



CHAPTER 3

Managing the Hosted Unified Communications Services Platform with VisionOSS USM

This chapter explains how to use VisionOSS BVSM to view, configure, and provision the resources and components of the Hosted Unified Communications Services (UCS) platform. It includes the following topics:

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- [Loading Bulk Data for Initial Configuration, page 3-2](#)
- [Setup Tools, page 3-2](#)
- [Dialplan Tools, page 3-4](#)
- [Provider Administration, page 3-6](#)
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USM GUI Overview

USM provides integrated, hierarchical, role-based administration of Hosted UCS platform components. This is required to support scalable, decentralized administration of a multi-tenant hosted communications service. The administrative hierarchy is as follows, from top to bottom:

```

Providers
  Channels (resellers)
    Customers
      Division administrators
        Location administrators
          Users
  
```

Each administrator or user has access to lower levels in the hierarchy, but not at higher levels. This allows the secure delegation of authority from provisioning at the provider or reseller level, down to self-care at the level of customer end users.

The following list shows configuration capabilities at various levels:

- Self-care (manual configuration of a specific phone)—Users
- Auto-provisioning and device configuration for each site—Location/division administrators, channel/reseller administrators
- Bulk data loading—Location/division administrators, channel/reseller administrators


Caution

To maintain platform-wide data integrity, use USM for configuring or provisioning all Hosted UCS components whenever possible. If it is necessary to configure Hosted UCS platform components directly, be certain that the changes will not affect system integrity.

Loading Bulk Data for Initial Configuration

Before performing any other configuration, you will typically use the USM Deployment (Bulk Data) Tool to perform the initial configuration of the Hosted UCS platform components.

For information about using bulk data loading for the initial configuration of the Hosted UCS platform components, refer to [“Chapter 4, “Using Bulk Loaders for the Initial Configuration of Hosted Unified Communication Services Components.”](#)

USM provides a platform-wide view that includes Cisco Unified CM and the Cisco PGW. When administrators enter or edit data using USM, the necessary configuration for Cisco Unified CM and Cisco PGW is performed automatically.

Setup Tools

The **Setup Tools** option lets you set up and configure the USM management platform when establishing the platform for a new deployment. It sets up all the internal capabilities for USM in terms of the services, phones, and features that are presented on the USM GUI.

When you select the **Setup Tools** option on the VisionOSS menu, the system displays the screen shown in [Figure 3-1](#).

Figure 3-1 **Setup Tools Options**

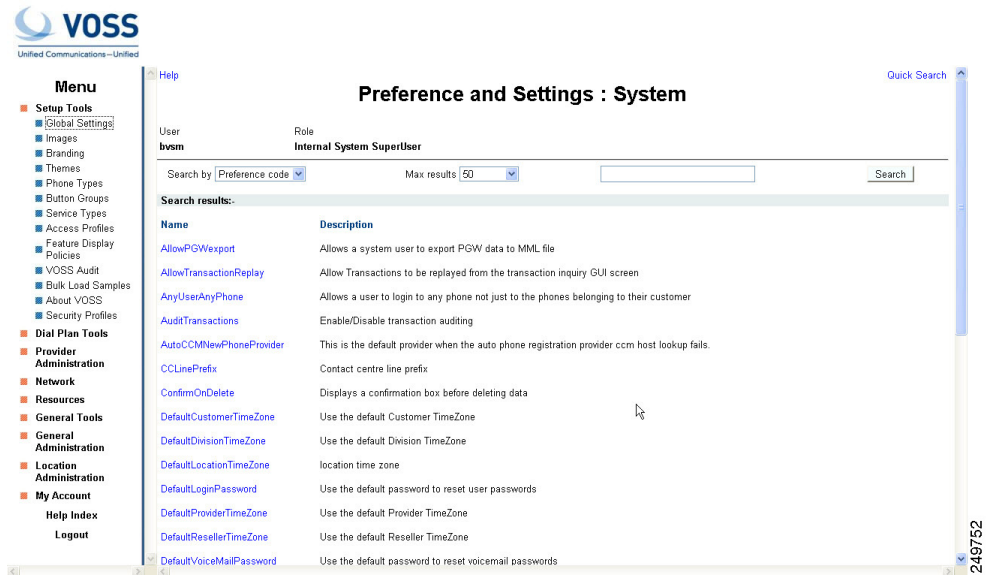


Table 3-1 Summarizes the function of each option provided on the Setup Tools menu.

Table 3-1 Setup Tools Menu Options

Option	Description
Global Settings	Sets preferences at the global level for the whole platform. These settings are similar to preferences at the provider, customer, and location levels.
Images	Loads images, such as logos, used for branding.
Branding	Lets service providers customize the USM GUI with specific colors, labels, icons, and logo, on a platform-wide basis, or for each customer.
Theme	The system supports skinning of the web interface via the use of themes. This includes customization of display elements, including Cascading Style Sheets, images and page layout. The themes are managed via a themes archive, a ZIP file containing the styles, images and template files. A system-wide default theme is provided. The default theme can be used as a base for customization but the default them cannot be changed or deleted using the Theme management screens.
Phone Types	Creates phone types within USM and adds them to the USM menus, which helps deliver services consistently. After the phone type is added, it appears to users in the USM phone menus.
Button Groups	Creates service types within USM and adds them to the USM menus, which helps deliver services consistently. After the service type is added, it appears to users in the USM services and feature group menus.
Service Types	Creates phone types within BVSM and adds them to the BVSM menus, which helps deliver services consistently. After the phone type is added, it appears to users in the BVSM phone menus.

Table 3-1 Setup Tools Menu Options (continued)

Option	Description
Access Profiles	Access profiles are used to manage a users access to various features and functions within the system. Access Profiles enable administrators to control, to a much better granularity, access to features within the predefined security roles.
Feature Display Policies	Customer administrators must be able to enforce access rules for any phone line and mobility feature setting exposed in Self Care. These access rules are grouped together as policies.
VOSS Audit	Transaction Auditing is a powerful tool that enables administrators to closely monitor all or specific transaction types processed within the system.
Bulk Load Samples	Sample bulk loader and configuration model spreadsheets are provided with the default installation.
About VOSS	The About VOSS page contains two important pieces of information, the VOSS software (system) version and the VOSS Server platform.
Security Profiles	Security profiles are sets of rules that govern password strength and other security related preferences. Security Profiles can be applied at System level and at various hierarchical levels which are Provider, Reseller, Customer, Division, Location and Users.

Dialplan Tools

The **Dialplan Tools** option lets you create the dial plan configuration for the Hosted UCS platform during initial deployment.

The dial plan tells the Cisco Hosted UCS platform how to route calls against a number plan. USM is responsible for configuring and loading the dial plan into the various components within Hosted UCS, such as the Cisco PGW and Cisco Unified CM. Super users can create and manage the dial plan when first deploying the platform as well as whenever the dial plan is revised.

The dial plan used for Hosted UCS is designed using Excel spreadsheets, which are loaded using the **Deployment (Bulk Load Tools)** option from the General Tools menu.

Dial plan templates can be customized for each provider and after loading, can be further customized for specific customers and locations. For example, each location may require a different extension number length.

When you select the **Dialplan Tools** option on the VisionOSS menu, the system displays the screen shown in [Figure 3-2](#).

Figure 3-2 Dialplan Tools Menu Options

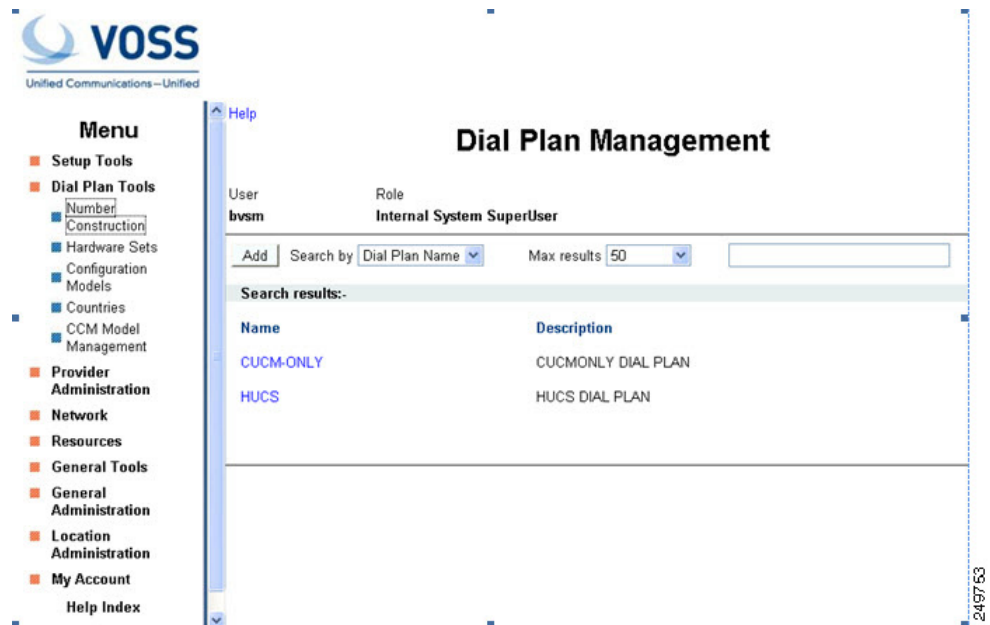


Table 3-2 summarizes the function of each option provided on the Dialplan Tools menu.

Table 3-2 Dialplan Tools Options

Option	Description
Number Construction	Configures dial plan variables such as the following: <ul style="list-style-type: none"> • Codec settings (compression and decompression standards) • Site number formats • Site display formats • Multi-tenant capabilities • Dial prefixes • E.164 number formats
Hardware Sets	Defines the templates for USM to use for hardware configurations and defines the dial plan associated with each hardware set.
Configuration Models	Provides model loader programs (similar to bulk data loaders) as well as various sample templates. Each model loader is designed for a specific Hosted UCS platform component, including the following: <ul style="list-style-type: none"> • Cisco PGW • Cisco Unified CM • Gateways • Application services such as voice mail

Table 3-2 Dialplan Tools Options (continued)

Option	Description
Countries	Providers are able to operate in a multi-country environment. Each country however, has unique dial plan elements and number configurations, so the system needs to apply these different configurations to each location based on the country they are allocated.
CMM Model Management	The CCM Model Management page enables administrators to manage their dial plan configuration models, primarily the models route patterns and translation patterns.

Provider Administration

The **Provider Administration** option lets super users create or change provider settings for the entire Hosted UCS platform, including adding or changing provider administrators.

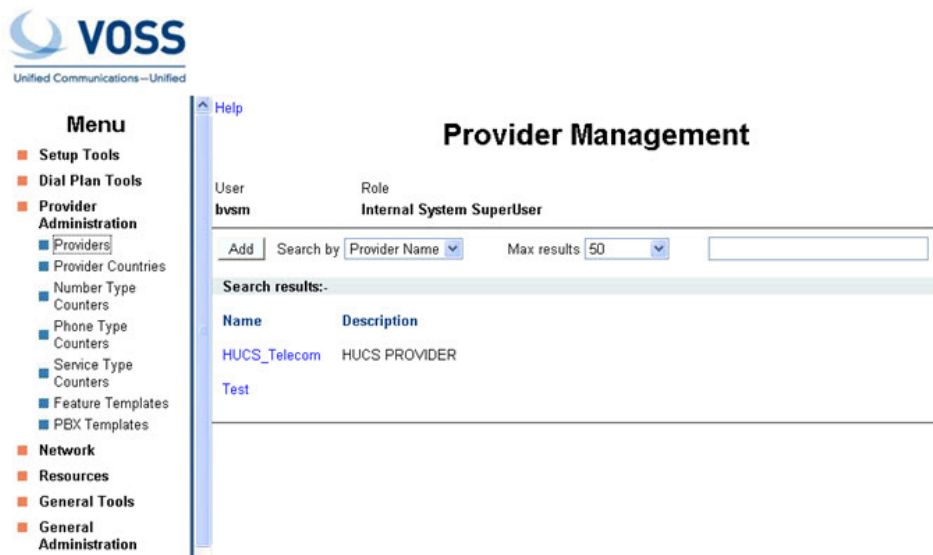


Caution

The default super user account is *BVSM*, and the default password is *password*. After accessing USM, change the password for the BVSM super user account to a strong password. For greater security, create a super user account with a less obvious account name and a strong password, and delete the default super user account.

When you select the **Provider Administration** option on the VisionOSS menu, the system displays the screen shown in [Figure 3-3](#).

Figure 3-3 Provider Administration Menu



[Table 3-3](#) summarizes the function of each option provided on the Provider Administration menu.

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Table 3-3 *Provider Administration Options*

Option	Description
Providers	Opens the Provider Management page, where you can access and edit provider preferences.
Provider Countries	Add or delete countries under a provider.
Number Type Counters	Manage the reserved inventory for lines by type of line.
Phone Type Counters	Manage the inventory for phones by type of phone.
Service Type Counters	Manage the reserved inventory for phones, lines, and services.
Feature Templates	Manage feature groups, which are a combination of features required for all users or phones.
PBX Templates	All PBX features and functionality managed by the system are defined as PBX Features. Any single version of the system will support a defined set of PBX features. These features can be grouped into PBX templates, a PBX template being a pre-configured set of PBX features.

Network

The **Network** option allows you to set up the network infrastructure so that USM can then perform its management role.

When you select the **Network** option on the VisionOSS menu, the system displays the screen shown in [Figure 3-4](#).

Figure 3-4 Network Menu Options



Table 3-4 summarizes the function of each option provided on the Network menu.

Table 3-4 Network Options

Option	Description
IOS Devices	Add, delete, or modify IOS devices.
Gatekeepers	Add, delete, or modify gatekeepers.
Transit Switches	Add, delete, or modify Cisco PGW switches.
PBX Devices	Add, delete, or modify Cisco Unified CM servers.
DHCP Servers	Add, delete, or modify DHCP servers.
TFTP Servers	Add, delete, or modify TFTP servers.
VoiceMail Gateways	Add, delete, or modify voice mail gateways.
IP Edge Devices	Add, delete, or modify IP edge devices.
Console Servers	Add, delete, or modify switchboard servers.
Music Servers	Add, delete, or modify music on hold (MOH) servers.
Conference Servers	Add, delete, or modify conference servers.
Transcoder Servers	Add, delete, or modify transcoder servers, used to translate between codecs.
Annunciator Servers	Add, delete, or modify Annunciator servers.
Media Termination Point	Add, delete, or modify the media termination points.
VoiceMail Servers	Add, delete, or modify voicemail servers.
Directory Servers	Add, delete, or modify directory servers.

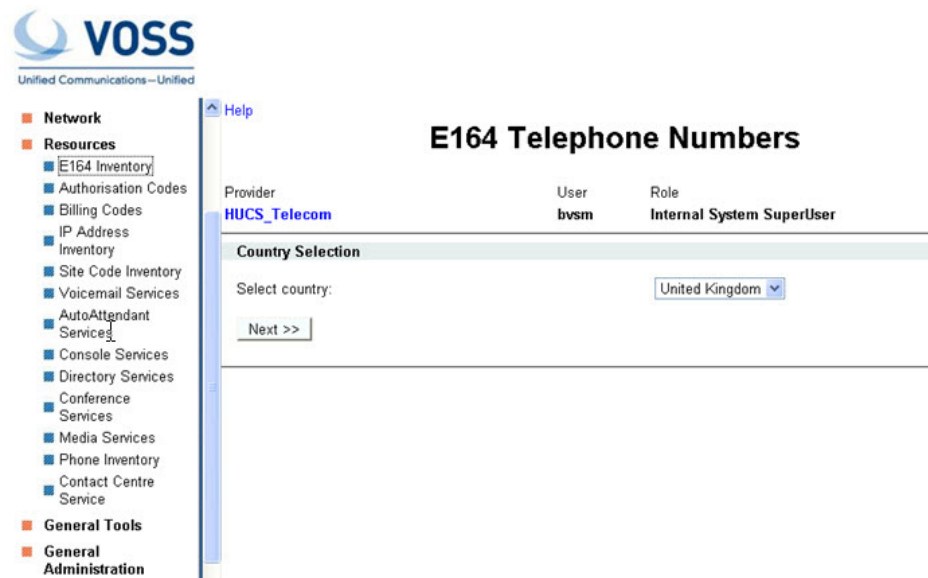
Table 3-4 *Network Options (continued)*

Option	Description
Emergency Responder	Add, delete, or modify emergency responders.
IVR	Add, delete, or modify IVR.
Hardware Groups	Add, delete, or modify hardware.
Session Border Controllers	Add, delete, or modify Session Border Controllers.
Contact Centre	Add, delete, or modify Contact Centre.

Resources

The **Resources** option allows you to create the necessary resources and make them available to the relevant location.

When you select the **Resources** option on the VisionOSS menu, the system displays the screen shown in [Figure 3-5](#).

Figure 3-5 *Resources Menu*

[Figure 3-5](#) summarizes the function of each option provided on the Resources menu.

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Table 3-5 Resources Options

Option	Description
E164 Inventory	E164 numbers, also called PSTN or DDI numbers, identify the phone to the external PSTN. BVSM ensures that each E164 number is only allocated once.
Authorisation Codes	Authorization Codes or Forced Authorization Codes (FACs) enable you to manage call access and accounting. The codes regulate the type of calls that specific users can make by forcing the user to enter a valid authorization code before they can make a call.
Billing Codes	Provides access to billing codes.
IP Address Inventory	Provides access to the IP address inventory.
Site Code Inventory	Used as the short-code dial prefix before internal direct dial numbers for a location, allowing internal calls between sites to be routed directly over the internal network.
VoiceMail Services	Creates voice-mail services for each customer, which can then be managed by the customer administrator within each location.
AutoAttendant Services	Creates auto attendant services for each customer, which can then be managed by the customer administrator within each location.
Console Services	Creates console services for each customer, which can then be managed by the customer administrator within each location.
Directory Services	Creates directory services for each customer, which can then be managed by the customer administrator within each location.
Conference Services	Creates conference services for each customer, which can then be managed by the customer administrator within each location.
Media Services	Creates media services for each customer, which can then be managed by the customer administrator within each location.
Phone Inventory	Creates, moves, and deletes phones within or between customer locations.
Contact Centre Service	Creates contact centre services for each customer.

General Tools

The **General Tools** option provides access to the following menu choices:

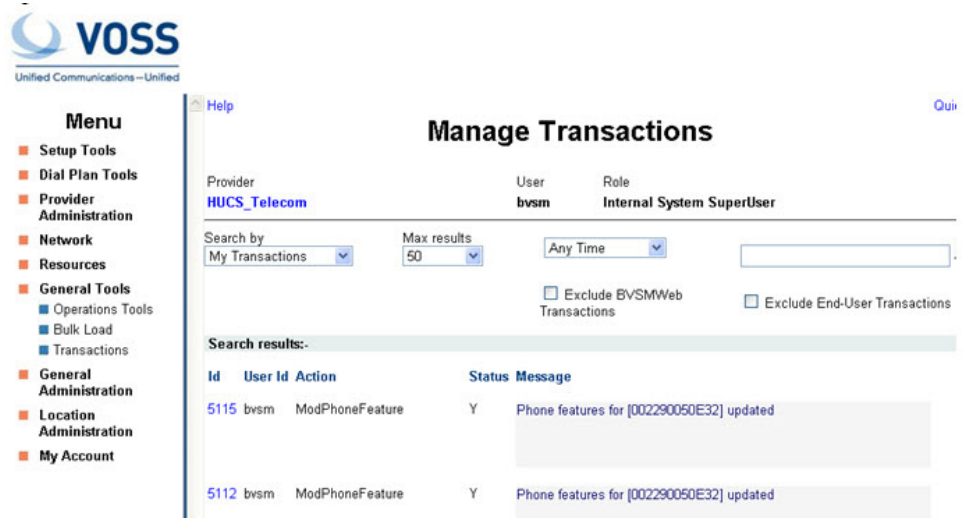
- **Operations Tools**
- **Bulk Load**

- **Transactions**

For detailed information about using the **Bulk Load** option for initial configuration of the Hosted UCS platform components, refer to Chapter 5, “Configuring Hosted UCS Components.”

When you select the **General Tools** option on the VisionOSS menu, the system displays the screen shown in [Figure 3-6](#).

Figure 3-6 General Tools Menu



[Figure 3-6](#) summarizes the function of each option provided on the General Tools menu.

Table 3-6 General Tools Options

Option	Description
Operations Tools	Automates multi-step processes. The operations tools are also used for testing purposes when a 360-degree test needs to be performed, such as adding a location, deleting a location, and then adding the same location again. These options are also useful for refreshing a location when adding a new dial plan to legacy locations.

Table 3-6 General Tools Options (continued)

Option	Description
Bulk Load	<p>Loads bulk data into USM using Excel spreadsheets.</p> <p>Providers must load bulk data, including network elements, channels, customers, users, and CPE resources, before services can be delivered.</p> <p>Loading bulk data speeds up platform configuration, especially during the initial phases or with a large amount of data.</p>
Transactions	<p>Provides a chronological record of failed and successful activities associated with each user.</p> <p>This feature is useful for troubleshooting USM and for providing an audit trail for administration moves, adds, and changes.</p>

General Administration

The **General Administration** option lets you navigate between locations, divisions, customers, and resellers. However, the Status menu provides a faster means of changing levels when you are working in the Location Administration menu.

You cannot jump to a lower level because USM does not know which branch of the customer tree you will follow. The best way to jump straight to a location is by selecting the Location key under the **General Administration** option and step down the levels from reseller, customer, and division. This is faster than selecting one level at a time.

When you select the **General Administration** option on the VisionOSS menu, the system displays the screen shown in Figure 3-7.

Figure 3-7 General Administration Menu Options

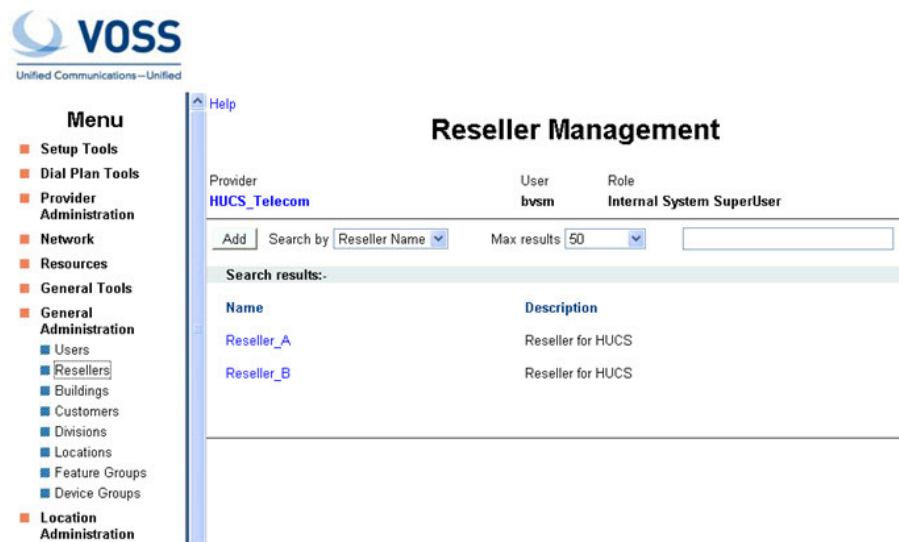


Table 3-7 summarizes the function of each option provided on the General Administration menu.

Table 3-7 General Administration Options

Option	Description
Users	Manage users (repeated in Location Administration).
Resellers	Manage channels (provider administrator only).
Buildings	Manage building (building administrator only).
Customers	Manage customers (reseller administrator only).
Divisions	Manage divisions (customer administrator only).
Locations	Manage locations (division administrator only).
Feature Groups	Manage feature groups (managed at customer level).
Device Groups	Manage device Groups. Device Groups are an optional administrative sub-division of Locations. They are used for defining a set of resources within a location

Location Administration

The **Location Administration** option contains links for the main administrative processes. When you select the **Location Administration** option on the VisionOSS menu, the system displays the screen shown in [Figure 3-8](#).

Figure 3-8 Location Administration Menu Options

The screenshot shows the VisionOSS User Management interface. The left sidebar contains a navigation menu with the following items: Network, Resources, General Tools, General Administration, Location Administration (expanded), Switchboards, Telephony, Hunt Groups, Number Groups, Pickup Groups, Users, Phone Inventory, Phone Registration, Phone Management, Analogue Line Mgt., MoH Track Mgt., Internal Numbers, External Numbers, and My Account. The main content area is titled 'User Management' and includes a search bar with 'Add', 'Search by Username', and 'Max results 50'. Below the search bar, there is a table of search results:

Username	Name	Role	Device Group	Associated Phone(s)	Voicemail Conferencing
emuser1	End User 1402A1loc1	enduser	N/A	N/A	Add N/A
locadmin	1402A1loc1 Administrator	locationadmin	N/A	N/A	N/A N/A

[Table 3-8](#) summarizes the function of each option provided on the Location Administration menu.

Table 3-8 Location Administration Options

Option	Description
Switchboards	Add and manage switchboards.
Telephony	Manage telephony services.

Table 3-8 Location Administration Options (continued)

Option	Description
Hunt Groups	Add and manage hunt groups.
Number Groups	Add and manage number groups.
Pickup Groups	Add and manage pickup groups.
Users	Add, delete, and modify users.
Phone Inventory	Add, move, register, associate, and delete phones.
Phone Registration	Register and un-register phones.
Phone Management	Manage phones.
Analogue Line Mgt	Manage analog lines.
MOH Track Mgt.	Add and manage Music on Hold tracks.
Internal Numbers	Manage internal numbers.
External Numbers	Manage external (DDI) numbers.

My Account

The Account Settings page is used to manage administrator details, passwords and preferences.



Note

The My Account section of VOSS can only be used to view and modify the details of the administrator that is currently logged in.

When the user selects the **My Account** option on the VisionOSS menu, the system displays the screen shown in [Figure 3-9](#).

Figure 3-9 Self Care Menu Options

The screenshot shows the VOSS (Unified Communications - Unified) interface. On the left is a 'Menu' with options: Setup Tools, Dial Plan Tools, Provider Administration, Network, Resources, General Tools, General Administration, Location Administration, My Account (selected), and Account settings. Below the menu are 'Help Index' and 'Logout' links. The main area is titled 'Account Details' and displays the following information:

Provider	Reseller	Customer	Division	Location	User	Role
HUCS_Telecom	Reseller_A	Customer_A	Marketing_A	1402A1loc1	bvsm	Internal System SuperUser

Below this is a 'Details:-' section with the following fields:

- Username: bvsm (with 'Preferences' and 'Change Password' buttons)
- First name: bvsm
- Middle name: (empty)
- Last name: (empty)
- Email address: root@localhost
- Ex directory:
- Preferred country: United Kingdom (dropdown)

A 'Modify' button is located at the bottom left of the details section. A vertical reference number '249760' is visible on the right edge of the screenshot.

[Table 3-9](#) summarizes the function of each option provided on the My Account menu.

Table 3-9 My Account *Options*

Option	Description
Account Settings	The Account Settings page is used to manage administrator details, passwords and preferences.
Directory	Displays the customer user accounts and associated phone numbers, but does not allow these details to be modified. When a user account is added to the system, BVSM automatically adds it to the directory.

