



Cisco SCMS SM SOAP LEG Reference Guide

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CONTENTS

Audience	v
Document Revision History	vi
Organization	vi
Related Publications	vi
Document Conventions	vii
Obtaining Documentation, Obtaining Support, and Security Guidelines	vii

CHAPTER 1

About the SOAP LEG	1-1
Information About the SOAP LEG	1-1
SOAP Integration Overview	1-1
Query Interface	1-2
Secure Requests	1-2
Implementing Query Interface at the Server	1-2
Common Topologies	1-3
Terms and Concepts	1-5
LEG (Login Event Generator)	1-6
Subscriber ID	1-6
Subscriber Network IDs (mappings)	1-6
Subscriber Package	1-6
SOAP	1-6
WSDL	1-6
WSS	1-6
UsernameToken Profile	1-7

CHAPTER 2

Installing the SOAP LEG	2-1
Installing the SOAP LEG Software	2-1
Uninstalling the SOAP LEG	2-2
Upgrading the SOAP LEG	2-2

CHAPTER 3

Configuring the SOAP LEG	3-1
Information About Configuring the SOAP LEG Settings	3-1
Configuring the SOAP LEG Settings	3-1

Configuration File Example 3-2
 Information about Configuring the Package Association 3-2
 Configuring the Package Association 3-2
 Package Association Example 3-4

CHAPTER 4

Using the SOAP LEG Command-Line Utility (CLU) 4-1

Information About the p3soap Utility 4-1
 Viewing the SOAP LEG Status 4-2
 Viewing the SOAP LEG Statistics 4-2
 Viewing the SOAP LEG Version 4-3
 Setting the username and password for Secure Requests 4-3
 Resetting the username and password for Secure Requests 4-3

Cisco WSDL A-1



About this Guide

Revised: May 30, 2007, OL-12487-02

This guide describes the concept of a SOAP architecture using the Login Event Generator (LEG), and explains how to install and configure it on the SCMS Subscriber Manager (SM) platform.



Note

This guide assumes a basic familiarity with telecommunications equipment and installation procedures, Cisco SCMS subscriber management, and subscriber integration concepts.

For complete information regarding Cisco's subscriber integration concept, see the *Cisco Service Control Management Suite (SCMS) Subscriber Manager (SM) User Guide* .

This introduction provides information about the following topics:

- [Audience](#)
- [Document Revision History](#)
- [Organization](#)
- [Related Publications](#)
- [Document Conventions](#)
- [Obtaining Documentation, Obtaining Support, and Security Guidelines](#)

Audience

This document is intended for system administrators and system integrators who are familiar with the SOAP LEG concepts and with Cisco Service Control Subscriber Management and Subscriber Integration concepts.

Document Revision History

Cisco Service Control Release	Part Number	Publication Date
Release 3.1.0	OL-12487-02	May, 2007

Description of Changes

- Removal of the `log_login_failures` parameter from the `soap_leg.cfg` configuration file..

Cisco Service Control Release	Part Number	Publication Date
Release 3.0.5	OL-12487-01	November, 2006

Description of Changes

- This is the first release of this document.

Organization

The major sections of this guide are as follows:

Table 1

Chapter	Title	Description
Chapter 1	About the SOAP LEG	Describes the SOAP LEG software module, and terms and concepts.
Chapter 2	Installing the SOAP LEG	Describes the installation process for installing the SOAP LEG.
Chapter 3	Configuring the SOAP LEG	Provides the configuration instructions to configure the SOAP LEG.
Chapter 4	Using the SOAP LEG Command-Line Utility (CLU)	Provides a description of the command-line utility commands when the software is installed on the Subscriber Manager.
Appendix A	Cisco WSDL	The Cisco WSDL.

Related Publications

Use this *Cisco SCMS SOAP LEG Reference Guide* in conjunction with the following Cisco documentation:

- Cisco SCMS Subscriber Manager User Guide*
- Cisco Service Control Application for Broadband User Guide*

Document Conventions

This guide uses the following conventions:

- **Bold** is used for commands, keywords, and buttons.
- *Italics* are used for command input for which you supply values.
- Screen font is used for examples of information that are displayed on the screen.
- **Bold screen** font is used for examples of information that you enter.
- Vertical bars (|) indicate separate alternative, mutually exclusive elements.
- Square brackets ([]) indicate optional elements.
- Braces ({ }) indicate a required choice.
- Braces within square brackets ([{}]) indicate a required choice within an optional element.



Note

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the guide.



Timesaver

Means the *described action saves time*. You can save time by performing the action described in the paragraph.



Caution

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.



Warning

Means *danger*. You are in a situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and familiar with standard practices for preventing accidents. To see translated versions of warnings, refer to the *Regulatory Compliance and Safety Information* document that accompanied the device.

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>



CHAPTER 1

About the SOAP LEG

This module describes the SOAP LEG software module, and terms and concepts.

- [Information About the SOAP LEG, page 1-1](#)

Information About the SOAP LEG

The SCMS SM SOAP LEG is a software module that can query an external server via the Simple Object Access Protocol (SOAP) in order to obtain additional information for the subscribers that were logged-in to the SM via various APIs and LEGs. The main purpose of the SOAP LEG is to define the policy of the subscriber based on the input data, the package association configuration, and the query results.

The LEG can query any external server via the SOAP communication protocol if the external server implements an interface defined by the SCMS SM SOAP LEG.

The SCMS SM SOAP LEG supports SOAP 1.1.

The SCMS SM SOAP LEG is an extension of the Subscriber Manager (SM) software and runs as part of the SM.

- [SOAP Integration Overview, page 1-1](#)
- [Common Topologies, page 1-3](#)
- [Terms and Concepts, page 1-5](#)

SOAP Integration Overview

The SM activates the SOAP LEG in order to obtain the policy value (or part of the policy value) for the subscribers that are already logged in to the SM.

With the data that the SOAP LEG receives from the SM, it creates a SOAP request, which it issues to the external server in order to retrieve the policy value. After the external server replies, the SOAP LEG determines the policy value according to the input data, the package association configuration, and the query results. It then initiates a subscriber login to the SM. For more information about the package association, see [Information about Configuring the Package Association, page 3-2](#).

- [Query Interface, page 1-2](#)
- [Secure Requests, page 1-2](#)
- [Implementing Query Interface at the Server, page 1-2](#)

Query Interface

The SOAP installation package includes a WSDL file. This WSDL file defines the SOAP LEG query to the external server:

```
QuerySubscriberOut querySubscriber(QuerySubscriberIn subIn)
```

The **QuerySubscriberIn** parameter contains the following data:

- **subscriberId** —Contains the ID of the subscriber
- **mappings** —Contains the Network IDs of the subscriber
- **keys/values** —May contain additional data that the external server may need in order to perform the query

The Web Server responds to the query and SOAP LEG analyzes the results. The output of the Web Server (QuerySubscriberOut) consists of the following elements:

- **subscriberId** —Contains the ID of the subscriber
- **mappings** —Contains the Network IDs of the subscriber
- **keys/values** —May contain additional data that the SOAP LEG may need in order to determine the package value
- **propertyKeys/propertyValues** —May contain subscriber properties; for example, packageId or monitor.

Note that **keys** and **values** are used internally by the LEG for the package association procedure and are not passed to the SM when the subscriber is logged in.

Upon receiving a reply from the Web Server, the SOAP LEG adds the query output values to the query input values. Following this, if the SOAP LEG is configured to do so, the LEG uses this data as the input for the package association procedure. See [Information about Configuring the Package Association, page 3-2](#).

Secure Requests

The SOAP LEG is able to issue a secure request to the external server using the UsernameToken profile as defined in the WS-Security specification. Specifically, it attaches username and password to every SOAP request it sends. For further information on configuring the username and password, see [Using the SOAP LEG Command-Line Utility \(CLU\), page 4-1](#).



Note

The SOAP LEG supports only text passwords.

Implementing Query Interface at the Server

Integrating the external server with the SOAP LEG is a two stage process:

1. Compile the provided WSDL file using one of the various tools available. For example, Apache Axis can be used (<http://ws.apache.org/axis/>). The WSDL file is included in the [Cisco WSDL](#) module.
2. Provide the implementation of the **querySubscriber** function according to the server business logic.

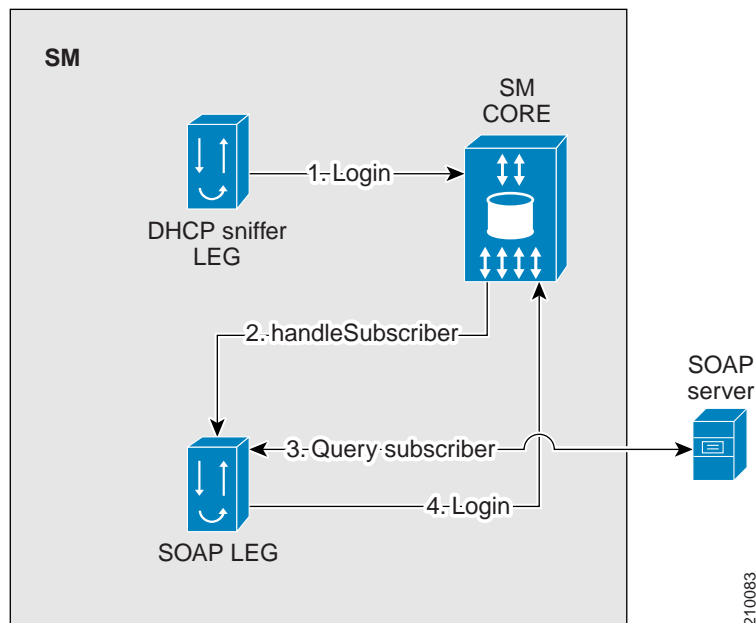
Common Topologies

You can use the SOAP LEG in any SM topology, providing it is possible to supply the LEG with the information it needs in order to perform the query to the policy server and determine the subscriber policy.

The following figures show the most common topologies.

The following figure shows the topology with the SM API:

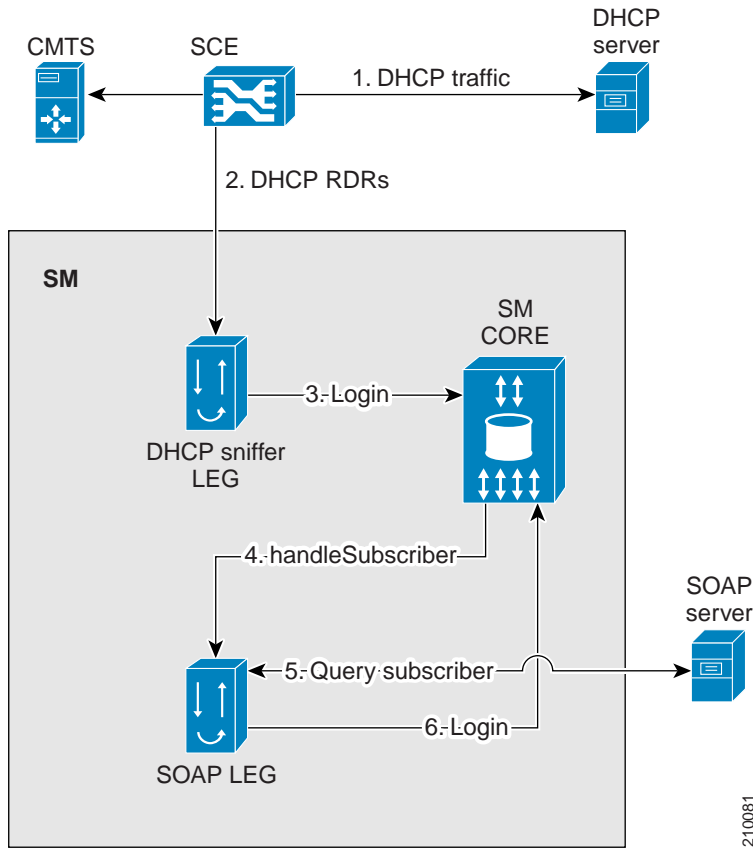
Figure 1-1 SOAP Topology with SM API



The SM API performs a login operation to the SM (1). The SM identifies that the SOAP LEG needs be activated, and therefore it does not perform a subscriber login at this stage. The SM core passes the information received from the SM API to the SOAP LEG (2). The SOAP LEG queries the SOAP server and identifies the relevant packageId based on the configuration, input parameters, and the query results (3). The SOAP LEG then performs a login operation to the SM (4).

The following figure shows the topology with the DHCP Sniffer LEG:

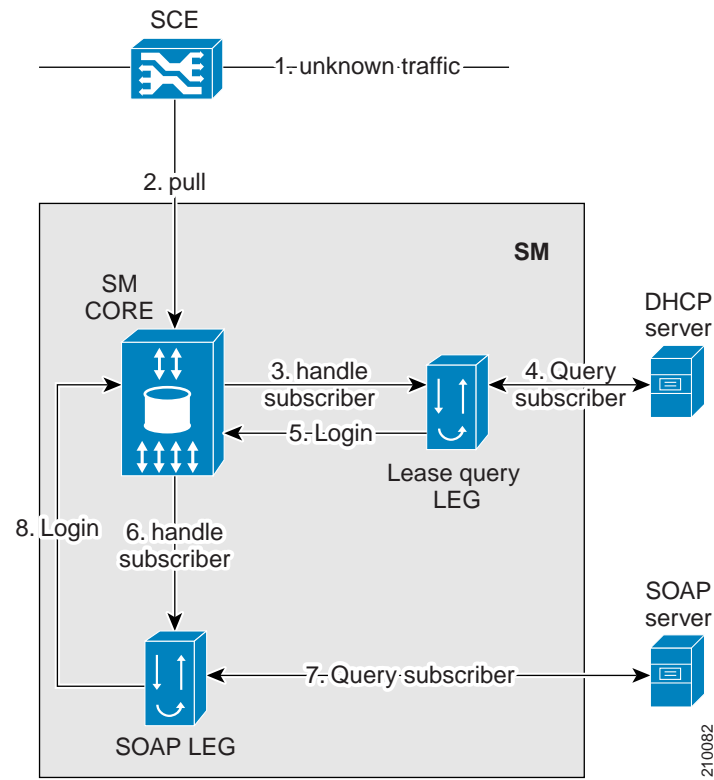
Figure 1-2 SOAP LEG Topology with DHCP Sniffer LEG



The DHCP traffic passes through the SCE (1), which sends a DHCP RDR to the DHCP Sniffer LEG (2). The DHCP Sniffer LEG extracts the relevant information and performs a login operation to the SM (3). The SM identifies that the SOAP LEG needs to be activated, and therefore it does not perform a subscriber login operation at this stage. The SM core passes the information received from the DHCP Sniffer LEG to the SOAP LEG (4). The SOAP LEG queries the SOAP server and identifies the relevant packageId based on all the information received and the query results (5). The SOAP LEG then performs a login operation to the SM (6).

The following figure shows the topology with the DHCP Lease Query LEG:

Figure 1-3 SOAP LEG Topology with DHCP Lease Query LEG



Unknown traffic passes through the SCE (1), which issues a pull request to the SM (2). The SM issues an anonymous-pull-request to the DHCP Lease Query LEG (3). The DHCP Lease Query LEG then queries the DHCP server (4), after which it performs a login operation to the SM (5). The SM identifies that the SOAP LEG needs to be activated, and therefore it does not perform a subscriber login at this stage. The SM Core passes all of the information received from the DHCP Lease Query LEG to the SOAP LEG (6). The SOAP LEG queries the SOAP server and identifies the relevant packageId based on the information received and the query results (7). The SOAP LEG then performs a login operation to the SM (8).

Terms and Concepts

The following terms and concepts are necessary to understand the SOAP LEG and SM configuration and operation. Additional information can be found in the *Cisco SCMS Subscriber Manager User Guide*.

- [LEG \(Login Event Generator\), page 1-6](#)
- [Subscriber ID, page 1-6](#)
- [Subscriber Network IDs \(mappings\), page 1-6](#)
- [Subscriber Package, page 1-6](#)
- [SOAP, page 1-6](#)
- [WSDL, page 1-6](#)
- [WSS, page 1-6](#)

- [UsernameToken Profile, page 1-7](#)

LEG (Login Event Generator)

A software component that performs subscriber login and logout operations on the SM, which is used to handle dynamic subscriber integration.

Subscriber ID

The Service Control solution requires a unique identifier for each subscriber. A subscriber ID represents a logical subscriber entity from the service provider perspective.

Subscriber Network IDs (mappings)

The subscriber network IDs (mappings) are a list of network identifiers, such as IP addresses or VLANs. The SCE uses these identifiers to associate network traffic with subscriber records.

Subscriber Package

A subscriber policy package usually defines the policy enforced by Cisco SCMS solutions on each subscriber. The main function of the SOAP LEG is to determine a package value based on the input parameters, configuration, and query results. For additional information, see the *Cisco Service Control Application for Broadband User Guide* .

SOAP

SOAP is a lightweight protocol intended for exchanging structured information in a decentralized, distributed environment. It uses XML technologies to define an extensible messaging framework providing a message construct that can be exchanged over a variety of underlying protocols. The framework has been designed to be independent of any particular programming model and other implementation specific semantics.

WSDL

WSDL is an XML format for describing network services as a set of endpoints operating on messages containing either document-oriented or procedure-oriented information. The operations and messages are described abstractly, and then bound to a concrete network protocol and message format to define an endpoint. Related concrete endpoints are combined into abstract endpoints (services).

WSS

WS-Security (Web Services Security) is a communications protocol providing a means for applying security to Web Services. Originally developed by IBM, Microsoft, and VeriSign, the protocol is now officially called WSS and is developed and maintained via committee in Oasis-Open.

The protocol contains specifications on how integrity and confidentiality can be enforced on Web Services messaging. WS-Security incorporates security features in the header of a SOAP message and thus works in the application layer. Thus, it ensures end-to-end security.

UsernameToken Profile

The `<wsse:UsernameToken>` is an element introduced in the WSS SOAP Message Security documents as a way of providing a username.



CHAPTER 2

Installing the SOAP LEG

This module describes the installation process for installing the SOAP LEG. It also describes the uninstall procedure.

The SOAP LEG is an external component (PQI) that should be installed on the SM. The SOAP LEG distribution is part of the SM LEG distribution.

The SOAP LEG installation package includes a set of configuration files, a WSDL file containing a query definition, and the Command-Line Utility (CLU).

- [Installing the SOAP LEG Software, page 2-1](#)
- [Uninstalling the SOAP LEG, page 2-2](#)
- [Upgrading the SOAP LEG, page 2-2](#)

Installing the SOAP LEG Software



Note

Before installation, verify that the Service Control Application for Broadband (SCA BB) is installed on all SM and SCE devices. If the application has not been installed, install the application as described in the *Cisco Service Control Application for Broadband User Guide*.



Note

After the installation of the PQI file, the SM will automatically restart.

SUMMARY STEPS

1. Install the PQI file of the SOAP LEG
2. Edit the configuration files of the SOAP LEG
3. Load the configuration file to the SM

DETAILED STEPS

-
- Step 1** Install the PQI file of the SOAP LEG
- Run the **p3inst** command line utility from the SM CLU `<sm-inst-dir>/sm/server/bin` (`sm-inst-dir` refers to the SM installation directory):
- ```
>p3inst --install -f soapleg.pqi
```

**Step 2** Edit the configuration files of the SOAP LEG

The SOAP LEG includes two configuration files under the configuration folder of the SM ( `<sm-inst-dir>/sm/server/root/config` ):

- `soap_leg.cfg` —Configures the general attributes of the LEG
- `soap_pkg.cfg` —Configures the rules for package assignment

**Note**

It is recommended to familiarize yourself with these files immediately after the first installation and edit them according to your specific needs. See [Configuring the SOAP LEG, page 3-1](#) for more information.

**Step 3** Load the configuration file to the SM

Run the `p3sm` command line utility from the SM CLU:

```
>p3sm --load-config
```

This command-line utility loads the new configuration to the SM and activates it.

**Note**

After the install process has successfully completed, the SM will automatically restart.

## Uninstalling the SOAP LEG

**Step 1** Run the `p3inst` command line utility from the SM CLU

```
>p3inst --uninstall -f soapleg.pqi
```

**Note**

After the uninstall process has successfully completed, the SM will automatically restart.

## Upgrading the SOAP LEG

The SOAP LEG and SM versions must be identical; therefore, the SOAP LEG must be upgraded as part of the SM upgrade process. The upgrade for the SOAP LEG should be performed together with the upgrade process of the SM.

### SUMMARY STEPS

1. Backup the configuration files of the SOAP LEG
2. Uninstall the SOAP LEG by running the `p3inst` following CLU
3. Perform an upgrade of the SM as described in the *Cisco SCMS Subscriber Manager User Guide* .
4. Install the new version of the SOAP LEG by running the `p3inst` CLU
5. Restore the configuration files of the SOAP LEG using the backup configuration files from Step 1.

6. Load the new configuration of the SM by running the **p3sm**CLU

## DETAILED STEPS

---

**Step 1** Backup the configuration files of the SOAP LEG

The original configuration files are deleted by the uninstall process in the next step.

**Step 2** Uninstall the SOAP LEG by running the **p3inst**following CLU

```
>p3inst --uninstall -f <soapleg.pqi>
```



---

**Note** After the uninstall process has successfully completed, the SM automatically restarts.

---

**Step 3** Perform an upgrade of the SM as described in the *Cisco SCMS Subscriber Manager User Guide* .

**Step 4** Install the new version of the SOAP LEG by running the **p3inst**CLU

```
>p3inst --install -f <soapleg.pqi>
```

**Step 5** Restore the configuration files of the SOAP LEG using the backup configuration files from Step 1.

**Step 6** Load the new configuration of the SM by running the **p3sm**CLU

```
>p3sm --load-config
```

---





# CHAPTER 3

## Configuring the SOAP LEG

---

This module provides the configuration instructions to configure the SOAP LEG.

The SOAP LEG is configured using two configuration files, **soap\_leg.cfg** and **soap\_pkg.cfg**, which reside in the **sm-inst-dir/sm/server/root/config** directory (**sm-inst-dir** refers to the SM installation directory). The configuration file is loaded only upon SCMS SM SOAP LEG startup.

The configuration files consist of sections headed by a bracketed section title; for example, **[SOAP-LEG]** for the SOAP LEG configuration section. Each section consists of one or more parameters having the format **parameter=value**. The number sign ("#") at the beginning of a line signifies that it is a comment.

The general configuration of the SOAP LEG resides in **soap\_leg.cfg**. The dynamic package association configuration resides in **soap\_pkg.cfg**.

- [Information About Configuring the SOAP LEG Settings, page 3-1](#)
- [Information about Configuring the Package Association, page 3-2](#)

## Information About Configuring the SOAP LEG Settings

- [Configuring the SOAP LEG Settings, page 3-1](#)
- [Configuration File Example, page 3-2](#)

## Configuring the SOAP LEG Settings

The **[SOAP-LEG]** section in the configuration file defines the behavior of the SOAP LEG and contains the following parameters:

- **start**  
Defines whether to start the LEG at SM startup.  
Possible values for this parameter are **true** and **false**.  
The default value is **false**.
- **server\_url**  
The URL of the policy server the LEG will query.  
There is no default value.  
This parameter must be configured for proper LEG functioning.

- `log_failed_queries`  
Defines whether the LEG will log messages that are issued for failed queries.  
Possible values for this parameter are **true** and **false**.  
The default value is **true**.
- `log_all_queries`  
Defines whether the LEG will log messages for every query sent and any reply received.  
Possible values for this parameter are **true** and **false**.  
The default value is **false**.

**Note**


---

This parameter should only be set to **true** when troubleshooting.

---

The **[Package]** section in the configuration file contains the following parameter:

- `pkg_cfg_file`  
Defines the configuration file to be used by the converter. The path must be relative to the **config** directory.  
The default value is **soap\_pkg.cfg**.

## Configuration File Example

The following example illustrates the SOAP LEG configuration file:

```
[SOAP-LEG]
server_url=http://1.1.1.1:8080/services/QueryServiceSoap.asmx
log_failed_queries=true
log_all_queries=false
[Package]
pkg_cfg_file=soap_pkg.cfg
```

## Information about Configuring the Package Association

**Note**


---

The configuration described in this section is optional.

---

- [Configuring the Package Association, page 3-2](#)
- [Package Association Example, page 3-4](#)

## Configuring the Package Association

This configuration file is intended for the customization of the output produced by the SOAP LEG.

The LEG concatenates the data extracted from the configured labels and creates a package name.

To extract the package information data from the SOAP package, the **soap\_pkg.cfg** configuration file must define the conversion map of package-names to the package IDs of the SCA BB application.

The **[SOAP.Policy.Package]** section of the configuration file contains the following parameters:

- `policy_name_format`

This parameter is a comma-separated list that specifies the labels that contain the data from which the policy name is comprised. The LEG converter searches for the labels within the received arguments and concatenates them according to the specified order. A value of **LABEL\_A**, **LABEL\_B** indicates that the SOAP LEG needs to concatenate values that reside under the LABEL\_A and LABEL\_B labels.

There is no default value for this parameter.

- `name_seperator_value`

Defines the separator value to use when concatenating options.

The default value is `'_'`.

- `default_value`

Defines the default value to use when it is not possible to associate the created policy name with any of the configured policy names.

There is no default value for this parameter.

- `allow_login_with_no_policy`

Defines whether a login can be performed when no policy is found for assignment.

Possible values for this parameter are **true** or **false**.

The default value is **true**.

- `policy_property_name`

Defines the package property key to use for policy assignment.

The default value is **packageId**.

- `mapping_table.<key>=<value>`

A set of values (key,value) used to map the package information determined by the SOAP LEG and the package ID index that the SCA BB application uses.



#### Note

Every policy name is preceded by the **mapping\_table**. key. For example:

```
mapping_table.PolicyLabel1=11
mapping_table.PolicyLabel2=12
```

The **[SOAP.Policy Logging]** section of the configuration file contains the following parameters:

- `log_missing_policy_name`

Defines whether log messages will be issued when no policy was found.

Possible values for this parameter are **true** or **false**.

The default value is **false**.

- `log_all`

Defines whether to write detailed user-log messages for all policy association events.

Possible values for this parameter are **true** or **false**.

The default value is **false**.



#### Note

Set the **log\_all** parameter to true **only** when troubleshooting.

- `log_default_policy_assignment`

Defines whether to write a user-log message for every assignment of the default value (as defined in **default\_value** )

Possible values for this parameter are **true** or **false**.

The default value is **false**.

## Package Association Example

Assuming that the package information appears inside labels TYPE and DOMAIN, configure the order of the labels for the policy name format as follows:

```
policy_name_format=TYPE,DOMAIN
```

Assuming that label TYPE (returned as a query reply) contains the type of package (gold, silver, or bronze) and label DOMAIN (passed as an input parameter) contains domain information (the package type has a different meaning in different domains). If the separator value is configured to the default value, configure the package names as follows:

```
[SOAP.Policy.Package]
mapping_table.gold_domain1=11
mapping_table.gold_domain2=12
mapping_table.silver_domain1=13
mapping_table.silver_domain2=14
```

This configuration means that if the SOAP LEG received a query reply with the value 'gold' under the label "TYPE", and the value 'domain1' was passed to the SOAP LEG by the SM core under the label "DOMAIN", the package ID that will be associated to the subscriber in the SM will have the value 11.

The following is an example of the entire configuration file:

```
[SOAP.Policy Logging]
log_missing_policy_name=false
log_all=false
log_default_policy_assignment=false
[SOAP.Policy.Package]
policy_name_format=TYPE,DOMAIN
name_seperator_value=_
policy_property_name=packageId
default package configuration
default_value=1
allow_login_with_no_policy=false
Mapping table
mapping_table.gold_domain1=11
mapping_table.gold_domain2=12
mapping_table.silver_domain1=13
mapping_table.silver_domain2=14
```





## CHAPTER 4

# Using the SOAP LEG Command-Line Utility (CLU)

This module describes the command-line utility commands when the software is installed on the Subscriber Manager.

- [Information About the p3soap Utility, page 4-1](#)

## Information About the p3soap Utility

The SOAP LEG contains its own Command-Line Utility (CLU) commands, called **p3soap**, for retrieving information and statistics about the LEG.

The **p3soap** utility displays the LEG configuration and statistics. The command format is **p3soap <operation>[OPTIONS]**.

The following tables lists the **p3soap** operations.

*Table 4-1 p3soap Operations*

| Operation                      | Description                                                                                    |
|--------------------------------|------------------------------------------------------------------------------------------------|
| <code>--show</code>            | Displays all of SOAP LEG configuration and status                                              |
| <code>--show-statistics</code> | Displays statistics for the SOAP LEG including: failed queries, queries sent, queries received |
| <code>--show-version</code>    | Displays the SOAP LEG version number                                                           |
| <code>--set-username</code>    | Sets the username and password to enable secure queries via the SOAP communication protocol    |
| <code>--reset-username</code>  | Resets the username to cancel the secure queries                                               |

Table 4-2 p3soap User Options

| User Option                           | Abbreviation    | Description                                                                                                                 |
|---------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------|
| <code>--username=USER-NAME</code>     | <code>-u</code> | Specifies the name of the user. Used with the <code>--set-username</code> and <code>--reset-username</code> operations.     |
| <code>--password=USER-PASSWORD</code> | <code>-P</code> | Specifies the password of the user. Used with the <code>--set-username</code> and <code>--reset-username</code> operations. |

Table 4-3 p3soap Miscellaneous Options

| Option                          | Abbreviation    | Description                                                                                                                                                                                                                                                                                                |
|---------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>--remote=IP[:port]</code> | <code>-r</code> | (Optional) Used with the <code>--set-username</code> and <code>--reset-username</code> operations to configure secure queries on the remote SM in High Availability setups.<br><br>The Port option should be used if the PRPC Server port on the remote SM machine differs from the default value (14374). |

## Viewing the SOAP LEG Status

The following is an example of using the `p3soap` command-line utility with the `show` operation:

```
>p3soap --show SOAP LEG:
=====
Active: true
Url: http://1.1.1.1:8080/services/ProvisioningServiceSoap.asmx
Username: N/A
Logging:
Log all queries: true
Log failed queries: true
Command terminated successfully
>
```

## Viewing the SOAP LEG Statistics

The following is an example of using the `p3soap` command line utility with the `show-statistics` operation:

```
>p3soap --show-statistics SOAP LEG statistics
=====
Successful logins: 3
Failed queries: 1
Failed package association: 0
Queries in process: 0
```

```
Max-Concurrent queries: 0
Command terminated successfully
>
```

## Viewing the SOAP LEG Version

The following is an example of using the **p3soap** command line utility with the **show-version** operation:

```
>p3soap --show-version SOAP LEG 3.1.0 Build 176
Command terminated successfully
>
```

## Setting the username and password for Secure Requests

The following is an example of using the **p3soap** command line utility with the **set-username** operation:

```
>p3soap --set-username --username=cisco --password=cisco Command terminated successfully
>
```

## Resetting the username and password for Secure Requests

The following is an example of using the **p3soap** command line utility with the **reset-username** operation:

```
>p3soap --reset-username Command terminated successfully
>
```





# APPENDIX A

## Cisco WSDL

---

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:tns="http://cisco.com/CiscoQuery"
xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
targetNamespace="http://cisco.com/CiscoQuery"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
<wsdl:types>
<s:schema elementFormDefault="qualified"
targetNamespace="http://cisco.com/CiscoQuery">

<s:complexType name="ArrayOfString">
<s:sequence>
<s:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
type="s:string" />
</s:sequence>
</s:complexType>
<s:element name="QuerySubscriberIn">
<s:complexType>
<s:sequence>
<s:element minOccurs="0" maxOccurs="1" name="subscriberId" type="s:string"/>
<s:element minOccurs="0" maxOccurs="1" name="mappings" type="tns:ArrayOfString"/>
<s:element minOccurs="0" maxOccurs="1" name="keys" type="tns:ArrayOfString"/>
<s:element minOccurs="0" maxOccurs="1" name="values" type="tns:ArrayOfString"/>
</s:sequence>
</s:complexType>
</s:element>
<s:element name="QuerySubscriberOut">
<s:complexType>
<s:sequence>
<s:element minOccurs="0" maxOccurs="1" name="subscriberId" type="s:string"/>
<s:element minOccurs="0" maxOccurs="1" name="mappings" type="tns:ArrayOfString"/>
<s:element minOccurs="0" maxOccurs="1" name="propertiesKeys" type="tns:ArrayOfString"/>
<s:element minOccurs="0" maxOccurs="1" name="propertiesValues" type="tns:ArrayOfString"/>
<s:element minOccurs="0" maxOccurs="1" name="keys" type="tns:ArrayOfString"/>
<s:element minOccurs="0" maxOccurs="1" name="values" type="tns:ArrayOfString"/>
</s:sequence>
</s:complexType>
</s:element>
</s:schema>
</wsdl:types>
<wsdl:message name="QuerySubscriberSoapIn">
<wsdl:part name="parameters" element="tns:QuerySubscriberIn" />
</wsdl:message>
```

```

<wsdl:message name="QuerySubscriberSoapOut">
<wsdl:part name="parameters" element="tns:QuerySubscriberOut" />
</wsdl:message>
<wsdl:portType name="QueryServiceSoap">
<wsdl:operation name="QuerySubscriber">
<wsdl:input message="tns:QuerySubscriberSoapIn" />
<wsdl:output message="tns:QuerySubscriberSoapOut" />
</wsdl:operation>
</wsdl:portType>
<wsdl:binding name="QueryServiceSoap" type="tns:QueryServiceSoap">
<soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document" />
<wsdl:operation name="QuerySubscriber">
<soap:operation soapAction="http://cisco.com/CiscoQuery/QuerySubscriber" style="document"
/>
<wsdl:input>
<soap:body use="literal" />
</wsdl:input>
<wsdl:output>
<soap:body use="literal" />
</wsdl:output>
</wsdl:operation>
</wsdl:binding>
<wsdl:service name="QueryService">
<documentation xmlns="http://schemas.xmlsoap.org/wsdl/">Queries subscribers
data</documentation>
<wsdl:port name="QueryServiceSoap" binding="tns:QueryServiceSoap">
<soap:address location="http://localhost:8080/axis/services/QueryServiceSoap" />
</wsdl:port>
</wsdl:service>
</wsdl:definitions>

```