CPS CCI Guide for View Only Administrators, Release 24.2.0

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About This Guide

Note The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. While any existing biased terms are being substituted, exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

This document is a part of the Cisco Policy Suite documentation set.

For information about available documentation, see the *CPS Documentation Map* for this release at Cisco.com.

Note The PATS/ATS, ANDSF, and MOG products have reached end of life and are not supported in this release. Any references to these products (specific or implied), their components or functions in this document are coincidental and are not supported. Full details on the end of life for these products are available at: https://www.cisco.com/c/en/us/products/wireless/policy-suite-mobile/eos-eol-notice-listing.html.

Audience

This guide is best used by these readers:

- Network administrators

> • Network engineers
>
> • Network operators
>
> • System administrators

This document assumes a general understanding of network architecture, configuration, and operations.

Additional Support

For further documentation and support:

> • Contact your Cisco Systems, Inc. technical representative.
>
> • Call the Cisco Systems, Inc. technical support number.
>
> • Write to Cisco Systems, Inc. at support@cisco.com.
>
> • Refer to support matrix at https://www.cisco.com/c/en/us/support/index.html and to other documents related to Cisco Policy Suite.

Conventions (all documentation)

This document uses the following conventions.

Conventions	Indication
bold font	Commands and keywords and user-entered text appear in **bold** font.
italic font	Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font.
[ ]	Elements in square brackets are optional.
{x	y	z }	Required alternative keywords are grouped in braces and separated by vertical bars.
[x	y	z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
courier font	Terminal sessions and information the system displays appear in courier font.
< >	Nonprinting characters such as passwords are in angle brackets.

Conventions	Indication
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

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

Caution Means reader be careful. In this situation, you might perform an action that could result in equipment damage or loss of data.

Warning IMPORTANT SAFETY INSTRUCTIONS.

Means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

Note Regulatory: Provided for additional information and to comply with regulatory and customer requirements.

Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at Cisco Profile Manager.

- To get the business impact you're looking for with the technologies that matter, visit Cisco Services.

- To submit a service request, visit Cisco Support.

- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit Cisco DevNet.

- To obtain general networking, training, and certification titles, visit Cisco Press.

- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

Cisco Bug Search Tool

Cisco Bug Search Tool (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.

Important Notes

☞

Important   Any feature or GUI functionality that is not documented may not be supported in this release or may be customer specific, and must not be used without consulting your Cisco Account representative.

Control Center Interface

Control Center Overview

The Control Center enables you to manage subscribers and perform various operations to get information about subscribers, track subscriber sessions, to construct and populate custom reference data tables and so on.

Control Center Users And Roles

CPS enables users to be aware of its current privileges while accessing Control Center as described below:

• If a user has read-write privilege then "ADMIN" is displayed adjacent to user name in the GUI.

• If a user has read-only privilege then "READONLY" is displayed adjacent to user name in the GUI.

Access Control Center

To access Control Center, use the following URL:

http://*<ip-address>*:8090

The hostname is displayed in the login dialog box and system banner to differentiate between open windows while performing any operation of the CPS system. It indicates which system is being modified and prevents any errors or misconfigurations.

The hostname is displayed when the parameter `-Dhostname=lab` is configured in pb/qns.conf files. If it is not configured in the qns.conf file, it is displayed as a result of the command "hostname" on the server.

The hostname is displayed in the login panel only when the following argument is set to true:

```
-DshowSitenameLogin
```

CHAPTER 2

Subscriber Screens

Subscriber Screens Overview

This section provides discussion and examples for an administrator with view only privileges. As a view only admin, you can see subscriber and session information, monitoring and configuration data, but will not be able to make any changes.

After you log in, the default page of the Quantum Control Center interface displays the Subscribers tab > Find Subscriber screen.

The Subscribers tab lets you look at details for a subscriber, any subaccounts under a subscriber, and any sessions a subscriber may have.

From the menu tree on the left, you have access to session information screens at the subscriber level and the network level.

Find a Subscriber

Finding a subscriber is often the first step in performing other tasks for a subscriber.

Note   To list all subscribers, leave the Credential Name field blank. The maximum number of records returned is 1000.

Enter search criteria into either the Credential or Name field. You can use any portion of a subscriber's name, but when searching on a credential ID, you must use the full credential. No wild cards are permitted.

Step 1   Click **Subscribers tab** > **Subscribers node** > **Find Subscriber** item in the menu tree.

Step 2   Enter your search criteria in the Credential or Name field and click **Search**.

Step 3   Matches to your search criteria appear in the Results table.

Use the open link on the right to display more information about the subscriber

Note   As you find and use subscriber screens, the menu tree keeps track of the most recent finds. Dismiss these items from the tree with the X icon.

Subscriber Screens Definitions

This section describes the screens used to support subscribers. After you find a subscriber you can access these screens.

Overview Screen

When you find a subscriber and open their record, the Overview screen opens.

The menu tree on the left displays the subscriber name and four submenus (Overview, Details, Sessions, Balance).

The Overview screen, with its six subsections, appears on the right.

Click any of the view links in the sub areas, for example Credentials or Notifications, to see information for that specific aspect of the subscriber.

Details Screens

The Details item in the menu lets you view five other screens that contain even more specific information about a subscriber or a subaccount:

- General information

- Credentials or passwords

- Services the subscriber pays for

- Notification preferences

- Subaccount users under the subscriber

General Screen

1. Click **Subscribers tab** > **Subscribers node** > **Find Subscriber** item in the menu tree.

2. Find the subscriber as described in .

3. Click **Details** > **General** > **view link**.

Field	Description
Name	This single field is shows both the first and last name of the subscriber.
Domain	This drop-down list displays the domain to which the subscriber is assigned. Domains themselves are created in the Policy Builder interface.
Status	The Status field shows these three states for a subscriber: • Active and able to use services • Deleted and no longer part of your system • Suspended and in the system, but not able to use services By default, the status for a new subscriber is always ACTIVE.
Start Date End Date	Both these fields show the start and stop date and time of service to the subscriber.
Role	When the subscriber logs in to your subscriber portal, this field shows the read-write privilege granted to them. As a default, the primary subscriber is always granted the Write All role, permitting editing of all subaccounts underneath. For example, the primary subscriber might be: An adult, and responsible for other family members A team leader, responsible for team member accounts See Subaccount Screen. If a user is not a primary subscriber, they are created as a subaccount user under a primary subscriber. A subaccount user can have these levels of privileges: • Write all—can read and write all information for themselves and any subaccounts • Read all—can view all portal information • Write self—can read and write only their own information • Read self—can view only their own information

Field	Description
External ID	Occasionally, a subscriber may need to connect with or relate to an external third-party system. This field identifies the subscriber to that external service.
Rate Plan	Shows predefined rate plan codes, such as prepaid or postpaid.
Charging ID	A subscriber might have a unique charging ID. Usage by members of a subaccount, or 'children' of the subscriber can be billed to their 'parent' if this is set.
Custom Data Area	This area lets you view a look up list, or key-value pairs that track other variables that concern your subscriber
Code	The key portion of a key-value pair.
Value	The definition or value of the key-value pair.

Credentials Screen

The Credentials screen lets you view more than one credential or password for a subscriber. More than one credential may be necessary for the subscriber to log in from different devices or locations.

The rows in this screen are populated by the Credential Detail screen shown below.

Click the open link to display the Credential Detail screen.

Field	Description
Credential ID	A credential is a unique identifier that subscribers and subaccount customers use to log in. A credential is defined when the subscriber is created. from usum 1.0 if guide

Field	Description
Type	Useful for sorting and reporting, this field indicates if the credential is for a subscriber or a subaccount, or for a permanent or guest use.
Description	Shows more information about this particular credential.
Expiration Date	Shows the end date of the credential.
Password	In addition to a credential ID, a subscriber can log in with a password. A password is optional because MAC addresses, for example, do not have a password.
New Password	Not available to view only administrators.
Confirm Password	Not available to view only administrators.

Services Screen

The Services link lets you administer what services or service plans a subscriber may access.

Click Subscribers tab **find a subscriber** > **Details in the menu tree** > **Services to the left**.

This screen is a point of intersection between Policy Builder and Control Center. That is, services and service plans are developed in Policy Builder and are reflected here for you to choose from.

A read only administrator may not add services to a subscriber.

Notifications Screen

The Notifications screen lets you view how to contact your subscriber for system messages or for special promotions, for example. You can notify with these methods.us599

- XML

- Email

- SMS

- Apple iPhone push

![Note pencil icon]

Note   Notifications must be set up in Policy Builder prior to using this screen.

To view a notification, click the open link on the right to display the Notification Detail screen.

The Notification Detail screen shows you the specific details about subscriber emails, SMS, or iPhone push, but you may not make changes.

Field	Description
Type	Contact your subscriber with one of these methods in the drop-down menu: • Real time / XML • SMS • Email • Apple iPhone push
Destination	Specify the address for the notification. For an XML message, provide URLs. For an SMS message, provide the destination number, perhaps 555544444. For an email notification, provide an email address. For an Apple iPhone push, provide the server gateway, server port, and certificate and certificate password.
Enabled	Click this check box to allow notifications to go through, or uncheck it if you are still developing the message.
Custom Data Area	This area lets you use a look up list, or key-value pairs and so keep track of other variables that concern your subscriber.
Code	This is the key portion of a key-value pair.
Value	This is the definition or value of the key.

Subaccount Screen

A subaccount user can occur under a primary subscriber so that the primary subscriber has authority over others, perhaps team members or family members. This construct makes subaccount activity logins, debit, credit, and bill to the primary subscriber.

For example, if the primary subscriber has a Charging ID of 123456, assign the subaccount users the same charging ID.

1. Click **Subscribers tab** > **Subscribers node** > **Find Subscriber**.

2. Find the subscriber who is the primary subscriber and is responsible for the subaccount.

3. Click **Details** > **Subaccounts**and click the view link in the corner.

Sessions Screen

The Sessions item in the menu tree under a subscriber lets you see the sessions the subscriber has running. That is, find the subscriber first, and then check their sessions. A subscriber may have several sessions up, perhaps from different devices.

You can display a Sessions screen two ways:

- Find the subscriber and then view all their sessions:

    Subscribers tab > **Subscriber node** > **Subscriber item** > **Overview screen** > **Sessions area** > **manage**

    See Viewing a Subscriber Session.

- Find all sessions on the network and then look for a subscriber:

    Subscribers tab > **Subscriber node** > **Subscriber Sessions item** > **Current Sessions table** > **open**

    See Finding Network Sessions.

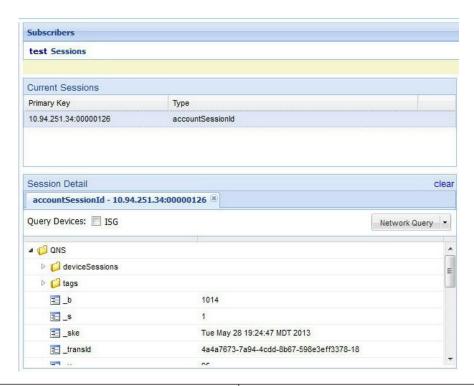> **Note**   If you would like a utility to start artificial sessions, contact your Cisco technical representative.

Session Details Table

The Session Detail table contains information about the session, including a Remove Session link.

An example of a Session Detail is shown below.

Field	Description
Session Tabs	At the top, a tab exists for each session the subscriber has running. The example has one tab, the subscriber has one session up.
Query Devices	This check box lets you filter the session information below to one or more devices.
Network Query	This drop-down list lets you show details for only the devices you can provide IP addresses and secrets for, and so limits the data returned by the detail table.

The Policy Server folder has several subfolders to organize the session data.

Balance Screen

The Balance item in the tree under a subscriber name provides a way to set balance amounts and quota amounts for the subscriber.

A subscriber can have several balance codes in place, and under each one, the subscriber can have several quota codes.

Balance codes and quota codes are developed and maintained in the Policy Builder interface. Control Center reflects that configuration.

Balances

Balances are of these types:

- Recurring—recurring balances automatically replenish on a configured cycle, for example daily, weekly, monthly, or per billing cycle. Any remaining balance is not carried over when the balance is reset.

  - Roll Over—a type of recurring balance. Roll over balances, which are additive, are similar to recurring balances, but any remaining balance is kept when the balance replenishes.

- One-time—one-time balances do not automatically replenish. One-time balances may be configured with an expiration date.

  - Top Up—a type of One-time balance. Top ups add to a subscriber's balance and may be applied to any of the above balance types. Top ups are differentiated from the balance to which they are applied, enabling the service provider to define the order in which top ups, and the underlying balance, is consumed. Top ups may be assigned an expiration date.

Balances can be configured to be automatically allocated in the Quantum Unified MsBM for a subscriber during a balance reserve if a balance does not already exist. The fair use balances for new subscribers is an example. Auto-provisioned balances are created based on rules configured by the service provider, which may refer to parameters such as subscriber class, rate plan, and so on, when provisioning the balance.

Quotas

Quota may be either of two types, one-time or recurring.

One-time quotas are amounts of time use or data use that occur only one time and are not renewed. For example:

- If an ISP provider gives free introductory minutes

- If data bandwidth is provided on a tiered system, with the first 100 KB free, and then payment begins

- For a prepaid card use case

Recurring quota are those services the account subscriber signs up for and gets refreshed at some recurring period.

View Quotas and Balances

Note In the data hierarchy, Balances contain Quota.

Step 1 Click **Subscribers tab** > **Subscribers node** > **Find Subscriber** item in the menu tree.

Find the subscriber as described on Finding a Subscriber.

Step 2 Select the Balance item in the menu tree under the subscriber.

Step 3 Open the full view to the balances. Click the Plus sign by Data.

The Balance Codee in our example is DATA.

Note   Balance codes and quota codes are developed and maintained in the Policy Builder interface for these drop-down lists.

Check the History of Balances

On the Balance screen, you can review the credit transactions against a quota type, but not the debit history.

Step 1   Click the history link associated with the quota.

The History screen shows you the Start and Expiration dates, original amount, transacted amount and any reserved quota.

Step 2   Click on a column heading to sort that column.

Step 3   Click on the down arrow in a column to change the sort columns from the display.
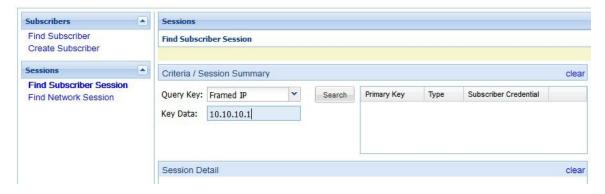
C H A P T E R 3

Session Tracing

- View a Subscriber Session, on page 13
- Find Network Sessions, on page 14

View a Subscriber Session

This procedure looks at available sessions and lets you find sessions for the subscriber you specify. Contrast this to finding a subscriber and then checking their sessions as described at Sessions Screen.

Step 1   Click the **Subscribers tab** > **Sessions node** > **Find Subscriber Session**.

Step 2   Click the **Query Key** drop-down list. The following subscriber search options is displayed:

    a.   User Id

    b.   Framed IP

    c.   IMSI

    d.   MSISDN

    e.   Framed IPv6 Prefix

Step 3   In **Key Data**, enter a valid information based on the **Query Key** selected in the drop down list.

Step 4   Click **Search** to display the general information about the found session on the right.

Step 5   In the list to the right, hover over a session and double click, or click the open link to display the details about the session.

Find Network Sessions

Use the Find Network Session link to look at selected session running on the network.

Step 1   Click **Subscribers tab** > **Sessions node** > **Find Network Session item in the menu tree**.

Step 2   Fill in the Find Network Session screen.

Field	Description
Query Key	The type of data on the session you want to search for, either framed IP or User ID.
Key Data	The value of the query key, for example, part of a framed IP address.
Query Device	The type of device you want to query. Currently, only ISG is supported.
Results Area	List of all the matches for your query key and key data.

CHAPTER **4**

Custom Reference Data Tables

Concepts for Custom Reference Data Tables

• The Policy Builder interface creates and edits the custom reference data table structure, defines its columns, and defines the data type, ranges and size of the fields.

• Control Center reflects the custom reference data tables constructed in Policy Builder.

• You can view data content present in the custom reference data tables in Control Center.

• A key symbol and arrows are provided to each column in the Customer Reference Data table to enable the user to distinguish among keys, input columns, and output columns.

  • A key symbol indicates a key column.

  • A downward arrow indicates an input column. The input columns are key columns for which Runtime Binding option is selected.

  • An upward arrow indicates an output column. The output columns are non key columns.

• A key icon is displayed before the column name of the selected CRD tables. This provides the following information:

  • Indicates whether the column in the selected CRD table is a key column or non-key column.

  • Indicates the type of Runtime Binding and its value in a tooltip when you hover over it.

When constructing the custom reference data table in the Policy Builder, look at the spreadsheet you want to import later and use the same column names, data types and other attributes.

Typical Tasks for Everyday

These navigation tasks and activities are specific to the custom reference data tables in Control Center.

Refresh the Screen

- The refresh link in the upper right corner.

- Click the refresh link to force a refresh.

- A successful refresh message appears on the right.

- The usual refresh time is every 5 minutes, and is refreshed from the server.

- In the middle of updating, refresh is deferred.

- Upon close and reopen a table, the refreshed table is displayed.

- The refresh interval for these tables cannot be changed.

Navigate the Table Screens

- Multiple tables can be open at one time.

- Icons in the tree to show the open and active focus.

  - Circle with hyphen—open table

  - Circle with arrows—active table focus

  - Square—table not open

  - Blue square—table open and in the tray at bottom

- Icons in the upper right corner of a table minimize, maximize, or close the table. When minimized, the table heading displays at the bottom of the screen in the tray.

- To restore a table to view,

  - Click the restore button of the table in the tray,

  - Or

  - Double click the table tab in the tray.

- Resize a table for viewing by dragging the edges.

- Narrow or widen a column by dragging the margin of the column head.

Navigate in a Row

- If you have many columns, they cannot all display in the browser.

- Notice that in the bottom right corner, there is a indicator of how may rows you are viewing at the moment, and how many rows there are total in the table.

Export All

You can export contents of all CRD tables to Microsoft Excel. The data is exported in CSV format in a zip file.

Perform the following steps to export CRD table data:

Step 1   Log in to Control Center.

Step 2   Navigate to the **Configuration** tab.

Step 3   Click **Reference Data**.

Step 4   Click **Export All**.

The contents of the CRD table is generated in a csv format in a zip file.

Step 5   Click **Save File**.

Step 6   Click **OK**.

The zip file contains multiple CSV file containing CRD table schema and content corresponding to every CRD table and an '.exportCrdInfo' metadata file containing the following data:

- exportDate - Date of the CRD Data when it is exported.

- exportDateMillis - Time in milli seconds when the CRD Data is exported.

- exportVersion - Exported verison of the CRD Data whose value is 1 currently.

Export All