

BMC Remedy IT Service Management Installation Guide



Supporting

Version 7.6.04 of BMC Remedy Asset Management

Version 7.6.04 of BMC Remedy Change Management

Version 7.6.04 of BMC Remedy Service Desk

January 2011

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 - product name
 - 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 or other maintenance level such as PUT or PTF
 - 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
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Installation overview

This section describes installation and configuration options for the product.

Applications overview

Each BMC Remedy IT Service Management Suite (BMC Remedy ITSM) application contains the consoles, forms, active links, escalations, flashboards, and so on, needed to run their basic functions. The applications also use several integrated modules and supporting applications that extend and enhance these basic functions.

You install the BMC Remedy ITSM applications and their supporting applications manually. The integrated modules are installed automatically by the individual BMC Remedy ITSM application installers. For an overview of the supporting components and programs, see [Supporting application and components overview on page 11](#).

Depending on the needs of your organization, you can install one or more of the BMC Remedy ITSM applications. If you are installing only some of the BMC Remedy ITSM applications now, you can install the others later without having to perform any special integration procedures.

You can install the BMC Remedy ITSM applications in any order. You must, however, install the supporting applications for each BMC Remedy ITSM application in a specific sequence. See [Installation process on page 29](#).

Note

If BMC Service Level Management is already installed on your system, the individual BMC Remedy ITSM application installers detect it and install integration software when the installers finish. The integration software is shipped with the BMC Service Level Management application. See the *BMC Service Level Management Installation Guide* for more information about the integration installation.

BMC Remedy Asset Management

The BMC Remedy Asset Management application lets IT professionals track and manage enterprise configuration items (CI)-and their changing relationships-throughout the entire CI lifecycle.

The BMC Remedy ITSM 7.6.04 installer installs a new BMC Remedy Asset Management program or upgrades BMC Remedy Asset Management 7.0.03 patch 009 or subsequent versions to version 7.6.04.

For more information, see the *BMC Remedy Asset Management User Guide*.

BMC Remedy Change Management

Using best practices that are compatible with IT Infrastructure Library (ITIL), BMC Remedy Change Management provides IT organizations with the ability to manage changes by enabling them to assess impact, risk, and resource requirements, and then create plans and automate approval functions for implementing changes.

The BMC Remedy ITSM 7.6.04 installer installs a new BMC Remedy Change Management program or upgrades BMC Remedy Change Management 7.0.03 patch 009 or subsequent versions to version 7.6.04.

For more information, see the *BMC Remedy Change Management User Guide*.

BMC Remedy Incident Management

BMC Remedy Incident Management is used to manage incidents.

Incident management is reactive, and is typically initiated in response to a customer call or automated event. An example of an automated event might be an alert from a monitoring system, such as BMC Service Impact Management (BMC SIM). The primary goal of the incident management process, according to ITIL standards, is “to restore normal service operation as quickly as possible with minimum disruption to the business, thus ensuring that the best achievable levels of availability and service are maintained.”

An incident is any event that is not part of the standard operation of a service and that causes an interruption to or a reduction in the quality of that service. Normal service operation is the operation of services within the limits specified by the application.

For more information, see the *BMC Remedy Service Desk: Incident Management User Guide*.

BMC Remedy Problem Management

BMC Remedy Problem Management is used to manage problem investigations, known errors, and solution database entries.

Problem management can proactively prevent the occurrence of incidents, errors, and additional problems. A problem investigation helps an IT organization get to the root cause of incidents. It initiates actions that help to improve or correct the situation, preventing the incident from recurring.

After a problem investigation identifies the cause, this information can result in either the description of a known error or a solution database entry. A known error is a problem that has been successfully diagnosed and for which a temporary workaround or permanent solution has been identified. A solution database entry contains information that might be required to provide or restore a service.

For more information, see the *BMC Service Desk: Problem Management User Guide*.

Supporting application and components overview

This section contains a brief description of supporting components and programs used with the application. For a complete description of the supporting applications, see the related supporting program's guide (the guide titles are shown at the end of each brief description, where applicable).

BMC Atrium Core

The BMC Atrium Core provides the BMC Atrium Configuration Management Database (BMC Atrium CMDB) application coupled with common user, programmatic, and reporting interfaces to accelerate attainment of Business Service Management.

The BMC Atrium Core provides the BMC Atrium Product Catalog as well.

BMC Atrium CMDB

BMC Atrium CMDB stores information about configuration items and their relationships in an inheritance-based data model, and has the ability to reconcile data from different sources.

BMC Atrium CMDB provides a “single source of truth” about your IT environment, enabling other BMC applications to manage CIs, predict the impact of configuration changes, and perform other Business Service Management (BSM) functions.

You must install the latest version of BMC Atrium CMDB before you install the product. See the Compatibility Matrix for the latest versions required. For more information, see the *BMC Atrium User’s Guide*.

BMC Atrium Product Catalog

Any application (BMC or non-BMC) can use the Product Catalog to identify a single name for a software application and its versions, which in turn supports license compliance and provisioning.

The Product Catalog is used to normalize discovered data, both the name and categorization of software products. It must be installed before you install any BMC Remedy ITSM applications.

For more information, see the *BMC Atrium Core Product Catalog and DML Guide*.

BMC Remedy Action Request System

BMC Remedy IT Service Management applications are built on BMC Remedy Action Request (AR) System. BMC Remedy AR System Server must be installed before you install any BMC Remedy ITSM applications.

BMC Remedy AR System provides a consolidated Service Process Management platform for automating and managing Service Management business processes. With its request-centric, workflow-based architecture, BMC Remedy AR System is optimized for efficiencies in Service Management business process delivery, and includes pre-built functionality for notifications, escalations, and approvals. BMC Remedy AR System is compatible with existing IT infrastructures, and includes various integration capabilities, including support for Web Services.

BMC Remedy Approval Server

BMC Remedy Approval Server enables you to automate approval processes.

When an BMC Remedy AR System application triggers an approval process, the BMC Remedy Approval Server routes a request to collect signatures within a defined approval process, handling all notifications and requests for more information as it collects each response (approving or rejecting).

Install the BMC Remedy Approval Server before you install BMC Service Request Management, BMC Remedy Asset Management, or BMC Remedy Change Management.

For more information, see the *BMC Remedy Approval Server Guide*.

BMC Remedy Assignment Engine

The BMC Remedy Assignment Engine is used to automatically determine an assignee for a ticket, based on a set of rules that you can configure. Such rules typically include the availability of employees and group membership.

The engine can be configured to assign employees either on a round-robin basis or by load balancing. The latter method can be further configured by capacity of employees or by the number of requests assigned.

Install the BMC Remedy Assignment Engine before you install BMC Service Request Management.

For more information, see the *BMC Remedy Action Request System Configuration Guide*.

Installation roadmap

The following steps provide an overview of the process to follow when installing the applications.

- 1 Review the documentation. (See [Important documents to review on page 14](#))
- 2 Backup and prepare your database. (See [Before you install on page 19](#))
- 3 Prepare your system to install BMC Remedy AR System components and clients and any product components. (See [Pre-installation procedures on page 29](#))
- 4 Complete the worksheets. (See [Installation worksheets on page 47](#))
- 5 License the BMC Remedy AR System server for the application. (See the [Administration Guide](#).)
- 6 Install the applications and help. (See [Installing the product on page 55](#))

- 7 Perform post-installation procedures. (See [After you install on page 69](#))

Important documents to review

Review the following information before you install the product.

- Known issues, localization, and additional information in the product release notes, which can be found at: <http://www.bmc.com/support>.
- The most current product compatibility information at: <http://www.bmc.com/support>.

Planning your deployment

Before you install the product, you should review and understand the entire installation process.

Note

To avoid installation problems, consider installing only one instance of the product on your computer.

Hardware requirements

The hardware requirements for any given environment depend on the size and amount of activity you expect. This section describes minimum requirements.

BMC Software recommends that you perform an analysis of your organization's needs to determine the hardware requirements for your installation.

The minimum requirements given are intended for use in non-production, proof of concept, or small development environments. Using the minimum requirements, you can install BMC Remedy AR System, launch BMC Remedy User, and view the BMC Remedy AR System sample application without further customization on a Windows-based server.

Note

The following requirements are for Windows-based servers. UNIX-based servers have comparable hardware requirements. They do not include database minimum requirements, which vary by vendor. See the database vendor's documentation for recommended database system requirements.

Hardware and software requirements are listed in the Product Availability and Compatibility Matrix available at <http://www.bmc.com/support>. See the release notes for additional requirements information.

Installation disk space requirements

The installation requires a minimum of 1.5 GB of free temporary disk space.

To verify your available space:

- On Microsoft Windows, check the hard disk space using Windows Explorer.

- On UNIX, use the `df -k` command check `/tmp`.

If the temporary space on UNIX is less than 1.5 GB, you can optionally set the `IATEMPDIR` environment variable to point to a directory that has sufficient disk space. In this case, the installer will use the alternate directory as the temporary directory. To set `IATEMPDIR`:

- In the Korn shell or the Bourne shell, use the `export` command:

```
#IATEMPDIR=/folder/which/has/sufficient/space  
#export IATEMPDIR
```

- In the C shell, use the `setenv` command:

```
#setenv IATEMPDIR /folder/which/has/sufficient/space
```

BMC Remedy AR System application hardware requirements

The basic BMC Remedy AR System hardware requirements increase when you install applications that run on top of BMC Remedy AR System.

Minimum hardware requirements for BMC Remedy AR System and one complex application, in a production environment, on a Windows server are:

- Available RAM: 6 GB
- Available hard disk space: 7 GB
- Dual processor: 3 GHz

For each additional, complex application, an additional 2 GB of disk space is required.

Note

For certain environments, BMC Software recommends increased hardware requirements. Using Oracle on HP-UX and installing all language packs, for example, requires a minimum of 8 GB available RAM.

Mid Tier hardware requirements

If you use a mid tier, BMC Software recommends that you install it on a separate server, with the same minimum and recommended requirements as a BMC Remedy AR System server.

Note

If you are using the Release Management module from BMC Remedy Change Management, do not install the Mid Tier on the computer where BMC Remedy AR System server is installed. This will enable you to avoid the HTTP server errors caused by the unsuccessful download of files used by the Release Calendar.

Before you install

Before you install the product, you must prepare your database. The information in this section is in addition to the database preparation information in the *BMC Remedy Action Request System Installation Guide*.

Database recommendations

BMC Software recommends at least 2 GB of disk space for the database. Depending on the number of records your system handles and the specific type of database you are using, however, you might need more than this.

If you do not have 2 GB or more before beginning the installation, you might run out of free space during installation. As the transaction log fills up, the BMC Remedy AR System suspends operation. When the transaction log is completely full, the BMC Remedy AR System writes a message to the BMC Remedy AR System error log and the installation terminates.

Note

If the transaction log fills during the installation and the installation fails, clear the transaction log, and then increase the size of the transaction log before reinstalling the product.

See the documentation for your database for information about how to increase the size of the database transaction log or how to clear it.

Configuring IBM DB2

Make sure your IBM DB2 environment is set up properly.

Some forms have entries that exceed the default BMC Remedy AR System size limit for each record. The following steps help optimize the way DB2 determines which

forms it places in larger containers. Perform these steps to provide a balanced performance standard across all the forms.

Before you begin

Verify that the following DB2 values have been set during the installation of BMC Atrium CMDB:

- APP_CTL_HEAP_SZ 40480
- UTIL_HEAP_SZ 95000
- STMTHEAP 60000
- LOGFILSIZ 4000

If you confirm that these values have been set, skip steps 1 and 2 in the following procedure. If you find that the values have not been set, you must complete all of the steps.

To perform the following steps, make sure you are logged in as the DB2 instance owner, for example: `su - db2owner`.

To set up the IBM DB2 environment

- 1 If the following values for the following commands are not already set, run the commands:

```
DB2=> UPDATE DB CFG for databaseName using APP_CTL_HEAP_SZ 40480
DB2=> UPDATE DB CFG for databaseName using UTIL_HEAP_SZ 95000
DB2=> UPDATE DB CFG for databaseName using STMTHEAP 60000
DB2=> UPDATE DB CFG for databaseName using LOGFILSIZ 4000
```

Note

The default database name is ARSYSTEM.

- 2 Create a 32 KB buffer pool, as shown in the following example commands:

```
DB2=> connect to databaseName
DB2=> create bufferpool bufferpoolName immediate size size
      pagesize 32K
DB2=> connect reset
```

For example: `create bufferpool samplebufferpool size 1000 pagesize 32K`

- 3 Make sure you have a 32 KB table space.

The BMC Remedy AR System installer creates a 32 KB table space for DB2 databases. You may skip this step after your database administrator determines

the BMC Remedy AR System installer created a 32 KB table space. If you do not have a 32 KB table space, run a command similar to the following example.

```
DB2=> create regular tablespace tablespaceName
pagesize 32K managed by system using ('/dir/dir/containerName')
extentsize 32 [overhead 10.5] prefetchsize 32 [transferrate 0.14]
bufferpool bufferpoolName
[dropped table recovery off]
```

- Optional parameters are enclosed in square brackets, for example:

```
[dropped table recovery off]
```

- Replace */dir/dir/containerName* with the complete path to the location where the container will be stored. The container can be an absolute or relative directory name.
- Replace *bufferpoolName* with the name of the buffer space you created.

Note

The Dropped Table Recovery Off option can improve performance but it means that you cannot recover a table if it is accidentally dropped.

- 4 If the database is on a remote computer, grant the table space permission to the ARAdmin user by running the following command:

```
DB2=> grant use of tablespace tablespaceName to user aradminUser
with grant option;
```

- 5 If you are using system managed space (SMS), a temporary table space with a larger page size than the default system-managed temporary table space is required.

The BMC Remedy AR System installer creates a temporary 32 KB table space for DB2 databases. You may skip this step after your database administrator determines the BMC Remedy AR System installer created a temporary 32 KB table space.

If you do not have a temporary table space, run a command similar to the following example:

```
DB2=> create system temporary tablespace tablespaceName pagesize
32K
managed by system using ('/dir/dir/containerName') extentsize 32
prefetchsize 32 bufferpool bufferpoolName
```

- Replace */dir/dir/containerName* with the complete path to the location where the container will be stored. The container can be an absolute or relative directory name.

- Replace *bufferpoolName* with the name of the buffer pool you created.

For more information, see the *BMC Remedy Action Request System Database Reference* guide. See the procedure for creating a table space with a larger page size for a form in the “Using IBM DB2 Universal Database with BMC Remedy AR System” section of the “Using Relational databases with BMC Remedy AR System” chapter.

- 6 For a Unicode DB2 installation, make sure that the `DB2CODEPAGE` variable is set to 1208.

On Windows, for example, enter the following command from the DB2 command window:

```
db2set DB2CODEPAGE=1208
```

Note

The `DB2CODEPAGE` setting is part of the database client libraries. Make sure that this setting is correct on the computer where the BMC Remedy AR System is running, which might be different from the computer where the database is located.

For more information about the syntax and usage of DB2 commands, see the DB2 documentation.

- 7 The installer adds the following lines to the BMC Remedy AR System database configuration file (ardb.conf):

Note

For information about creating the ardb.conf file, see [Forms with more than 254 fields on page 26](#).

```
Form: NTE:SYS-NT Process Control
Clause: IN tablespaceName

Form: NTE:SYS-NTUnProcessedRecords
Clause: IN tablespaceName

Form: SRM:Request
Clause: IN tablespaceName

Form: NTE:SYS-Individual NT Control
Clause: IN tablespaceName

Form: NTE:SYS-Group NT Control
Clause: IN tablespaceName
```

In the preceding clause, *tablespaceName* is the name of the table space created in step 3.

- The BMC Remedy ITSM installer adds the following lines to the BMC Remedy AR System database configuration file if you are installing BMC Remedy Asset Management.

Form:	AST:PurchaseRequisition-Detail-Signature
Clause: IN <i>tablespacename</i>	

In the preceding clause, *tablespacename* is the name of the table space created in step 3.

- The BMC Remedy ITSM installer adds the following lines to the BMC Remedy AR System database configuration file if you are installing BMC Remedy Change Management.

Form:	CHG:Infrastructure Change
Clause: IN <i>tablespacename</i>	

In the preceding clause, *tablespacename* is the name of the table space created in step 3.

- The BMC Remedy ITSM installer adds the following lines to the BMC Remedy AR System database configuration file if you are installing BMC Remedy Incident Management.

Form:	HPD:Help Desk
Clause: IN <i>tablespacename</i>	
Form:	HPD:Search-Assignment Logs
Clause: IN <i>tablespacename</i>	
Form:	HPD:Search-Worklog
Clause: IN <i>tablespacename</i>	
Form:	HPD:IncidentInterface_Create
Clause: IN <i>tablespacename</i>	

In the preceding clause, *tablespacename* is the name of the table space created in step 3.

Configuring databases that are not configured to extend automatically

The information in this section applies to databases that are not configured to extend automatically.

Note

This information does not apply to Oracle, which has separate requirements listed in [Configuring Oracle databases on page 24](#).

To configure a database that is not configured to extend automatically

- 1 Set the BMC Remedy AR System data file size to at least 2 GB for one BMC Remedy ITSM application, or to at least 8 GB if you are also installing all BMC Remedy ITSM applications.
- 2 Set the log file size to 2 GB, or higher.

Configuring Microsoft SQL Server

Make sure your Microsoft SQL Server environment is set up as described in this section.

- If you are using Microsoft SQL Server 2005, make sure you have installed the most current Service Pack.
- Purge the transaction log frequently to prevent it from filling up during installation.

If the database is configured to extend automatically, make sure that you have made the following settings:

- Set the BMC Remedy AR System data file size to 1 GB or greater; BMC Software recommends 2 GB.
- Set the log file size to 1 GB or greater.

Configuring Oracle databases

Make sure your Oracle environment is set up as described in this section.

To configure an Oracle database

- 1 Set the BMC Remedy AR System data file size to at least 2 GB.
- 2 Set the Oracle redo log file size to at least 1 GB.
- 3 Set the BMC Remedy AR System log file size to at least 1 GB.

Note

For each additional product, add at least 2 GB to the data file size and at least 100 MB to the log file size.

- 4 Set the table space and temporary table space to at least the following minimum settings. For example, set arsys1=2000 and artmpf =500 (**Note:** These tablespace names may be different depending on your environment).
- 5 To avoid time-out errors during installation, set the System Global Area (SGA) minimum size to at least 1 GB (small database), 3 GB (medium database), or 6 GB (large database).

For Oracle 10g or 11g, BMC Software recommends setting the maximum SGA size and enabling the database to automatically manage the internal memory structures of the SGA.

For example, to change the SGA size to 1 GB, use the `alter system set sga_target=1G scope=both` command.

- 6 For Oracle 10g or 11g:

- a Add the following line to the `ar.cfg` file (Windows) or `ar.conf` file (UNIX):

Oracle-Cursor-Sharing: SIMILAR

- b Add the following line to the Oracle initialization file:

CURSOR_SHARING: SIMILAR

For more information, see the Oracle's Cursor Sharing for BMC Remedy Products white paper on the Customer Support website at: <http://www.bmc.com/support>.

Configuring Sybase databases

Make sure your Sybase environment is set up as described in this section.

To configure a Sybase database

- 1 Change the minimum page size to 8 KB. For information about increasing the page size, see your Sybase documentation.
- 2 Increase the default tempdb size to 600 MB.

- 3 If you created a device in addition to a master device, designate the database device as a default database device. This is required because BMC Remedy AR System is always created on the default device.
- 4 If the database is configured to extend automatically, specify the following values:
 - a Set the BMC Remedy AR System data file size = 3 GB or larger.
 - b Set the log file size = 2 GB or larger.
- 5 Change the Sybase configuration file to the following recommended minimal values, and restart the Sybase server:

```
[Meta-Data Caches]
number of open objects = 1310072
number of open indexes = 512000
number of open partitions = 6000
[Physical Memory]
max memory = 128000
[SQL Server Administration]
procedure cache size = 6400
[Lock Manager]
lock scheme=datarows
```

- 6 To prevent the transaction log from filling up during installation, set the `trunc log on chkpt` database option on the following databases:
 - BMC Remedy AR System database
 - tempdb

Use the following commands:

```
sp_dboption databaseName, 'trunc log on chkpt', true
go
```

Note

Disable the `trunc log on chkpt` option for all databases after the successful installation and before any production activity.

Forms with more than 254 fields

By default, Sybase does not work with forms that have more than 254 fields. This topic describes how to respond to error messages that may result from forms with more than 254 fields.

Because some forms have more than 254 fields at installation time, or can be expanded to have more than 254 fields during an integration with another application, you can receive an error message similar to the following example when installing the application on Sybase:

```
552 Failure during SQL operation to the database
Number of variable length columns exceeds limit of 254 for
allpage
locked tables. ALTER TABLE for 'T566' failed
```

If this happens during an integration, you might also receive a message similar to the following example:

```
303 Form does not exist on server SIT:Site Group
```

This occurs when the integration process adds fields to a form (using the ALTER TABLE command) that increase the number of fields to more than 254. When this happens, Sybase rolls back the change and drops the original table.

This generates further installation errors because additional dependencies fail to import.

Workaround

To prevent this from happening, create an ardb.conf file before you install BMC Remedy ITSM applications. The ardb.conf file applies the Sybase "lock datarows" feature to forms with more than 254 fields.

The ardb.conf file must contain the following entries and be located under the BMC Remedy AR System installation directory (for example, /opt/bmc/ARSys/conf). The BMC Remedy ITSM installer modifies your Sybase environment to make sure your server is compatible with BMC Remedy ITSM. The modifications made by the BMC Remedy ITSM installer are as follows:

```
Form:NTE:SYS-Group NT Control
Clause: lock datarows
Form:NTE:SYS-NTUnProcessedRecords
Clause: lock datarows
Form:NTE:SYS-NT Process Control
Clause: lock datarows
Form:CHG:Infrastructure Change
Clause: lock datarows
Form:SRM:Request
Clause: lock datarows
Form:SRM:RequestApDetailsSignature
Clause: lock datarows
Form:SRM:RequestInterface
Clause: lock datarows
Form:HDP:Help Desk
Clause: lock datarows
```


Pre-installation procedures

This section contains important information about installation prerequisites. Review this section before installing the product.

Installation process

The following table outlines the general installation process.

Step	Operation	Comments
1	Review the compatibility matrix.	The compatibility information listed in the product documentation is subject to change. See the compatibility matrix at http://www.bmc.com/support for the latest, most complete information about what is officially supported.
2	Review the product Release Notes.	For updated installation prerequisites, including BMC Remedy AR System server and application patches, see the release notes for the application in the documentation section on the Customer Support website at http://www.bmc.com/support .
3	Review the BMC Remedy AR System, and BMC Atrium CMDB requirements.	If you are installing or upgrading BMC Remedy AR System, or BMC Atrium CMDB, read the information about their system requirements carefully (for example, prerequisites for your underlying database) <i>before</i> you start installing the product.
4	(Upgrades only) Export your product customizations to ARX and DEF files.	This enables you to preserve customizations you have made to the application if you encounter installation problems. See the <i>BMC Remedy Action Request System Form and Application Objects Guide</i> and <i>BMC Remedy Action Request System Configuration Guide</i> . Note: This operation applies only to an upgrade installation.
5	(Upgrades only) Back up your customizations to the form views.	During an upgrade installation UI view changes will revert back to the original layout. Note: This operation applies only to an upgrade installation.

Step	Operation	Comments
6	(Upgrades only) Document the product workflow you have disabled.	<p>Application workflow is overwritten and re-enabled during an upgrade installation.</p> <p>Note: This operation applies only to an upgrade installation.</p>
7	<p>If it is not already installed, install:</p> <ul style="list-style-type: none"> ■ BMC Remedy Action Request System Server ■ BMC Remedy Approval Server ■ BMC Remedy Assignment Engine ■ BMC Atrium CMDB (includes BMC Product Catalog) 	<p>BMC Remedy AR System full text search improves search performance when searching database fields. It must be installed before you install any BMC Remedy ITSM applications. For more information on installing full text search, see the <i>BMC Remedy Action Request System Installation Guide</i>.</p> <p>Install the BMC Remedy Approval Server 7.6.04 or later before installing BMC Remedy Asset Management or BMC Remedy Change Management. If you are installing multiple BMC Remedy ITSM applications, install the BMC Remedy Approval Server only once.</p> <p>Install the BMC Remedy Assignment Engine 7.6.04 or later before installing BMC Remedy ITSM applications. If you are installing multiple BMC Remedy ITSM applications, install the BMC Remedy Assignment Engine only once.</p> <p>Note: Check the install logs for each of these products and do not attempt to proceed if errors are reported. Back up after each install. Then, if errors occur during the installation of subsequent products you will only need to roll back to the back up of the last successfully installed product.</p> <p>For more information, see:</p> <ul style="list-style-type: none"> ■ The <i>BMC Remedy Action Request System Installation Guide</i> ■ The <i>BMC Atrium Core Installation Guide</i>
8	Activate the application licenses.	<p>License the BMC Remedy ITSM applications before you install them.</p> <p>Note: While a license key is only downloaded for the BMC Action Request System Server, licenses that do not have a key still have to be selected and saved for the applications.</p>
9	Back up the BMC Remedy AR System database.	<p>This enables you to restore BMC Remedy AR System to its pre-installation state if you encounter problems.</p> <p>Note: The product workflow is installed in overwrite mode.</p>
10	Install patch 009 for BMC Remedy ITSM 7.0.03	<p>Implement this step if you upgrade BMC Remedy ITSM 7.0.03 to BMC Remedy ITSM 7.5.00 or later. Before installing BMC Remedy ITSM 7.5.00 or later you must first upgrade all BMC Remedy ITSM 7.0.03 applications to patch 009.</p>

Step	Operation	Comments
11	Install the product (see Installing the product on page 55) and product patches.	<p>Note: The product patches include the full BMC Remedy ITSM installation. Check for patches before you install BMC Remedy ITSM by going to the BMC Electronic Product Distribution (EPD) website at: https://webapps.bmc.com/signon/content/logon.jsp.</p> <p>You must have a support contract to download patches. For information on downloading patches, see "Searching for and downloading patches from the EPD site" on page 31.</p>
12	Install help. See Installing the product on page 55 .	
13	Perform post-installation activities. See After you install on page 69 .	

Searching for and downloading patches from the EPD site

To find and download patches from the EPD site:

- 1 Create a directory in which to place the downloaded files.

Note

On Windows computers, ensure that the directory is only one level into the directory structure. The EPD package creates a directory in the temporary directory when you extract the files, and the directory that contains the installation image should not be in a directory deeper than two levels into the directory structure.

- 2 Go to <https://webapps.bmc.com/signon/content/logon.jsp>.
- 3 Enter your user ID and password, and click **Submit**.
- 4 Click **Download Product**.
- 5 On the Export Compliance and Access Terms page, provide the required information, agree to the terms of the agreements, and click **Continue**.
- 6 If this is the first time you are accessing this site, create an EPD profile; otherwise, skip to step 7:
 - a. Under Localized Languages, select the language for the patch release.
 - b. Under Install Platforms, select the platforms to download for the patch.
 - c. Click **Save Profile**.

- 7 Verify that the correct profile is displayed for your download purpose, and select the Product Patches tab.
- 8 Locate the product patch:
 - a. Locate the product name and expand its entries to show the available version numbers.
 - b. Expand the version number to show the available patches.
 - c. Select the check boxes next to the patches and documents to download.
- 9 To download the selected items, click **Download (FTP)** or **Download Manager**:
 - **Download (FTP)** places the selected items in an FTP directory, and the credentials and FTP instructions are sent to you in an e-mail message.
 - **Download Manager** enables you to download multiple files consecutively, and to resume an interrupted download if the connection drops.
This method requires a one-time installation of the AkamiNetSession Client program on the target computer and is usually the faster and more reliable way to transfer files. A checksum is used to verify file integrity automatically.

Application licenses

You must understand your licensing needs before you start the installation process. Depending on the components that you use, you might need several licenses to activate an application. You must activate the licenses *before* installing the applications.

For information about activating licenses, see the *BMC Remedy Action Request System Configuration Guide*.

Obtaining license keys

You can obtain license keys for applications that you are installing from the BMC Software electronic product download (EPD) page. Access the EPD page from the BMC Customer Support site at <http://www.bmc.com/support>.

Note

If you do not know your user ID and password for the site, contact Customer Support by telephone or email.

To obtain a key, you must provide the following information:

- Support contract ID

- Purchase order number
- Email address
- Version of BMC Remedy AR System server
- Host ID of your BMC Remedy AR System server

Preparing the application for installation

Before installing the application, complete the following steps.

To prepare the application for installation

- 1 Make sure that the application must be compatible with your system.
- 2 Review the release notes, technical bulletins, and the compatibility matrix at <http://www.bmc.com/support> for the latest, most complete information about what is officially supported.
- 3 Obtain all of the licenses that you need, and install the licenses to the BMC Remedy AR System server before you install the application.

The BMC Remedy AR System server license must be added immediately after the BMC Remedy AR System server installation and before proceeding with the installation of BMC Atrium CMDB.

Note

An AR System and application fixed license is required for each user created in the system. For sample user data, you must have 15 available fixed licenses, or the sample data will not be installed. Also, any other sample data that reference the user sample data will not be valid. To correctly load sample data, BMC Software recommends at least 20 fixed licenses for BMC Remedy AR System and each application.

Once you have added a BMC Remedy AR System server license, you need to add the BMC Atrium Core application licenses. The Atrium Integration Engine and Atrium CMDB licenses are automatically added by the BMC Atrium CMDB installer.

For information about licensing, see [Application licenses on page 32](#) and the *BMC Remedy Action Request System Configuration Guide*.

For BMC Remedy ITSM, you must activate multiple application licenses prior to installing the product. These licenses include:

- For any BMC Remedy ITSM application:
 - AR Server license
 - AR User fixed license
 - Atrium Integration Engine license
 - Atrium CMDB Application license
 - Financial Management Application license
 - Financial Management User fixed license
- For BMC Remedy Asset Management:
 - Asset Management Application license
 - Asset Management User fixed license
- For BMC Remedy Change Management:
 - Change Management Dashboard Application license
 - Change Management Application license
 - Change Management User fixed license
- For BMC Remedy Service Desk:
 - Incident Management Application license
 - Incident Management User fixed license
 - Problem Management Application license
 - Problem Management User fixed license

When adding these licenses, the following points must be noted:

- Before you begin installing BMC Remedy ITSM applications, you must install the BMC Remedy ITSM application licenses on your primary BMC Remedy AR System server. These licenses need to be added depending on the applications that you are installing. BMC Remedy ITSM application licenses can be added in any order.
- If you installing BMC Remedy Asset Management, BMC Remedy Change Management, or BMC Remedy Service Desk applications, you must add the Financial Management application license.

- If you are installing the BMC Remedy Change Management application, the Change Management Dashboard application license must be applied before running the BMC Remedy Change Management application installer. If you do not apply this license then the program will display a warning. If you ignore the warning, you will receive a data import error.

- 4 If you are downloading the applications, extract the compressed files into a working directory, from which you can run the installation.
- 5 Install the latest patches for the products you are installing.

Note

All installed BMC Remedy ITSM 7.0x applications must be at version BMC Remedy ITSM 7.0.03 patch 009 before you upgrade to BMC Remedy ITSM 7.5.00 or later.

- 6 Make sure the server meets the *minimum* hardware requirements described in [BMC Remedy AR System application hardware requirements on page 16](#).

Installing applications onto an underpowered server can result in unexpected system behavior, which can include installation errors, slow response time, and sudden application stoppages.

Note

As of BMC Remedy ITSM Suite 7.6.04, object reservation is automatically disabled by the installer during installation.

- 7 Install all supporting applications in the correct order.

For more information, see [Installation process on page 29](#).

- 8 Make sure the application users have the correct permissions. See the Administration Guide for more information.
- 9 For HP-UX and Linux systems, configure the operating system to allow long file names to be read and copied

You might find operating system configuration issues in installing directly from a DVD. In some cases, the DVD mount might cause long file names from the DVD not to work.

- 10 Check the websites of the suppliers of the platforms in use at your site to verify that they are still supported.

BMC Software does not support platforms that are no longer supported by the vendor. Carefully read the system requirements for your particular operating system, especially the patch requirements.

- 11 Make sure that no program is using port 12333. The installer uses port 12333 so you should not run any programs during the installation that use port 12333. Once the installation is complete, programs can resume using port 12333.
- 12 You may choose to add an FTS license if none exists, as described in [Adding FTS licenses on page 81](#). The installer disables FTS indexing before the installation (if it is already enabled) and enables FTS indexing before the end of installation.

Note

If you are installing the Russian version of the BMC Remedy ITSM applications, ensure that you are using a non-unicode database. The Russian version does not support unicode.

Completing Windows prerequisites

These procedures describe how to meet the Windows prerequisites before you start installing the product.

If you are using Terminal Services, you must update Terminal Services configuration options as needed before running the installer. If you are using Terminal Services, the installer will not run until you configure Terminal Services correctly.

If you are using the data execution prevention (DEP) feature in Windows XP (with Service Pack 2 or later) or Windows Server 2003, you must configure DEP for the product installer executable program.

Note

If you do not configure these items before you run the installer, an installer panel appears listing the steps required to perform these issues. These steps are also listed in the following procedures.

Updating Terminal Services configuration options

The following steps describe how to update Terminal Services configuration options.

To update Terminal Services configuration options

- 1 From the Windows Start menu, click **Run**.
- 2 Perform the following steps, as appropriate to your Windows environment:

Windows 2003

- a Type `tscc.msc`, and click **OK**.
- b In Server Settings, set Delete temporary folders on exit to No.
- c Set Use temporary folders per session to No.

Windows Vista (or later)

- a Type `gpedit.msc`, and click **OK**.
- b Choose **Computer Configuration > Administrative Templates > Windows Components > Terminal Services > Terminal Server > Temporary folders**.

Note

For Windows 7 and 2008 R2, choose **Computer Configuration > Administrative Templates > Windows Components > Remote Desktop Services > Remote Desktop Session Host > Temporary folders**.

- c Change the State for Do not delete temp folders upon exit to Enabled.
- d Change the State for Do not use temporary folders per session to Enabled.
- 3 Restart the computer.
- 4 If the settings do not take effect, perform the following steps:
 - a From the Windows **Start** menu, click **Run**.
 - b Type `regedit`, and click **OK**.
 - c Choose `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Terminal Server`
 - d Update `PerSessionTempDir` to `0` and `DeleteTempDirsOnExit` to `0`.
 - e Restart the computer.

Configuring the DEP feature

The following steps describe how to configure the DEP feature.

To configure the DEP feature

- 1 From the Windows Start menu, click Control Panel, and then double-click **System**.

- 2 In the Performance area on the Advanced tab, click **Settings**.
- 3 On the Data Execution Prevention tab, verify if the Turn on DEP for all programs and services except those I select option is selected.

If the Turn on DEP for essential Windows programs and services only option is selected, no configuration is required.

Note

If you do not select the “Turn on DEP for all programs and services except those I select” option and then perform the remaining steps in this procedure, the installer might not run correctly.

- 4 If the Turn on DEP for all programs and services except for those I select option is selected, click **Add**.
- 5 Browse to the `setup.exe` installation application for the product and then click **Open**.

The installation program appears in the DEP program area. Click **Add**.

- 6 Click **Apply**, and then click **OK**.
- 7 Restart the computer.

Running an X Windows client (UNIX only)

Installing the application on UNIX requires an X Windows client on the local computer because the installer uses a graphical user interface.

To run a remote installation on a UNIX computer

- 1 Make sure you have an X Windows client on the local computer.
- 2 Log in to the remote computer, and set the `DISPLAY` environment variable to point to the X Windows client on the local computer.
- 3 Run the installer.

Preparing BMC Remedy AR System to run the application

Before installing the application, prepare BMC Remedy AR System.

To prepare BMC Remedy AR System to run the application

- 1 Make sure that you have installed and licensed (or have upgraded to) the required version of BMC Remedy AR System on all servers and BMC Remedy User clients that you are using with the application. Review the most current product compatibility information at <http://www.bmc.com/support>.
- 2 To install the application, make sure you are a member of the Administrator group in the BMC Remedy AR System User form.
- 3 To use email notifications, install the BMC Remedy Email Engine. For information about the email engine, see the *BMC Remedy Email Engine Guide*. You can also use BMC Remedy Alert for notifications.
- 4 Disable BMC Remedy AR System server encryption. For more information, see [Installing the product if BMC Remedy Encryption Security is activated on page 42](#).
- 5 Install a supported web server and the BMC Remedy Mid Tier.

For a list of supported web servers, see product compatibility information on the Customer Support website at <http://www.bmc.com/support>.

- 6 Before performing an upgrade installation, make sure that all notifications have been processed. Query the NTE:SYS NT Process Control form to make sure that there are no records in this form. If records exist in the NTE:SYS NT form that are older than one day, you can safely delete these records. Also make sure your system is finished processing notifications.
- 7 For improved performance if you are using the application with the BMC Atrium CMDB, run your BMC Remedy AR System server on a private RPC socket with the following values:

Windows:

- RE-RPC-Socket 390698 (for the Reconciliation Engine)
- Private-RPC-Socket 390698 10 10 (for the BMC Remedy AR System Server)

UNIX:

- RE-RPC-Socket 390698 (for the Reconciliation Engine)
- Private-RPC-Socket 390698 6 6 (for the BMC Remedy AR System Server)

Note

You can also use port number 390699, but the port numbers for the BMC Remedy Reconciliation Engine and the BMC Remedy AR System Server must match.

- 8 Configure the BMC Remedy AR System server to run on a private server first to allow this. For more information about private servers, see the *BMC Remedy Action Request System Configuration Guide*.
- 9 Enable escalations on the AR System server:
 - a Log on to your BMC Remedy System AR System server in a browser.
 - b Open the AR System Administration Console.
 - c Choose **System > General > Server Information**.
 - d From the Server Information form, click the Configuration tab.
 - e Make sure the **Disable Escalations** option is *not* selected.

Crystal Reports prerequisites

To view Crystal Reports using a browser, you must install Crystal Reports software (purchased separately) on the Web tier.

Review the most current product compatibility information at <http://www.bmc.com/support> for more information about supported versions of Crystal Reports.

Note

BMC Software also provides additional Web-only reports that do not require a Crystal Reports license.

The Crystal Reports Web Components server runs only on Windows. However, if you use the UNIX Web Connector component that comes with Crystal Enterprise, you can connect the UNIX BMC Remedy Mid Tier with Crystal Enterprise running on Windows. For more information, see the *BMC Remedy Action Request System Installation Guide* and *BMC Remedy Mid Tier Guide*.

Configuring web services for integration

To use web services for integrations among the product and third-party applications, complete the following steps.

To configure web services for integration

- 1 Install Sun Java SE 1.5 (or later) before installing or upgrading the application.

Operating system	Vendor	Minimum required version
Windows, Solaris, Linux (Red Hat and SuSE)	Sun Microsystems	JDK 1.5.0_12
HP-UX	HP	HP JDK 1.5 build 1.5.0.05
AIX	IBM	JDK 1.5 SR2

Note

Sun Microsystems refers to Java 1.5 as "5.0" and 1.6 as "6.0."

For information about the required version of Java SE, review the most current product compatibility information at <http://www.bmc.com/support>.

- 2 Choose the **web service** option during the installation of BMC Remedy AR System.

If you install Java after installing BMC Remedy AR System, or do not select the web service option during installation of BMC Remedy AR System, reinstall BMC Remedy AR System.

Note

The first time you use the web service after installation, you must access the Web Service Settings page in the Mid Tier Configuration Tool for this AR System server and enter Demo or another user name in the Anonymous User Name field. Otherwise, the following error message appears: "Error 149: A user name must be supplied...." For more information, see the "Accessing the Mid Tier Configuration Tool" section of the *BMC Remedy Action Request System Integration Guide*.

Configuring your IBM AIX environment

Configure your AIX environment as described in this section.

To configure the IBM AIX environment

- 1 Before you install on IBM AIX 5.3, run the following command to check your ncargs settings:

```
lsattr -E -l sys0 -a ncargs
```

- 2 If needed, set the ncargs system attribute to a higher maximum value.

BMC Software recommends a value of 32.

```
chdev -l sys0 -a ncargs=32
```

Note

For AIX 6 the default is 256, so no change should be needed.

Installing the product if BMC Remedy Encryption Security is activated

If you activated BMC Remedy Encryption Security on the BMC Remedy AR System server, you must deactivate it before you install the product. Installing the product on an encrypted BMC Remedy AR System server is not supported.

For more information about the BMC Remedy Encryption Security products, see the *BMC Remedy Encryption Security BMC Remedy Encryption Security Guide*.

To deactivate BMC Remedy Encryption Security

The following procedure describes how to deactivate BMC Encryption Security before installing the product.

- 1 Log on to the BMC Remedy AR System server.
- 2 Open the AR System Administration Console.
- 3 Choose **System => General => Server Information**.
- 4 From the Server Information form, click the Encryption tab.
- 5 In the New Encryption Settings area, choose **Disabled** in the Security Policy list, and click **Apply**.
- 6 Restart the BMC Remedy AR System server.

- 7 Run the application installer.

To reactivate BMC Remedy Encryption Security after installing the application

The following procedure describes how to reactivate BMC Encryption Security after installing the application.

- 1 Log on to the BMC Remedy AR System server.
- 2 Open the AR System Administration Console.
- 3 Choose **System => General => Server Information**.
- 4 From the Server Information form, click the Encryption tab.
- 5 In the New Encryption Settings area, choose **Optional** or **Required** in the Security Policy list, and click **Apply**.

Preserving specific form customizations prior to upgrading

The following procedure describes how to preserve your customizations during an upgrade if you have customized the following forms:

- HPD:Help Desk
- HPD:Help Desk Dialogs
- CHG:Infrastructure Change
- CHG:Change Dialogs

Starting with BMC Remedy ITSM 7.6.03, the HPD:Help Desk and CHG:Infrastructure Change forms have undergone the following changes to improve performance:

- The Default User View has been migrated to the new HPD:Help Desk Classic and CHG:Infrastructure Change Classic forms. These forms are a self join of the original form in order to maintain data integrity and retain the existing business login enforced by the filter workflow.
- The active link workflow that is specific to the Default User View has been duplicated in the HPD:Help Desk Classic and CHG:Infrastructure Change Classic forms.

The HPD:Help Desk Dialogs and CHG:Change Dialogs interface forms have been migrated to the HPD:Help Desk Dialog Classic and CHG:Change Dialogs Classic forms.

The view selection framework for Default User View will continue to function with a redirection workflow and any user access to this view will be redirected to the same view on the new classic forms.

If you have customized any of these forms, you should backup and re-apply your customizations after performing an upgrade.

The following BMC Remedy AR System objects will be impacted by these form changes and may not be functional after the upgrade:

- Views relating to Default User View
- Views in the HPD:Help Desk Dialogs and CHG:Change Dialogs forms
- Active Link workflows on the four forms listed above

Depending on the level of customizations, it may be possible to manually re-implement the customizations or import them back to the new forms. You must evaluate the best possible approach on a case-by-case basis.

To preserve your customizations

- 1 Identify all your customizations (including fields that you added to the Default User Views and any views in the dialog forms).
- 2 Export all of the views that contain your customizations to update the definition file.
- 3 Identify all active link workflows that are part of your customizations and export all of these workflows.

Where to go from here

To reapply your customizations following an upgrade, complete the procedures described in [Re-applying specific form customizations post-upgrade on page 89](#).

Preserving your customized join forms and related views

As of BMC Remedy ITSM 7.6.04, the field deletion driver scripts have been changed and fields are now deleted using the Cascade option. This option not only deletes referenced fields but it also deletes all associated fields in all join forms.

If you have created a customized join form that references a field on an existing BMC Remedy ITSM form that is going to be deleted, you will have to identify your customized join forms, export related views, and recreate the fields in your join forms following an upgrade. For information on recreating the fields, see [Recreate fields for your customized join forms on page 91](#).

To identify the customized join forms and export related views

- 1 Log in to the server using BMC Remedy Developer Studio.
- 2 Within the AR System Navigator view, choose **Server Name => All Objects => Forms** and double-click on **Forms** to display the list of available forms on the server.
- 3 Click on the Type table header to sort the list by form type.
- 4 Review all forms of type "Join" and identify any forms that have been added that reference existing BMC Remedy ITSM forms. If a join form references another join form that references a BMC Remedy ITSM field, they must be identified as well.
- 5 Right-click each of the identified forms in the list and select **Export Form View...**
- 6 Enter a valid directory name and file name in the To File: field and click the **Export** button.

This exports all views on the form to the specified directory and file name.

Installation worksheets

The BMC Remedy ITSM installation application enables you to choose the BMC Remedy ITSM applications you want to install. This chapter includes a worksheet for the installation screens that require information to complete the installation.

Product installation worksheet

The following worksheet lists the parameters that you need to provide during the product installation. The worksheet includes default parameter values when they apply.

To prepare for the installation, print a copy of the worksheet and record the parameter values for your site. Refer to the worksheet during the installation.

Table 1: BMC Remedy ITSM installation worksheet

Installation parameter	Value
Application Licenses Add the BMC Remedy ITSM application licenses to the BMC Remedy AR System server before you begin your BMC Remedy ITSM installation.	<ul style="list-style-type: none">■ BMC:Asset Mgmt Application■ BMC:Change Mgmt Application■ BMC:Change Mgmt Dashboard (only required for BMC Remedy Change Management)■ BMC:Financial Mgmt Application■ BMC:Problem Mgmt Application■ BMC:Incident Mgmt Application
BMC Remedy ITSM Program Information	

Installation parameter	Value
<p>Select BMC Remedy ITSM Program to install</p> <p>Select one or multiple BMC Remedy ITSM applications to install.</p>	<ul style="list-style-type: none"> ■ BMC Remedy ITSM Installation (selecting this box installs all three applications below) ■ BMC Remedy Asset Management ■ BMC Remedy Change Management ■ BMC Remedy Service Desk
Directory Selection	
<p>Destination directory for the BMC Remedy ITSM applications</p> <p>Accept the default or type the full directory path.</p>	
BMC Remedy AR System Server Information	
<p>BMC Remedy AR System server user name</p> <p>The default user name is Demo.</p>	
<p>BMC Remedy AR System server password</p> <p>The default password for Demo is blank.</p>	
<p>BMC Remedy AR System server port</p> <p>The default port number is 0 (zero).</p> <p>Type the port number your BMC Remedy Administrator assigned clients to connect to the BMC Remedy AR System server.</p>	
<p>Server</p> <p>The BMC Remedy AR System server name where you want to install the BMC Remedy ITSM applications.</p>	
<p>Private queue port number</p> <p>Provide the private queue port number only if it already exists on the server. This parameter is optional.</p>	
Sample Data	

Installation parameter	Value
<p>Sample data can only be added during the original installation process. This option is not available for an application after that application is installed.</p> <p>Note: A BMC Remedy AR System and application fixed license is required for each user created in the system. The installer checks to see if there are 15 available licenses when you choose to install sample data. If there are not enough licenses, it will not allow you to continue installing sample data.</p>	<ul style="list-style-type: none"> ■ Yes ■ No
Localized Views and Data	
<p>Localized views and data (in addition to English)</p> <p>Localization of content is available on the BMC Remedy AR System server. Localization can be disabled by deselecting the Localize Server checkbox in BMC Remedy Developer Studio.</p>	<ul style="list-style-type: none"> ■ French ■ German ■ Italian ■ Japanese ■ Korean ■ Portuguese (Brazil) ■ Russian ■ Simplified Chinese ■ Spanish
Default Currency	

Installation parameter	Value
<p>Select the Default Currency Select one default currency to be used in all BMC Remedy ITSM applications.</p>	<ul style="list-style-type: none"> ■ United States Dollar ■ Canadian Dollar ■ Euro ■ Japanese Yen ■ UK Pound Sterling ■ Brazilian Real ■ Chinese Yuan Renminbi ■ North Korean Won ■ South Korean Won ■ Russian Ruble
<p>AR Server Object Logging</p> <p>The Object Modification log from the BMC Remedy AR System platform provides the ability on the BMC Remedy AR System server to track changes to workflow objects. For more information see the <i>BMC Remedy Action Request System Configuration Guide</i>.</p> <p>Note: Selecting Yes increases installation time.</p>	<ul style="list-style-type: none"> ■ Yes ■ No
<p>Additional Reports</p> <p>BMC Software provides additional reports for customers utilizing SAP Business Objects or Crystal Reports services in their environments. Customers utilizing BMC Analytics for BSM Premium Edition will be able to access these additional reports. Loading these reports will make both the standard BMC Remedy ITSM reports and Crystal Reports available within BMC Software applications. If these additional reports are not loaded, standard BMC Remedy ITSM reports can still be accessed without requiring SAP Business Objects, Crystal Reports, or BMC Analytics servers in the environment.</p> <p>If you would you like to load these additional reports, specify Yes.</p>	<ul style="list-style-type: none"> ■ Yes ■ No

Online help installation worksheet

This worksheet contains installation parameters common for the product online help. Enter your parameter values in the Value column.

Note

For users to be able to access help, you must enable directory browsing on the webserver that serves help. For example, on a Tomcat server, edit the conf/web.xml file and change the listings parameter to true. If you do not enable directory browsing, help starts but does not load any help topics.

Table 2: Online help worksheet

Installation parameter	Value
BMC Remedy AR System server Administrator Logon Information	
BMC Remedy AR System Server User Name The default user name is Demo.	
BMC Remedy AR System Server Password The default password for Demo is blank.	
BMC Remedy AR System Server Host Name The name of the BMC Remedy AR System server.	
BMC Remedy AR System Server TCP Port Type the TCP port number specified by the BMC Remedy administrator for the BMC Remedy AR System server. The default is 0 (zero) or blank.	
Web Server Type Select the web server	<ul style="list-style-type: none"> ■ IIS 5 ■ Apache Tomcat ■ Other ■ None - just install the help files
Localization	

Installation parameter	Value
Select localized form views (in addition to English)	<ul style="list-style-type: none"> ■ French ■ German ■ Italian ■ Japanese ■ Korean ■ Portuguese (Brazil) ■ Russian ■ Simplified Chinese ■ Spanish <p>Note: You cannot select Russian in combination with any other locales.</p>
Directory Selection	
Destination directory for the online help Accept the default or type the full directory path.	
URL Installation Directory Selection	
Specify the URL for the installation directory. This will be registered in the Application Properties. Accept the default or type the full directory path.	

Data Management Tool installation worksheet

This worksheet contain installation parameters common for the Data Management Tool. Enter your parameter values in the Value column

Table 3: Data Management Tool installation worksheet

Installation parameter	Value
Directory Selection	

Installation parameter	Value
Destination directory for the Data Management Tool files Accept the default or type the full directory path.	

Installing the product

This section contains instructions for installing the product on a BMC Remedy AR System server.

About installing on HP-UX and Linux from a DVD

When you install applications directly from a DVD, HP-UX and Linux operating systems might have configuration issues. In some cases, the DVD mount might cause long file names from the DVD not to work. To work around this issue, configure the operating system to allow long file names to be read and copied.

Installing on HP-UX after mounting the installation DVD

If you attempt to install an application on HP-UX after mounting the installation DVD by using the `mount` command, you receive an error message and the installation fails. Perform the following steps to mount the DVD by using Portable File System (PFS) instead.

To mount the installation DVD on HP-UX using PFS

- 1 Enter the following commands to start the PFS daemons:

```
/usr/sbin/pfs_mountd &  
/usr/sbin/pfsd &
```

- 2 Enter the following commands to create a directory and mount the DVD:

```
mkdir /dvdrom  
pfs_mount /dev/dsk/cXtXdX /dvdrom
```

Installing the product

This section describes how to install the product.

Note

The installer can also upgrade the product and components. The steps to install a new or upgrade are the same.

When installing the application on UNIX, BMC Software recommends performing the installation as a root user. However, you can perform the installation as a non-root user. For more information see the *BMC Remedy Action Request System Installation Guide*.

Note

If you choose to install the application as a non-root user, you must log in to the UNIX system under the same UNIX user ID that was used to install BMC Remedy AR System.

To install the product

- 1 Run the installer file on the DVD or download from the EPD site.
 - On Windows, the installer file is located at: BMCRemedyITSMSuite\windows\Disk1\setup.cmd.
 - On UNIX, the installer file is located at: BMCRemedyITSMSuite/{os}/Disk1/setup.sh.
- 2 Use the installation worksheets provided in this guide to enter the information.

When you install the product, certain sample data is inserted. If this data already exists on your workstation, you might receive index violation errors. These errors can occur when installing the product in any language.

You might receive an error message for either of the following reasons:

- If you have a previous version of the product installed on your machine and are upgrading to a more recent version.
- If you have installed other products previously.

If you receive an error message when you are installing the product or upgrading to a more recent version of the product, you can ignore this message because the necessary data already exists. Therefore, the product will function properly.

Installing the product to a server group

A server group consists of two or more BMC Remedy AR System servers designated as part of a group that share the same database. Servers that belong to the same group can provide backup for server operations that are allowed to run on only one server at a time. Critical operations have greater availability because you can configure any server in the group to back up another server's operations.

Note

To install the application in a server group environment, the product must be installed first on the primary BMC Remedy AR System server.

Before you begin

Before installing the product to a server group, ensure that load balancing is disabled. If you need to disable it:

- 1 Open the `ar.cfg` file (located in the `ARServerInstallationDirectory/conf` directory) in a text editor.
- 2 Modify the value of `Server-Name` to the name of the BMC Remedy AR System server. If load balancing was previously enabled, the value in `Server-Name` was the load balancer IP address.
- 3 Keep a record of the load balancer IP address so you can re-enable load balancing after installing the product to the server group.
- 4 Restart both BMC Remedy AR System servers (first the primary server, and then the secondary server).

To run the application installer in a server group environment

- 1 Install, license, and configure BMC Remedy AR System servers and components to support a server group environment. For more information see the *BMC Remedy Action Request System Configuration Guide*.
- 2 Install and configure BMC Atrium CMDB in a server group environment. For information about installing and configuring BMC Atrium CMDB for a server group environment, see the *BMC Atrium Core Installation Guide*.

- 3 Install the product licenses on your primary BMC Remedy AR System server before installing the application. Because BMC Remedy AR System servers in a server group use the same database, they share licenses. Each BMC Remedy AR System server must have its own server license and license key, but it shares all other licenses with the other BMC Remedy AR System servers in the group.
- 4 Run the application installer on your primary BMC Remedy AR System server, as described in [Installing the product on page 56](#).
- 5 Run the application installer on the secondary servers in your server group, as described in [Installing the product on page 56](#). The application installer detects product installations on the primary BMC Remedy AR System server.

The server group installation performs the following actions on secondary BMC Remedy AR System servers:

- Updates BMC Remedy AR System server configuration files with the product plug-in entries
- Updates Rule Engine plug-in entries
- Installs product binary files and plug-in files
- Updates the AR System tag file

Note

Workflow is not installed on secondary BMC Remedy AR System servers during a server group installation.

To install BMC Remedy ITSM 7.6.0x applications in a server group environment the BMC Remedy ITSM application must first be installed on the primary BMC Remedy AR System server. The following table shows a few examples of combination installation scenarios when a server group installation occurs.

Table 4: Table 5: Server group installation scenarios

Install these BMC Remedy ITSM applications on your primary BMC Remedy AR System server	Then install these BMC Remedy ITSM applications on the remaining servers in your server group	BMC Remedy ITSM applications that will be installed on the secondary servers
Asset Management, Change Management, Service Desk	Asset Management, Change Management, Service Desk	Asset Management, Change Management, Service Desk
Asset Management, Change Management, Service Desk	Asset Management, Change Management	Asset Management, Change Management
Asset Management, Change Management, Service Desk	Asset Management or Change Management or Service Desk	Asset Management or Change Management or Service Desk

Install these BMC Remedy ITSM applications on your primary BMC Remedy AR System server	Then install these BMC Remedy ITSM applications on the remaining servers in your server group	BMC Remedy ITSM applications that will be installed on the secondary servers
Asset Management	Asset Management	Asset Management
Asset Management	Asset Management, Change Management	This scenario is not supported.
Asset Management, Change Management	Change Management, Service Desk	This scenario is not supported.
Asset Management, Change Management	Service Desk	This scenario is not supported.

About installing help

After installing the application, you must install help separately. To make help available to the application's users, you must install help on a computer that is running a web server, which is typically a different computer from the computer where the application is installed.

Note

You must run the help installer locally on the web server computer on which you are serving help.

Do *not* install help for products not installed on your computer. Otherwise, you will overwrite the Configuration help for the products that are installed.

The installer overwrites the SHARE:Application_Properties record for the Configuration help when the help for multiple application help is installed. The Configuration help points to the directory of the *last* application help installed. If the administrator installs help for an application that is not installed, no help files are installed and the SHARE:Application_Properties record for Configuration help is updated to a blank path. As a result, the Configuration help no longer works as expected. To correct this problem, reinstall help for one of your installed applications. The Configuration help will appear, as expected.

Before you begin, make sure the following prerequisites are met:

- The product is installed.
- The help web server is running.

Installing online help on Windows

Use this procedure to install online help on Windows.

Before you begin

Note

If you have downloaded the application and to ensure that all of the help files are extracted correctly, you must use WinZip or another similar utility to extract them and not the default .zip file utility that comes with Microsoft Windows.

To install online help on Windows

- 1 Run the `setup.exe` online help installation executable file. The executable file is located in the Help directory, which you access from one of the following locations:
 - If your files are on a DVD, Help is under the root directory.
 - If you downloaded the application, you access Help from the top level of the working directory that holds the files you extracted after downloading them.
- 2 Use the installation worksheets provided in this guide to enter the information on the windows.

Installing online help on UNIX

Use this procedure to install help on UNIX.

To install online help on UNIX

- 1 Run the application installation script according to one of the following methods.

If you are installing from the DVD:

- a Mount the DVD that contains the product.
 - You can do this either locally or remotely.
- b Run `/helpinstall.sh` from the Help directory, which is located under the root directory.

If you are installing files you downloaded:

- a Change to the working directory containing the application files you downloaded, then uncompressed.
 - b Change directory to Help.
 - c Run `/helpinstall.sh`.
- 2 At the license agreement prompt, review the user license and maintenance agreement.
- 3 When prompted to accept the Licensing and Maintenance agreement, press ENTER.

In a typical installation, where the product is installed on another system, a message appears indicating that no local BMC Remedy AR System server was detected.

- 4 When prompted for the BMC Remedy AR System server name, type the name of the BMC Remedy AR System server on which the product is installed.
- 5 At the TCP/IP port prompt, press ENTER to use the portmapper, or type the port number.
- 6 At the confirmation prompt, press ENTER.
- 7 When prompted for the BMC Remedy AR System administrator ID, press ENTER to accept the default value or, type another BMC Remedy AR System Administrator ID.
- 8 When prompted for the BMC Remedy AR System administrator password, type the BMC Remedy AR System administrator password corresponding to the ID you typed.
- 9 When prompted to select the language for help, type the number for the language. If needed, separate the numbers for multiple languages with commas.
- 10 Choose one of these options for installing the web server.
 - Type the letter corresponding to one of the listed web server types.
 - Type 0 to install online help on a different web server. If you select this option, you must configure your web server and specify a URL pointing to Help. This is the location that you indicate in [Step 14 on page 62](#).
 - Type n to install online help in the directory you specify, but without making it available on a web server. Skip to [Step 14 on page 62](#).

- 11 When prompted for the web server configuration file, type the path to the web server's configuration file.

Note

Make sure you enter the correct web server port number.

- 12 Press ENTER to accept the default HTTP port number, or type another port number.
- 13 At the confirmation prompt for web server information, press ENTER to accept the default value, or type `n` to make changes.
- 14 When prompted for the Help installation directory, press ENTER to accept the default directory, or type a different directory.

The installer checks to make sure the target directory contains sufficient free disk space required to install help.

- 15 If you are installing online help on a web server, a prompt appears asking for the online help URL.
- 16 When prompted to confirm the installation information, press ENTER.

The installer begins copying the files, and an installation message appears when the installation is complete.

Upgrading

This section provides information about upgrading BMC Remedy ITSM applications.

Upgrade testing

This section explains how to set up and prepare your sandbox environment for running upgrade tests when you are upgrading from BMC Remedy ITSM 7.0.03 patch 009 or later applications to BMC Remedy ITSM 7.6.03 or later.

Some application data (such as server hostnames) is hard-coded in the underlying BMC Remedy AR System forms. After you migrate data from the production environment to the test environment, you might need to manually update references to the server hostnames in the test environment in order to run the upgrade tests.

Setting up the sandbox environment

To minimize business production interruptions, the sandbox server must be overlaid with the production server image and the production database must be restored on the sandbox. Note the time when the production database backup is taken.

To set up the sandbox environment

- 1 Identify the versions of the products currently installed in production, using the table to record version and patch numbers.

Product	Version	Patch level
BMC Remedy AR System and associated components		
BMC Atrium (CMDB)		
BMC Remedy ITSM		

Product	Version	Patch level
BMC Service Request Management		
BMC Service Level Management (SLM)		

Note

Version and product information can be found in the SHARE:Application_Properties form.

- 2 Ensure you have copies of all versions listed in step 1.
- 3 Install the required applications in the sandbox environment.

Note

This may require multiple downloads per product (for example, patches). Refer to the application installation guides for information on application integrations and apply the integrations as required.

- a Install all BMC Remedy AR System platform-related components (for example, the BMC Remedy Assignment Engine is required) that match the versions identified in step 1. If you are using different locales, select your target locales to install applicable language packs.

Note

Use the same BMC Remedy AR System instance name, AR database Administrator name (often ARAdmin) and password, and tablespace names (including temporary space).

- b Install all BMC Atrium CMDB components that are required.
- c Set the environment variables BMC_AR_LOADAPP_SKIP and BMC_LOADAPP_SKIP to TRUE. This will enable the application installers to perform only the OS level installation without loading the application into the database.

Note

Conducting English only installations is sufficient for BMC Remedy ITSM, BMC Service Request Management, and BMC SLM.

- d Install all applicable BMC Remedy ITSM components and the required version patch.

- e Install BMC Service Request Management if applicable. For BMC Service Request Management 2.2. versions, you do not have to install the subsequent patches. Installing the base version is sufficient.
- f Install BMC SLM, if applicable, and the required version patch.
- g Remove the BMC_AR_LOADAPP_SKIP=TRUE and BMC_LOADAPP_SKIP=TRUE environment variables.
- h Backup the sandbox installation.

Backing up the production database

- 1 Working with the DBA team, obtain a full backup of the production BMC Remedy AR System database.

Restoring the production database backup on the sandbox server

- 1 Shutdown BMC Remedy AR System server on the sandbox server.
- 2 Restore the database onto the sandbox server.

Note

If you are running SQL Server, run the following command in your database:
Execute `sp_changedbowner "ARAdmin"`

Substitute *ARAdmin* with the appropriate BMC Remedy database Administrator account.

- 3 Relicense the BMC Remedy AR System server to match the new host.
- 4 Restart the BMC Remedy AR System server on the sandbox, and verify that the system is functional.

Note

Maintain a copy of the production database backup.

Updating hard-coded server hostname references

BMC Remedy AR System and BMC Remedy ITSM applications store the server hostname in several places in the database. You might need to update these hostname references as you migrate data from a production environment to a test environment.

- 1 Update references to the server hostname on the following forms to use the correct server name:
 - AST:ARServerConnection
 - AST:ComplianceARBased_Advanced
 - TMS:ApplicationRegistry
 - CAI:AppRegistry
 - SYS:Escalation
 - SYS:Attachments (If the out-of-the-box data is modified by replacing arserver or midtierserver with the hostnames, change only these values to the correct server name.)

Note

If you have installed BMC Service Request Management, open the SRM Application Settings form from the Administrator Console.

- 1 Go to **Administrator Console => Custom Configuration => Service Request Management => Advanced => Application Settings**.
- 2 Open the SRM Application Settings form.
- 3 Look for fields with the following labels:
 - Mid Tier Path
 - URL to the Request Entry console
 - AR Server Value for MidTier ConfigurationAll of these fields contain references to the BMC Remedy AR Server hostname and the Mid Tier names.
- 4 Change only these values to the correct server name.

Upgrading from BMC Remedy ITSM 6.0.00 or earlier applications

This topic describes how to upgrade your BMC Remedy ITSM 6.0.00 or earlier applications to BMC Remedy ITSM 7.5.00 or later.

Upgrading a version 6.0.00 or earlier application directly to version 7.5.00 or later is not supported. Instead, you must:

- Install the version 7.5.00 or later applications on a new server.
- Use the BMC Remedy ITSM Data Management tool to migrate version 6.0.00 or earlier application data into the version 7.5.00 or later application. For more information about the Data Management tool see “[Installing and configuring the Data Management tool](#)” on page 115 and the *Data Management Administration Guide*.

Note

You should not uninstall the BMC Remedy Approval Server prior to an upgrade as it must be installed in order for BMC Remedy Change Management to be installed correctly.

Upgrading BMC Remedy ITSM 7.0.03 patch 009 or later applications to BMC Remedy ITSM 7.6.04

The BMC Remedy ITSM 7.6.04 installer supports upgrading from the BMC Remedy ITSM 7.0.03 patch 009 or later to BMC Remedy ITSM 7.6.04.

Note

After a BMC Remedy ITSM 7.0.03 patch 009 application is upgraded to BMC Remedy ITSM 7.6.04, do not install BMC Remedy ITSM 7.0.x applications on that BMC Remedy AR System server. Doing so will downgrade BMC Remedy ITSM 7.6.04 foundation data.

Before you begin

If you have installed BMC Remedy ITSM 7.0.03 with a patch that is earlier than patch 009, you must install patch 009 before proceeding with the upgrade. You must install ITSM 7.0.03 patch 007 before you upgrade to ITSM 7.0.03 patch 009.

Note

As of BMC Remedy ITSM 7.6.03, the installation of mixed versions of applications (for example, installing BMC Remedy Service Desk 7.5 and BMC Remedy Asset Management 7.6) is no longer supported. If you are in a mixed-version environment, the installer will upgrade all of your applications to the latest version. If you are adding a new application, the installer will force the upgrade of all pre-existing applications to the latest version.

BMC Remedy AR System Server 7.6.04 introduces the Best Practice Conversion utility, which enables you to convert pre-7.6.04 customizations in BMC Remedy AR System components and applications into overlays or custom objects. Overlays and custom objects ensure that your customizations are not lost when a BMC Remedy AR System application or server is upgraded. BMC Software recommends that you run the Best Practice Conversion utility prior to performing an upgrade. For more information about the Best Practice Conversion utility, see the *BMC Remedy Action Request System 7.6.04 Installation Guide*. For more information about overlays, see the *BMC Remedy Action Request System 7.6.04 Form and Application Objects Guide*.

As of BMC Remedy ITSM 7.6.03, BMC Software has replaced the CAI, ARDBC, charge backs and NextId plug-ins written in C with Java plug-ins in order to enhance performance. For more information, see [Manually registering application plug-ins on page 109](#).

To upgrade BMC Remedy ITSM 7.0.03 patch 009 or later applications to BMC Remedy ITSM 7.6.04

- 1 Upgrade your BMC Remedy AR System server to 7.6.04. See the *BMC Remedy Action Request System Installation Guide*.
- 2 Upgrade your BMC Atrium CMDB to 7.6.04. See the *BMC Atrium Core Installation Guide*.
- 3 Complete the BMC Remedy ITSM 7.6.04 installation worksheets. See [Installation worksheets on page 47](#).
- 4 Run the BMC Remedy ITSM 7.6.04 installer to install BMC Remedy ITSM 7.6.04 applications. See [Installing the product on page 55](#).
- 5 Check the installation log for errors. See [Viewing installation and uninstallation log files on page 101](#).
- 6 Perform post-installation tasks. See [After you install on page 69](#).

After you install

This section contains activities that you must perform after you install the application and before you configure the application.

Completing an upgrade

To complete an upgrade, perform the following steps.

To complete an upgrade

- 1 Compare the customized data that you exported before installing the current product to the product's data. Re-import your legacy data needed to run your application.
- 2 Compare the customized workflow that you exported before installing the current product to the product's workflow. Re-import your legacy workflow, or manually modify the workflow needed to run your application.
- 3 Use BMC Remedy Developer Studio to restore views of forms where UI layout was changed.
- 4 Compare the legacy workflow that you had disabled to make sure there were no new changes, before you re-disable them.

Post-install requirements for upgrades from ITSM 7.0.03 patch 009 or later: Synchronizing people information

By synchronizing people information, you ensure that the Software License Management (SWLM) component of BMC Remedy Asset Management uses the data in the BMC Atrium CMDB to connect software contracts and software CIs.

It also ensures that the SWLM component calculates whether a given instance of the software is in compliance with the applicable license agreement.

Run the People Synchronization utility if you are upgrading from BMC Remedy ITSM 7.0.03 patch 009 or later. The People Synchronization utility synchronizes the following BMC Remedy ITSM data with the corresponding BMC Atrium CMDB table:

BMC Remedy ITSM data	BMC Atrium CMDB table
CTM:People	BMC.CORE:BMCM_Person Class Atrium
AST:AssetPeople (record associations or any existing CI relationships)	BMC.CORE:BMCM_Dependency Class Atrium

Running the Initiate People synchronization

You run the People Synchronization utility from the Application Administration console.

This is the first procedure in the People Synchronization process.

To run the synchronization

- 1 Log into the server that is running the BMC Remedy ITSM applications. Use a login ID that has application administration privileges.
- 2 From the navigation page on the Home Page, click Application Administration Console.
- 3 From the console, click the **Custom Configuration** tab and then select **Foundation => People => People Sync Console**.
- 4 Click **Open** to open the People Synchronization console.
- 5 On the console, click **Refresh Counts**.

The following console fields are updated:

- **# of Unreconciled People** – The number of CTM:People records in the system that have not been reconciled. On these records, the Reconciliation Identity field equals 0.
- **# of Production Persons** – The number of BMC_Person Class records that have been reconciled to the BMC.ASSET production data set. If this field contains a value, it indicates either that an earlier upgrade has previously reconciled records, or that new records were created after the upgrade and reconciled automatically by the system.
- **# of Sandbox Persons** – The number of BMC_Person Class records that currently exist within the BMC.ASSET.SANDBOX dataset.
- **# of Bulk Sandbox Persons** – The number of BMC_Person Class records that currently exist within the BMC.ASSET.SANDBOX.BULK dataset.
- **# of Asset People Records** – The number of AST:AssetPeople records that refer to an association between a People record and an associated CI where the Person Role is equal to Used by.
- **# of Dependency Records** – The number of BMC_Dependency Class records that were created by the synchronization of an association made by the AST:AssetPeople form where the Person Role is equal to Used by .
- **# of Sandbox CI's** – The total number of records that currently exist within the BMC.ASSET.SANDBOX dataset. Any CI can use the Sandbox dataset for reconciliation. When you initiate the synchronization and run the Sandbox job, *all* records in the sandbox are processed by that job. This indicates approximately how many records will be processed for the given run.
- **# of Production CI's** – The *total* number of records in the BMC.ASSET dataset.

6 Click Initiate People Sync.

The Initiate People Sync process starts. This process identifies which records need to be synchronized by updating the SetForEscReconciliation flag to Yes on all People records that have the Reconciliation Identity flag set to 0.

Leave the People Sync console open. You will refer to it while performing the next procedure.

Running the CTM:PPL:SyncInitiated escalation

You enable this escalation from Developer Studio, which causes it to run at the end of the interval time.

Run this escalation after the Initiate People synchronization finishes.

To run the escalation

- 1 Log into Developer Studio using an ID with Administrator User privileges.
- 2 Open the CTM:PPL:SyncInitiated escalation. This escalation is disabled when you open it.
- 3 Change the value in the State field to Enabled.
- 4 Ensure the value in the Run By is Interval.
- 5 Change the Days value and the Hours value to 0, and the Minutes value to 2. This ensures the escalation runs within two minutes of you saving the changes.
- 6 Save the changes and wait for the system to start the escalation.

Verify whether the escalation has started by clicking **Refresh Counts** on the People Sync console. When the escalation is running, the record count in the **# of Sandbox Persons** field increases. When the value in the **# of Sandbox Persons** field is no longer increasing, the escalation job is finished.

- 7 When the escalation finishes, change the value in the State field to Disabled and save the change.

Running the sandbox reconciliation

You run the sandbox reconciliation from the People Sync console.

Run the sandbox reconciliation after you run the CTM:PPL:SyncInitiated escalation.

To run the reconciliation

- 1 On the People Sync console, click **Initiate Sandbox Job Run**.

The BMC Asset Management - Sand Box Reconciliation job starts. This job processes the sandbox records and promotes them to the production dataset.

- 2 Click **Refresh Counts** to ensure the **# of Sandbox Records** field is cleared and set to 0.

Also, check that the **# of Un-reconciled People** field is reset to 0 and that the value in the **# of Production Persons** field equals its previous value (that is its value prior to initiating People Sync) plus the number of unreconciled people. If the **# of Un-reconciled People** field has a value greater than 0 after the

synchronization finishes, a processing error occurred on the individual CTM: People Record. If this happens, click **Refresh** on the **CTM:People Records that have not been reconciled** table field. You must examine these records individually to determine why they were not synchronized. In most cases, the People data on the associated record contains at least one data element that violates an existing rule for People or BMC_Person creation.

Running the Initiate CI synchronization

This process synchronizes existing CI AST:AssetPeople Used by relationships with the corresponding BMC_Dependency Class table.

Perform this procedure after you run the sandbox reconciliation.

For this process to complete successfully, all CTM:People that have a "Used by" association with an existing CI need to be properly reconciled. If a People record containing a Used by association is not reconciled, the associated CI Sync fails for that association record.

To run the synchronization

- 1 On the People Sync console, click **Initiate CI Sync**.

The synchronization job starts. Leave the People Sync console open. You refer to it while performing the next procedure.

Enabling the AssetPeopleSyncInitiated escalation

You enable this escalation from BMC Remedy Developer Studio. The escalation runs automatically at the end of the stated interval time, which you can configure.

Enable this escalation after the Initiate CI synchronization finishes.

To enable the escalation

- 1 Log into BMC Remedy Developer Studio using an ID with Administrator User privileges.
- 2 Open the ASI:AE0:AssetPeopleSyncInitiated escalation. It is disabled when you open it.
- 3 Change the value in the **State** field to Enabled.
- 4 Ensure the value in the **Run By** field is Interval.

- 5 Change the values in the **Days** field and the **Hours** field to 0, and the value in the **Minutes** field to 2.

This ensures that the escalation runs within two minutes of you saving the changes.

- 6 Wait for the system to start the escalation.

To verify whether the escalation has started, click **Refresh Counts** on the People Sync console. The value in the **# of Dependency Records** field increases to match the value in the **# of Asset People Records** field. The numbers, however, can be different if you are running a BMC Atrium CMDB application or integration that creates BMC_Person.

- 7 When the escalation finishes, change the value in the **State** field to Disabled and save the change.

The escalation is finished when the value in the **# of Dependency Records** field stops changing.

Running the sandbox job run synchronization

You run this job from the People Sync console.

Perform this procedure after you run the AssetPeopleSyncInitiated escalation.

To run the synchronization

- 1 On the People Sync console, click **Initiate Sandbox Job Run**.

The BMC Asset Management - Sand Box Reconciliation job starts. This job processes the sandbox records and promotes them to the production dataset.

Verifying the synchronization

This section describes how to verify the synchronization finished without error against all of the People records.

If some records were not reconciled, this section also provides some troubleshooting suggestions.

To verify the synchronization

- 1 After the Sandbox Job Run finishes, click **Refresh Counts**.

If the value in the **Un-Reconciled People Records** field is 0, the reconciliation completed against all of the records. If the value is greater than 0, continue with this procedure.

- 2 Click **Refresh** (above the **CTM:People Records that have not been reconciled** table). The table refreshes with a list of the People records that were not reconciled.

Continue with Troubleshooting unreconciled records, which follows.

Troubleshooting unreconciled records

This section describes how to troubleshoot People records that were not synchronized.

Use this troubleshooting information with records that appear in the **CTM:People Records that have not been reconciled** table after you run the synchronization verification described in the preceding section.

To troubleshoot unreconciled records

- 1 Highlight the first record in the **CTM:People Records that have not been reconciled** table, and click **View**.

The associated People record is opens in Modify mode.

- 2 Determine which data element violates an existing validation rule by making a valid modification to the record and then saving it (later, you can undo the modification).

When you save the record, you should receive a detailed error message telling you which fields on the record violate the validation rules. If the message that appears contains only a general description of the problem, go to step 3.

- 3 Working from a client computer, enable Filter Logging
- 4 Ensure that the Asset Management settings for **Sandbox Job Calls for People** is set to **Scheduled** to prevent an **Inline** call to run the sandbox job. Use the following steps to open the console that controls the Asset Management settings:
 - a From the Navigation pane on the Home Page, open the Application Administration console.
 - b On the console, click the Custom Configuration tab and then select **Asset Management => Advanced Options => Asset Management Settings**.
- 5 Make another modification to the record and save it.

The associated message (which appears in the Filter Log) provides details about the nature of the data element in question and can be corrected and retried.

- 6 Perform one of the following actions:
 - Correct the issue described in the error message and retry.
 - If no error message is generated in step 5, open the BMC_Person join form and verify whether a BMC.ASSET.SANDBOX record was generated for the specified People record modification.
 - If a BMC.ASSET.SANDBOX record was created, run the Sandbox Job by clicking **Initiate Sandbox Job Run** from the People Sync console. After the job runs, verify that the record was promoted to the production dataset.
 - If a BMC.ASSET.SANDBOX record was not created, continue with step 7, which describes how to consult the reconciliation job log file for the associated run.
- 7 From the applications list on the IT Home page, select **BMC Atrium Core => Atrium Core Console**.
- 8 Open the Reconciliation Manager by clicking the Reconciliation icon.

The History tab displays. It enables you to view a job's past and current executions by status or date.

- 9 Highlight the most recent run of the BMC Asset Management - Sand Box job and click on the drop-down arrow on the left side of the record.
- 10 Select the Events section bar and view the description for the RE Log File Name & Location event.
- 11 Access the files specified in the RE Log File Name & Location event directly from the server on which the Reconciliation Engine is running.

The associated files have detailed information about the reconciliation transaction for the specified run. Use the associated information to determine and correct the root cause of the data issue.

Technical information for people synchronization

This section contains technical information about the People Synchronization utility.

Dataset Description

This section describes the three datasets used by the People Synchronization utility.

BMC.Asset

The production dataset. All BMC_Person records created are eventually reconciled to the production dataset.

BMC.Asset.Sandbox

The dataset used to reconcile updates to CTM:People that were manually generated using a mid-tier client. For this dataset, you can call the reconciliation job for the sandbox either inline or by using reconciliation schedules.

BMC.Asset.Sandbox.Bulk

The dataset used to reconcile updates to CTM:People that were generated using any client other than the mid-tier client. BMC_Person records updated this way are considered bulk updates and are processed using the bulk sandbox. Any Modify All operation against CTM:People is also considered a bulk operation and uses this dataset to create BMC_Person records. In this case, the reconciliation job for the bulk sandbox uses a reconciliation schedule. It does not make inline calls to the bulk sandbox.

Mapping the CTM:People from to the BMC.Core:BMC_Person class

The mapping from the CTM:People form to the BMC.CORE:BMC_PERSON class is listed in the following table.

BMC_PERSON FIELD	LENGTH	CTM_PEOPLE FIELD	LENGTH
TokenId	254	NULL	N/A
Name (See Rules for field value creation)	254	Remedy Login ID	15
NameFormat	80	UserName	HARDCODE(8)
FirstName	254	First Name	30
LastName	254	Last Name	30
Email	254	Internet E-mail	255
PersonDepartment	254	Department	60
ShortDescription	254	Remedy Login ID	15

BMC_PERSON FIELD	LENGTH	CTM_PEOPLE FIELD	LENGTH
CDIntegrationID		Person ID	15
Fax	64	Phone Number Fax	50
MiddleName	254	Middle Initial	30
MobilePhone	254	Phone Number Mobile	50
OfficePhone	254	Phone Number Business	50
PagerPhoneNumber	254	Phone Number Pager	50
PersonID	255	Person ID	15
PersonRegion	254	Region	60
ITSM_Organization	254	Organization	60
Company	254	Company	254
Region	254	Region	60
ReconciliationIdentity	254	ReconciliationIdentity	38
MarkAsDeleted (No/Yes)	254	Profile Status (Delete/ Active)	HARDCODE
DatasetID	254	Z1D_BMC_Person_Dataset_ID	0
NameFormat	254	HARDCODED UserName	HARDCODE
Site	254	Site	60
AssetID	254	Corporate ID	30
SiteGroup	254	Site Group	60
CMDBRowLevelSecurity	254	Assignee Groups	255
ShortDescription (See Rules for field value creation)	254	Remedy Login ID	15

Rules for moving CTM:People records to BMC_Person class

This section describes the rules that govern when the system moves a CTM:People record to the BMC_Person class. It also describes the rules used in the creation of the BMC_Person record.

Create

When a new CTM:People record is created, an associated BMC_Person record is also created.

Delete

When the system deletes a CTM:People record, an associated record is generated within the BMC_Person class that must be reconciled with the corresponding production dataset record. Upon reconciliation, the **Mark As Deleted** field on the production dataset entry of the corresponding record is set to Yes.

Modify

When you modify an existing CTM:People record, the system performs a validation check to assess whether any of the fields represented within the BMC_Person class from CTM:People were modified. If none were modified, no action is taken. If any of the associated field values was modified, the system generates a new BMC_Person record.

The core fields used to determine a legitimate Modify action, which performs an associated update or synchronization to the BMC_Person class, are as follows:

- **Company**
- **Person ID**
- **Internet E-mail**
- **Department**
- **Region**
- **Phone Number Fax**
- **Phone Number Mobile**
- **Phone Number Business**
- **Middle Initial**
- **First Name**
- **Last Name**
- **Site**
- **Organization**
- **Site Group**
- **Corporate ID**

- **Remedy Login ID**

- **Profile Status**

If any of these core fields is changed when modifying a people record, the system performs a synchronization to the CMDB BMC_Person class.

Configuration settings for People Synchronization and sandbox

The Reconciliation Engine runs according to existing configuration settings within the system.

The Asset Management Advanced Setting form displays the production, sandbox, and People Synchronization dataset information and settings.

You can access the Asset Management Advanced Setting form by opening the Application Administration console from the IT Home page and then clicking the Custom Configuration tab. From the tab, select **Asset Management => Advanced Options => Asset Management Settings**.

Note the following important settings:

- **Dataset Name** – The production dataset that contains the live, or “golden” data.
- **Sandbox Dataset Name** – The name used with the sandbox, or a dataset used within the reconciliation process.
- **Sandbox Job Calls for People** – Specifies the sandbox dataset reconciliation method, as described in the following points:
 - **Inline** – When you perform a manual creation or modification to a CTM:People record and the client tool you use is either the Windows User Tool or a mid-tier client, the system immediately makes a call to perform a reconciliation. Prior to making a new in-line call to the sandbox, the system performs a pre-check to ensure that an existing job run is not already in progress. This eliminates the need to run a new job.
 - **Schedule** – The system uses a schedule to process any records within a given dataset at the times defined by the schedule. The default scheduled times for the BMC.ASSET.SANDBOX and the BMC.ASSET.SANDBOX.BULK datasets are daily at 12:00 A.M. The system administrator can alter the schedule for any dataset to accommodate specific needs. For example, an hourly synchronization is performed from an Active Directory (LDAP or third-party source) to CTM:People. The system administrator may choose to set up an hourly schedule to run a reconciliation job at 20 minutes past the hour daily.

- System Default – This method makes use of the client tool, the operations being performed, and the Asset Management Settings to automate the selection of the dataset to use to create a BMC_Person record. The system default also allows for future growth, in case special keywords are introduced to handle specific types of requests.

Adding FTS licenses

The product is integrated with FTS, which provides the full text search mechanism. You must define a license before installing the product.

To add an FTS license

- 1 From the IT Home page, open the AR System Administration Console.
- 2 Choose **System > General > Add or Remove Licenses**.
- 3 Click **Add New**.
- 4 Define the following settings:
 - **License Type – AR Server-> BMC Remedy Full Text Search**
 - **Number of Licenses – 1**
- 5 Click **Save**.
- 6 Restart the BMC Remedy AR System server.

Enabling localization

If you are using a locale other than English, you must denote that BMC Remedy Action Request System is ready for localization, meaning that objects with Field ID 160, for example, account menus, are taken into account when information is retrieved.

Note

If you select additional locales in addition to English, the installer automatically enables the Localize Server option.

To enable localization

- 1 In the AR System Administration Console, go to the **System > General > Server Information** section.

- 2 In the Advanced tab, select the **Localize Server** option.

Using the multi-tenancy mode

The multi-tenancy mode is enabled by default regardless of whether the tenancy mode is set to single tenancy or multi-tenancy.

Multi-tenancy is a way to keep the data separate among multiple companies, departments, or other groups. It also makes it possible to host multiple companies and their data on a single server.

Multi-tenancy means that users will select the appropriate company from the Company field instead of the Company field defaulting to a single company.

Configuring the application settings

To ensure that users can access the application from a browser, complete the following steps.

To configure application settings

- 1 From the IT Home page, open the AR System Administration Console.
- 2 Click **System > General > Server Information**> **Advanced** tab.
- 3 Enter the path to the mid tier in the Default Web Path field, per this format: `http:// { hostname } : { mid tier port } /arsys/`

Configuring BMC Remedy AR System server for CAI

The application installer automatically installs integrations with BMC Remedy Change Management 7.0 (and later) and BMC Remedy Incident Management 7.0 (and later). This section explains how to configure the integrations.

The product uses Command Automation Interface (CAI) to integrate with backend applications, such as BMC Remedy Incident Management and BMC Change Management. CAI is a subcomponent that is used to run commands on external

systems. CAI uses a command definition (a type of template) to construct commands using the parameters sent to it by BMC Remedy ITSM. CAI then uses a predefined conduit (for example, a web service, a command line, a URL) to execute the command.

The installer also registers the plug-in path. The plug-in path is added to the beginning of the existing path.

By default, CAI uses the fast and list server queues from BMC Remedy AR System, which in high-volume installations can have a detrimental effect on performance. To improve performance, however, you can generate a private server queue for CAI to use exclusively for its processing. This takes pressure off the queues and assists with improving performance.

Generating a private server queue

This procedure describes how to generate a private server queue.

Note

To complete this procedure, you must determine the minimum and maximum number of threads to specify for the private server queue.

To define a private server queue

- 1 From the IT Home page, open the AR System Administration Console.
- 2 Click **System > General >Server Information**.
- 3 Click the Ports and Queues tab.
- 4 Generate a private queue. Click in any blank row of the RPC Prog Number column.
- 5 From the RPC Prog Number cell list, type the next available RPC Program Number. Note this number because you need it to configure the CAI Plugin Registry form.
- 6 Click in the new Min Threads cell, and change the value to at least 2.
- 7 Click in the new Max Threads cell, and then change the value to at least 6.
- 8 Click **OK**.

A private queue with the RPC Program Number you specified in step 5 will appear in the table the next time you open the Ports and Queues tab.

Configuring the CAI:PluginRegistry form

Perform the following procedure to configure the CAI:PluginRegistry form to recognize the private server queue.

To configure the CAI:PluginRegistry form

- 1 From the File menu in BMC Remedy User, choose **Open > Object List**.
- 2 In the Object List dialog box, click the Find tab.
- 3 In the Search What Keywords field, type CAI Plugin Registry, and click **New**.
- 4 In the Private Queue # field, type the private queue number that you generated in [Generating a private server queue on page 83](#).
- 5 In the Number of Threads field, type the maximum number of threads that you specified in [Generating a private server queue on page 83](#).
- 6 In the Log Level field, select the desired level for the CAI plug-in log entries. The WARN level is the recommended default value.
- 7 Click **Close** to save the entry, and close the CAI:Plug-in Registry form.
- 8 Restart BMC Remedy AR System so that CAI picks up the new private queue information.

Configuring the Notification Engine

You can improve performance by changing the Escalation server threads count.

To take advantage of the optimized Notification Engine workflow, BMC recommends changing the Escalation Max Threads count from the default value of 1 to 3.

To modify the Notification server threads

- 1 From the IT Home page, open the AR System Administration Console.
- 2 Choose **System > General > Server Information**.
- 3 Click the Ports and Queues tab.
- 4 Select the record for the Escalation type.

- 5 Click in the Min Threads cell, and change the value to at least 1.
- 6 Click in the Max Threads cell, and change the value to at least 3.
- 7 Click **OK**.

Customizing the out-of-the-box survey notification URL

The out-of-the-box survey notification URL provides generic information. When you are enabling survey notifications, you must customize this URL for your environment.

Before you begin

You must have Administrator permissions to perform this procedure.

To customize the survey notification URL

In order to customize the URL that is sent out with survey notifications:

- 1 Open the SYS:Attachments form from the object list.
- 2 Search for all records with the field name `Attachment Definition=Survey`.

These records hold the BMC Remedy Mid Tier URL for each survey link that is sent out.
- 3 In the URL field data replace `<arserver>` and `<midtierserver>` with the correct server host names that correspond to your environment.
- 4 Click **Save** to save your changes.

Changing the time zone

If you have been given Administrator permissions, you can change the default time zone in the application for your application server. It is specified by a value of Yes in the Server Timer Zone field on the Time Zone form.

To specify a time zone

- 1 From the IT Home page, open the Application Administration Console.

- 2 Click the Custom Configuration tab.
- 3 Choose **Foundation > Organizational Structures > Time zone**, and click **Open**.
- 4 Click **Search** to find the time zone where your application server is located.
- 5 Select your time zone from the results list.
- 6 To make the selected time zone the default, select **Yes** in the Server Time Zone field.
- 7 Click **Save**.

Creating BMC Remedy AR System User Preference records

You must define a BMC Remedy AR System User Preference record for each user who needs user preferences for accessing the application from a browser. A user will require a user preference record when, for example, they need to see data using a locale other than English.

When users log in, they specify the report server name in the Preference server field of the Login dialog box.

To add a user preference record

- 1 From IT Home page, open the AR System Administration Console.
- 2 Choose **User Preferences > My User Preferences**.
- 3 In the Login Name field of the AR System User Preferences form, type the login name of the user for whom you are adding this record.
- 4 In the Short Description field, type any additional information for the user.
- 5 Click the Advanced tab.
- 6 Type the name of the BMC Remedy AR System server on which you installed the application (which includes the predefined reports server) in the Report server field.
- 7 If this user needs to view reports from a browser:
 - a Click the Web tab.

b In the Crystal Report Viewer field, select **ActiveX** for a Microsoft Internet Explorer browser or **HTML with frames** for a Firefox or Mozilla browser.

8 Click **Save**.

Creating temporary application user preference records

This procedure describes how you can improve performance by creating temporary application user preference records that will be used until each user creates their own preference records.

To create temporary application user preferences:

- 1 Access the Application Preferences form.
- 2 Modify the System Default record to include default preferences for each application module.

Running a post-installation health check

You can use the Health Check tab that is part of the BMC Remedy ITSM Suite Maintenance Tool to run a post-installation health check on your files.

The health check uses a build of materials (BOM) file from each BMC Remedy ITSM application to verify that the application forms and workflows that you chose to install were installed properly. The health check reports on any parts of the product that are broken.

In addition, you can run the BMC Remedy AR System Server Maintenance Tool which performs the BMC Remedy AR System related health check.

For information about running the post-installation checks using the Health Check tab, see the *BMC Remedy Action Request System Installation Guide*.

Configuring BMC Remedy ITSM applications to access SMPM

These procedures describe how to configure the BMC Remedy ITSM application to access the BMC Service Management Process Model (SMPM). Perform these procedures when you finish publishing SMPM on the intranet.

To configure the BMC Remedy ITSM applications to access SMPM

- 1 From the BMC Remedy IT Home page, open the Application Administration Console.
- 2 Click the Custom Configuration tab, and select **Foundation > Advanced Options > Integration Management**.
- 3 Press the F3 key to place the Integration Management form in Search mode, and then click **Search**.
- 4 From the search results list, select the BMC Remedy ITSM application that you are configuring to view SMPM.
- 5 In the Host field, type your web server's name, and then specify the Port number, set the Status field to Enabled, and click **Save**.
- 6 Repeat steps 2 through 5 for all of the BMC Remedy ITSM applications from which you need to access SMPM.

About installing Adobe Flash Player 9

You must install Adobe Flash Player version 9.0.124.0 (or later) on every client computer that accesses the application. Otherwise, errors can occur when viewing data visualization fields.

You can download Adobe Flash Player from the Adobe website.

Adding a private queue port number for Software License Management

The following procedure describes how to manually add a private queue port number for Software License Management.

To add a private queue port number for Software License Management

```

<plugin>
  <name>RMDY.ITS.M.RLE</name>
  <type>FilterAPI</type>
  <code>JAVA</code>
  <filename>C:\Program Files\BMC Software\ARSystem\pluginsvr\rle\rle.jar</filename>
  <classname>com.bmc.itsm.rle.RuleEngineFilterAPI</classname>
  <pathelement type="path">C:\Program Files\BMC Software\ARSystem\pluginsvr\rle</pathelement>
  <pathelement type="location">C:\Program Files\BMC Software\ARSystem\pluginsvr\rle\lib\JbcParser.jar</pathelement>
  <pathelement type="location">C:\Program Files\BMC Software\ARSystem\pluginsvr\rle\lib\cmdbapi7603.jar</pathelement>
  <pathelement type="location">C:\Program Files\BMC Software\ARSystem\pluginsvr\rle\lib\aspectjrt.jar</pathelement>
  - <userDefined>
    <server_name>w2k3-sv-vm1</server_name>
    <server_port>0</server_port>
    - <!--
      <private_rpc_socket></private_rpc_socket>
      -->
    </userDefined>
  </plugin>

```

- 1 Backup the pluginsvr_config.xml file.
- 2 Edit the pluginsvr_config.xml file to remove the comment and specify a port.
- 3 Save the file.
- 4 Restart the BMC Remedy AR System server.

Re-applying specific form customizations post-upgrade

This procedure describes how to re-apply your form customizations post-upgrade when you have customized the following forms:

- HPD:Help Desk
- CHG:Infrastructure Change
- HPD:Help Desk Dialogs
- CHG:Change Dialogs

To re-apply your customizations

- 1 For fields that you added to the forms listed above, re-create them in the BMC Remedy ITSM 7.6.03 (or later) forms using the following table as a guide. The table shows where certain form views exist as of BMC Remedy ITSM 7.6.03.

Table 5: Summary of view migrations

BMC Remedy ITSM 7.5 - Form (View)	BMC Remedy ITSM 7.6.03 (or later) - Form
HPD:Help Desk (Best Practice View)	HPD:Help Desk
HPD:Help Desk (Default User View)	HPD:Help Desk Classic
CHG:Infrastructure Change (Best Practice View)	CHG:Infrastructure Change
CHG:Infrastructure Change (Default User View)	CHG:Infrastructure Change Classic
CHG:Infrastructure Change (VLM View)	CHG:Infrastructure Change
HPD:Help Desk Dialogs (All best practice views)	HPD:Help Desk Classic
HPD:Help Desk Dialogs (All non-best practice views)	HPD:Help Desk Dialogs Classic
CHG:Change Dialogs (All best practice views)	CHG:Change Dialogs
CHG:Change Dialogs (All non-best practice views)	CHG:Change Dialogs Classic

- 2 Manually modify the exported views to reference the new classic forms and then import them into the new classic form.

The following example shows you to export the Default User View and import the new classic form using HPD:Help Desk as an example. You will need to repeat the following procedure for each of your customized forms.

- From BMC Remedy Developer Studio, select the HPD:Help Desk form and select **Export Form View** to open the Export Views dialog.
- In the Export Views dialog, ensure that the Default User View is included.
- Using a text editor, open the extracted definition file and update the name in the "begin vui" section to change it from HPD:Help Desk to HPD:Help Desk Classic.
- Save the file and ensure that it is saved as text format.
- In BMC Remedy Developer Studio, select **Import**.
- Select the server that you need to import to and browse to the file that was created.

You should see your view listed under HPD:Help Desk Classic.

- g Ensure that there is a checkmark in the **Import in Place** check box and click **Finish** to start the import.
- 3 Manually modify the exported workflow to reference the new classic forms and import them into the new classic form. The procedure is similar to the previous step.
- 4 Verify if your customizations were properly migrated and make any required changes.

Recreate fields for your customized join forms

Once you have installed BMC Remedy ITSM 7.6.04, you may need to recreate fields for customized join forms.

Note

If you have BMC Service Level Management installed, you should refer to the *BMC Service Level Management Installation Guide* for procedures on rebuilding service request data sources.

To identify and add join form fields that have been removed during an upgrade

- 1 Using BMC Remedy Developer Studio, open the forms you identified in [Preserving your customized join forms and related views on page 45](#) during pre-installation.
- 2 Identify any of the join fields that previously referenced BMC Remedy ITSM fields that have been removed by the upgrade process and add them back into the join form by performing the following steps:
 - a While displaying the form, choose **Form => Add Fields from ITSM Form** where *ITSM Form* is the form that the join field(s) previously referenced.
 - b Select the field(s) and click **OK**.
 - c Save the form.

Note

Placement of the field within the view is not important, as its display properties will be updated when the views are imported.

- d Repeat for all of the affected join forms.

To import views

Using BMC Remedy Developer Studio, import the views that were exported during the pre-install actions by performing the following steps:

- 1 Choose **File => Import**.
- 2 When the Import dialog appears, select the View Definitions import source and click **Next**.
- 3 Select the directory and file name that contains the view definition and click **Next**.
- 4 Add a check mark in the Import in Place option and click **Finish**.
- 5 Repeat these steps for all of the affected join forms.

Installing in Silent Mode

To run the installer in a headless environment, or to run the installer on multiple systems at the same time, you can run the installer in silent mode.

The following section describes how to create a `silent.txt` file that contains the installation options and then how to run the installer in silent mode.

Creating a `silent.txt` file

Before running the silent installer, you must create a `silent.txt` file that contains the installation options.

To create a `silent.txt` file

- 1 Create the `silent.txt` file in the folder that contains the installer executable. For more information, see [Table 6 on page 94](#).
 - Make sure there are no Ctrl+M characters in the `silent.txt` file on UNIX.
 - Make sure to include the appropriate -P and -J switch with each option.
- 2 In the `silent.txt` file, add or modify the options for the installation to run. For more information, see [Table 7 on page 94](#).

Note

A sample input template file named `BMCRemedyITSMSuite-ini-template.txt` is packaged in the installation disk in the `BMCRemedyITSMSuite\windows\Disk1\utility` folder for further reference.

Table 6: Options for the silent.txt file

Option	Description	Example
-P	Sets the installation directory for a product.	<p>-P installLocation=<i>filePath</i></p> <p>Windows:</p> <p>-P installLocation=C:\Program Files\BMC Software\ARSystem</p> <p>UNIX:</p> <p>-P installLocation=/opt/bmc/ARSystem</p>
-J	Specifies Java properties that correspond to user inputs.	<p>-J HOST_NAME=foo.bar.com</p> <p>-J LOGIN=admin</p> <p>-J PASSWORD=admin</p>
-U	<p>Uninstalls a product or an individual feature.</p> <p>Note: It does not remove any BMC Remedy AR System database objects.</p>	<p>-U product<i>productName</i> (for example, -U product<i>BMCRemedyITSMSuite</i>)</p>

Table 7: Parameters for the silent.txt file

Option	Description
Installation Location	
-P installLocation=	The installation path for the application and components on the BMC Remedy AR System server.
Features	
-J APPLICATIONS_TO_INSTALL	<p>Type the name of one or more BMC Remedy ITSM applications, each separated by a comma. Values include:</p> <p>ASSET MANAGEMENT, SERVICE DESK, CHANGE MANAGEMENT</p>
AR System Server Administrator Logon Information	
-J ACTION_REQUEST_SERVER_HOST=	The fully qualified domain name of the BMC Remedy AR System server where you want to install the product.
-J ACTION_REQUEST_SERVER_PORT=	The port number your BMC Remedy Administrator assigned clients to connect to the BMC Remedy AR System server. The default port number is 0 (zero).
-J ACTION_REQUEST_SERVER_USER=	The default user name is Demo.

Option	Description
-J ACTION_REQUEST_SERVER_PASSWORD=	The default password is blank. Passwords can be in clear text or encrypted. BMC Software recommends that you encrypt your passwords.
Software License Management Private Queue	
-J PRIVATE_QUEUE_PORT_NUMBER=	If you have defined a private queue to be used by Software Licence Management, specify the port number of this queue. This input is optional.
Localization	
-J SELECTED_DATA_LANGUAGE=	<p>English is the only language supported in silent mode.</p> <p>Note: Only the value of "English" is supported. This value is case-sensitive.</p>
-J BMC_USER_SELECTED_VIEW_LANGUAGES=	<p>Type the value for one or more languages separated by a semicolon (;). en (for English) must always be specified. The values are:</p> <ul style="list-style-type: none"> ■ en (English) ■ fr (French) ■ de (German) ■ it (Italian) ■ ja (Japanese) ■ ko (Korean) ■ pt_BR (Portuguese [Brazil]) ■ ru (Russian) ■ zh_CN (SimplifiedChinese) ■ es (Spanish) <p>You can type these values in any order.</p>

Option	Description
<p>-J DEFAULT_CURRENCY=</p> <p>Note: The default value is United States Dollar.</p>	USD/2 (United States Dollar) CAD/2 (Canadian Dollar) EUR/2 (Euro) JPY/0 (Japanese Yen) GBP/2 (UK Pound Sterling) BRL/2 (Brazilian Real) KRW/2 (South Korean Won) KPW/2 (North Korean Won) CNY/2 (Chinese Yuan Renminbi) RUR/2 (Russian Ruble)
Sample Data	
<p>-J SAMPLE_DATA=</p>	Values are true and false. The default value is true. True installs sample data.
<p>-J OBJECT_MODIFICATION_LOG=</p>	Values are true and false. The default value is false. True enables Object Modification Logging but specifying true increases installation time.
Additional Reports	
<p>-J BMC_ENABLE_CRYSTAL_REPORTS=</p>	BMC Software provides additional reports for customers utilizing SAP Business Objects or Crystal Reports services in their environments. Customers utilizing BMC Analytics for BSM Premium Edition will be able to access these additional reports. Loading these reports will make both the standard BMC Remedy ITSM reports and Crystal Reports available within BMC Software applications. If these additional reports are not loaded, standard BMC Remedy ITSM reports can still be accessed without requiring SAP Business Objects, Crystal Reports, or BMC Analytics servers in the environment. Values are true and false. If you would you like to load these additional reports, specify true.

Running the installer in silent mode

The following procedure describes how to run the installer in silent mode.

To run the installer in silent mode

Run the installer with the `-i silent` option.

- 1 On Windows, type:

```
setup -i silent -DOPTIONS_FILE=c:\path\to\silent.txt
```

- 2 On UNIX, type:

```
./setup.bin -i silent -DOPTIONS_FILE=/path/to/silent.txt
```

Example silent installation files

This section contains examples of silent installation files.

Figure 1: Example of a Windows silent.txt file for a first time installation

```
#####
# Options File
# Product Name: BMC Remedy ITSM Suite
# Product Version: 7.6.04
# To invoke the installer in silent mode with an options file:
# setup -i silent -DOPTIONS_FILE=c:\directory name\silent.txt
#####
# Product Install Location
# The install location of the product. Specify a fully qualified, valid path to the installation directory.
# Additional options for SELECTED_LANGUAGES and APPLICATIONS_TO_INSTALL can be specified
# using comma separated values
#####
-P installLocation=C:\Program Files\AR System Applications
-J ACTION_REQUEST_SERVER_HOST=abc01.labs.mycompany.com
-J ACTION_REQUEST_SERVER_PORT=0
-J ACTION_REQUEST_SERVER_USER=Demo
-J ACTION_REQUEST_SERVER_PASSWORD=
-J SELECTED_DATA_LANGUAGE=English
-J BMC_USER_SELECTED_VIEW_LANGUAGES=en;fr
-J APPLICATIONS_TO_INSTALL=ASSET_MANAGEMENT,CHANGE_MANAGEMENT,SERVICE_DESK
-J DEFAULT_CURRENCY=USD/2
-J SAMPLE_DATA=true
-J OBJECT_MODIFICATION_LOG=true
-J PRIVATE_QUEUE_PORT_NUMBER=0
-J BMC_ENABLE_CRYSTAL_REPORTS=true
```

Figure 2: Example of a Windows silent.txt file for an upgrade installation

```
#####
# Options File
# Product Name: BMC Remedy ITSM Suite
# Product Version: 7.6.04
# To invoke the installer in silent mode with an options file:
# setup -i silent -DOPTIONS_FILE=c:\directory name\silent.txt
#####
# Product Install Location
# The install location of the product. Specify a fully qualified, valid path to the installation directory.
# Additional options for SELECTED_LANGUAGES and APPLICATIONS_TO_INSTALL can be specified
# using comma separated values
#####
-P installLocation=C:\Program Files\AR System Applications
-J ACTION_REQUEST_SERVER_HOST=abc01.labs.mycompany.com
-J ACTION_REQUEST_SERVER_PORT=0
-J ACTION_REQUEST_SERVER_USER=Demo
-J ACTION_REQUEST_SERVER_PASSWORD=
-J SELECTED_DATA_LANGUAGE=English
-J BMC_USER_SELECTED_VIEW_LANGUAGES=en;fr
-J APPLICATIONS_TO_INSTALL=ASSET MANAGEMENT,CHANGE MANAGEMENT, SERVICE DESK
-J DEFAULT_CURRENCY=USD/2
-J SAMPLE_DATA=true
-J OBJECT_MODIFICATION_LOG=true
-J PRIVATE_QUEUE_PORT_NUMBER=0
-J BMC_ENABLE_CRYSTAL_REPORTS=true
```

Figure 3: Example of a Windows silent.txt file for a Server Group installation

```
#####
# Options File
# Product Name: BMC Remedy ITSM Suite
# Product Version: 7.6.04
# To invoke the installer in silent mode with an options file:
# setup -i silent -DOPTIONS_FILE=c:\directory name\silent.txt
#####
# Product Install Location
# The install location of the product. Specify a fully qualified, valid path to the installation directory.
# Additional options for SELECTED_LANGUAGES and APPLICATIONS_TO_INSTALL can be specified
# using comma separated values
#####
-P installLocation=C:\Program Files\AR System Applications
-J ACTION_REQUEST_SERVER_HOST=abc01.labs.mycompany.com
-J ACTION_REQUEST_SERVER_PORT=0
-J ACTION_REQUEST_SERVER_USER=Demo
-J ACTION_REQUEST_SERVER_PASSWORD=
-J SELECTED_DATA_LANGUAGE=English
-J BMC_USER_SELECTED_VIEW_LANGUAGES=en;fr
-J APPLICATIONS_TO_INSTALL=ASSET MANAGEMENT,CHANGE MANAGEMENT,SERVICE DESK
-J DEFAULT_CURRENCY=USD/2
-J SAMPLE_DATA=true
-J OBJECT_MODIFICATION_LOG=true
-J PRIVATE_QUEUE_PORT_NUMBER=0
-J BMC_ENABLE_CRYSTAL_REPORTS=true
```


Troubleshooting

The Maintenance Tool can help you access logs to troubleshoot issues you have with the installer. The tool also enables you to encrypt passwords.

Viewing installation and uninstallation log files

The Maintenance Tool provides access to installation and uninstallation logs. Each time that you run the installer or uninstaller, it creates a log file that can be viewed in the Maintenance Tool.

When viewing log files from the Maintenance Tool, each tab name contains the date and time at which the installer or uninstaller was run. The tab displays the contents of the log file, with errors highlighted in red and warnings highlighted in yellow.

To open the Maintenance Tool

- 1 Open the Maintenance Tool by completing the following procedures:
 - Windows: Choose **Start > Run**. Click **Browse**. Change directories to `Installation_Directory\Utilities`. Choose `BMCRemedyITSMSuiteMaintenanceTool.cmd`.
For example, a Windows installation directory path might be `C:\Program Files \BMC Software\BMCRemedyITSMSuite\Utilities`
 - UNIX: Go to the Maintenance Tool directory and run `./BMCRemedyITSMSuiteMaintenanceTool.sh`.
For example, a UNIX installation directory might be `/opt/bmc/bmcremedyitsmsuite/Utilities`
 - You can also run the tool from the `utility` directory on the product installation DVD.

To view logs

- 1 In the Maintenance Tool, click the Logs tab.

- 2 Navigate to the log file that you want to view:
 - To view installation logs, click **Install Log**.
 - To browse for a specific log file, click **Browse to Log**.
- 3 Click the tab for the log that you want to view.
- 4 Search for rows highlighted in red (errors) or yellow (warnings).
- 5 To sort columns, click the column header.
- 6 To reverse sort a column, press the Shift key while clicking the column header.
- 7 Close the tool when you are finished.

Contents of the logs

The general format of all the log messages in the text file format is:

```
(timeOfEvent),level.levelseverityseverityOfEvent,sourceOfEvent,  
eventMessageContent
```

For example:

```
(Aug 07 2009 11:22:14.094 AM +0530),CONFIG,com.bmc.install.builder.  
installanywhere.InstallationTaskAction,  
LOG EVENT {Description=[COMPLETED  
InstallationTask],Detail=[com.bmc.install.  
product.base.installer.InstallSetupInstallationTask]}
```

This message indicates a LOG EVENT message that happened on Aug 07, 2009, at 11:22:14 a. m. with a status of COMPLETED from a InstallationTask source class.

The severity levels from highest to lowest values are:

- SEVERE (appears in red in the log viewer)
- WARNING (appears in yellow in the log viewer)
- INFO
- CONFIG
- FINE
- FINER

- FINEST

The following table describes the main log message types.

Table 8: Log message types

Message type	Description
log event	<p>Describes the following types of information:</p> <ul style="list-style-type: none"> ■ The start and end of installation tasks (installer logic and behavior) and installation panels. ■ The setting of installation properties. These properties can be set and controlled by the platform, or they can be set based on user input fields. ■ General informative data. The structure and content within the description text varies across products.
progress event	Describes how much of a task is completed. These messages correspond to progress bar updates and the localized resource keys that are used to determine messages on the progress bar.
throwable event	Describes failures with stack traces.
Summary section	Provides a summary at the end of the log that contains the same type of data shown on the installation summary panel (for example, whether the installation was successful or unsuccessful, and if unsuccessful, what features failed to install).

Preparing log files for BMC Customer Support

The Log Zipper, part of the Maintenance Tool, provides a collection of log files and file characteristics that BMC Customer Support personnel use to help you debug your system. Use the Log Zipper to prepare your log files before submitting them to BMC Customer Support.

The list of log files that the Maintenance Tool gathers is as follows:

- *ARSystemDirectory*/pluginsvr/pluginsvr_config.xml
- All log files under *ITSMInstallDirectory*/Logs
- *ITSMInstallDirectory*/BMCRemedyITSMSuiteInstalledConfiguration.xml

All log files under *ITSMInstallDirectory*\Logs and *ITSMInstallDirectory*\BMCRemedyITSMSuiteInstalledConfiguration.xml are also gathered by the Maintenance Tool for zipping.

The Maintenance Tool also gathers the following Windows-specific log files for zipping:

- *ARSystemDirectory\ARServer\db\arerror.log*
- *%temp%\bmcremedyitsmsuite_install_log.txt*
- *%temp%\bmcremedyitsmsuite_config_log.txt*
- *ARSystemDirectory\conf\ar.cfg*

The Maintenance Tool also gathers the following UNIX-specific log files for zipping:

- *ARSystemDirectory/db/arerror.log*
- */{TemporaryFolder}/bmcremedyitsmsuite_install_log.txt*
- */{TemporaryFolder}/bmcremedyitsmsuite_config_log.txt*
- *ARSystemDirectory/conf/ar.conf*

To run the Log Zipper

- 1 In the Maintenance Tool, click the Logs tab.
- 2 Click **Zip Logs**.
- 3 The Log Zipper creates an output file in your temp directory.

Installation problems

This procedure provides information about finding failures in the installation log.

To find failures in the installation

- 1 In the Maintenance Tool, click **Install Log**.
- 2 Click the Severity column to sort the log entries by severity.

Note the timestamp of a failure entry, then sort by Timestamp to view the entries immediately preceding that failure in chronological order.

Additional application installation logs

The installer also generates summary, detailed, and error log files.

These log files are stored by default in:

- Windows: *installDir* \Logs
- UNIX: *installDir* /Logs

The installation log file is:

`bmcremedyitsmsuite_install_log.txt`

Summary log files

The BMC Remedy *app_nameManagement.html* (where *app_name* is either Problem, Incident, Change, or Asset, according to the application you are installing) file contains a high-level summary, including a line-by-line success and fail tally for each .def and .arx file. At the end of the log is a summary table indicating the total number of objects, number of objects that imported successfully, and number of objects that failed to import.

Detailed log files

The BMC Remedy *app_nameManage.log* (where *app_name* is either Problem, Incident, Change, or Asset, according to the application you are installing) file contains detailed status information about the import of all components, including user prompts and answers.

Error log files

The BMC Remedy *app_nameManagement_error.log* (where *app_name* is either Problem, Incident, Change, or Asset, according to the application you are installing) file contains an extract of the error and warning messages from the log files.

Log file changes for BMC Remedy ITSM 7.6.03

Prior to BMC Remedy ITSM 7.6.03, the log files were created as `rcf.log`, `rcf_error.log`, `rcf_apps.log`, `rcf.html`, `raf.log`, `raf_error.log`, `raf_apps.log`, and `raf.html`.

With BMC Remedy ITSM 7.6.03, the logs will be created as `InstallRCF7603.log`, `InstallRCF7603.html`, `InstallRCF7603_apps.log`, `InstallRCF7603_error.log`,

InstallRAF7603.log, InstallRAF7603.html, InstallRAF7603_apps.log, and InstallRAF7603_error.log.

Using additional log files to troubleshoot an installation

This procedure describes how to troubleshoot an installation using log files.

Error and warning messages have [*messageType*] prefixes, for example, [ERROR] or [WARNING] that indicate the category of the message. Included with the prefix is a timestamp or called routine, if applicable. Installation step outlines have no prefixes.

Tip

You can monitor the last update to the log files to see if an installation is still running. To avoid errors when opening the files, use a text editor other than Microsoft WordPad.

To troubleshoot an installation

- 1 Review the `app_name.html` summary log file for failures. Search for “Failed.”
- 2 If you find any errors, review the `app_name_error.log` file for details about the errors.
- 3 If you find an indication of cascading failures, review the `app_name.log` file to obtain more complete information about the source of the errors.
- 4 If you find any errors, review the `arerror.log` file and the database error logs to determine the source of installation errors.
- 5 Send the `BMCRemedyITSMSuiteLogs.zip` output file from the temp directory to Customer Support on request. The path to the zipped log appears below the Zip Logs button.

Using upgrade installation logs

An upgrade installation has additional log files. These log files are available in your installation directory under the `Logs` directory.

Prior to BMC Remedy ITSM 7.6.03, the log files were created as `rcf.log`, `rcf_error.log`, `rcf_apps.log`, `rcf.html`, `raf.log`, `raf_error.log`, `raf_apps.log`, and `raf.html`.

With BMC Remedy ITSM 7.6.03, the log files are created as `UpgradeRCF*.log`, `UpgradeRCF*.html`, `UpgradeRCF*_apps.log`, `UpgradeRCF*_error.log`, `UpgradeRAF*.log`, `UpgradeRAF*.html`, `UpgradeRAF*_apps.log`, and `UpgradeRAF*_error.log`. These log files indicate the version from and to which the upgrade is being performed.

Note

If you are upgrading and you specify the same directory for your installation as you specified for your previous installation, the contents of the old Logs directory will be backed up and placed in the BackUp directory, and a new Logs directory will be created.

Review the following log files:

- `RequesterConsole.html` contains a high level overview.
- `RequesterConsole_apps.log` contains complete install details information.
- `RequesterConsole_error.log` contains error information.
- Log files with names containing "RCF" and "RAF" contain information that is specific to the foundation application.
- `BMCRemedyAssetManagement.log` contains information specific to BMC Remedy Asset Management.
- `BMCRemedyChangeManagement.log` contains information specific to BMC Remedy Change Management.
- `BMCRemedyIncidentManagement.log` contains information specific to BMC Remedy Incident Management.
- `BMCRemedyProblemManagement.log` contains information specific to BMC Remedy Problem Management.

If you have problems during an upgrade installation, send the `BMCRemedyITSMSuiteLogs.zip` output file from the `temp` directory to Customer Support on request. The path to the zipped log appears below the Zip Logs button.

To troubleshoot upgrade issues:

- 1 Review the information in [Installation problems on page 104](#) and [Using additional log files to troubleshoot an installation on page 106](#).

- 2 Check the memory usage of your server during the upgrade. If you see a malloc failed error, increase the virtual memory on your server.

Tip

To check memory usage, use the Windows Task Manager on Windows, or the Top command on UNIX.

Resolving errors with default currency settings

The default currency utility is run as part of the application installation and generates `arcurrencydefault.log` and `arcurrencydefault_error.log` files.

The `arcurrencydefault_error.log` file lists the forms that encountered errors while setting the default currency.

- The utility generates log files in the *InstallationDirectory* \Logs\Currency_Logs directory.
- For example, a Windows path might be `C:\Program Files\BMC Software\BMCRemedyITSMSuite\Logs\Currency_Logs`.
- For example, a UNIX path might be `/opt/bmc/bmcremedyitsmsuite/Logs/Currency_Logs`.

Use BMC Remedy Developer Studio to set the currency on the forms listed in the `arcurrencydefault_error.log`. For example, you might see the following error in the `arcurrencydefault_error.log`:

```
Error: Error locking to Admin RPC Queue:  
ERROR (90): Cannot establish a network connection to  
the AR System server; Connection refused: connect  
myserver1
```

To resolve this error

- 1 Verify that the BMC Remedy AR System server is running.
- 2 Review the `arerror.log` for possible issues with the BMC Remedy AR System server.

If a problem occurs

If you encounter ERROR 90 during execution of default currency, the installer will abort. You need to:

- Restore the BMC Remedy AR System server to the state before running the BMC Remedy ITSM installer.

- Resolve the cause of ERROR 90.
- Run the BMC Remedy ITSM installer again.

Manually registering application plug-ins

Product plug-ins are installed and registered as part of the installation. If an error occurs during plug-in registration, you must register the plug-ins manually.

The plug-in installation errors are recorded in the `bmcremedyitsmsuite_install_log.txt` file, which is found in the `temp` directory (Windows) or the `/tmp` directory (UNIX).

Note

Ensure that the plug-in .jar files (CAIPlugin.jar, conquery.jar, chargebacks.jar, nextid.jar and ITSMCommonUtils.jar) are in the directories shown in step 3 in “[To register the new Java plug-ins](#)” on page 110.

Before you begin

If you are upgrading to BMC Remedy ITSM 7.6.03 or later, complete the following procedure to uninstall the C plug-ins that have been replaced by Java plug-ins.

To uninstall the C plug-ins

- 1 Stop the BMC Remedy AR System server.
- 2 The table below shows what you should delete to uninstall the various C plug-ins. Once you have uninstalled the C plug-ins you can proceed with registering the new Java plug-ins.

Note

The file name extension `.x` in the UNIX columns below will be replaced by `.s1` for HP-UX and HP IA-64, `.a` for AIX, and `.so` for Linux and Solaris.

Plugin	Line to be removed from ar.cfg file (Windows)	Windows DLL to be deleted	Line to be removed from ar.conf file (UNIX)	UNIX OS libraries to be deleted	Log file to be deleted
CAI	Plugin: "...full path to...\\BMCRemedyITSMSuite\\Shared_Components\\bin\\caieventcmd.dll"	...full path to...\\BMCRemedyITSMSuite\\Shared_Components\\bin\\caieventcmd.dll	Plugin: "...full path to.../BMCRemedyITSMSuite/Shared_Components/bin/libcaieventcmd.x"	...full path to.../BMCRemedyITSMSuite/Shared_Components/bin/libcaieventcmd.x	...full path to.../ARSysystem/DB/CAIPlugin.txt
ARDBC	Plugin: "...full path to...\\BMCRemedyITSMSuite\\servername\\Shared_Components\\bin\\ardbcQuery.dll"	...full path to...\\BMCRemedyITSMSuite\\servername\\Shared_Components\\bin\\ardbcQuery.dll	Plugin: "...full path to.../BMCRemedyITSMSuite/servername/Shared_Components/bin/libardbcQuery.x"	...full path to.../BMCRemedyITSMSuite/servername/Shared_Components/bin/libardbcQuery.x	
charge backs	Plugin: "... full path to...\\BMCRemedyITSMSuite\\servername\\Shared_Components\\bin\\arfcbdata.dll"	... full path to...\\BMCRemedyITSMSuite\\servername\\Shared_Components\\bin\\arfcbdata.dll	Plugin: "... full path to.../BMCRemedyITSMSuite/servername/Shared_Components/bin/libarfcbdata.x"	... full path to.../BMCRemedyITSMSuite/servername/Shared_Components/bin/libarfcbdata.x	
NextId	Plugin: "...full path to...\\BMCRemedyITSMSuite\\servername\\Shared_Components\\bin\\NextId.dll"	...full path to...\\BMCRemedyITSMSuite\\servername\\Shared_Components\\bin\\NextId.dll	Plugin: "...full path to.../BMCRemedyITSMSuite/servername/Shared_Components/bin/libNextId.x"	...full path to.../BMCRemedyITSMSuite/servername/Shared_Components/bin/libNextId.x	

To register the new Java plug-ins

- 1 For Windows servers, add the following Plugin and Plugin-Path entries to the ar.cfg file and for UNIX servers add them to the ar.conf file:
 - Server-Plugin-Alias: REMEDY.AR.F.CAI REMEDY.AR.F.CAI
`PluginServerHost:PluginServerPort`
 - Server-Plugin-Alias: REMEDY.ARDBC.APPQUERY
`REMEDY.ARDBC.APPQUERY PluginServerHost:PluginServerPort`

- Server-Plugin-Alias: REMEDY.AR.F.CBDA.R.TY.AR.F.CBDA.R.TY.
PluginServerHost:PluginServerPort
- Server-Plugin-Alias: NextId NextId *PluginServerHost:PluginServerPort*

2 **Note:** This step applies to Windows and UNIX. The list below shows the code for UNIX. The same code is applicable to Windows with \ instead of / in the directory names. For each plug-in, add the appropriate text to the `pluginsvr_config.xml` in the `pluginsvr` folder.

- For the CAI plug-in, add the following to `pluginsvr_config.xml` in the folder called `pluginsvr`:

```
<plugin>
  <name>REMEDY.AR.F.CAI</name>
  <type>FilterAPI</type>

  <classname>com.bmc.itsm.cai.filterapi.cai.CAIFilterPlugin</classname>
  <pathelement type="path">...full path to... /ARSysm/pluginsvr/cai</
  pathelement>
  <pathelement type="location">...full path to.../ARSysm/pluginsvr/cai/
  CAIPlugin.jar</pathelement>
  <pathelement type="location">...full path to.../ARSysm/pluginsvr/
  foundation_shared/ITSMCommonUtils.jar</pathelement>
  <userDefined>
  </userDefined>
</plugin>
```

- For the ARDBC plug-in, add the following to `pluginsvr_config.xml` in the folder called `pluginsvr`:

```
<plugin>
  <name>REMEDY.ARDBC.APPQUERY</name>
  <type>ARDBC</type>
  <code>JAVA</code>
  <filename>...full path to.../ARSysm/pluginsvr/qry/conquery.jar</
  filename>

  <classname>com.bmc.itsm.conquery.ardbc.conquery.Query</classname>
  <pathelement type="path">...full path to... ARSystm/pluginsvr/qry</
  pathelement>
  <pathelement type="location">...full path to... ARSystm/pluginsvr/qry/
  conquery.jar</pathelement>
  <pathelement type="location">...full path to... ARSystm/pluginsvr/
  foundation_shared/ITSMCommonUtils.jar</pathelement>
  <userDefined>
  </userDefined>
</plugin>
```

- For the charge backs plug-in, add the following to `pluginsvr_config.xml` in the folder called `pluginsvr`:

```
<plugin>
  <name>REMEDY.AR.F.CBDA.R.TY.AR.F.CBDA.R.TY.</name>
  <type>FilterAPI</type>
  <code>JAVA</code>
  <filename>...full path to... ARSystm/pluginsvr/chb/
  chargebacks.jar</filename>

  <classname>com.bmc.itsm.chargeback.filterapi.chargeback.ChargeBackFilte
  rAPI</classname>
  <pathelement type="location">...full path to... ARSystm/pluginsvr/chb/
```

```
chargebacks.jar</pathelement>
<pathelement type="location">...full path to... ARSystem/pluginsvr/
foundation_shared/ITSMCommonUtils.jar</pathelement>
</plugin>
```

- For the NextId plug-in, add the following to `pluginsvr_config.xml` in the folder called `pluginsvr`:

```
<plugin>
    <name>NextId</name>
    <type>FilterAPI</type>
    <code>JAVA</code>
    <filename>...full path to... ARSystem/pluginsvr/nid/nextid.jar</
filename>
    <classname>com.bmc.itsm.nextid.filterapi.nextid.NextID</
classname>
    <pathelement type="location">...full path to... ARSystem/pluginsvr/
foundation_shared/ITSMCommonUtils.jar</pathelement>
    <pathelement type="location">...full path to... ARSystem/pluginsvr/nid/
nextid.jar</pathelement>
</plugin>
```

- 3 **Note:** This step applies to Windows and UNIX. For the plug-ins add the appropriate text to the `log4j_pluginsvr.xml`.

- For the CAI plug-in, add the following to `log4j_pluginsvr.xml`:

```
<logger name="com.bmc.itsm.cai.filterapi.cai">
    <level value="warn"/>
</logger>
```

- For the ARDBC plug-in, add the following to `log4j_pluginsvr.xml`:

```
<logger name="com.bmc.itsm.conquery.ardbc.conquery">
    <level value="warn"/>
</logger>
```

- For the charge backs plug-in, add the following to `log4j_pluginsvr.xml`:

```
<logger name="com.bmc.itsm.chargeback.filterapi.chargeback">
    <level value="warn"/>
</logger>
```

- For the NextId plug-in, add the following to `log4j_pluginsvr.xml`:

```
<logger name="com.bmc.itsm.nextid.filterapi.nextid">
    <level value="warn"/>
</logger>
```

- 4 Add the following entry to the `ar.cfg` or `ar.conf` file: `Server-Plugin-Default-Timeout: 10000`

- 5 Start the BMC Remedy AR System server.

Product extensions

Extensions are installed by the product installer as part of the initial installation. Extensions are skipped during the installation of subsequent applications.

Two extension-related log files, `ASI_DriverLog.log` and `ExtLoader-RIK_Log.log`, are generated in the `InstallDir\Logs\ExtLoaderLogs` folder.

An example Windows path is `C:\Program Files\BMC Software\BMCRemedyITSMSuite\Logs\ExtLoaderLogs`.

An example UNIX path is `/opt/bmc/bmcremedyitsmsuite/Logs/ExtLoaderLogs`.

ASI_DriverLog

A sample error message in the driver script is:

```
Command: SET ATTRIBUTE
Class Name
  Namespace (): Class name (): Attribute Name (): Change attribute name?
(F): New
  Attribute Name (): Change entry mode? (F): Change attribute limits?
(F): Change
  default value? (F): Change attribute characteristics? (F): Change
custom attribute
  characteristics? (F):
  CMDBSetAttribute results
ReturnCode: ERROR
Status List: 1 items
Status Struct:
  Message type: ERROR
  Message number: 120004
Message: Attribute does not exist.
  Appended: Status
```

Note

This particular error message is benign and can be ignored; however, you will need to investigate other error messages.

Extension loader RIK logs

A sample error message in the install log is:

```
com.bmc.smbu.install.common.rule.engine.CommandExecutionException:
Exec
command ("C:\DOCUME~1\ ADMINI~1\ LOCALS~1\ Temp\ Utilities\ cmdb\cmdbdriver.exe" -s rieqvm01-cl2 -u Demo -p notDisplayed -t 0 -x "C:\Program Files\BMC Software\BMCRemedyITSMSuiteDK1\rieqvm01-cl2\Shared_Components\extensions\600-CDMExtensions\200-ITSM_CDM_Extensions-OSD.txt") returned an exit code of 1, which was
interpreted as
a failure]]]
```

Send the BMCRemedyITSMSuiteLogs.zip output file from the temp directory to Customer Support on request. The path to the zipped log appears below the Zip Logs button.

Encrypting passwords

This procedure describes how to generate an encrypted password using the Maintenance Tool. You might use this encrypted password when running a silent installation.

To encrypt a password for a silent installation

- 1 Open the Maintenance Tool.
- 2 Click the Encrypt tab.
- 3 Enter your password in the Password field and in the Confirm Password field.
- 4 Click **Encrypt**.
- 5 Copy and paste the encrypted password into the silent.txt file for your silent installer.

For example, if you want to encrypt the BMC Remedy AR System password and the output is DES\:b76c59dbc2e1433c7a9c2f006a2e2429116840dce695aea9, enter the following string:

```
# -J BMC_AR_PASSWORD=DES\:b76c59dbc2e1433c7a9c2f006a2e2429116840dce695aea9
# -J BMC_AR_CONFIRM_PASSWORD=DES
\:b76c59dbc2e1433c7a9c2f006a2e2429116840dce695aea9
```

For more information, see [Installing in Silent Mode on page 93](#).

Installing and configuring the Data Management tool

This topic provides recommended reading.

Before installing the BMC Remedy ITSM Data Management tool, read the *BMC Remedy IT Service Management Release Notes*. Also, if you are upgrading to a newer version of the Data Management tool, read “[Upgrading from an earlier version of the Data Management client tool](#)” on page 120 before continuing with the installation.

Installation overview

The Data Management tool is a Windows-based application. This topic provides an introduction to installing and configuring the Data Management tool.

From the computer on which you are running the Data Management tool, run the Data Management client installer as described in “[Running the client installer](#)” on page 116.

All the client files are installed, including the Excel spreadsheets, macros, and mapping files.

Note

The Data Management server components are installed automatically with the BMC Remedy ITSM applications.

Tip

If you encounter any installation errors, check the log file to help troubleshoot the problem.

Optionally, you can configure the tool to use multi-threading to enhance bulk data load performance. See “[Configuring performance enhancements](#)” on page 116.

Running the client installer

This procedure describes how to run the client installer on each computer used to run the Data Management tool.

To run the client installer

- 1 From Windows Explorer, change directories to the location of the setup.exe file for the Data Management Tool installer, located in the DataManagementClient directory.
- 2 Copy setup.exe to your client.
- 3 Run setup.exe.
- 4 Use the Data Management Tool installation worksheet to enter the information on the screens.

For more information, see [Data Management Tool installation worksheet on page 52](#).

Configuring performance enhancements

This procedure describes how can improve performance while you are loading over 1,000 records to a form.

The following actions describe how you can improve performance:

- Setting the Next Request ID Block Size to 40.

This setting enhances performance when data is imported from the CSV files into the staging forms. For more information, see [“Setting the Next Request ID Block Size” on page 118](#).

- Using a private server queue with multi-threading.

A private server queue with multi-threading enables multiple chunks of data to be processed at the same time. You can configure multiple threads to be run simultaneously, depending on how powerful your server is.

Multi-threading is available for forms that include:

- People form and the child forms (for example, Work Info, Notification Preferences, Cost Centers, People Attributes).
- Transaction forms (for example, incident and the related forms: incident work info, reminders, broadcasts, incident financial information, and associations).

To see all forms that use multi-threading

- 1 Start the BMC Remedy User Tool.
- 2 Open DLD:SYS:DataloadOrder form.
- 3 Search for records that has MultiThread field set to Yes.

WARNING

If you configure these performance enhancements, when the Data Management tool is running validation or promotion, the BMC Remedy AR System server utilizes 100 percent CPU capacity to achieve maximum throughput. As a result, during validation and promotion the BMC Remedy AR System server is *not* responsive to additional requests.

To configure the tool to use a private server queue

- 1 Set the Next Request ID Block Size. For more information, see “[Setting the Next Request ID Block Size](#)” on page 118.
- 2 Configure the BMC Remedy AR System server information for a private server queue. For more information, see “[Generating a private server queue](#)” on page 83. Use the thread values in [Table 9 on page 117](#) when using the Data Management tool.

Table 9: Server queue configuration

Queue type	Min Threads setting	Max Threads setting
Fast	16	32
Private	16	32

Make sure that the Plug-in Loopback RPC Program Number is set to the private queue’s RPC Program Number.

- 3 Configure the CAI:Plugin Registry form. For more information, see [Configuring BMC Remedy AR System server for CAI](#) on page 82.

The number of threads must be within the minimum and maximum number that you set for the Private server queue. BMC recommends 16 threads when using the Data Management tool.

Setting the Next Request ID Block Size

This procedure describes how to enhance performance by setting the Next ID Block Size.

You can set this performance enhancement regardless of whether you configure multi-threading.

To set the Next ID Block Size

- 1 Choose **Start => Programs => BMC Software => User Tool => BMC Remedy User.**
- 2 Using BMC Remedy User, log in to the BMC Remedy AR System server to which you are importing data.
- 3 Open the AR System Administration Console.
- 4 Choose **System => General => Server Information.**

The Server Information window appears.

- 5 Click the **Configuration** tab.
- 6 Set the Next Request ID Block Size to 40.
- 7 If you are configuring the BMC Remedy AR System server for multi-threading, continue with the next procedure, which is on this form. Otherwise, click **OK** to save your settings.

Components of the Data Management tool

The Data Management tool includes the following components:

- **Excel workbook files for loading data** – Each of these workbook files has individual tabs that correspond to the different data structures that can be imported. The following workbook files are included:
 - Company.xls
 - Financials.xls
 - GenericCatalog.xls
 - Geography.xls

- Location.xls
- OperationalCatalog.xls
- People.xls
- PeopleOrg.xls
- ProcessSetup-Change.xls
- ProcessSetup-Foundation.xls
- ProcessSetup-Incident.xls
- ProcessSetup-Request.xls
- ProcessSetup-Task.xls
- ProductCatalog.xls
- SupportGroup.xls
- SystemSetup.xls
- Transactional-Asset.xls
- Transactional-Contract.xls
- Transactional-Change.xls
- Transactional-Incident.xls
- Transactional-Problem.xls
- Transactional-SharedComponents.xls
- Transactional-Task.xls

- **Conversion files** – Each data load workbook has a corresponding conversion file. Each conversion file contains a macro to convert the individual tabs in the data load workbook into separate files in CSV format.
- **Data load batch files** – Batch files run on your workstation when you convert spreadsheets to CSV format and when you import CSV files. The following data load batch files are included:
 - Check.bat
 - Convert.bat

- Import.bat
- **Import mapping files** – Files with the extension .arm (AR Mapping) are import mapping files used by the Data Management tool for data loads.

Upgrading from an earlier version of the Data Management client tool

Before you upgrade to a later version of the Data Management client tool, you should be familiar with the following information.

You can install a later version of the Data Management client tool in the same or a different directory as an earlier installation.

WARNING

If you install the later version in the same directory as an earlier installation, all client files in the earlier installation are replaced with the files from the later version. All of the data in your spreadsheets is lost.

By default, the installation path is **C:\Program Files\BMC Software\DataManagementClient**.

Data changes during an upgrade

This appendix provides information about the forms into which BMC Software loads new or modified data and about the ARX files. For BMC Remedy ITSM 7.6.04, the ARX files have been consolidated to improve installer performance.

BMC Software strongly recommends that you back up your database and export your data customizations to an ARX file before you run the BMC Remedy ITSM 7.6.04 installer. You can import your customized data into a BMC Remedy ITSM 7.6.04 form after the BMC Remedy ITSM installation is finished.

Forms for new or modified imported data

This topic lists the forms into which BMC Software imports new or modified data.

If you have customized data in these forms, BMC Software recommends backing up the data.

- AAS:AuditFilters
- AAS:CFG Notification Rules
- AP:Form
- AP:Process Definition
- APR:SYS-ApprovaDefinitionAlias
- APR:SYS-Approval Definition
- AR System Message Catalog
- AR System Resource Definitions
- AR System Web Services Registry
- ASE:Assignment Association

- ASE:Assignment Process
- ASE:Assignment Rules
- ASE:ProcessRuleForm
- AST:AssetAdvancedSearchCriteria
- AST:ConfigRegistry_FieldIDMapping
- BMC.CORE.CONFIG:BMC_Dataset
- BMC.CORE.CONFIG:BMC_UIComponent
- Business Time Holidays
- CAI:CommandParams
- CAI:CommandParamsMapping
- CAI:Commands
- CFB:FlashboardData
- CFB:FlashboardUserView
- CFG:Business Holidays Storage
- CFG:Geography Country
- CFG:HTMLCatalog
- CFG:Service Catalog Assoc
- CHG:CCMAdminGUI:ServerConfig
- CHG:CCMCalendar:UserDefaults
- CHG:CFBFlashboardData_Staged
- CHG:CFBFlashboardUserView_Staged
- CHG:CFBFlashboard_StagedDataLoader
- CHG:CFG Change Risk Determine
- CHG:CFG Rules
- CHG:ChangeRiskFieldSelection

- CHG:ChangeRiskReportTemplate
- CHG:TemplateSPGAssoc
- COM:Company
- COM:Company Alias
- CTM:CFG-ApplicationPreferences
- CTM:People
- DLD:LicenseCount
- DLD:MessageBox
- DLD:SYS:DataWizardProductStatus
- DLD:SYS:DataloadOrder
- DLD:SYS:ErrorMessages
- DLD:SYS:ImportConfiguration
- DLD:SYS:StagingFormDependency
- Data Visualization Definition
- Data Visualization Module
- FIN:ConfigCostCategory
- FIN:ConfigCostCentersRepository
- FIN:CostCategoryRepository
- HPD:AppSettings
- HPD:Audit Filters
- HPD:CFG-Rules
- KPI:DataCollection
- KPI:FlashboardConfig
- MSM:MigrationTasks
- NTE:CFG-Notification Events

- RKM:KnowledgeSources
- RKM:SourceCategorization
- RKM:SourceCategorization_MappedIDs
- RKM:SourceCompanies
- RKM:SourceFields
- RKM:SourceFormPermissions
- RLE:BaseRule
- RLE:CalculationRuleSpecificData
- RLE:ComplexRuleSpecificData
- RLE:Configuration
- RLE:GetRuleSpecificData
- RLE:LoopRuleSpecificData
- RLE:RuleSet
- RLE:RuleSetType
- RLE:RuleTypesInformation
- RLE:RunTag
- RLE:UpdateRuleSpecificData
- RMS:AuditFilters
- RMS:CFG Rules
- ROI:CFG_AssetROIConfig
- ROI:CFG_ChangeROIConfig
- ROI:CFG_IncidentROIConfig
- ROI:ConfigurationConsole
- Report
- Report Definition

- Roles
- SHR:ARDBCFields
- SHR:PicklistDefinition
- SHR:SchemaNames
- SRM:CFG Rules
- SYS:Advanced Search Form List
- SYS:Application CleanUp
- SYS:Association Type Assoc
- SYS:Association Types
- SYS:Attachments
- SYS:Attribute Permission Group
- SYS:Attribute Setup
- SYS:ComputedGroupDefinitions
- SYS:Form Field Selection
- SYS:Integration Management
- SYS:Menu Items
- SYS:Menu_With_Permissions
- SYS:Message Box
- SYS:Notification Messages
- SYS:Predefined Queries
- SYS:Reported Source
- SYS:Request Types
- SYS:Request Types Associations
- SYS:Schema Sort
- SYS:SelectionFieldFormMapping

- SYS:Status Flow Transition Rules
- SYS:Status Query Rules
- SYS:Status Reason Menu Items
- SYS:Status Transition Rules
- SYS:System Settings
- TMS:AuditFilters
- TMS:TaskTemplate
- User
- VIS:ProcessAcceleratorItem
- VIS:ProcessAcceleratorItemView

Finding data that will be imported during an upgrade

Determine whether your customized data will be impacted by an upgrade. The following information describes where to find the data in the BMC Remedy ITSM installation directory that will be imported for a particular component during an upgrade.

BMC Remedy Asset Management directories

The following list shows the directories where you can find the BMC Remedy Asset Management data that will be upgraded:

Note

The following list is for a Microsoft Windows environment where backward slashes are used for paths (\). If you use a UNIX environment, the slashes will appear as forward slashes (/).

- *installationPath\workflow\ pre_install*
\upgrade_from_7.6.03_to_7.6.04\integration\ast\workflow
- *installationPath\workflow\ pre_install*
\upgrade_from_7.6.03_to_7.6.04\system\ast\workflow

- *installationPath\workflow\ install\upgrade_from_7.6.03_to_7.6.04\integration\astcomponentName2\workflow*
- *installationPath\workflow\ install\upgrade_from_7.6.03_to_7.6.04\system\ast\workflow*
- *installationPath\workflow\ post_install\upgrade_from_7.6.03_to_7.6.04\integration\ast\workflow*
- *installationPath\workflow\ post_install\upgrade_from_7.6.03_to_7.6.04\system\ast\workflow*

The **ast** component in the directory path is specific to BMC Remedy Asset Management. For another application, the component name will be different. *componentName2* will be replaced by a second component name listed in the following section (for example, *pbm*).

Application or module component names

Consult the following table to see which components apply for each BMC Remedy ITSM application and module.

Application or module	Component names
Foundation	aas, apr, asi, cai, cfg, cfn, cms, ctr, fin, fnd, rac, roi, rqc, rrc, shr, srm, tms
BMC Remedy Change Management	chg, rms
Data Management tool	dld
BMC Remedy Incident Management	hpd
BMC Remedy Problem Management	pbm
BMC Remedy Asset Management	ast, rle

ARX file layout

This topic describes the contents of an ARX file and describes how to use Microsoft Excel to view the contents of the ARX file.

Example of a consolidated ARX file

The following figure shows an example of a consolidated ARX file:

Figure 4: Consolidated ARX file example

Each section of the data is provided in the following format:

CHAR-SET, which is the character set of the data.

SCHEMA, which is the form where the data will be imported.

FIELDS, which are database field names.

FLD-ID, which are field IDs.

DTYPES, which are data types for each field.

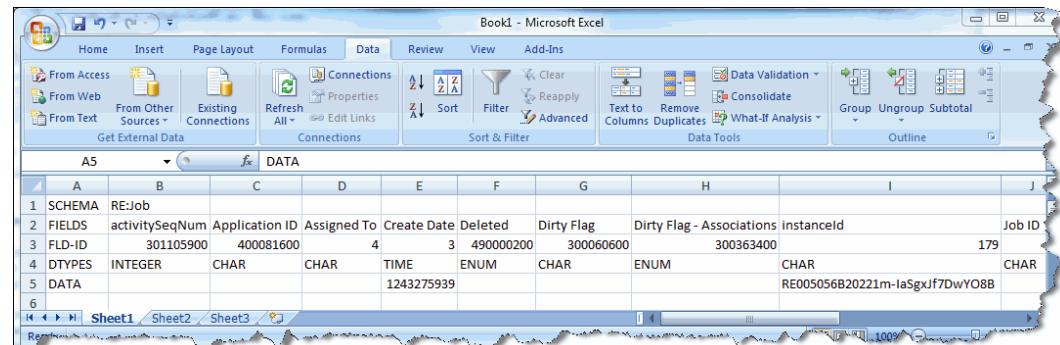
DATA, which are the data values. Each DATA row represents a record.

Viewing an ARX file in Microsoft Excel

To determine which data corresponds to which field, use Microsoft Excel to view the consolidated ARX file. These instructions are for Excel 2007.

- 1 Open the ARX file in a text editor
- 2 Copy the SCHEMA, FIELDS, FLD-ID, DTYPES, and DATA lines into an Excel spreadsheet.
- 3 Click the Data tab, and select **Text to Columns**.
- 4 Select **Delimited**, and click **Next**.
- 5 Select **Space** for the delimiter, and ensure that the double quotation mark ("") is selected as the **Text Qualifier** and click **Next**.
- 6 Click **Finish**.

The following figure shows the results:



The screenshot shows a Microsoft Excel window titled "Book1 - Microsoft Excel". The ribbon menu is visible with tabs for Home, Insert, Page Layout, Formulas, Data, Review, View, and Add-Ins. The Data tab is selected, showing various data manipulation tools like From Access, From Web, From Text, From Other Sources, Existing Connections, Refresh All, Connections, Sort & Filter, Data Tools, and Group/Outline. The main worksheet area contains a table with the following data:

	A	B	C	D	E	F	G	H	I	J
1	SCHEMA	RE:Job								
2	FIELDS	activitySeqNum	Application ID	Assigned To	Create Date	Deleted	Dirty Flag	Dirty Flag - Associations	instanceId	Job ID
3	FLD-ID	301105900	400081600	4	3	490000200	300060600	300363400		179
4	DTYPES	INTEGER	CHAR	CHAR	TIME	ENUM	CHAR	ENUM	CHAR	CHAR
5	DATA				1243275939					RE005056B20221m-laSgxJf7DwYO8B
6										

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