

# *InCharge*<sup>TM</sup>

## Service Assurance Manager User's Guide for Remedy Adapter

Version 6.0



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# Preface

## Intended Audience

This guide is intended for network personnel who need to configure and use the InCharge Service Assurance Manager Adapter for Remedy.

## Prerequisites

It is assumed that the required software systems (the Remedy AR System version 4.5 or 5.1 and InCharge Service Assurance Manager) are installed.

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**Note:** The InCharge Adapter for Remedy is not supported on the Linux operating system.

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It is also assumed that the InCharge Adapter for Remedy is installed. For information about installing InCharge adapters, see the *InCharge Installation Guide*.

## Document Organization

This guide consists of the following chapter.

<b>1. THE INCHARGE ADAPTER FOR REMEDY</b>	Provides an overview of the InCharge Adapter for Remedy, and details how to configure and use the adapter.
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**Table 1:** Document Organization

# Documentation Conventions

Several conventions may be used in this document as shown in Table 2.

CONVENTION	EXPLANATION
sample code	Indicates code fragments and examples in Courier font
<b>keyword</b>	Indicates commands, keywords, literals, and operators in bold
%	Indicates C shell prompt
#	Indicates C shell superuser prompt
<parameter>	Indicates a user-supplied value or a list of non-terminal items in angle brackets
[option]	Indicates optional terms in brackets
/InCharge	Indicates directory path names in italics
<b>yourDomain</b>	Indicates a user-specific or user-supplied value in bold, italics
File > Open	Indicates a menu path in italics
▲ ▼	Indicates a command that is formatted so that it wraps over one or more lines. The command must be typed as one line.

**Table 2:** Documentation Conventions

Directory path names are shown with forward slashes (/). Users of the Windows operating systems should substitute back slashes (\) for forward slashes.

Also, if there are figures illustrating consoles in this document, they represent the consoles as they appear in Windows. Under UNIX, the consoles appear with slight differences. For example, in views that display items in a tree hierarchy such as the Topology Browser, a plus sign displays for Windows and an open circle displays for UNIX.

Finally, unless otherwise specified, the term InCharge Manager is used to refer to InCharge programs such as Domain Managers, Global Managers, and adapters.



# InCharge Installation Directory

In this document, the term **BASEDIR** represents the location where InCharge software is installed.

- For UNIX, this location is: `/opt/InCharge<n>/<productsuite>`.
- For Windows, this location is: `C:\InCharge<n>\<productsuite>`.

The `<n>` represents the InCharge software version number. The `<productsuite>` represents the InCharge product suite that the product is part of.

Table 3 defines the `<productsuite>` directory for each InCharge product.

PRODUCT SUITE	INCLUDES THESE PRODUCTS	DIRECTORY
IP Management Suite	<ul style="list-style-type: none"> <li>• InCharge IP Availability Manager</li> <li>• InCharge IP Performance Manager</li> <li>• InCharge Discovery Manager</li> <li>• InCharge Adapter for HP OpenView NNM</li> <li>• InCharge Adapter for IBM/Tivoli NetView</li> </ul>	/IP
Service Assurance Management Suite	<ul style="list-style-type: none"> <li>• InCharge Service Assurance Manager</li> <li>• Global Console</li> <li>• InCharge Service Assurance Manager Business Impact Manager</li> <li>• InCharge Service Assurance Manager Failover System</li> <li>• InCharge Service Assurance Manager Notification Adapters</li> <li>• InCharge Service Assurance Manager Adapter Platform</li> <li>• InCharge SNMP Trap Adapter</li> <li>• InCharge Syslog Adapter</li> <li>• InCharge XML Adapter</li> <li>• InCharge Adapter for Remedy</li> <li>• InCharge Adapter for TIBCO Rendezvous</li> <li>• InCharge Adapter for Concord eHealth</li> <li>• InCharge Adapter for InfoVista</li> </ul>	/SAM
Application Management Suite	<ul style="list-style-type: none"> <li>• InCharge Application Connectivity Monitor</li> </ul>	/APP
SMARTS Software Development Kit	<ul style="list-style-type: none"> <li>• Software Development Kit</li> </ul>	/SDK

**Table 3:** Product Suite Directory for InCharge Products

For example, on UNIX operating systems, version 6.0 of InCharge IP Availability Manager is, by default, installed to `/opt/InCharge6/IP/smarts`. This location is referred to as **BASEDIR**/`smarts`.

Optionally, you can specify the root of **BASEDIR** to be something other than `/opt/InCharge6` (on UNIX) or `C:\InCharge6` (on Windows), but you cannot change the `<productsuite>` location under the root directory.

For more information about the directory structure of InCharge software, refer to the *InCharge System Administration Guide*.

## Additional Resources

In addition to this manual, SMARTS provides the following resources.

### InCharge Commands

Descriptions of InCharge commands are available as HTML pages. The `index.html` file, which provides an index to the various commands, is located in the **BASEDIR**/`smarts/doc/html/usage` directory.

### Documentation

Readers of this manual may find other SMARTS documentation (also available in the **BASEDIR**/`smarts/doc/pdf` directory) helpful.

#### **InCharge Documentation**

The following SMARTS documents are product independent and thus relevant to users of all InCharge products:

- *InCharge Release Notes*
- *InCharge Documentation Roadmap*
- *InCharge Installation Guide*
- *InCharge System Administration Guide*
- *InCharge Operator's Guide*

#### **InCharge Service Assurance Manager Documentation**

The following SMARTS documents are relevant to users of the InCharge Service Assurance Management product suite.

- *An Introduction to InCharge Service Assurance Manager*
- *InCharge Service Assurance Manager Configuration Guide*
- *InCharge Service Assurance Manager Failover System User's Guide*
- *InCharge Service Assurance Manager User's Guide for Business Impact Manager*

The following SMARTS documents are relevant to InCharge Service Assurance Manager adapters.

- *InCharge Service Assurance Manager Notification Adapters User's Guide*
- *InCharge Service Assurance Manager Adapter Platform User's Guide*
- *InCharge XML Adapter User's Guide*
- *InCharge Service Assurance Manager User's Guide for Remedy Adapter*
- *InCharge Service Assurance Manager User's Guide for Concord eHealth Adapter*
- *InCharge Service Assurance Manager User's Guide for InfoVista Adapter*

## Common Abbreviations and Acronyms

The following lists common abbreviations and acronyms that are used in the InCharge guides.

ASL	Adapter Scripting Language
CDP	Cisco Discovery Protocol
ICIM	InCharge Common Information Model
ICMP	Internet Control Message Protocol
IDS	Incremental Device Support
IP	Internet Protocol
MSFC	Multilayer Switch Feature Card
MIB	Management Information Base
MODEL	Managed Object Definition Language

RSFC	Router Switch Feature Card
RSM	Router Switch Module
SNMP	Simple Network Management Protocol
TCP	Transmission Control Protocol
VLAN	Virtual Local Area Network

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# 1

## The InCharge Adapter for Remedy

The InCharge Adapter for Remedy integrates the Remedy Action Request System (Remedy AR System) with the Global Manager by:

- Opening Remedy tickets for notifications
- Getting attribute values for open Remedy tickets
- Closing Remedy tickets associated with notifications

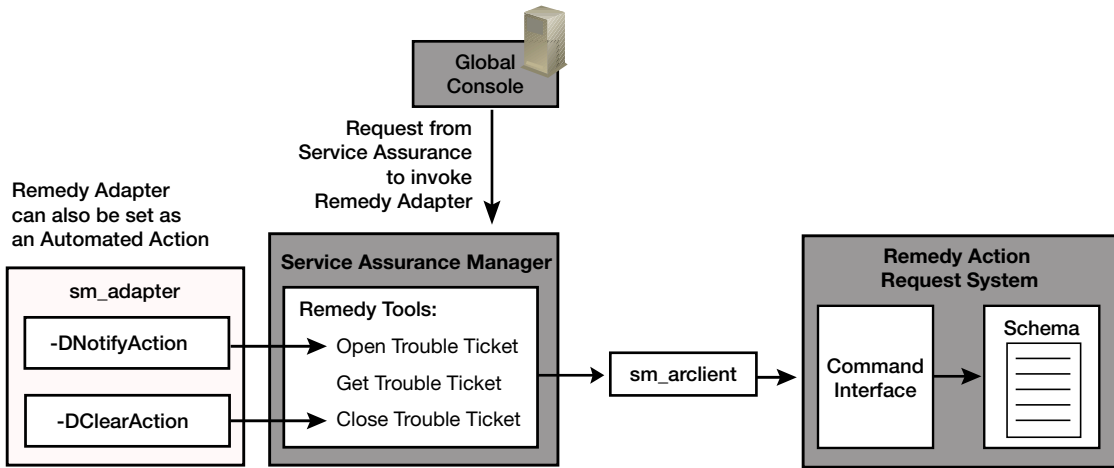
This document describes how to configure and use the InCharge Adapter for Remedy.

### Overview of Integration with Remedy

The InCharge Adapter for Remedy consists of three tools.

- Open Remedy Ticket
- Get Remedy Ticket
- Close Remedy Ticket

Figure 1 illustrates the ways to invoke the Remedy adapter and identifies how the adapter works. The Remedy Adapter uses the *sm\_arclient* command-line utility to communicate with the Remedy AR System.



**Figure 1:** Global Manager and the Remedy Action Request System

By default, the Remedy Adapter is configured to use the sample Remedy schema, *IC\_SAM\_Final.def*, which is located in the **BASEDIR**/*smarts/conf/remedy* directory. If you choose to use a different schema, you need to modify the adapter accordingly. For more information see [Configuring the Remedy Adapter](#) on page 3 and [Using a Different Remedy Schema](#) on page 6.

### Open Remedy Ticket Tool

The Open Remedy Ticket tool first checks to see if a Ticket already exists for the selected notification. If the `TroubleTicketID` notification attribute is set, the adapter updates the ticket status in Remedy from closed to open. If a ticket does not exist for this notification, then the adapter opens a Remedy ticket and populates the `TroubleTicketID` notification attribute with the Remedy Ticket ID.

### Get Remedy Ticket Tool

The Get Remedy Ticket tool retrieves Remedy ticket information associated with the selected notification and displays the information.

### Close Remedy Ticket Tool

The Close Remedy Ticket tool verifies that a Remedy ticket exists for the selected notification and changes the value of the `TroubleTicketID` attribute to indicate that the ticket is closed. The adapter also changes the ticket's status in the Remedy system from open to closed.

## Using the InCharge Adapter for Remedy

There are three ways that you can invoke the Remedy Adapter:

- Manually, you select a notification in the Global Console and select the appropriate Remedy server tool to open, get, or close a ticket associated with that notification
- Automatically, in response to a notification or a cleared notification. You automate the Remedy Adapter as you would any other server tool, using *sm\_adapter* command line options. For more information about invoking automated tools, refer to the *InCharge Service Assurance Manager Configuration Guide*.
- Invoke the Remedy server tools as part of an Service Assurance Manager Escalation Policy

## Configuring the Remedy Adapter

This section describes prerequisites and explains how to configure the Remedy Adapter.

### Prerequisites

The InCharge Adapter for Remedy requires Remedy AR System version 4.5 or 5.1.

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**Note:** Remedy runtime libraries are provided on the InCharge CD-ROM and are installed along with the InCharge Adapter for Remedy.

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### Configuration Files

To integrate InCharge with the Remedy AR System, you first need to import the Remedy tools to the Global Manager. You may also need to edit the Remedy tools so that they function properly in your environment. Table 4 describes the files used to configure the Remedy Adapter. File location is relative to **BASEDIR**/*smarts*.

DIRECTORY	FILE NAME(S)	DESCRIPTION
/conf/ics	configureRemedyTools.xml	XML file that defines the Remedy tools
/actions/server	remedy-opentkt	Opens a Remedy Ticket for a given notification
/actions/server	remedy-closetkt	Closes a Remedy Ticket associated with a given notification
/actions/server	remedy-gettkt	Retrieves information about a Ticket and displays it if one exists for a given notification
/actions/server	remedy-config	Specifies host running Remedy AR System, name of Remedy schema, and Remedy system user name and password Service Assurance needs to access the AR System server. All other Remedy tools call this script.
/actions/server	remedy-fields.txt	A Windows-only file that defines mapping of Field IDs and Field Names defined in the Remedy schema. The <i>remedy-gettkt.cmd</i> uses this mapping to display ticket information by Field Name. (In UNIX, this mapping is built into the <i>remedy-gettke.sh</i> .)
/conf/remedy	IC_SAM_final.def	A sample Remedy schema definition that includes information available from Service Assurance. If you use the sample schema, you need to import this definition file into your Remedy AR System. By default, all Remedy scripts use this schema.

**Table 4:** Remedy Integration Configuration, XML, Tools, and Schema Files

To configure the Remedy Adapter, complete the following steps:

- 1 Invoke the *sm\_config* command from the **BASEDIR**/*smarts/bin* directory to import the *configureRemedytools.xml* to the Global Manager. For example:

```

% ./sm_config -s <global_manager> import ▼
▲ configureRemedytools.xml

```

Refer to the *InCharge Service Assurance Manager Configuration Guide* for details about importing XML files to the Global Manager.

- 2 Change the configuration parameters in the *remedy-config* file to match your Remedy AR System configuration. If your operating system is UNIX then edit the *remedy-config.sh* file; if your operating system is Windows,



edit the *remedy-config.cmd* file. For details, refer to [Configuring the remedy-conf File on page 5](#).

- 3 If you choose to use a different Remedy schema from the one provided (*IC\_SAM\_final.def*) and you are operating in a UNIX environment, you need to perform the following additional steps to configure the adapter:

- Edit the *remedy-config.sh* file to define the variable names used by the tools and map them to the Remedy Field IDs of your schema.
- Edit the Open Ticket and Get Ticket Tools. Specifically, in the *remedy-opentkt.sh*, revise the MANDATORY\_ARGS and/or OPTIONAL\_ARGS in the Main - Create Entry section of the script so that these arguments represent your Remedy schema. Each argument is formatted as a triplet of Remedy Field ID, data type, and value.

Also, in the *remedy-gettkt.sh*, replace the mapping in the `translateFieldName()` function with the Field IDs and Field Names you use in Remedy.

If you choose to use a different Remedy schema from the one provided (*IC\_SAM\_final.def*) and you are operating in a Windows environment, you need to perform the following additional steps to configure the tools:

- Edit the *remedy-config.cmd* file to define the variable names used by the functions and map them to the Remedy Field IDs of your schema.
- Edit the mapping of Remedy Field IDs and Field Names in the *remedy-fields.txt* file.
- Edit the Open Ticket tool. Revise the MANDATORY\_ARGS and/or OPTIONAL\_ARGS in the Main - Create Entry section of the script so that these arguments represent your Remedy schema. Each argument is formatted as a triplet of Remedy Field ID, data type, and value.

For general considerations, also refer to [Using a Different Remedy Schema](#) on page 6.

### Configuring the *remedy-conf* File

The **BASEDIR**/*smarts/local/actions/server/remedy-config* file specifies information about your Remedy system. This information gets passed to the Remedy Adapter and allows the functions to communicate with the Remedy system.

For example, the *remedy-config* file specifies the host running the Remedy AR System, the Remedy schema, and the Remedy user name and password needed by the Global Manager to access the Remedy AR System Server. Table 5 describes the parameters you are required to provide in this file.

PARAMETER	DESCRIPTION
AR_SERVER	The host where the Remedy server is running.
AR_SCHEMA	The name of the Remedy schema. The default is the InCharge SAM schema.
AR_USER	The user specified in the Remedy system login.
AR_PASSWORD	The user password
AR_SUBMITTER	The user or system submitting the Remedy request. The default is InCharge SAM.

**Table 5:** *remedy-conf* Parameters

## Using a Different Remedy Schema

If you choose to use a Remedy schema other than the one provided, consider the following before changing any of the Remedy scripts:

- Decide how to map your Remedy Fields to the Service Assurance notification attributes. You may want to provide certain values as constants and other values will need to come directly from specific notification attributes.
- Decide if you want to use variable names instead of Remedy Field IDs in the *remedy-config* file. Default variables are already defined in this file for the Service Assurance schema provided. If you choose to use variables, you will need to revise the variable names in the *remedy-config* file to meet your Remedy field requirements.
- Gain an understanding of how the *remedy-opentkt* script uses the **sm\_arclient** command-line utility to communicate with the Remedy system. The open ticket scripts set up the Remedy fields as formatted triplets (defined as ARG variables) that contain a Field ID, data type, and value. You need to define triplets and ARG variables for the Remedy fields in your schema.

For more information, refer to [About sm\\_arclient](#) on page 7.

- Gain an understanding of how the *remedy-gettkt* script replaces Remedy Field IDs with Field Names. For UNIX, the mapping is defined in the *remedy-gettkt.sh* file. For Windows, the mapping is defined in the *remedy-field.txt* file. You need to define the appropriate mapping for your Remedy schema.

## About sm\_arclient

Remedy functions use the *sm\_arclient* utility to communicate with the Remedy AR System to create, delete, get and set information in Remedy. If you plan to use your own Remedy schema, you need to understand how this utility interacts with Remedy.

The *sm\_arclient* utility uses the following syntax:

```
% sm_arclient [options...] <command>
```

The *sm\_arclient* options define parameters for the existing Remedy schema. Table 6 describes these options.

OPTION	DESCRIPTION	DEFAULT VALUE
--server=<server>	Remedy AR System server host.	localhost
--user=<user>	Remedy AR System user.	"Demo"
--password=<password>	Remedy AR System password.	""
--language=<lang>	Remedy AR System language.	""
--trace	Trace AR System API calls. Return values: 0 Operation completed successfully non-0 Operation failed Output: Upon successful completion, AR entry id and fields are written to standard output. createEntry writes AR entry id. deleteEntry writes AR entry id. getEntry writes AR entry id and fields; fields are written in the same format as the input, one field per line. setEntry writes AR entry id. All errors/diagnostic/trace messages are written to standard error.	

**Table 6:** sm\_arclient Options

There are four commands for *sm\_arclient*. These commands are described in Table 7. Each command will include several required arguments.

COMMAND	DESCRIPTION
<code>listSchemas</code>	Prints all schema names in the AR server. This is helpful for verifying connectivity.
<code>listEntries &lt;schema name&gt;</code>	Prints all entries in the given schema. Can be used to check your entry IDs.
<code>createEntry</code>	Creates a Remedy Ticket
<code>deleteEntry</code>	Deletes a Remedy Ticket
<code>getEntry</code>	Writes a Remedy Ticket to a standard output.
<code>setEntry</code>	Updates one or more fields for a Remedy Ticket

**Table 7:** *sm\_arclient* Commands

Each command should include arguments for the schema and field associated with each entry. For all commands except `createEntry` you must also include the AR entry ID parameter, which is the ticket ID returned when a ticket is created. Samples for each of these commands follow:

```
% createEntry <schema> <field>
% deleteEntry <schema> <entry>
% getEntry <schema> <entry> [<id>...]
% setEntry <schema> <entry> <field> ...
```

The `<schema>` argument refers to the AR schema name you are mapping to.

The `<entry>` argument refers to the AR entry ID (also referred to as the Field ID).

The `<field>` argument is a triplet comprised of `<id>`, `<type>`, and `<value>`.

The values for these are defined in Table 8.

FIELD	DESCRIPTION
id	AR entry id <string>
type	c -- CHAR
	d -- DIARY
	e -- ENUM
	i -- INTEGER
	n -- NULL
	r -- REAL
	t -- TIME
	u -- ULONG
value	Value of the field

**Table 8:** Description of <field> Arguments

### Examples Using `sm_arclient`

This section provides sample options, commands, and arguments to the `sm_arclient` utility.

#### Sample 1

```
% sm_arclient -s <remedy_server> -u <username> -p <password>
createEntry "InCharge SAM Schema" 2 c "InCharge SA" 8 c
"Router Down" 1042601004 c "Router" 1042601003 c "moto-gw"
```

The preceding lines can be read as follows:

- `sm_arclient` - the comand to begin the action
- `-s <remedy_server>` - the name of the Remedy AR system host
- `-u <username>` - Remedy user name
- `-p <password>` - Remedy user password
- `createEntry` - the specific command for the AR action
- "InCharge SAM Schema" - the AR System schema name

Using the InCharge Service Assurance Schema, the entries created by the ID/Data type/Value triplets in the previous example are as follows:

- Field 2 (submitter) is "InCharge SA"
- Field 8 (short description) is "Router Down"

- Field 1042601004 (class name) is "Router"
- Field 1042601003 (instance name) is "moto-gw"

---

**Note:** The **sm\_arclient** utility that interfaces with the Remedy system uses field IDs for arguments. We have substituted the field IDs with the actual parameters for readability.

---

### Sample 2

```
% sm_arclient -s <remedy_server> -u <username> -p <password>  
getEntry "InCharge SAM Schema" ticketidnnn
```

Sample 2 is the command to return a ticket ID (AR Entry ID) which is used to get or set one or more fields for this entry or to delete the entire entry. The ticket entry would be written to a standard output.

### Sample 3

```
% sm_arclient -s <remedy_server> -u <username> -p <password>  
deleteEntry "InCharge SAME Schema" ticketidnnn
```

Sample 3 is the command to use to delete a ticket entry from the Remedy AR server by naming the schema and the ticket ID number.