.bmc.com/support\_home.

Title	Document provides	Audience	Format
BMC Atrium Integration Engine 7.1.00 User's Guide	Information about how to establish a data transfer between third-party databases and BMC Atrium CMDB.	Administrators and developers	Print and PDF
BMC Configuration Management Configuration Discovery Integration for CMDB 7.1 Implementation Guide	<ul> <li>Information about the following:</li> <li>Transferring configuration data from BMC         Configuration Management to BMC Atrium         CMDB</li> <li>Normalizing discovered software configuration         data with the BMC Definitive Software Library         before transferring it to BMC Atrium CMDB.</li> </ul>	Administrators and developers	Print and PDF
BMC Foundation Discovery and BMC Topology Discovery Installation and Configuration Guide	Information about the configuration of a connection between BMC Atrium CMDB and the discovery data store from BMC Foundation Discovery and BMC Topology Discovery.	Administrators and developers	Print and PDF
BMC Foundation Discovery and BMC Topology Discovery User Guide	Information about the synchronization of the topology datastore with BMC Atrium CMDB.	Administrators and developers	Print and PDF
BMC Remedy Action Request System 7.1.00: C API Reference	Information about AR System data structures, C API function calls, and OLE support.	Administrators and programmers	Print and PDF
BMC Remedy Action Request System 7.1.00: Configuring	Information about configuring AR System servers and clients, localizing, importing and exporting data, and archiving data.	Administrators	Print and PDF
BMC Remedy Action Request System 7.1.00: Form and Application Objects	Information about components necessary to build applications in AR System, including applications, fields, forms, and views.	Developers	Print and PDF

Title	Document provides	Audience	Format
BMC Remedy Action Request System 7.1.00: Installing	Procedures for installing AR System	Administrators	Print and PDF
BMC Remedy Action Request System 7.1.00: Installing and Administering BMC Remedy Mid Tier	Information about the mid tier, including mid tier installation and configuration, and web server configuration.	Administrators	Print and PDF
BMC Remedy Action Request System 7.1.00: Integrating with Plug- ins and Third-Party Products	Information about integrating AR System with external systems using plug-ins and other products, including LDAP, OLE, and ARDBC.	Administrators and developers	Print and PDF
Definitive Software Library 7.1 Administrator's Guide	Information about installing and configuring DSL, updating vendor data, and connecting DSL to BMC Configuration Management and AR System databases	Administrators	Print and PDF



Chapter

1

# **Using the CMDB Console**

This section explains the CMDB Console concepts and features, and provides the steps for accessing the console and a list of common console tasks and buttons.

The following topics are provided:

- Understanding BMC Atrium CMDB (page 12)
- The CMDB Console tabs (page 13)
- Accessing the CMDB Console (page 14)
- Understanding the CMDB Home tab (page 17)
- Using common buttons (page 20)
- Performing common console tasks (page 20)

# **Understanding BMC Atrium CMDB**

The BMC Atrium CMDB 2.1.00 provides all the necessary features to implement a CMDB in your environment. With the BMC Atrium CMDB, any application that is integrated with the CMDB—both data consumers and data providers alike—can access the configuration data from a centralized database. Figure 1-1 illustrates the BMC Atrium CMDB architecture.

Provider dataset 1

Provider dataset 2

Provider dataset 3

Reconciled production dataset

Reconciliation Engine

Figure 1-1: BMC Atrium CMDB architecture

Configuration data consists of configuration items (CIs) and the relationships among them. A CI is a physical, logical, or conceptual entity that is part of your environment and has configurable attributes.

Each CI or relationship is stored in a particular dataset within BMC Atrium CMDB. A dataset can represent data from a particular provider as shown in Figure 1-1, a snapshot of data at a particular time, or any other set you want to create. A component called the Reconciliation Engine identifies instances in multiple datasets that represent the same real-life CI or relationship, and merges them into a single instance in a target dataset, taking attributes from each based on precedence values you specify.

For more information about these and other BMC Atrium CMDB concepts, see the *Concepts and Best Practices Guide*.

## The CMDB Console tabs

The CMDB Console is the primary user interface for BMC Atrium CMDB. It contains the following tabs:

- CMDB Home—Enables you to view the CI and relationship data. The Overview navigation link of the console home page displays the overall status of BMC Atrium CMDB in a visual format. The CMDB Data navigation link contains sub-navigation links to perform tasks, such as viewing audit history, viewing related CIs, and searching instance data. Only users with either the CMDB Console User or CMDB Console Admin role can access this tab. For more information about the CMDB Home tab, see the appropriate section of this guide
- Class Manager—Enables you to view and modify the classes in your data model. Only users with either the CMDB Definitions Viewer or CMDB Definitions Admin role can access this tab. For more information about the Class Manager, see the *Installation and Configuration Guide*.
- Federation Manager—Enables you to set up federated data, which is stored outside BMC Atrium CMDB and linked from your CIs. Although any user with the CMDB Console User role can view the data on this tab, only users with the CMDB Console Admin, CMDB Data Change All or CMDB Data Change role can create or modify the federation data. For information about the Federation Manager, see the *Installation and Configuration Guide*
- Reconciliation Manager—Enables you to reconcile CI and relationship instance data from multiple datasets into a single instance in your production dataset. Only users with the CMDB RE User, CMDB RE Manual Identification, or CMDB RE Definitions Admin role can access this tab. For more information about the Reconciliation Manager, see the *Installation and Configuration Guide*.

# **Accessing the CMDB Console**

You can access the CMDB Console with both BMC Remedy User and web clients. The following sections explain each of these methods.

## With BMC Remedy User

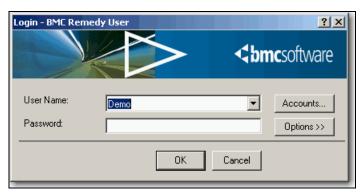
This section presents the steps to access the console with BMC Remedy User.

## ► To access the CMDB Console with BMC Remedy User

- 1 Open BMC Remedy User by performing one of the following actions based on your operating system:
  - On Windows 2000, choose Start > Programs > Action Request System > BMC Remedy User.
  - On Windows XP, choose Start > All Programs > Action Request System > BMC Remedy User.

The Login dialog box appears.

Figure 1-2: Login dialog box



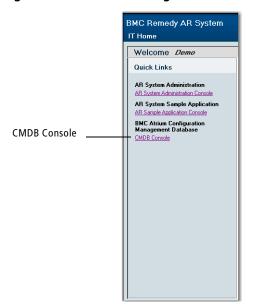
- 2 Specify the following details in the Login dialog box:
  - In the User Name field, type your user name.
  - In the Password field, type your password.

- Click Options to set the Preference Server settings.
- In the Preference Server field, specify the server name if your administrator has set up a preference server for centralized user preferences. If a Preference Server has not been set up, you can manually add a preference server (and the TCP and RCP port information, if necessary). For more information, see *BMC Remedy Action Request System 7.1.00: Configuring*.
- In the Authentication field, specify the authentication string provided by your administrator.

#### 3 Click OK.

The BMC Remedy CMDB Home Page appears displaying a navigation pane with various links to AR System forms and applications including the CMDB Console.

Figure 1-3: CMDB Home Page



4 From the navigation pane, click CMDB Console.

The Overview page appears, as shown in Figure 1-4 on page 16. Note that the Instance Distribution graph is visible only if BMC Atrium CMDB is configured according to instructions in the *Installation and Configuration Guide*.

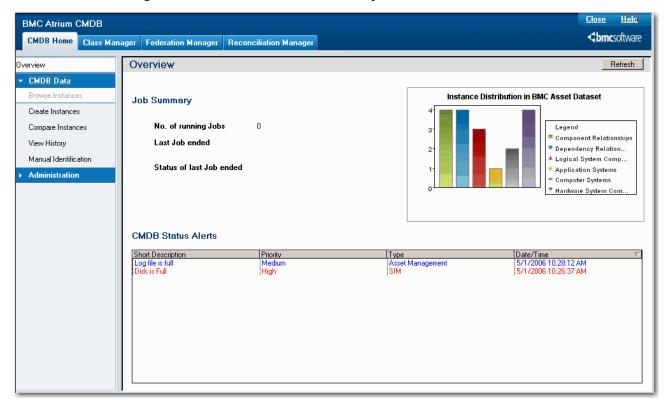


Figure 1-4: CMDB Console—BMC Remedy User

## With a browser

This section explains the steps to access the console from a browser.

#### ▶ To access the CMDB Console with a browser

1 Launch your browser and enter the URL designated by your administrator:

http://<midtier>:<port>/arsys/apps/<arserver>/AtriumCMDBConsole

#### where:

- <mi dti er> is the name of the web server where the BMC Remedy Mid Tier is installed.
- <port> is an optional port number, which is required if the web server is not using the default port (port 80).
- <arserver> is the name of the CMDB server.

The Login window appears.

- 2 Specify the following details in the Login dialog box:
  - In the User Name field, type your user name.
  - In the Password field, type your password.
  - In the Authentication field, type the authentication string provided by your administrator.
- 3 Click Log In.

The Overview page appears as shown in Figure 1-5 on page 18.

# **Understanding the CMDB Home tab**

The CMDB Home tab provides quick access to status information about BMC Atrium CMDB. It provides various links to perform configuration data-related tasks, such as:

- Browsing instances (page 26)
- Creating CI and relationship instances (page 36)
- Creating relationship instances (page 38)
- Editing instances (page 42)
- Viewing related CIs (page 46)
- Viewing instance history (page 44)
- Launching federated data (page 54)
- Comparing instances (page 55)

All of these tasks require either the CMDB Console Admin or CMDB Console User role. For more information about the roles used with BMC Atrium CMDB, see the *Concepts and Best Practices Guide*.

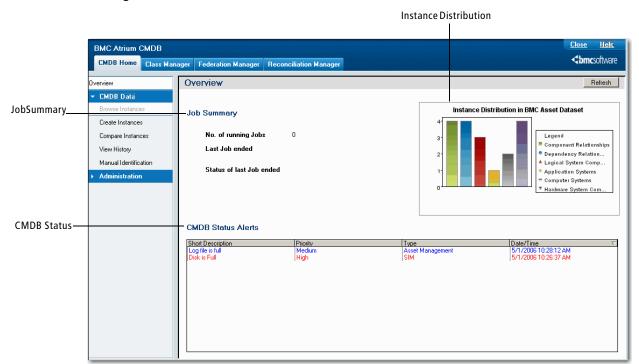


Figure 1-5: CMDB Console—CMDB Home tab

## **The Overview page**

Table 1-1 describes the user interface components of the console's Overview page.

Table 1-1: CMDB Console—Overview page components

Name	Description
Job Summary	Displays the summary of the jobs scheduled in the Reconciliation Engine. If no jobs that are currently running, it displays a value of 0 in the No. of running jobs row, as displayed in Figure 1-5.
CMDB Status Alerts	Displays status alerts for BMC Atrium CMDB from other integrating applications. The alerts in the table are updated when you click the Refresh button on the top of the Instance Distribution Graph.
Instance Distribution Graph	Displays a graph of the distribution of instances within the BMC Asset dataset.

## Controls on the CMDB Home tab

This section explains the navigation links and buttons of the CMDB Home tab.

## **Navigation links**

The left navigation pane of the CMDB Home tab displays the following links:

- Overview—Enables you to view status alerts, summary of the reconciliation jobs, and a distribution graph of instances in the BMC Asset dataset.
- CMDB Data—Enables you to view, create, and modify CIs and relationships. Click this link to hide or show the following sub-links:
  - Browse Instances—Enables you to search for instances. For more information about the tasks you can perform using this link, see "Browsing instances" on page 26.
  - Create Instances—Enables you to create CI and relationship instances. For more information about the tasks you can perform using this link, see "Creating relationship instances" on page 38 and "Creating CI and relationship instances" on page 36.
  - Compare Instances—Enables you to compare two instances within the same dataset or from two different datasets. For more information about the tasks you can perform using this link, see "Comparing instances" on page 55.
  - View History—Enables you to view the audit history of a specific instance. To be able to view the instance history, the auditing option must be enabled both at the class level and attribute level. For more information about the tasks you can perform using this link, see "Viewing instance history" on page 44.
  - Manual Identification—Enables you to manually identify instances for reconciliation jobs. For more information about manually identifying instances, see the *Installation and Configuration Guide*.
- Administration—Enables the CMDB system administrators to configure settings for the CMDB Console, such as managing filters for the CI Relationship Viewer. Only users with the CMDB Console Admin and CMDB Definitions Viewer, or CMDB Definitions Admin role can access this link. For more information about performing administrative tasks in the CMDB Console, see the Installation and Configuration Guide.

## **Help button**

Click Help to access BMC Atrium CMDB Help.

## **Logout or Close button**

If you are accessing the CMDB Console with a browser, click Logout to log out of the AR System server where BMC Atrium CMDB is installed.

If you are accessing the CMDB Console with BMC Remedy User, click Close to close the CMDB Console window.

# **Using common buttons**

Table 1-2 provides a list of common buttons in the CMDB Console.

### \_\_\_ *NOTE* \_

Not all buttons in the table appear on all console windows.

Table 1-2: BMC Atrium CMDB common buttons

Button name	Description
Clear	Clears all fields that are used for specifying a search criteria or data entry.
Refresh	Reloads an image, a table, or a page. Use this button to update your window with current information.
Next	Displays the next set of data rows in a table.
Previous	Displays the previous set of data rows in a table.
Delete	Deletes selected objects.
View	Opens the selected object in a detailed window for you to view or edit. This button is available on most CMDB Console windows.
Save	Saves the selected object.
Close/Logout	Closes the window that is in focus and logs you out of the application.

# **Performing common console tasks**

The CMDB Console provides a set of features that are available on all console windows or tables. The following sections describe these common console tasks.

- Sorting data in a table (page 20)
- Setting preferences for a table (page 21)
- Browsing data in a table (page 22)
- Creating reports (page 24)

## Sorting data in a table

When you search for data, such as relationships or instance history, the search results are displayed in a table. For more information about searching for CIs and relationships, see "Browsing instances" on page 26.

The sort order arrow in the column heading indicates the current sort order of the column. You can sort a table by any of its columns.

## To sort data in a table

• Click the column heading of the column by which you want to sort the data.

If you click a currently sorted column, the data is displayed in the opposite order of the current display. If you click any other column, the data is sorted in ascending order for the first time. For example, if the data is currently displayed in ascending order of a column, click the column heading to sort the data in descending order.

## **Setting preferences for a table**

You can add or remove columns from a table, and with BMC Remedy User also change their display order. You can also save these preference settings.

## With BMC Remedy User

See the BMC Remedy User online Help (Working with fields > Table fields) for information about setting table preferences.

## With a browser

This section explains how to set preferences for tables from a browser.

## To set preferences for a table

1 Click the Preference menu above the table.

The Preference menu expands to display the preference options as shown in Figure 1-6 on page 22.

- 2 Choose any of the following options:
  - Add Column—Adds a column to the table. When you choose this option, a list of available columns is displayed. Choose a column that you want to add to the table. This option does not appear if there are no columns to add.
  - Remove Column—Removes a column from the table. When you choose this option, a list of available columns is displayed. Choose a column that you want to delete from the table.

Set preferences here. Search Results Showing 1 - 10 of 10 Page 1 ▼ ▶ Preferences ▼ CI Name Add Column ▶ Description Application0003 Remove Column 🕨 Application0013 Application0023 Save Application0033 Application0043 Application0053 Application0063 Application0073 0 Application0093 0 View CI Relationship Viewer Report

Figure 1-6: Setting preferences for a table—Browser

#### NOTE

The Add Column and Remove Column menus are available only if columns are available to add and remove, respectively.

- Reset—Resets the preferences to original settings.
- Save—Saves your preferences permanently. After your preferences are saved, you can revert back to an old setting only by clicking Reset.

## Browsing data in a table

A table in the CMDB Console displays only a specific number of rows at a given time. The browse controls of the table enable you to display the next or previous set of rows, also called a *chunk* or *page*.

## With BMC Remedy User

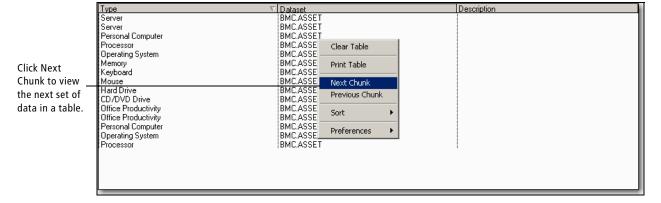
See the BMC Remedy User online Help (Working with fields > Table fields) for information about browsing table data.

#### To browse data in a table

1 Right-click anywhere in the table.

The context menu for the table appears, as shown in Figure 1-7.

Figure 1-7: Browsing data in a table—BMC Remedy User



2 To view the next set of rows in the table, click Next Chunk.

The next set of rows is displayed. To view the previous set of rows, click Previous Chunk.

#### NOTE

The Next Chunk and Previous Chunk menus are available only if data is available to view in the next or previous set or rows, respectively.

## With a browser

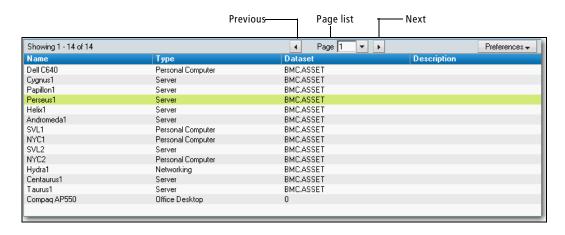
This section explains how to browse data in a table when accessing the CMDB Console with a browser.

#### To browse data in a table

Click the Next button on the table to view the next set of rows.

The next set of rows is displayed. To view the previous set of rows, click the Previous button. Figure 1-8 shows the Next and Previous buttons that appear with a table.

Figure 1-8: Browsing data in a table—Web



#### TIP

You can also type a page number or choose a page number from the Page list and press Enter to go directly to a specific page.

## **Creating reports**

BMC Atrium CMDB enables you to generate reports on your CIs and relationships. Reports are available from various links on the navigation pane, such as Browse Instances, Compare Instances, and View History. Reports in BMC Atrium CMDB are based on CMDB forms.

For more information about generating reports with a browser, see *BMC Remedy Action Request System 7.1.00: Installing and Administering BMC Remedy Mid Tier.* For more information about generating reports with BMC Remedy User, see BMC Remedy User Help.



## Chapter

# 2 Searching BMC Atrium CMDB data

This section explains how to search for CI and relationship instances, save searches, and manage searches.

The following topics are provided:

- Browsing instances (page 26)
- Working with searches (page 31)

# **Browsing instances**

Use the Browse Instances link on the CMDB Home tab to query specific instances using search criteria. You can search for both CI and relationship instances using the Quick Search and Advanced Search options.

#### NOTE -

You must have either the CMDB Console User or CMDB Console Admin, and the CMDB Definitions Viewer or CMDB Definitions Admin role to search for instances in the CMDB Console.

## **Using the Quick Search option**

Use the Quick Search option to search instances using key attributes, such as Class Name, Class Type, and Namespace. After your search results are displayed in the Search Results table, you can select an instance to view and edit its attributes.

#### TIP -

You can also use a saved search to view instances. To use the saved search option, select a search name from the Saved Searches list. The search results are displayed in the Search Results table.

## ► To browse instances using the Quick Search option

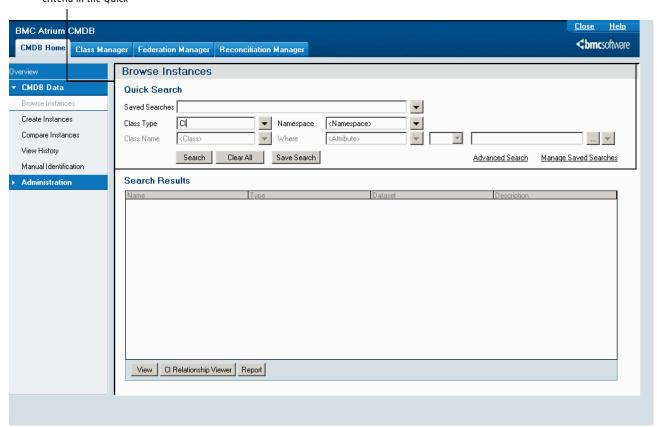
1 From the navigation pane in the CMDB Home tab, choose CMDB Data > Browse Instances.

The Browse Instances window appears, as shown in Figure 2-1 on page 27.

- 2 In the Quick Search pane, specify the following criteria for the search:
  - From the Class Type list, select a class type.
  - From the Namespace list, select a namespace.

Figure 2-1: Browse instances window—Before a search

Specify search criteria in the Quick

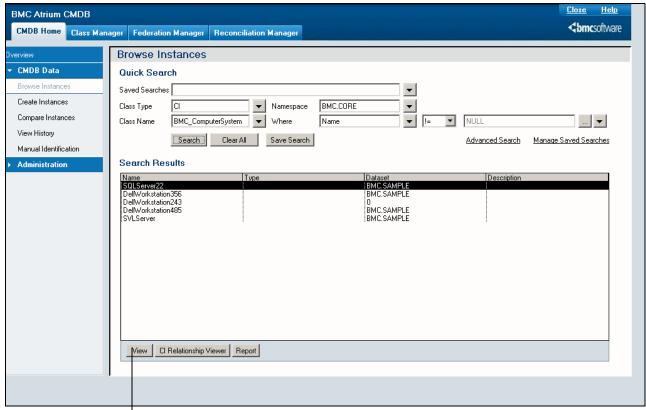


- From the Class Name list, select a class name.
- From the Where list, select an attribute.
- From the operator list, select an operator for the where clause.
- From the value list, select a value.

#### 3 Click Search.

The search results are displayed in the Search Results table, as shown in Figure 2-2.

Figure 2-2: Browse Instances window—Search results

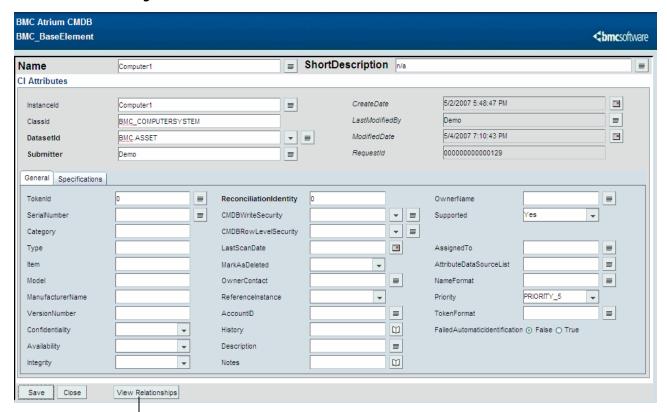


Select an instance and click View.

4 To view details for a specific instance, select an instance from the Search Results table, and click View.

A class form appears that displays the attribute details for the given instance, as shown in Figure 2-3. You can edit instance attributes in the class form. For more information about editing instances, see "Editing instances" on page 42.

Figure 2-3: Browse instances window—View instance



Click View Relationships here.

- 5 To view relationships for the instance, click View Relationships in the lowersection of the window.
  - The Manage Relationships window appears. For more information about viewing relationships using class forms, see "Viewing related CIs using class forms" on page 46.
- 6 To return to the CMDB Console, click Close in both the Manage Relationships window and the class form window.

## **Using the Advanced Search option**

With the Advanced Search option, you can search on the values of multiple attributes instead of one attribute allowed in a Quick Search. You can search for instances that match either one or more, or all of the attribute criteria you supply.

## To browse instances using the Advanced Search option

1 From the navigation pane in the CMDB Home tab, choose CMDB Data > Browse Instances.

The Browse Instances window appears in the display area.

2 Specify an initial search criteria in the Quick Search pane of the Browse Instance window.

You cannot click the Advanced Search link until all fields in the Quick Search pane are populated. For more information about using the Quick Search pane, see "Using the Quick Search option" on page 26.

3 In the upper-right section of the window, click the Advanced Search link. The Advanced Search window appears, as shown in Figure 2-4.

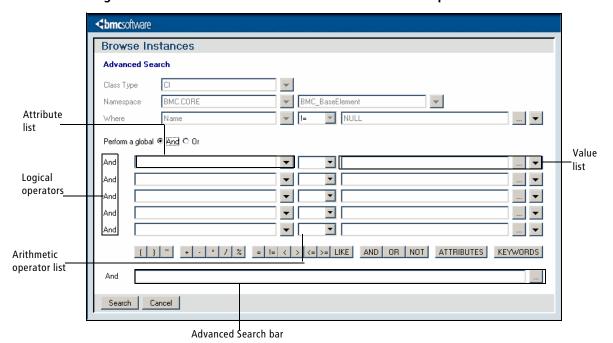


Figure 2-4: Browse Instances window—Advanced search options

- 4 For Perform a global option, select a logical operator.
  - And—Only instances that match all of the attribute criteria specified, including the attribute specified on the Quick Search pane, are returned by the search.
  - Or—Instances that match one or more of the attribute criteria specified are returned.

When you select a value here, the labels on the attribute rows below change to match it. For example, if you choose the Or logical operator in the Perform a global option field, the labels in the section below change to Or.

- 5 From the attribute list underneath Perform a global option, select an attribute.
- 6 From the arithmetic operator list (see Figure 2-4), select an arithmetic operator.
- 7 Select a value for the attribute. If the value you want is not in the list, select (manual) and type the value in the attached field.

Repeat steps 4 through 6 for each attribute on which you want to search. If your search criteria exceed the number of lines provided, use the Advanced Search bar at the bottom of the window (see Figure 2-4 on page 30).

8 Click Search.

The Advanced Search window closes and the search results are displayed in the Search Results table of the Browse Instances window. You can view any instance in detail and manage relationships as described in step 4 and step 5 of "Using the Quick Search option" on page 26.

# **Working with searches**

With the CMDB Console, you can save a search, modify an existing search, copy a search, and delete a search. The following sections discuss these search topics in detail.

## **Saving searches**

The Save Search link enables you to save the search criteria that you use on a regular basis. You can later run this search from the Quick Search window. The following types of saved searches exist in BMC Atrium CMDB:

- Public—Only users with the CMDB Console Admin role can create or modify this type of a search. All users can use a public search.
- Private—Any user of BMC Atrium CMDB can create this type of a search. You can only use a private search that you created.

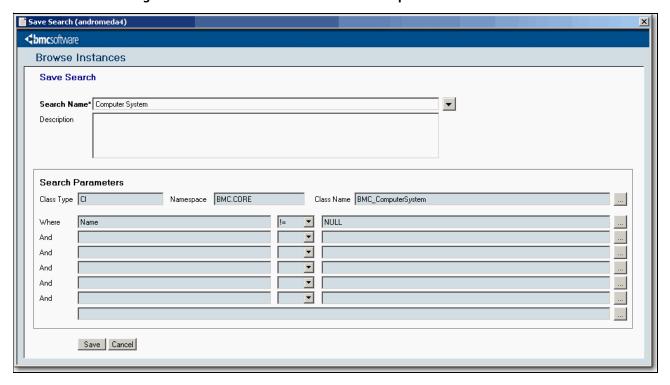
#### To save searches

1 Search for instances as explained in "Using the Quick Search option" on page 26. The search results are displayed in a table.

2 Click Save Search.

The Save Search window appears, as shown in Figure 2-5.

Figure 2-5: Browse Instances—Save Search option window



- 3 Specify the following details in the Save Search window:
  - In the Search Name field, specify a name for the search.The search name you specify in this field is used later to query saved searches.
  - In the Description field, optionally provide a description for the search.
  - Optionally, modify the search criteria.
- 4 Click Save.

The new search is saved and the Save Search window closes.

## **Managing saved searches**

The Manage Saved Search link enables you to modify existing searches. The fields that you can modify are Search Name, Description, Status, and the search criteria.

## To modify saved searches

1 From the navigation pane in the CMDB Home tab, choose CMDB Data > Browse Instances.

The Browse Instances window appears.

- 2 In the upper section of the window, click the Manage Saved Searches link.
  The Manage Saved Searches window appears.
- 3 From the Search Name list, select a saved search.

#### - NOTE -

You can view only public searches and the private searches that you created. Searches created by other users are not visible to you.

- 4 To modify the saved search, make any of the following changes as required:
  - In the Search Name field, specify a different name for the search.
  - From the Status list, select a status to modify the existing selection. Setting the status to Inactive prevents the search from appearing in the list on the Quick Search window.
  - On the Attributes tab, change or add search criteria. For more information about adding search criteria, see "Using the Quick Search option" on page 26.
- 5 Click Save.

The modified search is now saved.

6 Click Close to close the Manage Saved Search window.

## **Copying saved searches**

You can copy and rename an existing saved search that contains most of the criteria you want to use. This enables you to quickly create a new saved search.

## To copy an existing search

1 From the navigation pane in the CMDB Home tab, choose CMDB Data > Browse Instances.

The Browse Instances window appears.

2 From the Saved Searches list, select the search that you want to copy.

The search values appear in the fields.

3 Click Save Search.

The Browse Instances window appears displaying the save search options, as shown in Figure 2-5 on page 32.

- 4 Specify the following details:
  - In the Search Name field, specify a name for the search.
     The search name you specify in this field is used later to query saved searches.
  - In the Description field, provide a description for the search.
- 5 Click Save.

The copied search is saved. To modify the search criteria for the search you copied, click Manage Saved Search. For more information about working with the Manage Saved Search link, see "Managing saved searches" on page 33.

## **Deleting saved searches**

The Delete button on the Manage Saved Search window enables you to delete a saved search.

#### — NOTE -

Any users can delete the private searches they created. To delete public searches, or private searches created by others, you must have the CMDB Data Change All role.



# Chapter 3

# **Working with instances**

This section explains how to create CI and relationship instances, and how to view instance history, related CIs, and federated data.

The following topics are provided:

- Creating CI and relationship instances (page 36)
- Editing instances (page 42)
- Viewing instance history (page 44)
- Viewing related CIs (page 46)
- Comparing instances (page 55)
- Identifying instances (page 58)
- Deleting relationships (page 58)

# Creating CI and relationship instances

This section describes how to create CI and relationship instances.

## **Creating CI instances**

To create an instance, know both the name of the class you are instantiating and the namespace in which it resides. The classes provided with BMC Atrium CMDB in the Common Data Model, such as BMC\_ComputerSystem, reside in the BMC. CORE namespace. Classes provided with other integrating BMC Software products reside in other namespaces, as should the classes you create.

If you do not know the namespace for the class you are instantiating, contact your BMC Atrium CMDB administrator.

#### — NOTE —

You must be an AR System administrator or have either CMDB Data Change or CMDB Data Change All privileges to create an instance of any class in BMC Atrium CMDB. Users with the CMDB Data View or CMDB Data View All role can create instances only of classes where all required attributes either have a default value or have the Allow Any User to Submit option enabled.

#### To create a CI instance

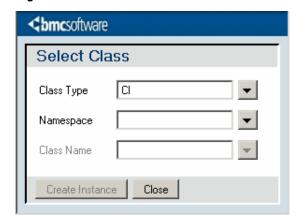
1 Log in to the CMDB Console.

The CMDB Console appears. For more information about logging in to the CMDB Console, see "Accessing the CMDB Console" on page 14.

2 From the navigation pane in the CMDB Home tab, choose CMDB Data > Create Instances.

The Select Class window appears, as shown in Figure 3-1.

Figure 3-1: Select Class—Initial window

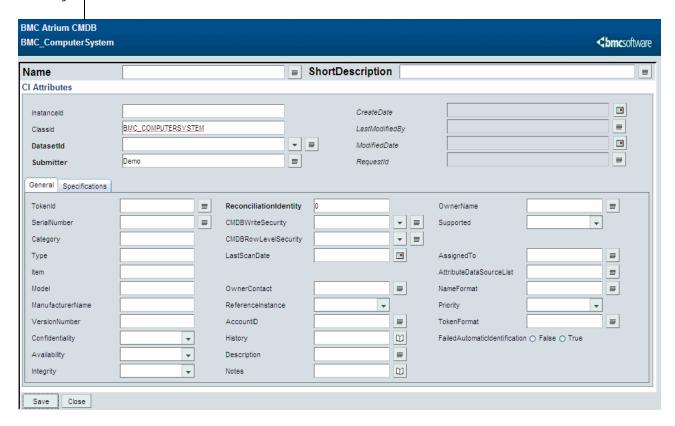


- 3 Specify the following details:
  - From the Class Type list, select CI.
  - From the Namespace list, select the namespace for the class you want to instantiate, for example, BMC. CORE.
  - From the Class Name list, select the class you want to instantiate, for example, BMC\_ComputerSystem.
- 4 Click Create Instance.

The selected class form appears in New mode. For example, if you are creating an instance of the BMC\_ComputerSystem class, the BMC.CORE:BMC\_ComputerSystem form appears in New mode as shown in Figure 3-2 on page 37.

Figure 3-2: BMC\_ComputerSystem window—New mode

Naming convention for class



- 5 Specify the following required attributes:
  - Name—The name of the new instance.
  - DatasetId—The ID of the dataset to which the new instance belongs. Choose the appropriate dataset from the list. You can use BMC. SAMPLE if creating test data.

- CMDBRowLevelSecurity—Select the groups and roles that have permission to view this instance.
  - CMDBRowLevelSecurity is required if using multitenancy. For multitenancy, select the group or role that should have row-level access to this instance.
- CMDBWriteSecurity—Select the groups and roles that have permission to modify or delete this instance.
  - CMDBWriteSecurity is used with multitenancy and you want specific read-only users to have write access to the CI. Those in the CMDB Data Change Group already have write access to the CI, but those in the CMDB Data View Group do not have write access unless the group is placed in this field.
  - For more information about permissions in BMC Atrium CMDB, see the *Concepts and Best Practices Guide*.
- 6 Optionally, specify additional attribute values for the instance in the General and Specifications tab.
  - For more information about the class attributes, see the Data Model Help in the Docs directory of the product DVD.
- 7 Click Save.
  - The new instance is saved in BMC Atrium CMDB.
- 8 Click Close.

# **Creating relationship instances**

In BMC Atrium CMDB, relationships between CIs are most often created in bulk by way of discovery applications, such as BMC Foundation Discovery and BMC Topology Discovery. However, you can use the CMDB Console to create relationships between CIs for special cases, such as when you have two CIs that were created in BMC Atrium CMDB using the CMDB Console.

# NOTE

You must be an AR System administrator or have either CMDB Data Change or CMDB Data Change All privileges to create an instance of any class in BMC Atrium CMDB. Users with the CMDB Data View or CMDB Data View All role can create instances only of classes where all required attributes either have a default value or have the Allow Any User to Submit option enabled.

Before you relate two instances, make sure you decide on the following points:

- Which relationship class you want to use to relate the two CIs. The classes available to you depend on the class of each CI.
- Which CI is the source member and which is the destination member of the relationship.

For information about which CI classes can be related by a relationship class and which is the source or destination member, see the *Common Data Model Diagram* in the Docs directory of the product DVD.

- TIP

You can also create relationships from the Manage Relationships window of the class form. For instructions on beginning the process from this window, see "Viewing related CIs using class forms" on page 46.

# ► To create a relationship instance

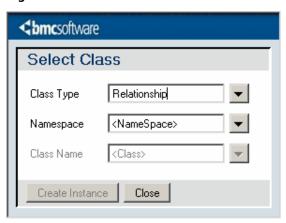
1 Log in to the CMDB Console.

The CMDB Console appears. For more information about logging in to the CMDB Console, see "Accessing the CMDB Console" on page 14.

2 From the navigation pane in the CMDB Home tab, choose CMDB Data > Create Instances.

The Select Class window appears, as shown in Figure 3-3.

Figure 3-3: Select Class—Initial window



- 3 Specify the following details:
  - From the Class Type list, select Relationship.
  - From the Namespace list, select the namespace for the class you want to instantiate, for example, BMC. CORE.
  - From the Class Name list, select the class you want to instantiate, for example, BMC\_Component.
- 4 Click Create Instance.

The selected class form appears in New mode. For example, if you are creating an instance of the BMC. CORE: BMC\_Component class, the BMC.CORE:BMC\_Component appears in New mode, as shown in Figure 3-4 on page 40.

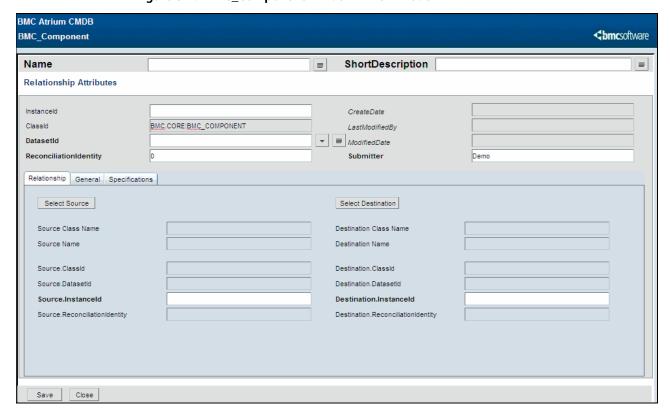


Figure 3-4: BMC\_Component window—New mode

- 5 Specify the following required attributes:
  - Name—The name of the new relationship instance.
  - DatasetId—The ID of the dataset to which the new instance belongs. Choose the appropriate dataset from the list. You can use BMC. SAMPLE if creating test data.
  - CMDBRowLevelSecurity—Select the groups and roles that have permission to view this instance.
    - CMDBRowLevelSecurity is required if using multitenancy. For multitenancy, select the group or role that should have row-level access to this instance.
  - CMDBWriteSecurity—Select the groups and roles that have permission to modify or delete this instance.
    - CMDBWriteSecurity is used with multitenancy and you want specific read-only users to have write access to the CI. Those in the CMDB Data Change Group already have write access to the CI, but those in the CMDB Data View Group do not have write access unless the group is placed in this field.
    - For more information about permissions in BMC Atrium CMDB, see the *Concepts and Best Practices Guide*.
- 6 Perform the following steps to specify the source instance:
  - a On the Relationship tab, click Select Source.
     The Select Instance window appears.

b Search for the instance by specifying key fields.

For more information about searching instances, see "Browsing instances" on page 26.

c Click OK.

The Select Instance window closes and the source instance appears on the Relationship tab.

- 7 Perform the following steps to specify the destination instance:
  - a On the Relationship tab, click Select Destination.

The Select Instance window appears.

b Search for the instance by specifying key fields.

For more information about searching instances, see "Browsing instances" on page 26.

c Click OK.

The Select Instance window closes and the destination instance appears on the Relationship tab.

8 Optionally, specify additional details for the instance in the General and Specifications tabs.

For more information about the class attributes, see the Data Model Help in the Docs directory of the product DVD.

9 Click Save.

The relationship between the two given CIs is created.

10 Click Close.

# **Editing instances**

You edit instances using the Browse Instances link on the CMDB Home tab.

### NOTE -

To edit an instance you must have one of the following roles and permissions: the CMDB Data Change All role, the CMDB Data Change role and row-level security on the instance, the CMDB Data View All role and write security on the instance, or the CMDB Data View role and both row-level and write security on the instance.

For more information about permissions in BMC Atrium CMDB, see the *Concepts* and *Best Practices Guide*.

# To edit instances

- 1 Search for instances as explained in "Using the Quick Search option" on page 26. The search results are displayed in the Search Results table.
- 2 Select an instance in the Search Results table and click View.

The class form window appears in Modify mode, displaying the attribute information for the given instance. Figure 3-5 on page 43 displays the class form window for BMC\_Application.

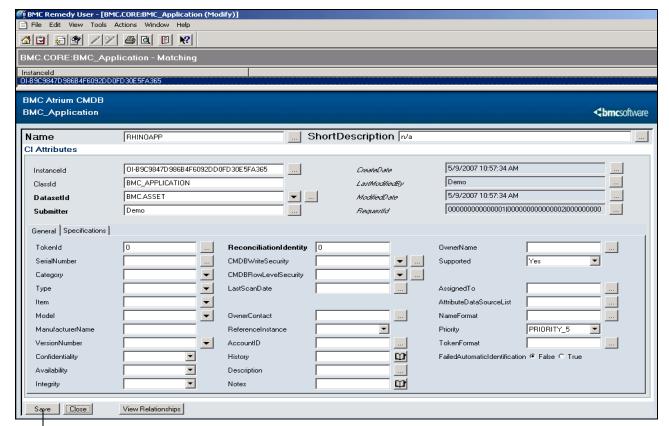


Figure 3-5: BMC\_Application window—Modify mode

Click Save

- 3 Edit the fields as you need.
- 4 Click Save.

The modified instance is saved.

# Viewing instance history

You can view the audit history of an instance to track all the changes made to it. There are two types of auditing, Copy and Log, saves different information about audited instances. For more information about the audit feature, see the Concepts and Best Practices Guide.

#### - IMPORTANT-

You can view history only for classes that have auditing enabled and that have at least one attribute with an Audit Option other than None.

# To view instance history

- 1 From the navigation pane in the CMDB Home tab, choose CMDB Data > View History.
- 2 Search for instances as explained in "Using the Quick Search option" on page 26. The search results are displayed in the Search Results table.
- 3 From the search results table, select an instance and click Next. If the Audit Type for the class is set to Log in the Class Manager, the Log

Information list for the selected attribute is displayed in the View Instance History window, as shown in Figure 3-6.

**BMC Atrium CMDB <br/>
<b><br/>
dbmc**software CMDB Home Class Manager Federation Manager Reconciliation Manager View Instance History **CMDB Data** Step 3 Select and view a history entry Browse Instances BMC.CORE Class Type Namespace Create Instances BMC Mainframe Class Name Cl Name Mainframe Compare Instances Submitter Log Information View History PhysicalMemory: 1 DatasetId: BMC.ASSET 9/8/2006 1:12:31 P PhysicalMemory; 9/8/2006 1:12:33 P PhysicalMemory; 9/8/2006 1:12:35 P PhysicalMemory; Change Demo Administration Demo InstanceId: AG000C2933A41Bps4BRQCHwdAAzYUA ClassId: BMC\_MAINFRAME < Back

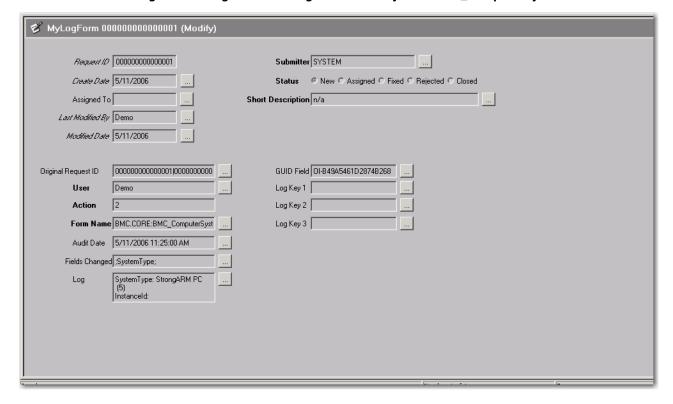
Figure 3-6: View History window—Audit history list

- 4 Select an audit history entry from the results table.
- 5 Click View to drill down to view details for the history entry.

The history entry contains certain attribute values for the instance and information about the audit. Depending on the type of auditing enabled for the class, the entry is displayed in a class form or in a log form, which contains only audit-related fields. Figure 3-7 shows an entry in a log form.

For more information about types of auditing and the information written in an audit, see the *Concepts and Best Practices Guide*.

Figure 3-7: Log form showing an audit entry from BMC\_ComputerSystem



# **Viewing related CIs**

BMC Atrium CMDB enables you to view CIs and their relationships using the following two options:

- Class forms—Displays the attribute details for the relationship in a class form.
- The CI Relationship Viewer—Displays the relationships for the instances in a graphical map. You can traverse this map from one CI to another to view relationships at all levels throughout your environment.

This section explains the procedures for both of these options.

#### NOTE -

To view related CIs, you must have one of the following roles: the CMDB Data Change All role, the CMDB Data Change role and row-level security on the instances being viewed, the CMDB Data View All role, or the CMDB Data View role and row-level security on the instances being viewed.

For more information about permissions in BMC Atrium CMDB, see the *Concepts and Best Practices Guide*.

# **Viewing related CIs using class forms**

Use the procedures in this section to view CIs and their relationships in a class form.

# To view relationships for a CI in a class form

- 1 Search for instances as explained in "Using the Quick Search option" on page 26.
  The search results are displayed in the Search Results table.
- 2 From the Search Results table, select the instance and click View.

The class form window appears, displaying the attributes of the CI as shown in Figure 3-8 on page 47.

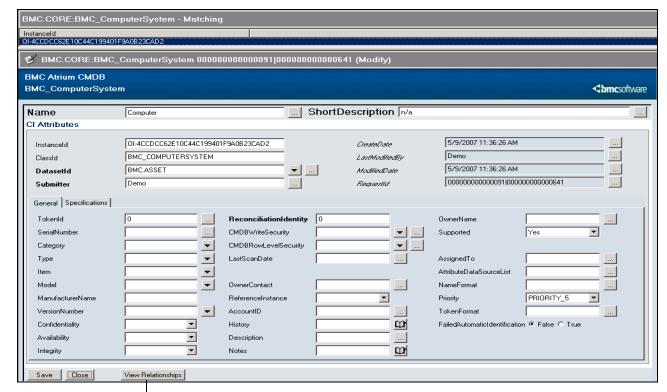


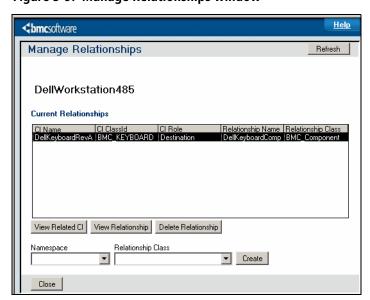
Figure 3-8: BMC\_ComputerSystem window—Modify mode

Click View Relationships here.

# 3 Click View Relationships.

The Manage Relationships window appears, as shown in Figure 3-9. The relationships for the selected instance are displayed in the Current Relationships table.





- 4 Select a relationship from the Current Relationships table and click View Relationship.
  - The relationship instance is displayed in a class form.
- 5 To view the related CI for the selected relationship instance, click View Related CI. The related CI for the instance is displayed in a class form.
- 6 To create a relationship for the current CI, perform the following actions:
  - a From the Namespace list, select the namespace of the relationship class you want to use, for example, BMC. CORE.
  - b From the Relationship Class list, select the class you want to instantiate, for example, BMC\_Component.
  - c Click Create.The class form appears for the new relationship.
  - d Specify the required attributes and click Save. For more information about specifying the required attributes, see "Creating relationship instances" on page 38.

### NOTE -

The new relationship is created with the current CI as the source member. To create a relationship with this CI as the destination member, you must do so from the Manage Relationships window for the source CI or from the Create Instance link on the CMDB Home tab.

7 To return to the CMDB Console, click Close in both the Manage Relationships window and the class form window.

# Viewing related CIs using the CI Relationship Viewer

The CI Relationship Viewer is an independent component that can be configured to display CIs and their relationships. In addition to being a component of the CMDB Console, the CI Relationship Viewer can also be integrated with other applications. For more information about integrating the CI Relationship Viewer with other applications, see the *Developer's Reference Guide*.

# Before you open the CI Relationship Viewer

You must enable JavaScript and ActiveX on an Internet Explorer browser before working with the CI Relationship Viewer. If you enable JavaScript at Medium or lower, the ActiveX controls are enabled automatically. If you enable JavaScript at High, you must manually enable ActiveX controls as well.

# ▶ To enable JavaScript

- 1 In Internet Explorer, choose Tools > Internet Options.
- 2 On the Security tab, click Custom Level.

- 3 In Security Settings, scroll to Scripting, and enable Active Scripting.
- 4 In the Reset Custom Settings box, choose a setting, and click OK to save and close.
  - Resetting to Medium or lower (Medium, Medium-Low, or Low) also enables ActiveX controls.
  - Resetting to High does not enable ActiveX controls. To do so, proceed to the "To enable ActiveX controls" procedure.
- 5 Close and reopen the browser for these settings to take effect.

# To enable ActiveX controls

- 1 In Internet Explorer, choose Tools > Internet Options.
- 2 On the Security tab, click Custom Level.
- 3 In Security Settings, scroll to ActiveX Controls and Plug-Ins, and enable:
  - Run ActiveX controls and plug-ins
  - Script ActiveX controls marked safe for scripting
- 4 Close and reopen the browser for these settings to take effect.

# Viewing relationships in the CI Relationship Viewer

Use the procedure in this section to view the relationships in the CI Relationship Viewer.

# To view relationships for a CI in the CI Relationship Viewer

- 1 Search for instances as explained in "Using the Quick Search option" on page 26.
  The search results are displayed in the Search Results table.
- 2 From the Search Results table, select the instance and click CI Relationship Viewer.
  The CI Relationship Viewer window appears as shown in Figure 3-10 on page 50.

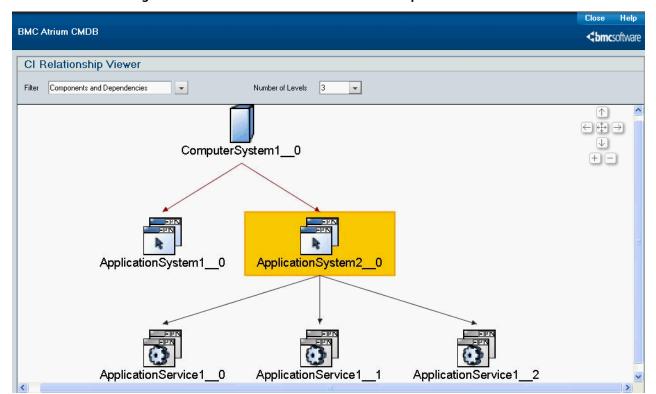


Figure 3-10: BMC Atrium CMDB—CI Relationship Viewer window

3 From the Filter list, select the filter that you want to use to limit the data displayed in CI Relationship Viewer.

A filter specifies criteria for the relationship information that is displayed in the CI Relationship Viewer. BMC Atrium CMDB ships with two default filters: All, and Components and Dependencies. You can create additional filters to suit your needs. For more information about creating filters, see the *Installation and Configuration Guide*.

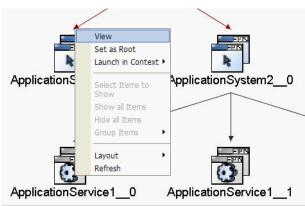
- 4 Perform one or more of the following actions on the CI Relationship Viewer window:
  - To view the attribute details for the selected CI, either double-click the icon of the CI, or right-click the instance and choose View from the context menu as shown in Figure 3-11.

The attribute details are displayed in a class form.

■ To view the relationship details for the selected instance, either double-click the arrow that relates the selected instance with another instance, or right-click the arrow and choose View from the context menu.

The relationship details are displayed in a class form.

Figure 3-11: CI Relationship Viewer window—View relationship details menu



# **CI** groups

CIs with the same class are grouped in the CI Relationship Viewer according to parameters set in the Display Settings tab of the CI Relationship Viewer Filters window. For more information about setting up CI Relationship Viewer filters, see the *Installation and Configuration Guide*.

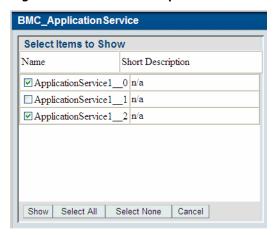
Groups are represented as folder icons. Hovering over a folder icon will display the class of the group and number of CIs contained by the folder as shown in Figure 3-12.

Figure 3-12: CI Relationship Viewer—Folder icon



Right-clicking a folder brings up context menu choices for the items in the group, including choices to show, hide, and group items. You can show specific items by choosing Select Items to Show from the context menu and clicking the appropriate check boxes as shown in Figure 3-13.

Figure 3-13: CI Relationship Viewer—Select Items to Show pane



# **Changing the root CI**

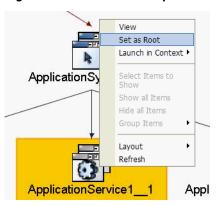
With the Set as Root option, you can change which CI is the focus of the relationship map. This feature enables you to move through the map from one related CI to another, viewing the relationships for each as you go. For example, if you start with a monitor as the root CI, you could set its related computer system as root and view its relationships, then set a related application as root and view its relationships.

# ► To change the root CI

1 From the CI Relationship Viewer window, right-click the CI that you want to set as root.

The context menu appears, as shown in Figure 3-14.

Figure 3-14: CI Relationship Viewer—Set as Root



2 Choose Set as Root.

The relationships for the selected CI are displayed in the CI Relationship Viewer window.

# Launching federated data

Federated data is information about a CI that is stored outside BMC Atrium CMDB and linked to the CI. To launch federated data from BMC Atrium CMDB, use the CI Relationship Viewer window.

You can view federated data links from the CI Relationship Viewer only if your administrator has set up these federated links in the Federation Manager. For more information about creating federated data, see the *Installation and Configuration Guide*.

A federated interface is the object stored in BMC Atrium CMDB containing the information necessary to access a particular type of federated data. A federated interface can be configured to launch using one of the following access methods:

- URL—Launches a URL to any web page.
- AR—Queries any CMDB form.
- Run Process—Launches any application executable, for example, Notepad. exe.

#### NOTE

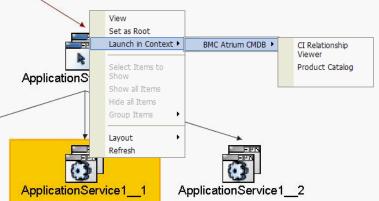
You cannot use a browser to launch federated data using the Run Process access method.

# ► To launch federated data from the CI Relationship Viewer

- 1 Search for instances as explained in "Using the Quick Search option" on page 26. The search results appear in the Search Results table.
- 2 From the Search Results table, click an instance row to select the instance for which you want to launch federated data.
- 3 Click CI Relationship Viewer.

The CI Relationship Viewer window appears containing the relationship map for the instance as shown in Figure 3-15.

Figure 3-15: CI Relationship Viewer—Launch in Context menu



- 4 Right-click the instance in the relationship map and choose Launch in Context.
  - The Launch in Context menu displays the federated interfaces linked to the selected CI. The BMC Atrium CMDB > CI Relationship Viewer menu is the default federated interface shipped with BMC Atrium CMDB. It launches the CI Relationship Viewer in a browser.
- 5 From the Launch in Context menu, choose a federated interface.
  The federated data launches according to the access method specified for the federated interface.

# **Comparing instances**

At any given time, BMC Atrium CMDB can contain more than one instance that represents the same real-world CI. These instances normally reside in different datasets.

In BMC Atrium CMDB, you can compare instances within a single dataset or from two different datasets. The differences between the two instances are displayed in a table.

# ▶ To compare instances

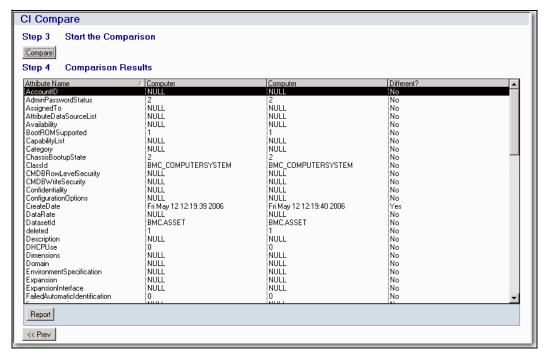
- 1 From the navigation pane in the CMDB Home tab, choose CMDB Data > Compare Instances.
- 2 Search for instances as explained in "Using the Quick Search option" on page 26.
  The search results are displayed in the Search Results table.
- 3 From the Search Results table, press and hold the CTRL key on your keyboard and select the two instances that you want to compare.
- 4 Click Next.

The Compare Instances window displays.

5 Click Compare.

The comparison results are displayed in the results table, as shown in Figure 3-16.

Figure 3-16: CI Compare window—Results list



6 To create a report on individual attribute differences between the instances, click Report.

The CI Browser window appears displaying each attribute comparison as an entry in an AR System form. Figure 3-17 shows the CI Browser window.

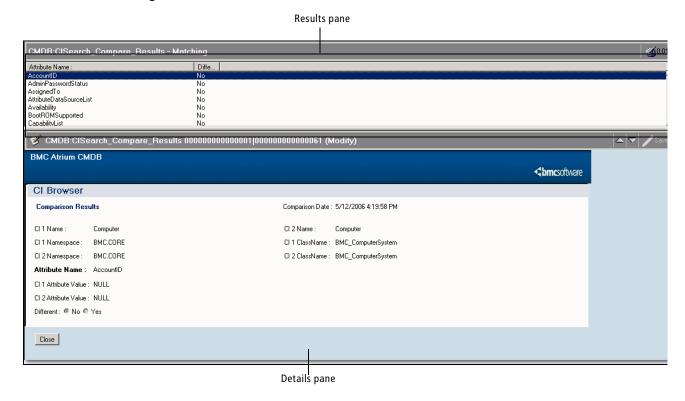


Figure 3-17: CI Browser window

7 In the Results pane of the CI Browser window, click the attribute for which you want to compare the instances.

In the Details pane, the attribute comparison for the two instances is displayed.

- 8 To run a report for the instances, press and hold the CTRL key on your keyboard and select the attributes you want to include in the Results pane.
- 9 Click Report.

For more information about generating reports with a browser, see *BMC Remedy Action Request System 7.1.00: Installing and Administering BMC Remedy Mid Tier.* For more information about generating reports with BMC Remedy User, see BMC Remedy User Help.

# **Identifying instances**

You can manually identify instances that were not identified automatically in a reconciliation job. Use the Manual Identification link under the CMDB Data section on the CMDB Console to identify instances. For more information about how to manually identify instances, see the *Installation and Configuration Guide*.

#### NOTE -

To use the Manual Identification link on the CMDB Console, you must have the CMDB RE Manual Identification privilege.

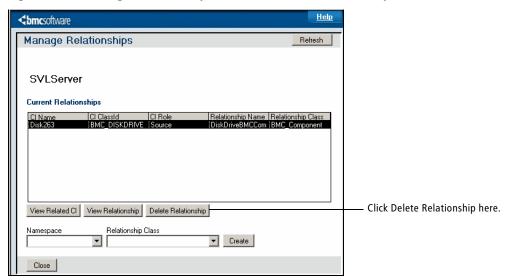
# **Deleting relationships**

You can delete relationships for a given CI instance using the Delete Relationship button on the Manage Relationships window.

# ▶ To delete relationships

1 Search for instances as explained in "Using the Quick Search option" procedure on page 26.

Figure 3-18: Manage Relationships window—Delete Relationship button



2 From the Current Relationships table, select the instance you want to delete and click Delete Relationship.

The selected instance is now deleted.

- 3 Click Refresh to refresh the Current Relationships table.Notice that the deleted relationship instance does not appear in the table.
- 4 To return to the CMDB Console, click Close on both the Manage Relationships window and the class form window.



# **Glossary**

#### abstract class

A *class* that has *attributes* but of which no instances can be created. An abstract class exists for the purpose of creating an organizational layer without a database join. See also *data replication*.

#### account

An entity or party whose data is represented in BMC Atrium CMDB, and to whom specific levels of permission can be granted. Specifying instance permission by account enables BMC Atrium CMDB to support *multitenancy*.

#### activity

An individual reconciliation task that can be grouped together in a defined sequence to form a reconciliation job. You cannot run an activity by itself; only as part of a job. See also Comparison activity, Copy Dataset activity, Delete Dataset activity, Execute Job activity, Identification activity, Merge activity, Purge Dataset activity, Rename Dataset activity.

#### attribute

A property or characteristic of a *class*, such as the IP address of a computer system. An attribute equates to a column on a database table or a field on an AR System form.

# attribute permission

Permission to view or change the value in the attribute for any instance, assuming valid *instance permissions*.

#### attribute substitution

A method of data federation in context that uses placeholders to represent *attribute*s from a linked *class*. Launching the link triggers the respective *attribute* values to be substituted for the placeholders.

#### audit

A logging of attribute values and other information for purposes of tracking the history of changes to *instance* data. An audit is triggered when the value of one or more specified *attributes* changes or when the instance is created or deleted.

#### hase class

A *class* that has no *superclass*.

# **BMC Atrium Integration Engine**

A product that enables you to transfer large amounts of data between third-party data sources and both the AR System and BMC Atrium CMDB.

# **Business Service Management (BSM)**

The concept of prioritizing IT efforts to support the overall goals of the business.

#### cardinality

The number of members a *relationship class* can have on each side. Cardinality can be one to one, one to many, many to one, or many to many.

#### cascading delete

To automatically delete, or mark as deleted, the destination member of a relationship when the source member is deleted or marked.

# Categories, Types, and Items (CTI)

A method formerly used for categorizing assets in BMC Remedy Asset Management. Category, Type, and Item are each an attribute on the BMC\_BaseEI ement class, so you can use CTIs in BMC Atrium CMDB.

# categorization class

A *class* that does not have its own AR System form, but stores its instance data in the form of its *superclass*, preventing the need for a database join.

#### **CDM**

See Common Data Model (CDM).

#### child

See destination.

#### CI

See configuration item (CI).

#### **CI class**

A *class* that defines a type of *configuration item* (*CI*), such as a computer system or software application.

# **CI Relationship Viewer**

A component of BMC Atrium CMDB that graphically displays the relationships between *CI*s. It can also be embedded in other AR System-based applications.

### **CI Relationship Viewer event**

A message sent to the *CI Relationship Viewer* from AR System workflow to change its settings. The CI Relationship Viewer can also send AR System events.

#### **CIM**

See Common Information Model (CIM).

### class

Metadata in BMC Atrium CMDB that defines a type of object, usually a *configuration item* (CI) or relationship. Either of these types of class can store data as a regular class, categorization class, abstract class, or abstract class with data replication. You can apply the final class and singleton class options to it as well.

# **Class Manager**

A component of BMC Atrium CMDB where you can view, create, modify, and delete the *classes* and *attributes* that make up the data model, as well as view a list of subclasses for each *class*.

# class permissions

Permission to view instances of a class in the BMC Atrium CMDB interface or access them with AR System workflow.

### **CMDB**

See Configuration Management Database (CMDB).

#### **CMDB** Console

The main user interface of BMC Atrium CMDB, accessible from both web and BMC Remedy User clients.

# **CMDB Console User**

An application *role*. Members can perform searches from the *CMDB Console* and view *federation* definitions.

#### **CMDB Console Admin**

An application *role*. Members can perform searches from the *CMDB Console*, view, create, and modify *federation* definitions, and perform CMDB Console administrative tasks.

#### **CMDB Data Change**

An application *role*. Members can view, create, and modify *instance*s if they have *row-level security*.

# **CMDB Data Change All**

An application *role*. Members can view, create, and modify *instances* independent of *row-level security*.

# **CMDB Data View**

An application *role*. Members can view *instances* if they have *row-level security*.

# **CMDB Definitions Admin**

An application *role*. Members can view, create, modify, and delete *class*es.

# **CMDB Definitions Viewer**

An application *role*. Members can view *class* definitions.

#### **CMDB Extended Data**

Related data or CI attributes linked to or from BMC Atrium CMDB.

#### **CMDB RE Definitions Admin**

An application *role*. Members can view, create, modify, and delete *reconciliation definitions* and can start and cancel *jobs*.

#### **CMDB RE Manual Identification**

An application *role*. Members can identify *instances* manually.

#### **CMDB RE User**

An application *role*. Members can view *reconciliation definitions* and can start and cancel *jobs*.

#### cmdbdriver

A utility that executes BMC Atrium CMDB C API functions from a command line, prompting for parameters.

#### **Common Data Model (CDM)**

The object-oriented, hierarchical set of *class*es in BMC Atrium CMDB used to represent types of *CI*s and relationships. The CDM is based on industry standards such as the *Common Information Model (CIM)* and Microsoft's Windows Management Instrumentation.

#### **Common Information Model (CIM)**

A definition of management information developed by the *Distributed Management Task Force (DMTF)* that facilitates the exchange of management information between systems.

# **Comparison activity**

A *Reconciliation Engine* activity that compares identified instances between two *datasets*, either producing a report that shows the differences or executing workflow.

# configuration data

Data about your IT environment, consisting of *CIs* and *relationships*.

### configuration item (CI)

A physical, logical, or conceptual entity that is part of your IT environment and has configurable *attributes*. Examples include computer systems, buildings, employees, software, and business services. One of the two types of *class*es in BMC Atrium CMDB. See also *relationship*.

# **Configuration Management Database (CMDB)**

A database that stores information about your IT configuration, including both *CI*s and *relationships*.

#### consumer

An application that works with data in BMC Atrium CMDB. It might view the data or modify it. See also *provider*.

# **Copy Dataset activity**

A *Reconciliation Engine* activity that copies instances from one *dataset* to another.

#### CTI

See Categories, Types, and Items (CTI).

# data replication

An option for *abstract class*es. With this option, the instances of all subclasses are replicated to a single form to allow you to search the abstract class as though it had data. Only the attributes inherited from the abstract class are replicated.

#### dataset

A logical group of data in BMC Atrium CMDB. A dataset can represent data from a particular source, a snapshot from a particular date, or other purpose. The dataset used by BMC Software products for reconciled production data is named BMC Asset. See also *overlay dataset*.

# **Dataset Merge Precedence**

A pairing of a *dataset* with a *Precedence group*. Each *Merge activity* references a collection of these, called a Dataset Merge Precedence set.

#### defined dataset

One of a pair of dataset IDs that is specified when executing a *job* with dynamic dataset substitution. The job is executed with the *working dataset* in place of the defined dataset.

# **Definitive Software Library (DSL)**

A repository where approved software configurations are stored. Installed instances of the software can be checked against the DSL for compliance with licenses and policies.

#### **Delete Dataset activity**

A *Reconciliation Engine* activity that deletes instances from one or more *datasets* without removing the *dataset* itself. See also *cascading delete, hard delete,* and *soft delete.* 

#### destination

The *CI class* defined as Class 2 in a *relationship class*, or an instance of that CI class as a member of such a *relationship*. Also known as the child member or weak member.

#### discovery

The act of scanning your environment for *configuration data*.

# discovery application

An application that scans your environment for *configuration data* and can act as a *provider* to BMC Atrium CMDB.

#### **Distributed Management Task Force (DMTF)**

An organization appointed to facilitate the exchange of management information by promoting the initiation of industry standards and interoperability.

#### **DMTF**

See Distributed Management Task Force (DMTF).

#### **DSL**

See Definitive Software Library (DSL).

# **Enterprise Integration Engine**

See BMC Atrium Integration Engine.

#### event

A particular type of change to the *instances* of specified *class*es. You can *publish* an event so that any instance of it is written to the CMDB:Events form. You can receive notification each time an instance of the event occurs by polling the form. See also *CI Relationship Viewer event*.

#### **Exclusion rule**

A rule that specifies an *attribute* to be excluded from participation in a Comparison activity.

# **Execute Job activity**

A *Reconciliation Engine* activity that executes a job.

# extension

A logical set of *classes* and *attributes*, usually in its own *namespace*, that is not part of the *Common Data Model (CDM)*.

#### extension loader

The cmdbExtLoader program, which is used for installing data model extensions and importing other BMC Atrium CMDB data and metadata.

#### federated data

Data linked from *CIs* in BMC Atrium CMDB but stored externally. Federated data might represent more *attributes* of the CIs or related information such as change requests on the CIs.

#### federated interface

An instance of the BMC\_FederatedInterface *class* that specifies how to access a particular type of *federated data*. See also *federated link*.

#### federated link

The connection between a *class* or *CI* and a *federated interface*.

## federated product

A product that holds *federated data*. It can be linked to more than one *federated interface*.

#### federation

The act of linking *CI*s in BMC Atrium CMDB to external data.

# **Federation Manager**

A component of BMC Atrium CMDB that you can use to manage *federated data*. From the Federation Manager, you can view, create, and modify *federated products*, *federated interfaces*, and *federated links*.

#### filter

A set of criteria for restricting the information displayed by the *CI Relationship Viewer*. This is different from an AR System filter.

#### final class

A *class* that cannot have *subclass*es.

# foreign key substitution

A method of federation that assigns a key from the *federated product* to each linked *CI*. Foreign key substitution is useful when no *attributes* that also exist in BMC Atrium CMDB are stored in the federated product.

#### group

A set of a particular type of *reconciliation* definition that is referenced by an activity. See also *Identification* group, *Precedence* group, Qualification group, Workflow Execution group.

#### **GUID**

A globally unique identifier, automatically generated by the AR System server. GUIDs are used for instance IDs, reconciliation IDs, and other cases where a unique value is needed without human interaction.

#### hard delete

The act of removing an *instance* from BMC Atrium CMDB.

#### **Identification activity**

A *Reconciliation Engine* activity that matches instances from two or more *datasets* and assigns them the same identity, meaning that they represent the same real-life object.

#### **Identification group**

A set of *Identification rules* that collectively identify *instances* from a particular *dataset* against other datasets. Each dataset that participates in an *Identification activity* is paired with one Identification group.

# **Identification rule**

A *rule* used when identifying *instances* between datasets. When two instances match the qualification for the rule, they are assigned the same *reconciliation ID*.

#### identity

See reconciliation ID.

#### incident

Defined by *ITIL* as any event that is not part of the standard operation of a service and which causes, or might cause, an interruption to, or a reduction in, the quality of that service.

#### incremental merge

A Merge activity that only processes instances that were created or modified since the activity was last run, saving otherwise useless processing time. Setting Force Attribute Merge to No makes a Merge activity incremental.

#### instance

An actual incarnation of a particular *class*, represented as a record in BMC Atrium CMDB. Both *CI*s and *relationships* are instances of their respective *class*es.

#### instance ID

A *GUID* that BMC Atrium CMDB applies to each instance to uniquely identify it.

# instance permissions

The right to view or modify a specific instance. These permissions are called *row-level security* and *write security*, respectively.

#### instantiate

To create an instance of a class.

#### ITH

The Information Technology Infrastructure Library (ITIL) is an internationally accepted set of best practices for management of IT services developed by the British government

#### job

A group of one or more *reconciliation* activities executed in sequence. You cannot run an *activity* by itself; only as part of a job. You can start a job manually, with a schedule, with an *Execute Job activity*, with workflow, or with an API program.

# Merge activity

A *Reconciliation Engine* activity that merges two or more *datasets* into a single complete and correct *dataset* based on *precedence values* that favor the strengths of each dataset.

#### metadata

Definitions that describe the data stored in BMC Atrium CMDB. Metadata includes *classes* in the data model and special classes to define things such as *datasets* and *federation* objects.

# multitenancy

The separation of data and access so that a single BMC Atrium CMDB can contain the data of multiple parties, but each party can access only their own data. See also *account* and *role*.

#### namespace

A logical set of *class*es and *attributes* in the data model, usually related to a specific *consumer* or *provider*. The *Common Data Model (CDM)* uses the BMC. CORE namespace.

#### normalize

To ensure that data of the same type follows the same text formatting conventions. This helps reconciliation by making it more likely for instances to match in an *Identification* activity.

#### orphan

An instance that has been physically deleted from source datasets but still exists in the target dataset into which they merge.

#### overlay dataset

A *dataset* that provides a layer in which to make changes that are pending approval. API queries to the dataset seamlessly return its modified instances along with unmodified instances from the underlying regular dataset.

#### parent

See source.

#### **Precedence group**

The definition of an overall *precedence value* for a *dataset*. It can optionally contain precedence values for specific classes and attributes within the dataset.

#### precedence value

A method of assigning weight to specific datasets, classes, and attributes in a Merge activity. Attribute precedence values override class precedence values, which override dataset precedence values.

#### production dataset

The dataset that serves as the single source of reference for your organization and from which you make business decisions. It acts as the target dataset in most Merge activities.

#### provider

An application, often a discovery application, that loads bulk data into BMC Atrium CMDB. See also *consumer*.

# provisioning

The process of providing access to resources, such as printers, telephones, and such, and to information, such as permissions, databases, and so on.

#### publish

To make an *event* available so that instances of it can be written to the CMDB:Events form.

### **Purge Dataset activity**

A *Reconciliation Engine* activity that removes instances that have been marked as deleted from one or more *datasets*.

### Qualification

A Boolean statement that is evaluated to determine whether an instance should be included in an *activity*.

# **Qualification group**

A set of *Qualifications* that can be used in various types of *activity*. An *instance* that meets one or more Qualifications in the group is included in the activity.

#### reconciliation

The process of managing data in multiple *datasets* using the *Reconciliation Engine*. The main activities of reconciliation are identifying, comparing, and merging datasets, though the Reconciliation Engine performs other activities as well.

#### reconciliation definition

An entity defined in the *Reconciliation Manager* such as a *job*, *activity*, or group.

# **Reconciliation Engine**

The component of BMC Atrium CMDB that reconciles data from different *datasets*.

#### reconciliation ID

A *GUID* that the *Reconciliation Engine* assigns to *instance*s in different *dataset*s that represent the same real-life object.

### **Reconciliation Manager**

The component of BMC Atrium CMDB that you can use to manage *reconciliation definitions*.

# regular class

A *class* that stores its instance data in its own AR System form. See also *abstract class*, *categorization class*.

# related information

Information about a *CI* that does not qualify as attributes of the CI, and should therefore not be stored in a *Configuration Management Database (CMDB)*.

#### relationship

A connection between two *CI*s such as a dependency or membership. It is an instance of a *relationship class*. See also *configuration item* (*CI*).

#### relationship class

A *class* that defines a type of relationship between *CIs*, such as a dependency or membership.

## relationship filter

See filter.

# **Rename Dataset activity**

A *reconciliation activity* that renames a *dataset* without changing its ID, preserving references to the dataset from any *reconciliation definitions*.

### role

A designation that grants permissions to more than one AR System group.

#### row-level security

The permission required to view a specific *instance*. See also *write security*.

# rule

One or more criteria that, when met, cause an action. The types of rules used in BMC Atrium CMDB are *Exclusion rule*, *Identification rule*, and *Workflow Execution rule*.

#### ruleset

A group of rules.

# service level agreement

A contract between a service provider and a purchaser that defines the level of service.

# singleton class

An optional *class* characteristic that restricts the class to holding only one instance.

# snapshot

A set of data that represents a configuration at a certain point in time, usually stored in its own *dataset*. There can be multiple snapshots of a given configuration.

#### soft delete

The act of marking an *instance* as deleted from BMC Atrium CMDB by setting the MarkAsDel eted attribute to Yes.

#### source

The *CI class* defined as Class 1 in a *relationship class*, or an instance of that CI class as a member of such a *relationship*. Also known as the parent member or strong member.

# subclass

A *class* that is derived from another *class*, which is called its *superclass*. The *subclass* inherits all the *attributes* of its superclass and any superclasses above it in the hierarchy, and can also participate in relationships defined for all superclasses.

#### superclass

A *class* from which other classes, called *subclass*es, are derived.

### synchronization

The automatic process of creating AR System forms and workflow to represent a class that has just been created or modified. The class is not available until synchronization completes.

### text normalization

See normalize.

#### weak reference

See weak relationship.

#### weak relationship

An optional characteristic for *relationship class*es, signifying that the members of a relationship form a composite object that can be reconciled as one. The *destination* member is considered the weak member of a weak relationship, existing as part of the *source* member.

# **Windows Management Instrumentation (WMI)**

Microsoft's application of the Web-Based Enterprise Management initiative for an industry standard for accessing management information.

#### WMI

See Windows Management Instrumentation (WMI).

#### workflow

AR System objects such as active links, escalations, and filters that perform actions against data.

# **Workflow Execution group**

A set of *Workflow Execution rules*. Each *Comparison activity* can optionally reference one Workflow Execution group.

#### **Workflow Execution rule**

A *rule* used when comparing *instances* between datasets. When a compared instance matches the qualification for the rule, specified AR System workflow is executed against the instance or the instance against which it is compared.

# working dataset

One of a pair of dataset IDs that is specified when executing a *job* with dynamic dataset substitution. The job is executed with the working dataset in place of the *defined dataset*.

#### write security

The permission required along with *row-level security* to modify or delete a specific *instance*.



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# Index

A	buttons Clear 20
accessing	common CMDB Console 20
CMDB Console 14	Delete 20
CMDB Console Help 19	Next 20
ActiveX, settings for CI Relationship Viewer 48	Previous 20
Advanced Search option 30	Refresh 20
Advanced Search window 30	Save 20
alerts, viewing status 19	View 20
AR System	
federated data launch type 54	
Home Page 15	C
architecture, BMC Atrium CMDB 12	CI Browser window 56
Atrium CMDB. See BMC Atrium CMDB	CI instances
audience for this guide 7	See also configuration items; instances
audits, viewing instance history 19, 44	relating 38, 39
	CI instances, creating 36
В	CI Relationship Viewer
D	browser settings 48
BMC Atrium CMDB	changing root CI 52
architecture 12	launching federated data 54
documentation 8, 9	viewing CI relationships 48
launching federated data 54	CI Relationship Viewer window
searching CMDB data 26, 31	changing root CI 53
BMC Remedy User	launching federated data 54
accessing CMDB Console 14	viewing CI relationships 49
browsing table data 22	CIs. See configuration items
setting table preferences 21	Class form window, viewing CI relationships 46
BMC Software, contacting 2	Class forms, viewing CI relationships 46
BMC Topology Discovery, relating CI instances 38	Class Manager tab 13
Browse Instances window	Clear button 20
using Advanced Search option 30	CMDB Console
using Quick Search option 26	accessing 14
browsers	accessing Help 19
accessing CMDB Console 16	buttons, common 20
browsing table data 23	CI Relationship Viewer and 46
setting table preferences 21	generating reports for CMDB data 24
settings for CI Relationship Viewer 48	instances
browsing	browsing 26
instances 19, 26	comparing 55
table data 22	editing 42

# A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

identifying 58	F
logging out 19	•
managing searches 31	federated data, launching 54
navigating 19	Federation Manager
performing common tasks 20	tab in CMDB Console 13
relating CI instances 38	viewing links from CI Relationship Viewer 54
tables	
browsing 22	H
setting preferences 21	"
sorting 20	Help, CMDB Console 19
tabs	•
CMDB Home 13, 17, 19	1
Federation Manager 13	I .
Overview 18	identifying instances 58
Reconciliation Manager 13	instances
viewing CI relationships 46	See also CI instances
viewing instance history 44	browsing 19, 26
CMDB Console Help 19	comparing 19
CMDB Home tab 13, 17, 19	creating 19
CMDB. See BMC Atrium CMDB	editing 42
Compare Instances window 55	identifying 58
comparing instances 19	relating CIs 38, 39
components, CMDB Console Overview tab 18	searching for 19
configuration items	viewing in Saved Searches list 26
See also CI instances	viewing in baved bearenes list 20
changing root in CI Relationship Viewer 52	_
viewing 19, 46	J
viewing relationships 46	I C '
Configuration Management Database. See BMC	JavaScript, settings for CI Relationship Viewer 48
Atrium CMDB	
copying saved searches 34	K
creating	
CI instances 36	key fields, using to search for instances 26
relationships between CI instances 38, 39	
customer support 3	
	-
D	Launch in Context menu 54
	launching federated data 54
data	lists
browsing in tables 22	audit history 44
launching federated 54	saved searches 26
searching CMDB 26, 31	logging in to CMDB Console 14
sorting in tables 20	logging out of CMDB Console 19
datasets, comparing instances in 19	
deleting saved searches 34	M
discovery applications, relating CI instances 38	IVI
documentation for BMC Atrium CMDB 8, 9	menu, Launch in Context 54
	modifying saved searches 33
E	J 6
L	
editing instances 42	

executable process, federated data launch type 54

# A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

N	Т		
navigating CMDB Console 19 Next button 20	tables browsing data 22 setting preferences 21		
0	sorting data 20 tabs		
Overview tab 18	Class Manager 13 CMDB Home 13, 17, 19		
P	Federation Manager 13 Overview 18		
preferences, setting for tables 21	Reconciliation Manager 13 tasks, common console 20		
Previous button 20	technical support 3		
product support 3	Topology Discovery. See BMC Topology Discovery		
Q	U		
Quick Search option 26	URL, federated data launch type 54		
R	V		
Reconciliation Manager tab 13	viewing		
Refresh button 20	audit history 19		
relating CI instances 38, 39	CI relationships 46		
relationships, viewing CI 19, 46 reports, generating for CMDB data 24	configuration items 19, 46		
roots, changing CI 52	instance data 19		
1000, 011119.119 01 02	instance history 19		
C	instances 19		
5	relationships 19		
Save Search window 32	Saved Searches list 26 status alerts 19		
Saved Searches list 26	status aierts 19		
saving search criteria 31	107		
searches	W		
Advanced Search option 30	windows		
copying saved 34	Advanced Search 30		
deleting saved 34	AR System Modify 42		
managing in CMDB Console 31	Browse Instances		
modifying saved 33	using Advanced Search option 30		
Quick Search option 26	using Quick Search option 26		
saving criteria 31	CI Browser 56		
searching for CMDB data 26, 31	CI Relationship Viewer		
instances 19	changing root CI 53		
instances 13 instances with key fields 26	launching federated data 54		
Select class window 36, 39	viewing CI relationships 49		
Set as Root option 52	class form, viewing CI relationships 46		
sorting table data 20	Compare Instances 55		
status alerts, viewing 19	Object List 36, 39		
support, customer 3	Save Search 32		

# A B C D E F G H I J K L M N O P Q R S T U V W X Y Z



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