HP Project and Portfolio Management Center

Software Version: 7.1

HP Service Desk Adapter for Remedy Configuration Guide

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Table of Contents

List of Tables

1 Introduction

In This Chapter:

About This Document

This document:

- Describes the HP Service Desk Adapter for BMC Remedy Action Request System, which provides integration of PPM Center with the BMC Remedy AR System.

- Provides instructions for deploying the HP Service Desk Adapter to multiple servers, if necessary.

- Discusses configuration of the HP Service Desk Adapter for Remedy.

Who Should Read This Document

This document is intended for PPM Center system administrators who are also familiar with the Remedy AR System.

Related Documents

Related documents for this document include:

- *HP Demand Management User's Guide*
- *HP IT Service Management Accelerator Guide*

About the Service Desk Adapter

PPM Center contains a single repository for application change requests. When a user creates a change request on your local service desk system, the request must be imported into PPM Center for processing.

The Service Desk Adapter provides the ability to import requests from service desk systems such as the BMC Remedy AR System into PPM Center.

The requests are imported using an Adapter specific to the service desk system you are using. This process is controlled by a scheduler that can be configured to run at a specified time, for example once a day.

Importing change requests into PPM Center is a one-way process—once the change request has been imported from the service desk system into PPM Center, there is no need for PPM Center to send any modifications back to the service desk system, nor to notify the service desk system on the progress of that change request in PPM Center.

Supported Applications

The Service Desk Adapter supports Remedy Action Request System 5.0.

Change Request Conversion Flow

Figure 1-1 depicts the flow for importing a change request from a service desk system into PPM Center.

Figure 1-1. Change request import process
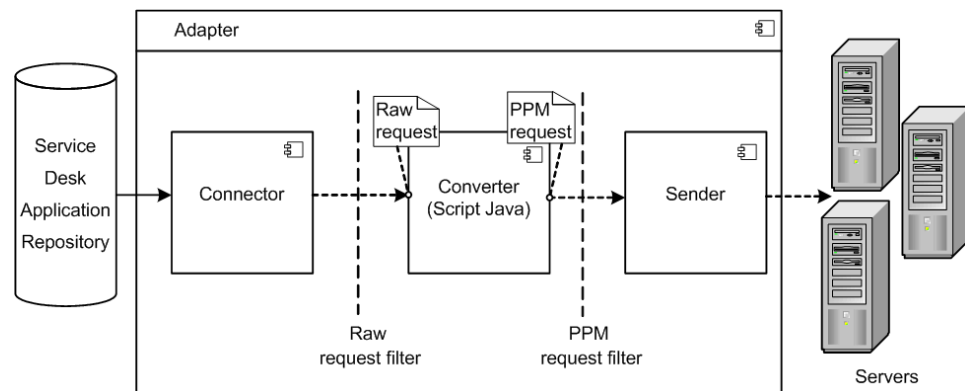
For each service desk system, there is an Adapter. This Adapter is responsible for the process of importing change requests from the service desk system into PPM Center.

The Adapter is composed of three components:

- **Connector.** Collects new change requests from the service desk systems.

- **Converter.** Converts the change request from the service desk data model it was created in, into the PPM Center data model.

- **Sender.** Sends the converted change requests to PPM Center.

The Adapter also contains a raw request filter and a PPM Center request filter. Using these filters, you can control which change requests are imported into PPM Center. The raw change request filter filters the information in the service desk data model before the requests are converted. The PPM Center request filter filters the information in the PPM Center data model after conversion, but before it is imported into PPM Center.

Preparing Service Desk Integration

Before you import a change request from your service desk system into PPM Center, you need to configure the Adapter.

To configure the Adapter, you need to:

- Set up the adapter configuration file.

- Write the conversion scripts.

Adapter Configuration File

The adapter configuration file is an XML file that contains the Adapter's general settings, as well as specific attributes that are relevant to the service desk application you are working with. For details about setting up this file, see *Setting Up the Adapter File* on page 17.

Conversion Scripts

Conversion scripts are called by the adapter configuration file, and are responsible for field mapping during the conversion process.

Each script must contain at least the `Convert`, `preFilter`, and `postFilter` functions, which are described in *Conversion Script Functions* on page 22. These functions enable you to specify the type of change requests to convert from the service desk data model to the PPM Center data model (for example, requests whose status is NEW) and which requests to import into PPM Center (for example, only requests of a specific type).

➤ You can configure more than one Adapter per service desk system. This enables you to import change requests from several servers of the same service desk system, or import several request types from the service desk system.

Deployment

The Service Desk Adapter is deployed as part of PPM Center. It can also be deployed on other application servers.

To deploy the Service Desk Adapter from PPM Center on a different application server:

1. Copy the `.war` file for the Service Desk Adapter, `ServiceDesk_Integration.war`, which is located in `<PPM_Home>/server/<PPM_Instance>/deploy`, to the `deploy` directory on the new application server.

2. Create the following directories in the home directory (`<Application_Server_Home>`) of the application server:

   ◾ `conf/sdi`

   ◾ `bin/sdi`

   ◾ `security`

3. Copy the content of the PPM Center server's `conf/sdi`, `bin/sdi`, and `security` directories into the respective directories that you just created on the application server.

4. Create a JVM property called `sdi.home`, and set it to point to the new application server's home directory.

5. Restart the application server.

2 Configuring the Adapter

In This Chapter:

Configuring the Adapter

The Adapter is made up of a connector, a converter, and the PPM Center Sender. The connector connects your service desk system to the Service Desk Adapter. The converter converts the raw change requests from your service desk data model into the PPM Center data model. The PPM Center sender sends (exports) the converted request to PPM Center.

The Adapter is configured in the adapter configuration file, which is an XML file that contains the Adapter's general settings, the connector's attributes, and the conversion scripts that enable the conversion of a request from the service desk data model into the PPM Center data model.

Location and Naming Conventions of Adapter Configuration Files

The Adapter configuration files are located in the `conf\sdi` folder of the PPM Server.

The `conf\sdi` folder contains:

- A configuration file for each Adapter.

  Inside the configuration file, you define a name for the Adapter. The name of the configuration file must be identical to the name defined for the Adapter, and must have a `.settings` extension, as follows:

  `<adapter name>.settings`

  For example, if the Adapter name is `remedy-adapter`, the configuration file name will be `remedy-adapter.settings`.

- A subfolder for each adapter configuration file. The subfolder holds the conversion scripts responsible for the field mapping and filtering of the requests.

  The name of the subfolder must also be identical to the name defined for the Adapter, and must have a `.ext` extension, as follows:

  `<adapter name>.ext`

  Following the example above, the `conf\sdi` folder will contain a subfolder called `remedy-adapter.ext`, to hold all the script files for the Adapter.

Setting Up the Adapter File

The Adapter configuration file is divided into four main sections:

■ The Adapter's attributes, such as the Adapter's name, the name of the service desk application in which the change requests were created, and the type of request being converted.

To set the Adapter attributes, see *Configuring the Common Adapter Attributes* on page 18.

■ The connector attributes—each service desk system has its own set of connector attributes that enable the Adapter to connect to the service desk system.

To set the connector attributes, see *Configuring the Connector Attributes* on page 19.

■ The converter attributes, which call the conversion script files where the field mapping and filter functions are defined.

To set the converter attributes, see *Configuring the Converter Attributes* on page 22.

■ The PPM Center sender information—the attributes for sending the converted and filtered change request data to PPM Center.

To set the PPM Center sender attributes, see *Configuring the PPM Center Sender Settings* on page 24.

Password Encryption

All the passwords in the configuration files should be encrypted using the PPM Center script, `kEncypt.sh,` which is located in the `bin` directory of the PPM Server.

➤ Encrypted passwords, which contain special characters, must be created in a CDATA section in the configuration file. This is because the configuration file is an XML file, and special characters can be added to an XML file in a CDATA section (<![CDATA[ ]]>) only.

Configuring the Common Adapter Attributes

The adapter configuration file identifies the Adapter.

```
<adapter adapter-name="<adapter name>">
   <service-desk-application><SD appl>
      </service-desk-application>
   <request-type><request type></request-type>
   <number-of-tickets><number of tickets>
      </number-of-tickets>
   <polling-schedules><schedule></polling-schedules>
   .
   .
   .
</adapter>
```

Table 2-1 describes the Adapter attributes common to all service desk systems.

Table 2-1. Common Adapter attributes (page 1 of 2)

Property Name (*Required)	Description	Default Value
*adapter-name	A logical name that represents the collector's name on the client machine. For example: remedy-adapter This name is also used for the adapter configuration (`.settings`) file, and the scripts (`.ext`) folder. (See *Location and Naming Conventions of Adapter Configuration Files* on page 16.)	(none)
*service-desk-application	A logical name for the service desk application used. For example: Remedy Action Request System This name is also used for the service desk system name, defined in the configuration of the PPM Center sender (sdSystemFieldName).	(none)
*request-type	A logical name of the request type used. For example: Change Request Form	(none)

Table 2-1. Common Adapter attributes (page 2 of 2)

Property Name (*Required)	Description	Default Value
number-of-tickets	Sets the number of change requests that the collector processes at a time.	50
polling-schedules	A list of cron expressions separated by the newline character. Format: 30 * * * * <new line> 0 * * * *	(none)
polling-frequency	The frequency (in seconds) that the collector polls for change requests.	If polling-schedules and polling-frequency are undefined, then the default is 30 seconds.

Configuring the Connector Attributes

The second section of the adapter configuration file contains the connector attributes. These attributes vary according to the service desk system you are working with.

```
.
.
.
<connector>
<connector-type><SD name></connector-type>
   <properties>
      .
      .
      .
   </properties>
</connector>
.
.
.
```

Remedy Connector Settings

The HP Service Desk Adapter for Remedy AR System uses the Remedy API for importing change request tickets from Remedy. If you are using the Remedy API for Java™, follow the instructions in *Remedy API for Java*.

Remedy API for Java

The API for Java is Java Native Interface (JNI) based, and requires copying certain files from the Remedy installation directory to the PPM Server before you can connect to Remedy.

If the Service Desk Adapter is running on a Windows® machine:

1. Copy the following `.jar` files from the Remedy installation directory to `<PPM_Home>/server/ServerName/deploy/ServiceDesk_Integration.war/WEB-INF/lib`:

   - `arapi50.jar`

   - `arutil50.jar`

2. Create an arbitrary folder on the PPM Server machine.

3. Copy the following `.dll` files to the arbitrary folder:

   - `arrpc50.dll`

   - `arutl50.dll`

   - `arapi50.dll`

   - `arjni50.dll`

4. Set the `PATH` environment variable to point to the arbitrary folder.

If the Service Desk Adapter is running on a UNIX® machine:

1. Copy the `arapi50.jar` file from the Remedy installation directory to `<PPM_Home>/server/ServerName/deploy/ServiceDesk_Integration.war/WEB-INF/lib`.

2. Create an arbitrary folder on the PPM Server machine.

3. Copy the relevant `.so` or `.sl` file to the arbitrary folder as follows:

   - For HP: `libarjni50.sl`

   - For Solaris, AIX, Linux: `libarjni50.so`

4. Set the `LD_LIBRARY_PATH` environment variable to point to the arbitrary folder.

For the Remedy service desk system, define the connector attributes as described in *Table 2-2*:

Table 2-2. Remedy connector attributes

Property Name (*Required)	Description	Default Value
*connector-type	The logical name of the Adapter. This must be set to remedy.	(none)
*serverName	The name of the Remedy server.	(none)
serverTcpPort	The TCP port of the Remedy server.	0
serverRpcNum	The RPC number of the Remedy server.	0
*userName	The name of the user connecting to the Remedy server.	(none)
*userPassword	The password of the user connecting to the Remedy server. The password should be encrypted. See *Password Encryption on page 17*.	(none)
*schemaName	The name of the schema containing the required change requests.	(none)
*field-names	A comma-separated list of change request fields to retrieve. Use * to collect all the fields of the change request.	(none)

Configuring the Converter Attributes

The third section of the adapter configuration file contains the converter attributes. The converter maps the fields from the service desk data model to the PPM Center data model, and filters the requests.

```
.
.
.
<converter>
<converter-type>bsfConverter</converter-type>
    <properties>
        scripts=......
    </properties>
</converter>
.
.
.
```

The attributes include the type of converter, and the conversion script file names, as described in *Table 2-3*.

Table 2-3. Converter attributes

Property Name (*Required)	Description
*converter-type	This must be set to `bsfConverter`.
*scripts	A comma-separated list of script file names. These files must reside in the Adapter's extension folder (`conf\sdi\<adapter name>.ext`).

➤ The current JavaScript engine does not handle long lines. Make sure that the script line does not exceed 256 characters.

Conversion Script Functions

The conversion scripts are responsible for field mapping during the conversion of service desk model requests into PPM Center model requests, and for filtering the requests. Each script must contain at least the `convert`, `preFilter`, and `postFilter` functions.

- **convert.** This function maps the fields of the service desk request to PPM Center fields.

  ```
  convert(rawTicket, ItgRFC)
  ```

- **preFilter.** This function filters the change requests before they are converted to the PPM Center data model, ensuring that no unnecessary requests are converted.

```
                    preFilter(rawTicket)
```

■ **postFilter.** This function filters the converted change requests, ensuring that only the desired requests will be imported to PPM Center.

```
                    postFilter(ItgRFC)
```

▶ For details about conversion APIs, see *Conversion Script APIs*.

Conversion Script APIs

You can use the following syntax for the conversion scripts.

rawTicket Object

The rawTicket object represents the service desk model request. Use the following function to retrieve service desk model request data:

```
get(String fieldName);
```

ItgRFC Object

The ItgRFC object represents the PPM Center request. You can modify the PPM Center request data using the API functions as follows:

Reference ID

Use the following function to set the service desk change request ID in the PPM Center request:

```
setRefId(String referenceId);
```

Time Stamp

Use the following function to set the last update time in the PPM Center request:

```
/**
* Set the time stamp in long format—that is, the number of
milliseconds
* since January 1, 1970, 00:00:00 GMT
**/
setUpdatedTimeStamp(long updatedTimeStamp);
/**
* Set the time stamp in the simple date format, which is
described
* at the following location:
* http://java.sun.com/j2se/1.4.2/docs/api/java/text/
SimpleDateFormat.html
**/
setUpdatedTimeStamp(String updatedTimeStamp, String format);
```

Status

Use the following function to change the status of the PPM Center request. This allows the workflow of the request to progress:

```
setStatus(String newStatus)
```

General Field

Use the following function to set a value of a general field in the PPM Center request:

```
set (String fieldName, String value);
```

Date

Use the following function to set a date field value in the PPM Center request:

```
/**
* Set the date in long format—that is, the number of
milliseconds since
* January 1, 1970, 00:00:00 GMT
**/
setDateValue(String fieldName, long date);
/**
* Set the date in the simple date format which is described in
the following * location:
* http://java.sun.com/j2se/1.4.2/docs/api/java/text/
SimpleDateFormat.html
**/
setDateValue(String fieldName, String date, String format);
```

Configuring the PPM Center Sender Settings

The fourth section of the adapter configuration file contains the PPM Center sender attributes, whereby the converted change request is exported to PPM Center.

Below is an example of the PPM Center sender settings for any service desk system:

```
.
.
.
<sender>
<sender-type>ITGSender</sender-type>
   <properties>
      serverUrl=http://machine:8080
      userName=admin
      password=<![CDATA[ Encrypted Password ]]>
      requestType=Service Desk Integration Request
      updateRequest=false
      ticketIdFieldName=REQD.SD_TICKET_ID
      sdSystemFieldName=REQD.SD_SYSTEM_NAME
   </properties>
```

```
      </sender>
</adapter>
</settings>
```

Set the attributes as described in *Table 2-4*:

Table 2-4. PPM Center sender attributes

Property Name (*Required)	Description	Default Value
*sender-type	This must be set to ITGSender.	(none)
*serverUrl	The URL of the PPM Server. For example, http://machine:8080.	(none)
*userName	The user name of the PPM Server.	(none)
*password	The password of the PPM Server. The password should be encrypted. See *Password Encryption* on page 17.	(none)
*requestType	The PPM Center request type that should be created for the change requests that are being imported.	(none)
updateRequest	Ensures that modifications made to service desk change request are updated in the PPM Center request. The default value is `false`. Change requests should be modified in PPM Center only.	false
*ticketIdFieldName	The field, in PPM Center, containing the service desk change request ID.	(none)
*sdSystemFieldName	The field, in PPM Center, containing the service desk system name.	(none)

3 Configuration File Examples

In This Chapter:

- *Adapter Configuration File Example*
  - *Remedy Adapter Configuration File Example*

Adapter Configuration File Example

The following adapter configuration file example for Remedy systems can be used for reference, or copied and modified to fit your organization's needs.

Remedy Adapter Configuration File Example

The following is an example of the adapter configuration file for the Remedy service desk system:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<settings>
   <adapter adapter-name="remedy-adapter">
   <service-desk-application>Remedy</service-desk-application>
   <request-type>Change Request Form</request-type>
   <number-of-tickets>50</number-of-tickets>
   <polling-schedules>0/30 * * * * ?</polling-schedules>

      <connector>
      <connector-type>remedy</connector-type>
         <properties>
            serverName=LABM1BTO01
            userName=Demo
            userPassword=<![CDATA[ Encrypted Password ]]>
            schemaName=CHG:Change
            fieldNames=*
         </properties>
      </connector>

      <converter>
      <converter-type>bsfConverter</converter-type>
         <properties>
            scripts=convert.js
         </properties>
      </converter>

      <sender>
      <sender-type>ITGSender</sender-type>
         <properties>
            serverUrl=http://wish:9090
            userName=admin
            password=<![CDATA[ Encrypted Password ]]>
            requestType=
            Service Desk Integration Request
            updateRequest=false
            ticketIdFieldName=REQD.SD_TICKET_ID
            sdSystemFieldName=REQD.SD_SYSTEM_NAME
         </properties>
      </sender>

   </adapter>
</settings>
```