CHAPTER 7

Managing Inventory

This chapter describes how to manage the phone and directory inventory. You can add, update, or remove phones using the phone inventory. You can add and update directory numbers, reserve them for specific users, and clear directory numbers whose designated length of time in the Reserved state has been exceeded.

Managing Phone Inventory

Users assigned the Ordering authorization role can perform the following tasks to manage their phone inventory:

- Add phones—You can add phones that are available to all subscribers, or you can designate phones for specific subscribers.
- Update phone information—You can change phone information.
- Remove phones—You can delete phones from the inventory list.
- Clear expired reservations—If required, you can clear all phones whose reservation time has expired, from the inventory.
- View a report—You can view the phone inventory report based on the Domain.

Note The Provisioning administrator can designate which phones are available in the phone inventory.

The procedures described in this section are for only tracking the phone assets in inventory. No provisioning or activation is performed during these activities. To activate a phone, see Ordering Products and Services, page 10-4.

Note Third party devices must be added as SIP devices in Prime Collaboration Provisioning. See *Supported Devices for Prime Collaboration Provisioning* for more information.

The Phone Inventory Management page is where you add or change phone information. Table 7-1 describes the fields that appear on the Phone Inventory Management page.

Table 7-1 Phone Inventory Management Page Field Descriptions

Field	Description
Phone	Search function that shows the list of MAC addresses of phones that can be updated.
Domain	List of managed Domains.
Model	List of phone types.
MAC Address	Hexadecimal value that identifies the phone. The MAC address must be 12 characters in length. Valid values are alphanumeric characters (A-Z, a-z, 0-9). The MAC address is available on a sticker on the phone set, and on the phone setting display on the handset.
Status	The status of the phone. Possible values are the following: • In-use—The phone is being used by a subscriber. • Reserved—The phone is booked for a specific subscriber. • Available—The phone is available, and can be manually or automatically assigned to a subscriber. • Returned—The phone is returned to inventory, but its arrival is not confirmed. • Provisioning—The phone is currently being provisioned.
Reserved For (optional)	Specific user that the phone is reserved for.
Reserved On (optional)	Date that the phone was reserved on. It automatically appears after the phone information has been added or updated.
Reservation Timeout (optional)	Period of time, in days, that a phone will stay reserved in the system. Your Provisioning administrator sets the reservation timeout, therefore this field is not editable. The rule PhoneReservationTimeout determines the phone reservation timeout for a Domain (see Business Rules, page 11-2).

Note Self-Care option is available for users to set up lines, manage services, and configure phone options quickly and easily. For more information, see Customizing Your Personal Settings, page 9-3

Adding a Phone to Inventory

Step 1 Choose **Deploy > Provisioning Inventory > Manage Phones**.

Step 2 In the Phone Inventory Management page, complete the fields as required (see Table 7-1).

Step 3 Click **Add**.

Updating Phone Information

You can change phone information. You cannot change a phone that is currently being used (its status is In-use).

Step 1 Choose **Deploy > Provisioning Inventory > Manage Phones**.

Step 2 In the Phone field, click the Chooser icon ( ).

Note You can search for the phone based on a complete or partial MAC address. You can use an asterisk (*) as a wildcard character at the beginning and/or end of the MAC address, but not in the middle. Do not specify *SEP* in the search criteria.

Step 3 In the Choose a Phone dialog box, select the phone that you require.

Step 4 Change the phone information as required (see Table 7-1).

Step 5 Click **Update**.

Clearing Expired Phone Reservations

You can clear reservations for phones that have expired, which changes the status of the phones from Reserved to Available.

Step 1 Choose **Deploy > Provisioning Inventory > Manage Phones**.

Step 2 In the *for domain* field, select the Domain for which you want to clear the phone reservations.

Step 3 Click **Clear Expired Reservations**.

Removing Phones from Inventory

You can remove phones from your inventory. You cannot delete a phone that is currently being used (the phone's status is In-use).

Step 1 Choose **Deploy > Provisioning Inventory > Manage Phones**.

Step 2 In the Phone field, click the Chooser icon ( ).

In he Choose a Phone dialog box, select the phone that you require.

Step 3 Click **Remove**. A confirmation message appears, indicating that the phone was removed.

Viewing the Phone Inventory Report

You can view a report that provides the following details about the phone inventory in your Domain:

- Phone
- Type
- MAC address
- Status
- Reserved for
- Reserved on

Step 1 Choose **Deploy > Provisioning Inventory > Manage Phones**.

Step 2 In the *for domain* field, select the Domain for which you want to view the report.

Step 3 Click **Search Phone**.

Note In the Phone Inventory Report, the Phone Inventory Management page appears, when you click **Edit** next to the phone. This field is populated with the phone information. The Phone Inventory search is executed only if your login belongs to a Policy or Administrator group.

Managing Directory Inventory

In most cases, Service Area Directory Number Blocks (DNBs) are used to allocate directory numbers. However, you can explicitly track (store and manage) directory numbers that are associated with each Service Area in the Provisioning inventory.

You can add and update directory numbers, reserve them for specific users, and clear directory numbers whose designated length of time in the Reserved state has been exceeded.

Note To change the length of time that a directory number can remain in the Reserved state, you can modify the DNReservationTimeout rule. For more information, see Business Rules, page 11-2.

Directory numbers can be in the following states:

- In-use—The directory number is in use by a subscriber.
- Reserved—The directory number is booked for a specific subscriber for a specific period of time.
- Available—The directory number is available, and can be assigned to a subscriber.

When a line is added, Provisioning allocates directory numbers using the following process:

1. Checks if a directory has been reserved for the subscriber.
2. Checks for a directory number in the Available state.
3. Checks the Service Area DNB for next available directory number.

In the Service Area component of the Domain, you can create DNBs, not individual directory numbers. After a directory number has been allocated to a subscriber, Provisioning tracks the individual directory number.

Adding Directory Numbers

You can add directory numbers in Provisioning. When you add a directory number, you can specify a status for it and/or reserve it for a particular subscriber.

The same directory number can exist in different Call Processors. When you add a directory number, you must specify both the Call Processor and route partition.

Table 7-2 describes the fields for adding directory numbers.

Table 7-2 Directory Number Inventory Management Page Fields

Field	Description
Directory Number	Directory number.
Call Processor/Route Partition	The Call Processor and route partition that the directory number is added to. **Note** The directory number is not added at this time. It is reserved for adding to the Call Processor once an order that requires one is received.
Status	The status of the number. Possible values are: In-use—The directory number is currently being used by a subscriber. Reserved—The directory number is booked for a specific subscriber for a specific period of time. Available—The directory number is available, and can be assigned to any subscriber.

Table 7-2 Directory Number Inventory Management Page Fields (continued)

Field	Description
(Optional) Reserved For	Specific user that the directory number is reserved for.
(Optional) Reserved On	Date that the directory number was reserved on. It automatically appears after the phone information has been added or updated.

Adding a Directory Number to Inventory

Step 1 Choose **Deploy > Provisioning Inventory > Manage Directory Numbers**.

Step 2 In the Directory Number Inventory Management page, click **Add New Directory Number**.

The fields in the right pane become editable.

Step 3 Complete the fields as required (see Table 7-2).

Step 4 Click **Save**.

Updating Directory Number Information

You can search for and select a directory number to update. The same directory number can exist in different Call Processors, therefore you are specifying the Call Processor and route partition for the directory number that you require.

Note You cannot change the status of a directory number that is in the In-use state.

Step 1 Choose **Deploy > Provisioning Inventory > Manage Directory Numbers**.

Step 2 In the Directory Number field, do one of the following:

- If you know the directory number, enter it and then click **Search**.
- Search for the directory number, using an asterisk (*) as a wildcard. From the Choose a Directory Number dialog box, click the required directory number.

Step 3 Click **Update Current Directory Number**.

The fields in the right pane become editable.

Step 4 Complete the fields as required (see Table 7-2).

Step 5 Click **Save**.

Clearing Expired Reserved Directory Numbers

You can clear reservations for directory numbers that have expired, which places the directory numbers back into the available pool.

To set the number of days that the directory number is reserved for, see Business Rules, page 11-2.

Step 1 Choose **Deploy > Provisioning Inventory > Manage Directory Numbers**.

Step 2 In the Directory Number Inventory Management page, click **Clear Expired Reservations**.

A message appears, confirming the number of reserved directory numbers that have been returned to the available pool.

Deleting Directory Numbers

You can remove directory numbers from inventory.

Note You cannot delete a directory number that is in use.

Step 1 Choose **Deploy > Provisioning Inventory > Manage Directory Numbers**.

Step 2 In the Directory Number field, do one of the following:

- If you know the directory number, enter it and then click **Search**.
- Search for the directory number, using an asterisk (*) as a wildcard. From the Choose a Directory Number dialog box, click the required directory number.

Step 3 Click **Remove**.

Searching Inventory

If you are assigned the Administration authorization role you can browse the Provisioning network and service inventory. You can view different types of network or service-related data in a tree-based selector.

The following objects appear in the selector:

- Global Resources—List infrastructure data stored in Provisioning. Some examples are, Route Partition, Call Search Space, Call Pickup Group.
- Product Catalog—Do not use the information listed. If you want to see a list of products, refer to the external version of the product catalog which is included in the Provisioning NBI SDK. The schema of this data is located in the SDK subdirectory productcatalog\schema. The product definitions are located in the SDK subdirectory productcatalog\metadata. There is one XML file for each product, defining all required and optional attributes
- Subscribers—List all subscribers and their locations in Provisioning.
- Domain—Specific directory numbers, phones, rules and Services Areas.

You can browse and search the Provisioning inventory, using the Instance Browser and search functionality of the Inventory Manager.

Using Inventory Search

You can search for inventory objects using basic or advanced searches. You use basic searches to find instances of an object based on its properties. Advanced searches are used to specify more detailed search criteria.

You can include multiple constraints, such as customers, properties, associations, and namespaces, to limit the search results. You can also specify what properties you want the search to return. You can save advanced searches as reports, and organize them into categories. Reports can be created only by administrators.

Performing Basic Searches

Using the Instance Browser, you can run a basic search for instances of a particular object. In a basic search, the search parameters are based on the properties of the class.

The first step to searching for an instance is specifying the class that it is based on. You can specify search criteria and how the results are displayed by:

- Specifying a keyword or partial keyword. You can use asterisks (*) as wild cards.
- Specifying whether the results are displayed according to the class name or label property.
- Restricting the search to a particular Domain.
- Including and/or excluding abstract, association, and interface classes.

After you have located the class that the instance is based on, you can narrow your search by specifying search criteria based on the class properties. The number of searchable properties varies from class to class.

Step 1 Choose **Deploy > Provisioning Inventory > Inventory Browser**.

Step 2 In the Instance Browser, click the Search icon ().

Step 3 In the Instance Search dialog box, click Choose a class button.

Step 4 In the Class Search screen, enter the search parameters.

Step 5 Click **Search**. The results appear in the Searchable Properties of pane.

Performing Advanced Searches

You can perform advanced searches to find inventory instances within a specified object class. An advanced search can be saved for future use.

Step 1 Choose **Deploy > Provisioning Inventory**.

Step 2 Do one of the following:

- Click **Inventory Browser**, select a class using a basic search, then click **Advanced**.
- Click **Inventory Search**, click the New icon ( ), and then select a class.

Step 3 Add any applicable constraints. You can constrain searches using properties, associations, namespaces, or customers.

Step 4 Create a list of properties to return in the search from a list of available properties.

The search results include only those instances that contain the selected properties.

Step 5 Specify associated properties to return in the search, if applicable, by building the path to the properties.

The search results will include only those instances with the selected properties.

Step 6 Specify associated objects to return in the search, if applicable, by building the path to the objects.

The search results will include only those instances with the selected objects.

Step 7 Specify whether to include or exclude Namespaces and Object Classes in the search results.

Step 8 Run the search. The search results are displayed.

The following sections contain detailed instructions for selecting constraints and returning objects and properties:

- Constraints, page 7-10
- Defining Property Constraints, page 7-11
- Defining Association Constraints, page 7-12
- Defining Namespace Constraints, page 7-13
- Associated Properties to Return, page 7-14
- Associated Objects to Return, page 7-15

Constraints

Use the Add Constraint section to define the constraints for the search.

The following constraints are available for advanced searches:

- Properties—To restrict the results to objects that meet specified property criteria. You can set the properties constraint to be case sensitive or case insensitive. You can specify that either all or part of the value must be matched to return results.
- Associations—To restrict the results to objects that are (or are not) associated with other objects using a specified association path. Association paths allow the relation between the source object and the queried objects to span multiple association classes.

- Namespaces—To restrict the results to objects contained (or not contained) in specified namespaces.
- Customers—To restrict the results to objects that are associated with specific customers.

Defining Property Constraints

You can define searches to select only the objects that meet specified property constraints. For example, you can define a constraint in which only instances that have a specific model number are included in the search results. In this case, the property constraint acts as a filter when searching for a specific object property.

When defining property constraints, the following conditions are available:

- Equals—To specify a value that is equivalent in value to the selected property.
- Contains—To specify a value that is contained within the value of the selected property.
- Not equal to—To specify a value that is not equivalent in value to the selected property.
- Does not contain—To specify a value that is not contained within the value of the selected property.
- In range—To specify a value that has a Date property that is within the specified range. This operator can only be used when Date properties have been specified for an object, and where reportable=true is set in the class definition properties.

After you select the operator, you can either specify a value, or leave the field blank. If you specify a value, it becomes the default value, although users who execute the search can change the value if required. Leaving the field blank allows a user who is executing the search at a later time to specify a value for that property constraint.

To define property constraints:

Step 1 In the Advanced Instance Search screen, select a property from the Add Constraint list.

Step 2 Click **Add**. The available conditions appear in a list.

Step 3 From the available conditions list, select the appropriate operator and click **Add**.

The Property list appears in the Add Constraint section.

Step 4 Select the appropriate property.

The Value field appears in the Add Constraint section.

Step 5 In the Value field, do one of the following:

- Specify a default value for the constraint.
- Leave the field blank so that users can specify their own constraints.

Step 6 If you want the search to be case-insensitive, enable **Ignore Case**.

Step 7 Click **Add**.

The constraint appears in the Selected Constraints section.

Step 8 Repeats Steps 1 through 7 to add additional constraints.

Step 9 If you have defined multiple constraints, specify the *and* or *or* operands as required in the Operand column.

Defining Association Constraints

You can define searches to select objects that are, or are not, associated with other objects. For example, you can define a search for Lines that are associated with Voice Terminals of a certain type, excluding Voice Terminals of another type. Additionally, you can sort within a range; for example, you can search for all Phones with two to six Lines.

When defining association constraints, the following conditions are available:

- Associated with—Used to specify the object instance and association path associating the search class with another object instance.
- Not associated with—Used to specify the object instance to *not* associate with for the search class.
- Associated with range—Used to specify the range of object instances to associate with the search class. If you select this condition, you must complete the appropriate association, condition, and quantity information.

After the operator is selected, you must select an object instance for the constraint. Each operator has a different procedure for selecting object instances to associate with.

To define constraints using the *associated with* operator:

Step 1 From the Add Constraint list, select **Associations**.

Step 2 Click **Add**.

The available conditions appear in a list.

Step 3 From the available conditions list, select **Associated with**.

Step 4 Click **Add**.

The constraint is added to the Add Constraint section.

Step 5 In the Add Constraint section, in the Instance field, click the Search icon ( ).

The Instance and Association Path dialog box appears.

Step 6 In the To Class list, select the class that the object instance is associated with, and click **Apply**.

Step 7 In the By Association list, select the appropriate association, and then click **Apply**.

The Participating As list appears.

Step 8 Select the appropriate role for the class, and then click **Apply**.

Step 9 To specify another class in the To Class field, repeat Steps 6 through 8.

Step 10 To restrict the constraint to a specific object instance, click the Search icon ( ) and search for that instance.

By default, the constraint is not restricted to a particular instance.

Step 11 Click **Add** to save your selections.

The selected path is displayed.

Step 12 To add the constraint as defined, click **Add**.

The Selected Constraints section displays the Instance and Association Path information.

Step 13 If you have defined multiple constraints, select the *and* or *or* operands as required in the Operand column.

To define constraints using the *associated with range* operator:

Step 1 From the Add Constraint list, select **Associations**.

Step 2 Click **Add**.

The available conditions appear in a list.

Step 3 From the available conditions list, select the **Associated with range** condition, then click **Add**.

The constraint is added to the Add Constraint section.

Step 4 From the Association list, select the association class that you want to search with.

Step 5 From the Condition list, select the condition to satisfy in the search.

Step 6 In the Quantity field, enter the number of instances the condition must meet, then click **Add**.

The constraint is displayed in the Selected Constraints section.

Step 7 Repeat Steps 1 through 6 to add additional constraints.

Step 8 If you have defined multiple constraints, select the *and* or *or* operands as required in the Operand column.

Defining Namespace Constraints

Use namespace constraints to restrict the search to or exclude specific namespaces.

Step 1 From the Add Constraint list, select a namespace, then click **Add**.

Namespace appears in the Add Constraint section.

Step 2 Do one of the following:

- To specify a namespace to search in, select **Equals**.
- To exclude a namespace from the search, select **Not Equal To**.

Step 3 The Value list appears, displaying the available namespaces.

Step 4 From the Value list, select the namespace, then click **Add**.

The constraint appears in the Selected Constraints section.

Step 5 Repeats Steps 1 through 4 to add additional constraints.

Step 6 If you have defined multiple constraints, select the *and* or *or* operands as required in the Operand column.

Return Values

By default, the namespace, object class, and object values for each instance are displayed in the results of an advanced search. In addition to the default values, you can select other values for the advanced search to display.

Properties to Return

The Properties to Return section lists the available properties of the object class being searched, and those properties that you want the search to return. Using the Properties to Return section, you can expand the search to display a list of property values.

Step 1 In the Properties to Return section, from the Available list, select a property, then click **Add**.

These properties are displayed in the Selected list.

Step 2 After adding all the desired properties, click **Apply**.

Associated Properties to Return

The Associated Properties to Return section identifies the associated object class properties that you want the search to return. Using the Associated Properties to Return section, you can extend the search to include a list of associated object property values.

Step 1 In the Associated Properties section, click **Add**.

The Associated Property Path screen appears.

Step 2 In the To Class list, select the object class.

Step 3 Click **Apply**.

The By Association list appears.

Step 4 Select the appropriate association. Click **Apply**.

The Participating as list appears.

Step 5 Select the appropriate role for the class. Click **Apply**.

The Select Property of lists appear.

Step 6 Do one of the following:

- From the To Class list, select the object class. Click **Apply**. Repeat Steps 2 and 3 after you have added the classes that you require.
- From the Select Property of list, select the properties of the class that you chose in Step 2. Click **Apply**.

The Associated Property Path screen appears with the selected path displayed.

Step 7 Click **Add**. The new associated property is displayed in the search screen.

Tip To remove a property, check the Remove check box, then click the **Remove** button.

Associated Objects to Return

The Associated Objects to Return section identifies the associated object classes that you want the search to return. Using the Associated Objects to Return section, you can extend the search to include a list of associated objects of a specific class.

Step 1 Click **Add** in the Associated Objects section.

The Associated Object Class Path window appears.

Step 2 In the To Class list, select the object class, then click **Apply**.

The By Association list appears.

Step 3 Select the appropriate association, then click **Apply**.

The Participating as list appears.

Step 4 Select the appropriate role for the class, then click **Apply**.

The To Class list appears.

Step 5 Do one of the following:

- If you need to continue the path, repeat Steps 2 through 4.
- If you are done, click **Add**.

The new associated property is displayed in the search screen.

Tip To remove a property, check the Remove check box, then click the Remove button.

Creating Search Reports

You can save advanced searches (see Performing Advanced Searches, page 7-10) for future use. These are called Search Reports. Also, Provisioning provides you with sample search reports that you can use, or you can create your own. The sample search reports are not editable.

You can save an advanced search at any time.

Step 1 Choose **Deploy > Provisioning Inventory > Inventory Search**.

Step 2 In the Search Reports page, click the New icon ().

Step 3 In the Class Search dialog box, either enter a class in the search field or click one of the displayed classes.

Step 4 In the Instance Search page, enter the desired search criteria. For instructions on using the Instance Search page, see Performing Advanced Searches, page 7-10.

Step 5 Click **Save**.

Step 6 Enter a name for the report and choose a category for it.

Step 7 Click **Save**. You are returned to the Advanced Search page, where you can initiate the search.

Running Search Reports

Once you have saved a search as a Search report, you can run it. Before running a Search report, you can choose to have the search results displayed in the current browser window or in a new window.

Step 1 Choose **Deploy > Provisioning Inventory > Inventory Search**.

Step 2 In the Search Reports page, click the report that you want to run (either one of the sample search reports, or a search report that you created).

The Inventory Search page appears, displaying the constraints that have been defined.

Step 3 Change the constraint values if required.

Step 4 To display the search results in a separate browser window, select **Open results in a new window**.

Step 5 Do one of the following:

- To execute the search and display the search results, click **Search**.
- To execute the search and write the search results to an Excel spreadsheet, click **Excel**.

The search results are displayed as specified.

Editing Search Reports

Step 1 Choose **Deploy > Provisioning Inventory > Inventory Search**.

Step 2 In the Search Reports page, click the Edit icon () next to the Search report that you want to edit.

The Instance Search for the report appears.

Step 3 Make the appropriate changes.

For instructions on using the Instance Search page, see Performing Advanced Searches, page 7-10.

Deleting Search Reports

Step 1 Choose **Deploy > Provisioning Inventory > Inventory Search**.

Step 2 In the Search Reports page, click the Edit icon ( ) next to the Search report that you want to delete.

Step 3 In the Search Options section, click **Delete**.

Step 4 In the confirmation box, click **OK**.

Viewing System Reports

Provisioning contains the following set of preconfigured reports:

- Service Area
- Resource Configuration
- Service Configuration
- Phone Inventory
- DN Inventory
- Directory Number Block
- Audit Trail

Step 1 Choose **Reports > Interactive Reports > Provisioning Reports**. (See Table 1-1 to choose the UI path in the standalone Prime Collaboration Provisioning application.)

Step 2 Click one of the following available reports:

- Service Area
- Resource Configuration
- Service Configuration
- Phone Inventory
- Directory Number Inventory
- Direct Number Block
- Audit Trail Report

The selected report is displayed.

Working with the Phone Inventory Report

To search, export, and store the Phone Inventory report:

Step 1 Choose **Report > Interactive Reports > Inventory Reports**. (See Table 1-1 to choose the UI path in the standalone Prime Collaboration Provisioning application.)

Step 2 Select the domain and phone model.

Step 3 Do one of the following:

- To execute the search and display the search results, click **Search**.
- To execute the search and display the search results in .tsv format, click **Export**. The search results are exported in a tab seperated value format.

The search results are displayed as specified.

Step 4 To change the settings to default, click **Reset.**

Step 5 Click **Select date and time to schedule report** link.

Step 6 Select a date and time from the calendar window.

Step 7 Select the UTC Offset or the location details.

Step 8 Click **Select** to set a date and time for scheduling the report.

In the server, the scheduled report is stored in opt\cupm\sep\ipt\config\reports\ Phone_Inventory_Search<Report Generated Time>.tsv.