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Vocera Messaging Platform Administration Guide

Version 5.3.3

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Contents

About the Vocera Messaging Platform

The Vocera Messaging Platform (VMP) provides an enterprise messaging solution designed to address the unique communication challenges of healthcare. Users can leverage the communication capabilities of VMP from the Vocera Collaboration Suite, Vocera Secure Texting, the VMP Web Console, and the Vocera badge and Smartbadge.

The VMP platform runs on Windows Server and integrates with Windows SQL Server. User data can be imported from Active Directory, Vocera Voice Server, Vocera Secure Texting, SQL, or Excel/CSV data files.

VMP administrators perform initial system configuration and ongoing system administration. Initial configuration tasks are managed from the VMP Enterprise Manager and the VMP Administrator. Administrative tasks are also managed from the VMP Web Console.

Integration Options

The Vocera Messaging Platform (VMP) runs on Windows Server and integrates with other server systems.

Table 1: Integration options

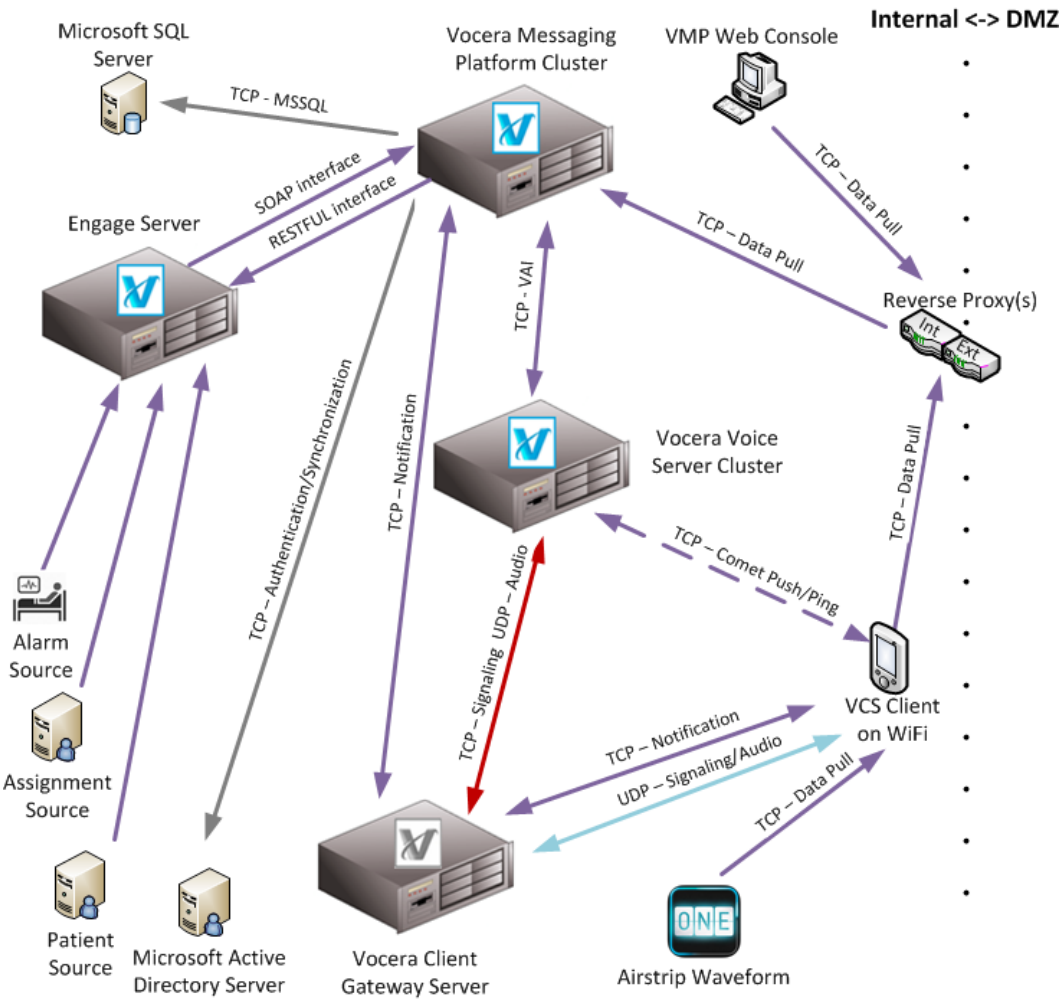
System	Integration Details
Active Directory Server	The VMP Server uses Active Directory to synchronize domain users with the VMP Administrator.
SQL Server	The VMP Server uses SQL Server to store the system data in a secure database. Users and Contacts can also be imported from an SQL database. Vocera **highly** recommends that you create a unique instance on the SQL Server to house the VMP database. This ensures that resources can be assigned as specified in the Vocera Messaging Platform Server Sizing Guide.
Apple Push Notification Service (APNS)	The VMP Server integrates with APNS when Apple iOS devices are not connected directly to the Vocera infrastructure to receive direct push notifications. The APNS Servers are not hosted within a network. The VMP Server connects to the APNS network through HTTPS.
Firebase Cloud Messaging Service (FCM)	The VMP Server integrates with FCM when Google Android devices are not connected directly to the Vocera infrastructure to receive direct push notifications. The FCM Servers are not hosted within a network. The VMP Server connects to the FCM network through HTTPS.
Vocera Voice Server	The VMP Server integrates with the Vocera Voice Server through a direct network connection.
Engage Platform	The VMP Server can obtain patient information through the Engage Patient Context Adapter, and can receive alarms through the VMP SOAP interface. These alarms are sent to client devices and the VMP Web Console as notifications.

VMP Architecture

The VMP architecture indicates how the VMP Server is connected to other Vocera servers, to client devices, and to other servers.

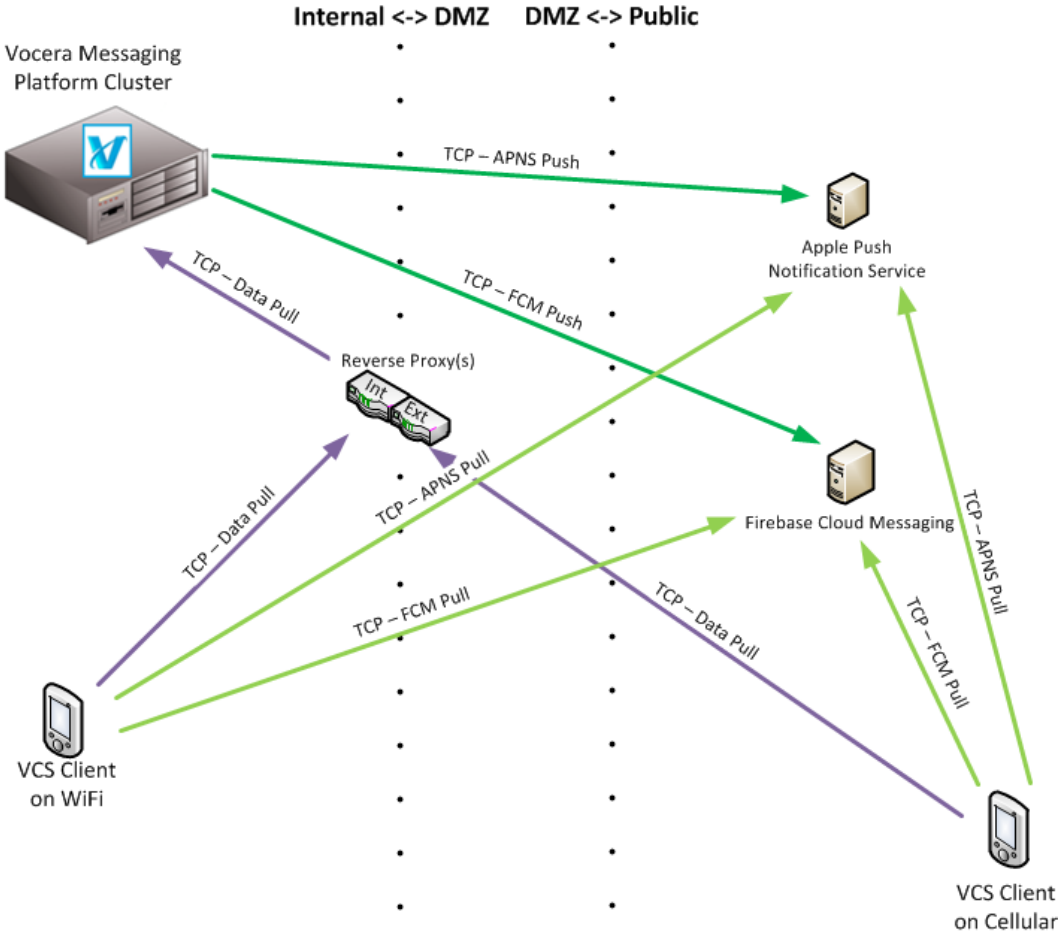
The following diagram shows how the VMP Server connects to other servers inside your network firewall. As shown in the diagram, a reverse proxy can be used to communicate with entities outside of your corporate firewall.

For information on the ports that these connnections use, see Port Requirements on page 11.



Note: In older versions of VMP, devices running the Vocera Collaboration Suite app communicated with the Vocera Voice Server using a Comet connection. This connection option is still available for backward compatibility, but has been replaced by a TCP-based connection to the Vocera Client Gateway server. See Configuring VCS to Use Vocera Client Gateway on page 78 for more details.

When the Vocera Collaboration Suite app is being used outside of your corporate firewall, it communicates with the Apple Push Notification Service (APNS) if you are using the Apple iOS operating system, or with the Firebase Cloud Messaging service (FCM) if you are using the Android operating system. The diagram below shows the relationships between the VMP Server, VCS, APNS, and FCM.



Note: For more information on security and the interface to APNS and FCM, see iOS and Android Security on page 88.

The VMP Server can also use the Vocera Voice Server to communicate with Vocera badges, or to interact with the Vocera SIP Telephony Gateway when VCS apps are making cellular calls.

VMP also has a SOAP-based API that external systems can use to send messages and receive delivery statuses and responses to the messages. See the Vocera Messaging Platform API Guide for more information on this API, and also see SOAP Connections on page 109 for information on how to integrate an inbound SOAP connection to the VMP Server.

VMP also supports WCTP as an inbound and outbound protocol to allow third-party systems to initiate and receive messages. See WCTP Connections on page 104 for more details.

Getting Started with VMP

Learn about VMP Server system requirements, and learn how to install the VMP Server.

For detailed information on operating system requirements, MS SQL Server requirements, and more, see the >Vocera Messaging Platform Server Sizing Guide.

VMP Server Requirements

Before you begin your installation, make sure that the VMP installation server is running with at least 4 GB RAM and 120 GB HDD and meets the requirements described here.

Note: The VMP Server can be installed on a virtualized server running VMWare. For details about virtualization, see the Vocera Messaging Platform Server Sizing Guide.

If you are using an SSL connection, the VMP Server must validate the SSL certificate using the existing Windows mechanisms. See SSL Certificate Validation on page 19 for more details.

Note: If your devices are using VCS 3.4 or later for iOS, you must have SSL enabled on the VMP Server. See VCS SSL Requirements on page 81 for more details.

Network Access Requirements

Prior to installation, make sure that the minimum network access requirements are met.

Table 2: Network access requirements

Requirement	Details
HTTPS connection	SMS message aggregation requires an outbound HTTPS connection.
IIS Service	The IIS World Wide Web Publishing Service must not be running on port 80 or 443.

VMP Software Requirements

To install and deploy the VMP Server, you must have the required software.

- The VMP installation files and license file.
- An SSL certificate if needed. (SSL is recommended, and is required if using iOS devices with VCS.)
- If you are working with the Vocera Voice Server, version 4.4.3 or later is required. If your organization is using Vocera Voice Server departments and synchronizing them with VMP groups, Vocera Voice Server 5.2 or later must be installed.
- .NET Framework 4.7.1 must be installed.

If you do not have these items ready for your installation, speak with your Vocera services representative before continuing with the installation.

VMP System Account Requirements

During the VMP Server installation, two system accounts are created on the associated SQL Server: **wicapplication** and **wicauth**.

- **wicapplication** is the VMP system application account.
- **wicauth** is the user authentication account.

The accounts are created automatically during platform installation. The installation wizard prompts you for the user ID and password that you use to log in to the SQL server.

Port Requirements

To install VMP, you must configure a firewall or proxy firewall.

This firewall or proxy firewall must be configured with the following conditions:
- Support for resolving Internet addresses that use DNS
- A firewall proxy that does not change incoming or outgoing data (transparent proxy)

To allow communication between VMP devices and services, configure communication protocols and port numbers on the firewall and within the organization network environment.

Vocera Messaging Platform IP Ports

This is the complete list of port numbers that must be open for Vocera Messaging Platform communication.

The following table describes the protocol and port requirements for the VMP Server.

Port Number	Protocol	Source	Destination	Direction
1433	TCP	VMP Server	Microsoft SQL Server	Outbound
80 and 443 (for SSL)	TCP	VMP Web Console Users' computers	VMP Server	Outbound
389 and 636 (for SSL)	TCP	VMP Server	Microsoft Active Directory Server	Outbound
5008	TCP	VMP Server	Vocera Client Gateway Server [1]	Bidirectional

The following table describes the protocol and port requirements for Apple iOS device messaging.

Port Number	Protocol	Source	Destination	Direction
443	HTTP/2	VMP Server	Apple Push Notification Service (APNS), api.push.apple.com	Outbound
5223[2]	TCP	Apple iOS devices using Wi-Fi connection	Apple Push Notification Service (APNS), gateway.push.apple.com	Outbound

[1] For versions of VMP earlier than version 5.5, the **Use VCG for VCS client connection management** option must be set in the VMP Administrator.

[2] Apple iOS devices can use port 443 as a fallback if this port is not working.

The following table describes the protocol and port requirements for Firebase Cloud Messaging (FCM) for Android devices.

Port Number	Protocol	Source	Destination	Direction
443	TCP	VMP Server	Firebase Cloud Messaging (FCM), fcm.googleapis.com	Outbound
5228-5230[3]	TCP	Android devices using Wi-Fi connection	Firebase Cloud Messaging (FCM)	Outbound

The following table describes protocol and port requirements for Simple Network Paging Protocol (SNPP) gateways (using the default port).

Port Number	Protocol	Source	Destination	Direction
444	TCP	VMP Server	SNPP Gateway	Outbound

The following table describes protocol and port requirements for Wireless Communications Transfer Protocol (WCTP) gateways (using default ports).

Port Number	Protocol	Source	Destination	Direction
80 or 443	TCP	VMP Server	WCTP Gateway	Bidirectional

The following table describes protocol and port requirements for Vocera Secure Texting.

Port Number	Protocol	Source	Destination	Direction
443	TCP	VMP Server	VST Server	Bidirectional

The following table describes protocol and port requirements for the Engage server (using default ports).

Port Number	Protocol	Source	Destination	Direction
80 or 443	REST	VMP Server	Engage server	Outbound

The following table lists the protocol and port requirements for email.

Port Number	Protocol	Source	Destination	Direction
25 or 465 (for secure SMTP)	SMTP	VMP Server	SMTP	Bidirectional
143 or 993 (for secure IMAP)	IMAP	VMP Server	IMAP	Bidirectional
110	POP3	VMP Server	POP3	Bidirectional
80 or 443 (for secure EWS)	Exchange Web Services (EWS)	VMP Server	EWS	Bidirectional

The following table lists the protocol and port requirements for Vocera Collaboration Suite when on premises.

Port Number	Protocol	Source	Destination	Direction
443	TCP	Vocera Collaboration Suite	VMP	Bidirectional

[3] Your firewall must accept outgoing connections to all IP addresses contained in the IP blocks listed in Google's ASN of 15169. Android devices running version 4.3 or later can use port 443 as a fallback if the other three ports are not working.

Port Number	Protocol	Source	Destination	Direction
5060(SIP)	TCP[4]	VCS	Vocera Client Gateway signaling	Bidirectional
5888-5889 (VOMO)	UDP	VCS	Vocera Client Gateway signaling	Bidirectional
7700-8467 (iPhone)	UDP	VCS	Vocera Client Gateway audio	Bidirectional
7700-8467, 32768-65536 (Android)	UDP	VCS	Vocera Client Gateway audio	Bidirectional
8080[5]	TCP	VCS	Vocera Voice Server Ping/Comet connection [6]	Bidirectional
80 or 443 [7]	TCP	VCS	Vocera Voice Server Ping/Comet connection [8]	Bidirectional

This table lists the protocol and port requirements for Vocera Collaboration Suite when off premises.

Port Number	Protocol	Source	Destination	Direction
443	TCP	Vocera Collaboration Suite	VMP	Bidirectional

Installing the VMP Server

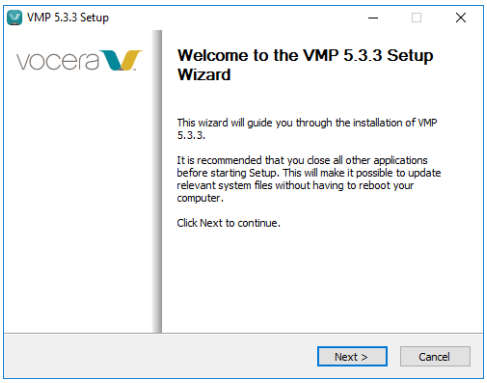
VMP is shipped with a setup file that enables you to install the VMP Server. Before you can install this setup file, you must disable the IIS World Wide Web Publishing Service and you must have .NET Framework 4.7.1 installed.

Note: If you are using an SSL connection, the VMP Server must validate the SSL certificate using the existing Windows mechanisms. See SSL Certificate Validation on page 19 for more details.

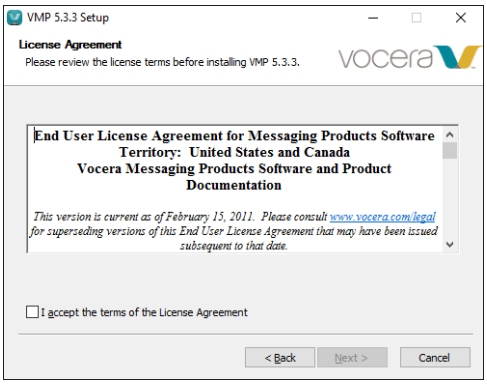
1. Use the following steps to turn off the IIS World Wide Web Publishing Service. This step ensures that port 80 is open for the VMP Web Console.
   a. Open the **Windows Services** application:
      Windows > Start > Administrative Tools > Services
   b. Click to select **World Wide Web Publishing Service**.
   c. Right-click and select **Properties**.
   d. From the **Startup type** dropdown list, select **Disabled**.
   e. Click **Stop**, and click **Apply**.
2. Execute the VMP setup file on the VMP installation server.

[4] For versions of VMP earlier than version 5.5, if the **Use VCG for VCS client connection management** option is not set, the protocol is UDP.
[5] This is used if the **Enable Enhanced Voice Server NIO Tomcat Feature** option is set in the VMP Administrator.
[6] In versions of VMP earlier than version 5.5, this is used if the **Use VCG for VCS client connection management** option is not set in the VMP Administrator.
[7] This is used if the **Enable Enhanced Voice Server NIO Tomcat Feature** option is not set in the VMP Administrator.
[8] In versions of VMP earlier than version 5.5, this is used if the **Use VCG for VCS client connection management** option is not set in the VMP Administrator.

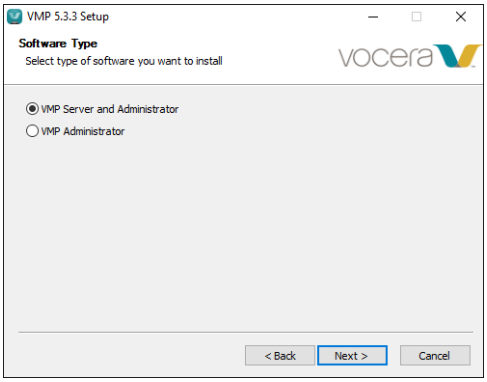
3. In the Welcome screen, click **Next**.



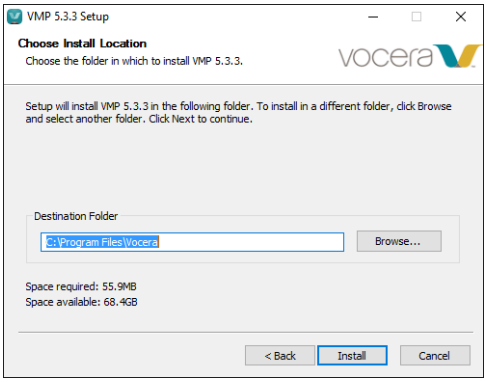
4. Accept the **License Agreement**, and click **Next**.



5. In the **Software Type** dialog, select **VMP Server and Administrator**, and click **Next**.

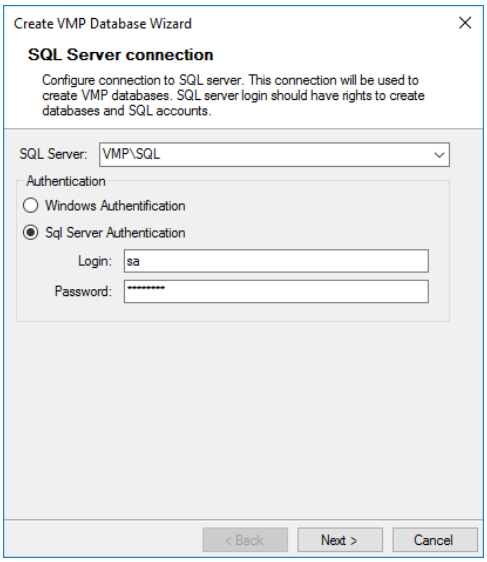


6. In the **Destination Folder** field, Vocera recommends that you use the default destination folder provided. To use a different destination folder, type or browse for the folder in which the VMP Server is to be installed, and click **Install**. You may need to wait a few moments while the installation process initializes and copies files.



7. In the **Create VMP Database Wizard** dialog, do the following:
   a. In the **SQL Server** field, enter the SQL Server VMP instance name using the format of **ServerName\InstanceName**.

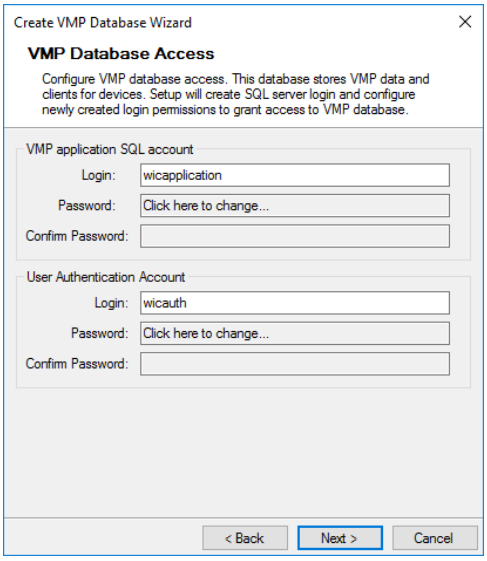
      Tip: Vocera recommends that you type the name of the Server and instance name instead of using the dropdown list.



   b. Select the **Sql Server Authentication** radio button.
   c. Enter the server authentication **Login** and **Password**.
   d. Click **Next**.

      Note: For details about the SQL Server requirements, see the Vocera Messaging Platform Server Sizing Guide.

8. Enter a password for the **wicapplication** and **wicauth** accounts using the following rules, and click **Next**.



Passwords must be a minimum of 7 characters and include at least three of the following:

- Uppercase letter
- Lowercase letter
- Symbol and/or number

Note: Do not change the system account names.

9. In the **VMP system Settings** dialog, enter the VMP Server public and internal host information and the SMTP settings as shown in the tables below.

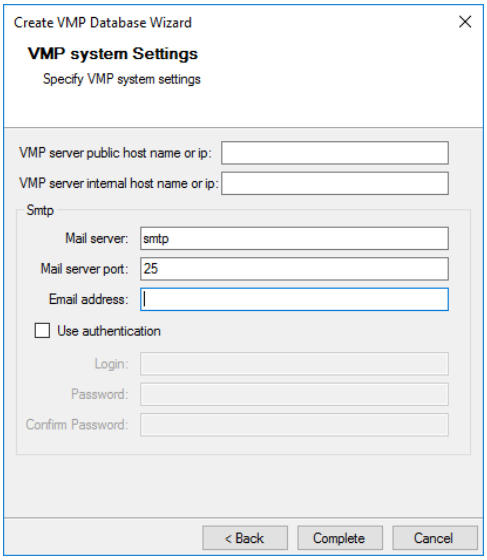


Table 3: VMP Server Host Name / IP settings

Setting	Description
Vocera Messaging Server Public Host Name / IP	The IP address or fully-qualified domain name (friendly DNS name) that is used to reach VMP when sending email registrations to end-users.
Vocera Messaging Server Internal Host Name / IP	The IP address or fully-qualified domain name (friendly DNS name) that V5000 devices use to reach VMP and the VMP Administrator uses to retrieve the list of users from a Vocera Voice Server group.

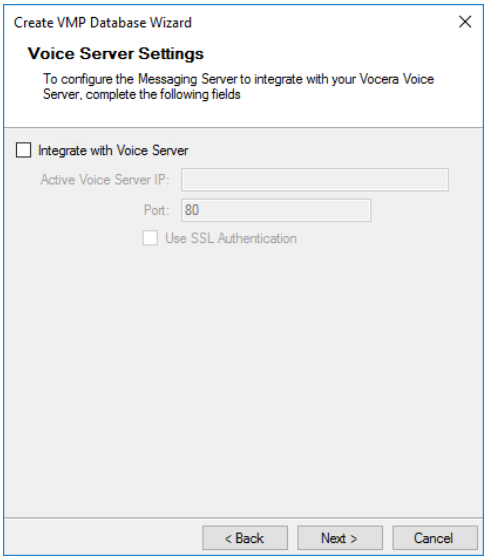
Table 4: VMP SMTP settings

Setting	Description
Mail Server	The Exchange server name or IP address.
Mail Server Port	The port on which the Exchange server resides.
Email Address	The email address for sending out installation communications and receiving server status updates.
Use Authentication	Enable the **Use Authentication** checkbox and enter the credentials, as these credentials are required to access the Exchange server.

Click **Complete**.

Tip: Use the DNS name for the external host name to make IP scheme updates easier. If configuring a device manually, use an IP address.

10. If the VMP Server is using a Vocera Voice Server:

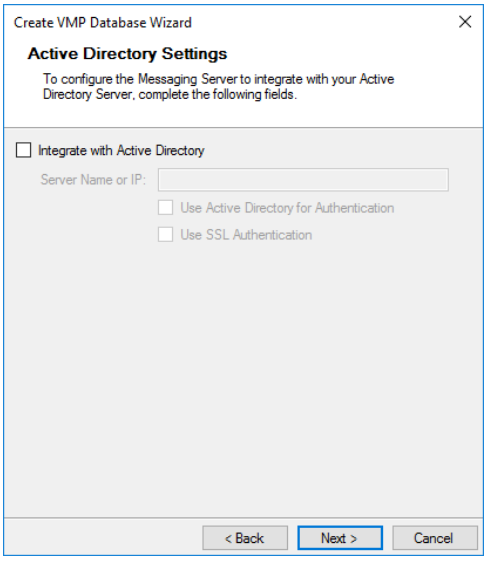


a. Select **Integrate with Voice Server**.
b. In the **Active Voice Server IP** field, type the IP address of the Voice server that you want to use. If you are using a clustered environment, ensure that the IP address of the active Voice server is listed first.
c. In the **Port** field, specify the port number that the Voice server is using. In most environments, you can use the default port number that is provided in the installer.
d. Select **Use SSL Authentication** if you are using SSL when communicating with the Voice server.

Click **Next**. If you have enabled integration with a Vocera Voice Server, the VMP installer checks that the connection to the Vocera Voice Server is working properly.

Note: To fully integrate the VMP Server with the Vocera Voice Server, you must configure the Vocera Voice Server for use with VMP and synchronize the Vocera Voice Server with the VMP Server. See Vocera Voice Server Integration on page 31 and Importing Users From Vocera Voice Server on page 50 for more details.

11. If the VMP Server is using an Active Directory server:

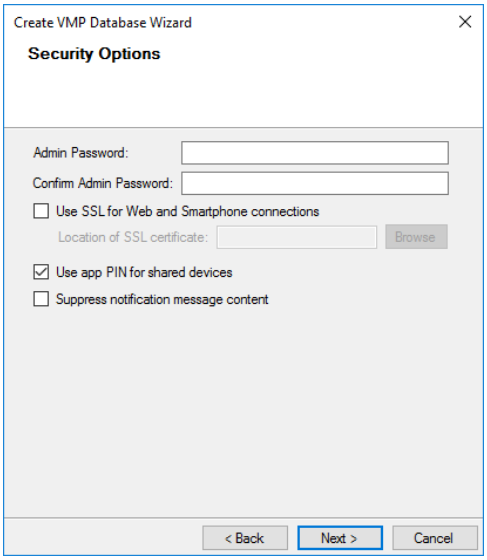


a. Select **Integrate with Active Directory**.
b. In the **Server Name or IP** field, type the domain name or the IP address of the Active Directory server that you want to use.
c. Select **Use Active Directory for Authentication** if you want to authenticate using Active Directory usernames and passwords. The default is to use VMP Server authentication.
d. Select **Use SSL Authentication** if you are using SSL when communicating with the Active Directory server.

Click **Next**. If you have enabled integration with an Active Directory server, the VMP installer checks that the connection to the Active Directory server is working properly.

Note: To fully integrate the VMP Server with the Active Directory server, you must synchronize the Active Directory server with the VMP Server. See Importing Users From Active Directory on page 52 for more details.

12. In the Security Options window:



a. In the **Admin Password** field, type the password to use for the default administrator account.
b. in the **Confirm Admin Password** field, retype this password.
c. Select **Enforce SSL for Web and Smartphone connections** to enforce the use of secure connections.

d. If **Use SSL for Web and Smartphone connections** has been selected, in the **Location of SSL certificate** field, specify the location of the SSL certificate to use with this installation. Click **Browse** to display the certificates that are available to you.

e. Select **Use app PIN for shared devices** if you want to force users to supply a PIN when accessing this server from the Vocera Collaboration Suite. This sets the **Enforce App PIN** configuration option to **SHARED**. If this checkbox is not selected, **Enforce App PIN** is set to **OFF**.

Note: You can override this specification for any individual user. See Editing User Information on page 122 for more details.

f. You do not need to select the **Suppress notification message content** option, as message content is now no longer displayed in notifications.

g. Click **Next** to continue.

Tip: Vocera recommends that you use SSL to transmit information. If you are using VMP to transmit confidential patient information, your jurisdiction may require by law that this information be transmitted securely.

13. The installer creates the VMP databases on the SQL server. When the script is complete, click **OK**.
14. This release opens the VMP Enterprise Manager after the database script is complete. Normally, you do not need to make any changes to the VMP configuration at this point. See VMP Enterprise Manager Configuration Options on page 265 for details on the VMP Enterprise Manager configuration options.
15. Close the application to complete the installation process. The installer VMP now starts the Vocera Data Exchange service (referred to as WDE here).
16. Click **Finish** to close the installer.
17. The VMP Server is now installed. Confirm a good installation by opening a supported Web browser and pointing to the server URL. If VMP is installed correctly, the VMP Web Console opens at the login page. For information on supported Web browsers, see Browser Requirements on page 193.

SSL Certificate Validation

The VMP Server must validate any SSL certificate using the existing Windows mechanisms before it will allow an HTTPS connection to a remote system.

The VMP Server now enforces the following requirements:

- The certificate subject name must match the domain name used for the connection.
- Self-signed certificates must be in the VMP Server's Windows key store.
- If you are using your own internal certificate authority to sign the certificate, the internal CA's certificate must be in the VMP Server's Windows key store.
- If the certificate uses an IP address, the connection configuration must use an IP address. Similarly, if the certificate uses a DNS name, the connection configuration must use the same DNS name.

This certificate requirement affects certificates defined for use on the Vocera Voice Server.

Note: Vocera Collaboration Suite clients and VMP Web Console clients are not affected by this behavior.

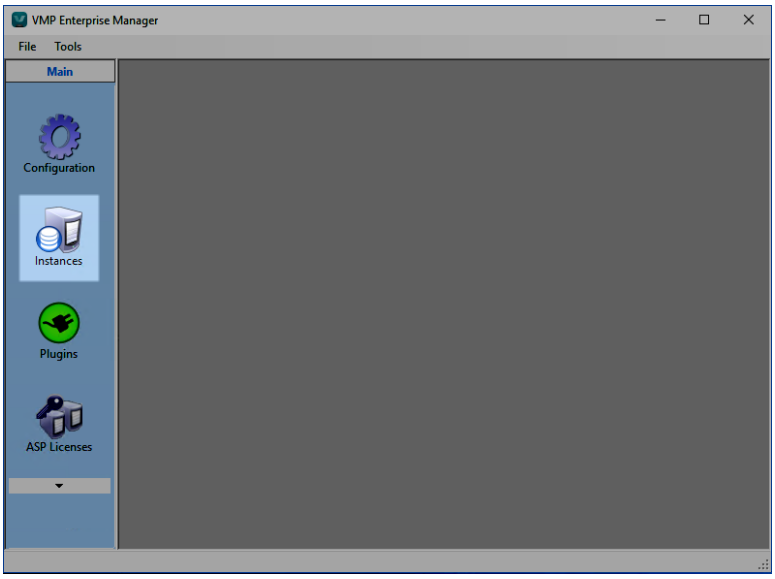
Configuring the VMP License

Before you can use the VMP Server, you must install a valid license. You can do this from the VMP Enterprise Manager.

1. Start the VMP Enterprise Manager application:

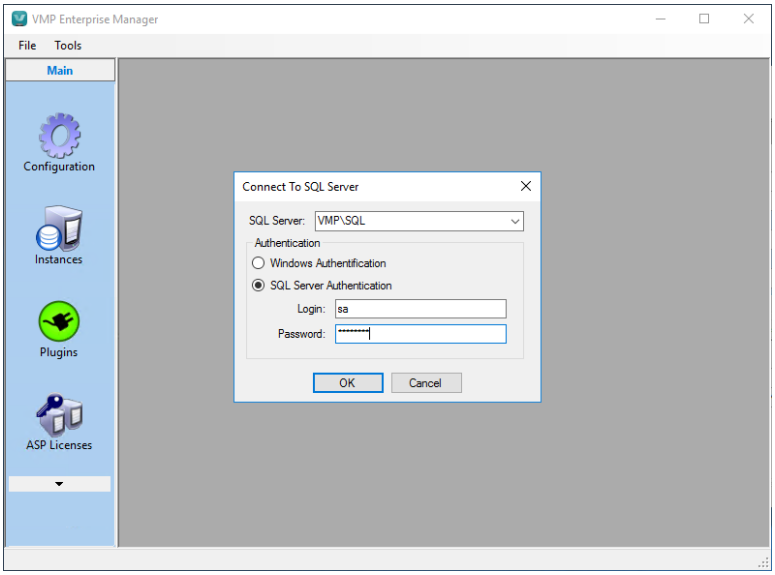
All Programs > VMP > VMP Enterprise Manager

2. Click the **Instances** icon.



The Connect To SQL Server dialog box appears.

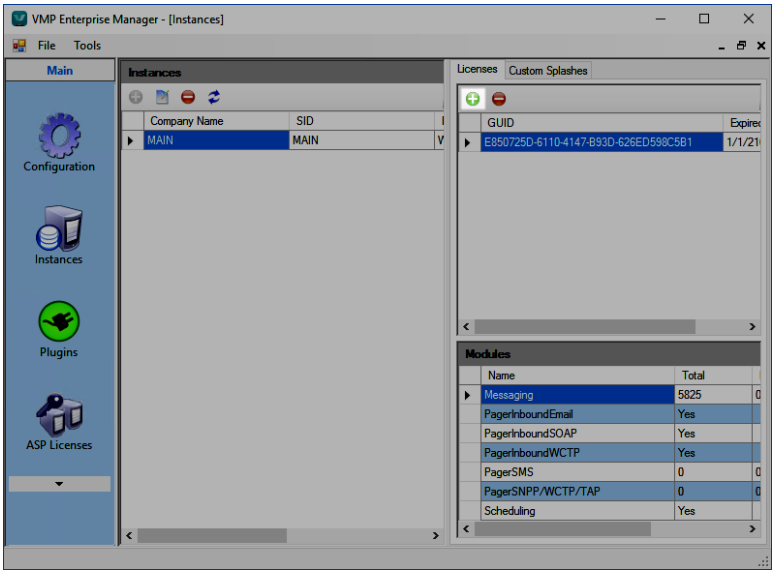
3. Type the SQL Server administrator credentials.



The Instances window appears.

Note: For more information about the SQL Server credential requirements, see the Vocera Messaging Platform Server Sizing Guide.

4. In the **Licenses** tab, select the **Install License** button.



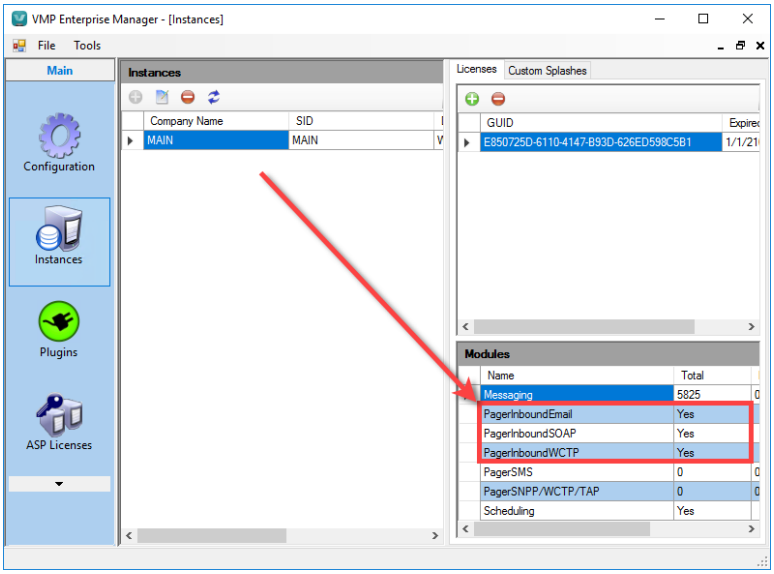
5. Navigate to the license file and click **Open**.

Note: The license file is provided by the Vocera order management team. The file is distributed as a zip file. Extract the license file before you begin the installation.

Note that the license file is changed to an XML format. See The XML License Key Format on page 21 for more details.

6. Click **OK** to close the install dialog.

The Modules panel displays the details of your license. In particular, note that the **PagerInboundEmail**, **PagerInboundSOAP**, and **PagerInboundWCTP** fields specify whether your VMP Server is licensed to use any of the inbound Email, SOAP, and WCTP connections, respectively.



These fields are set to **Yes** only if your license has enabled them. See Inbound Integration on page 104 for more information on inbound connections.

The XML License Key Format

License keys for VMP are now provided in a file in XML format.

Here's how the XML license key works:

- This license key file is readable in an XML editor. License keys in the old WLC format are not.
- In the XML license key file, a Messaging module is defined. This replaces the Alert, Chat, Contacts, and Content modules in the old WLC license key file.
- Only one XML license key file can be defined at any time for a specific VMP installation.
- The XML license key file cannot co-exist with an old WLC license key file. When a XML license key file is imported, all old license keys are removed. Once an XML license key file has been imported, an old WLC license key file cannot be used.

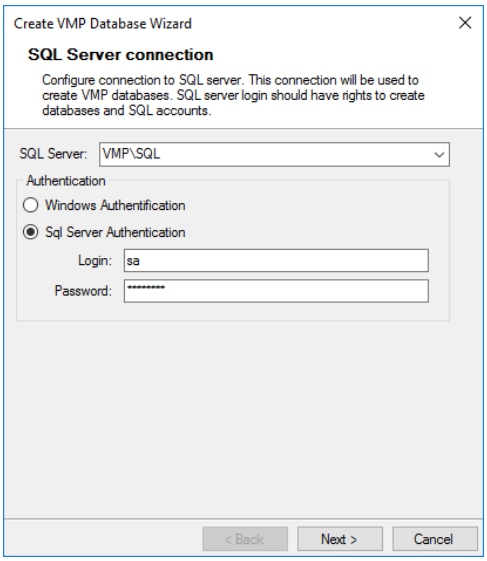
Updating the VMP Server

If you have previously installed the VMP Server, you can use the VMP setup file to upgrade your installation to the latest version.

Note: For best results, save a backup of the contents of the folder in which the VMP Server is installed (by default, this is `\Program Files\Vocera`), and save a copy of the WICMASTER SQL database.

If you are using an SSL connection, the VMP Server must validate the SSL certificate using the existing Windows mechanisms. See SSL Certificate Validation on page 19 for more details.

1. Stop the Vocera Data Exchange service. See Starting and Stopping the VMP Server on page 26 for details on how to do this.
2. Execute the updated VMP setup file on the VMP installation server.
3. In the Welcome screen, click **Next**.
4. Accept the **License Agreement**, and click **Next**.
5. In the **Software Type** dialog, select **VMP Server and Administrator**, and click **Next**.
6. Accept the existing **Destination Folder** and click **Install**.
7. In the **Create VMP Database Wizard** dialog, do the following:
   a. Ensure that the **SQL Server** field contains the SQL instance name that the VMP Server is using.



   b. Select the **Sql Server Authentication** radio button.
   c. Enter the server authentication **Login** and **Password**.
   d. Click **Next**.

Note: For details about the SQL Server requirements, see the Vocera Messaging Platform Server Sizing Guide.

8. Click **OK** to confirm that the existing database will be upgraded.
9. The database wizard now enables you to change the SQL login names that VMP uses. You do not normally need to change these login names. Click **Next**.
10. The installer will upgrade the VMP databases on the SQL server. When the script is complete, click **OK**.
11. If the VMP Enterprise Manager opens after the database script is complete, close the application to complete the installation process. Click **Finish** to close the installer.
12. Restart the server.
13. The VMP Server is now updated. Confirm a good installation by opening a supported Web browser and pointing to the server URL. If VMP is installed correctly, the VMP Web Console opens.

VMP Cluster Installation

To ensure maximum reliability, you can set up a cluster and install the VMP Server on each node of the cluster.

For more information on using the Vocera Messaging Platform in a clustered environment, see High Availability and VMP on page 96.

Installing the VMP Server on the First Node of a Cluster

When installing the VMP Server in a clustered environment, the first step is to install on the first node of the cluster.

1. Perform a normal installation of the VMP Server using the steps in Installing the VMP Server on page 13.
2. Test your installation to ensure the server is working properly.
3. Copy the server configuration file, `WIC.config`, to a folder that the second node of the cluster can access.

Note: The `WIC.config` file is located in the VMP installation folder. By default, this is `\Program Files\Vocera\WIC`.

Installing the VMP Server on the Second Node of a Cluster

After you have installed the VMP Server on the first node of a cluster, you can use the configuration file from this node when installing on the second node of the cluster.

1. Create the VMP installation folder for the VMP Server. By default, the path is:
   `\Program Files\Vocera\WIC`
2. Locate the copy of the server configuration file, `WIC.config`, that you created when installing the VMP Server on the first node of the cluster. Copy this file to the VMP installation folder that you have just created.
3. Turn off the IIS **World Wide Publishing Service**. See Installing the VMP Server on page 13 for instructions on how to do this.
4. Execute the VMP setup file.
5. Accept the **License Agreement**, and click **Next**.
6. In the **Software Type** dialog, select **VMP Server and Administrator**, and click **Next**.
7. In the **Install Location** field, enter the path of the installation directory into which you copied the `WIC.config` file. Click **Install**.
8. At the **Create VMP Database Wizard** prompt, confirm that the **SQL Server** name is correct.

Note: The SQL Server name is supplied by the `WIC.config` file that you copied.

9. Select the **Sql Server Authentication** radio button, and enter the SA **Login** and **Password**. Click **Next**.
10. When prompted, click **OK** to upgrade the database.
11. Leave the **SQL Account Configuration** page unchanged and click **Next**.

Note: The account configuration information is supplied from the `WIC.config` file that you copied. Do not change this information.

12. Complete the **VMP System Setting** dialog and all subsequent steps in the Create VMP Database Wizard as described in Installing the VMP Server on page 13.

Updating a VMP Cluster

If you are using the VMP Server in a clustered environment and you want to install an update, you must update the VMP Server on each node of the cluster.

1. Stop the Vocera Data Exchange Service on both nodes of the cluster.
2. On the first node of the cluster, follow the instructions in Updating the VMP Server on page 22 to update the VMP Server.
3. The upgrade installer automatically starts the Vocera Data Exchange Service on the first node of the cluster. Stop the Vocera Data Exchange Service on the first node of the cluster before proceeding.
4. On the second node of the cluster, follow the instructions in Updating the VMP Server on page 22 to update the VMP Server.
5. Restart the Vocera Data Exchange Service on both nodes of the cluster.

About the Standalone VMP Administrator

The VMP Administrator can be installed on a server other than the VMP Server. It can also be installed on the administrator's personal computer.

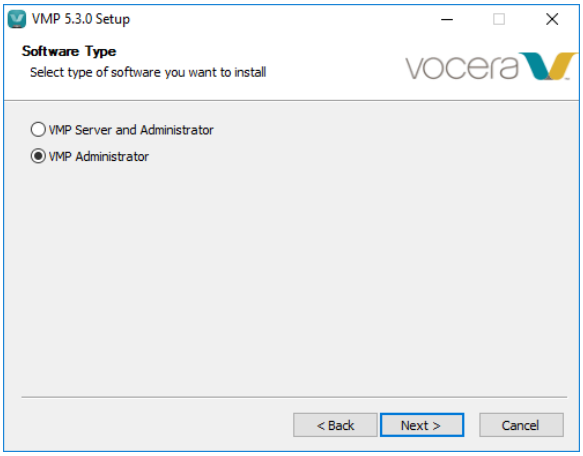
To use the VMP Administrator on a standalone computer, you must have the following:

- The installation disk or folder that you used to install the VMP Server.
- The SQL server name and instance name.
- Remote connections enabled on the SQL server.
- The login password for the **wicauth** account on the SQL server.
- The Active Directory server IP address.

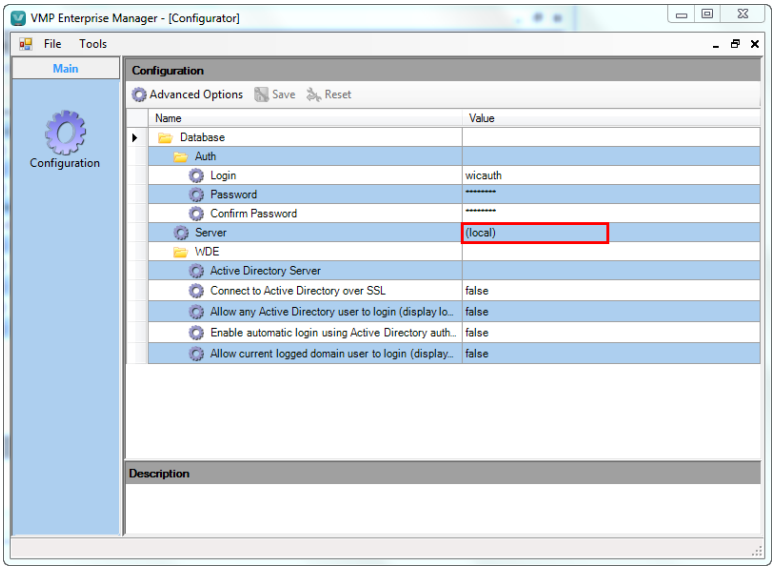
Installing the VMP Administrator on a Standalone Computer

You can use the VMP installation setup file to install the VMP Administrator on a computer other than the one on which the VMP Server is installed.

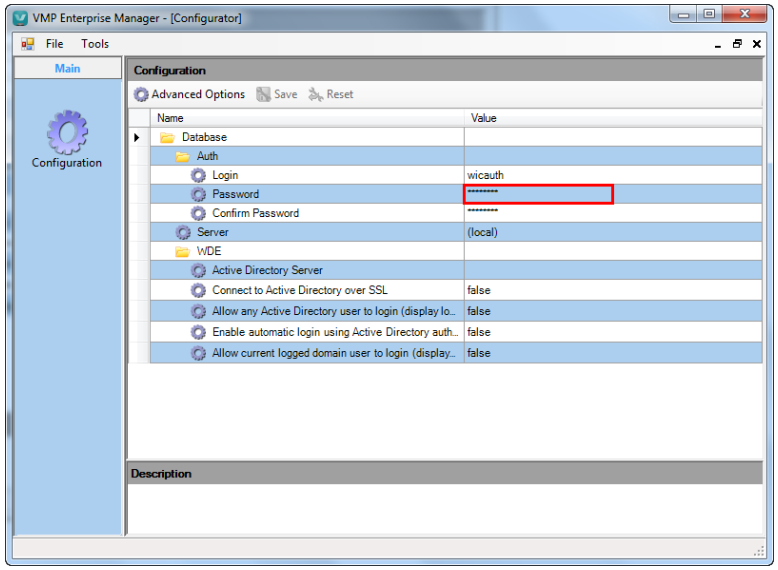
1. Locate the installation disk or folder that was used to install the VMP Server. In this folder, start **Setup.exe** on the desired computer.
2. Accept the license agreement and click **Next**.
3. In the **Software Type** dialog box, select **VMP Administrator**. Click **Next**.



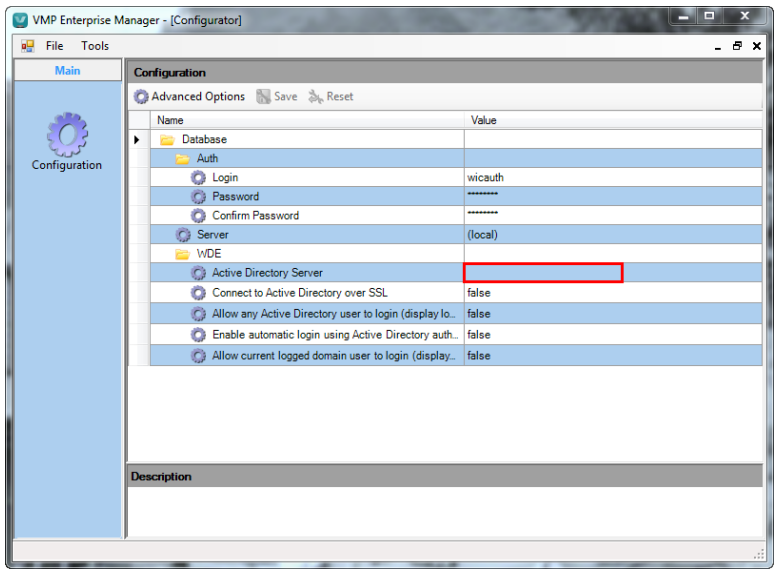
4. Accept the default **Destination Folder**, or click **Browse** to select a custom installation folder, then click **Install**.
5. In the VMP Enterprise Manager **Configuration** window, in the **Server** row, type the location of the SQL server that the VMP Server is using. This consists of the IP address or name of the computer that the SQL server is on, followed by a backslash, followed by the name of the SQL server (for example, `MYCOMPUTERNAME\SQLSERVERNAME`).



6. In the **Auth** section, in the **Password** field, type the password for the `wicauth` account on the SQL server. This account was created when the VMP Server was installed.



7. In the **Confirm Password** field, retype the password for the `wicauth` account.
8. In the **WDE** section, in the **Active Directory Server** row, type the IP address for the Active Directory server.



9. Click **Save** and close the VMP Enterprise Manager.
10. Click **Finish**.

If you are installing a standalone VMP Administrator to work with a running VMP Server, you will need to configure your Vocera Voice Server to add this new installation to the list of recognized VMP IP addresses. See Configuring Vocera Voice Server and VMP on page 31 for details.

Note: If the standalone VMP Administrator does not start properly after you have installed it, ensure that the connection to the SQL server is working properly.

Starting and Stopping the VMP Server

When you install the VMP Server, it is automatically started for you. To restart the server, you must restart the Vocera Data Exchange service.

Like any other service running on Windows, the Vocera Data Exchange service can be stopped, started, or restarted.

1. Open the **Windows Services** application:
   Windows > Start > Administrative Tools > Services
2. Click to select **Vocera Data Exchange Service**.
3. Right-click and select one of the following:
   - **Start**: start the Vocera Data Exchange service.
   - **Stop**: stop the service.
   - **Restart**: restart the service.

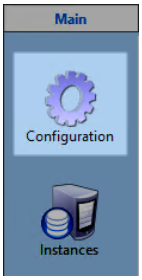
Setting VMP Server Log File Options

The VMP Server log files provide information on actions performed by the VMP Server. This can be useful if an unexpected error occurs. You can control what goes into these log files.

The server log files are stored in the `WIC\Logs` subfolder of the folder in which the VMP Server is installed. By default, this is `C:\Program Files\Vocera\WIC\Logs`.

You can use the VMP Enterprise Manager to specify what message levels are to appear in log files.

1. From the VMP Server, start the VMP Enterprise Manager.
   Start > All Programs > VMP > VMP Enterprise Manager
2. Select **Configuration**.



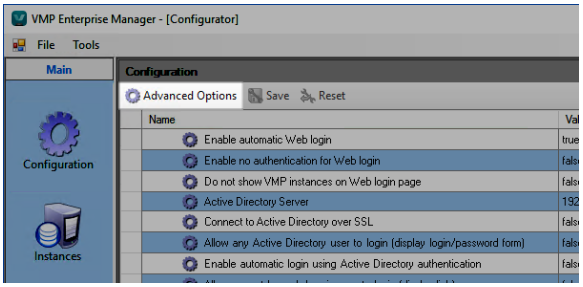
   The Configuration window appears.
3. Scroll down to the **Logging** section.
4. Click in the **Value** column of the **Limit log messages to VMP Log File** field. From the dropdown list that appears, select one of the following:

   Table 5: Logging options

Option	Description
Do not log	Do not write to the log files.
Write all events	Keep a record of all VMP Server events.
Warnings and Errors	Write only warnings and errors to the log files.
Errors	Write only errors to the log files.

5. Click **Save** to save your change.

Important: In a live environment, you should not set **Limit log messages to VMP Log File** to **Write all events** and set **Enable extended communication logging** to **true**, as this may cause patient-sensitive data to be written to the log files. The **Enable extended communication logging** setting appears when you click **Advanced Options**.

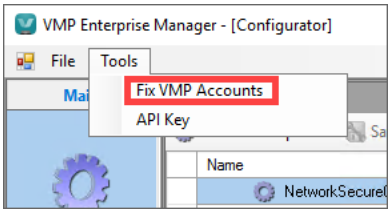


In the event of a failover scenario, the VMP Server log files include a log entry describing the failover to a standby server and the startup details for the new active node. For more information on clustered environments and failover, see High Availability and VMP on page 96.

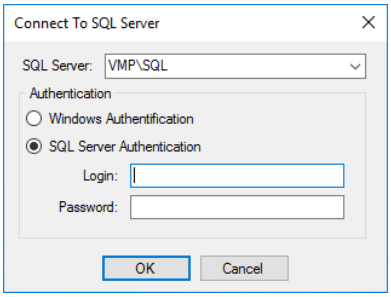
Changing the SQL Accounts for the VMP Server

If the SQL Server database has been updated, and some or all of the SQL accounts that the VMP Server uses have been removed, you can update the VMP Server to use the changed accounts.

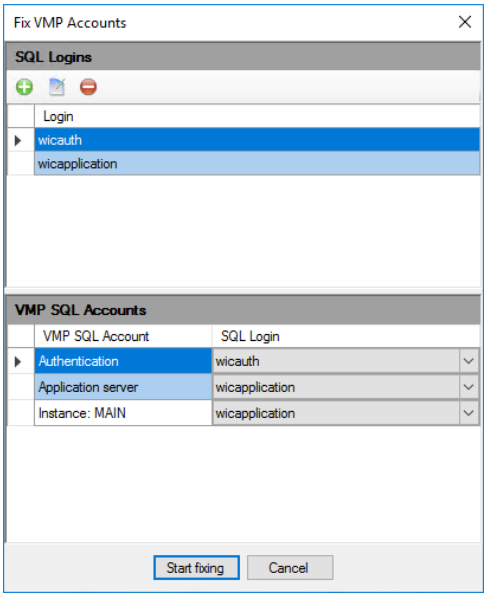
1. Start the VMP Enterprise Manager.
2. From the **Tools** menu, select **Fix VMP Accounts**.



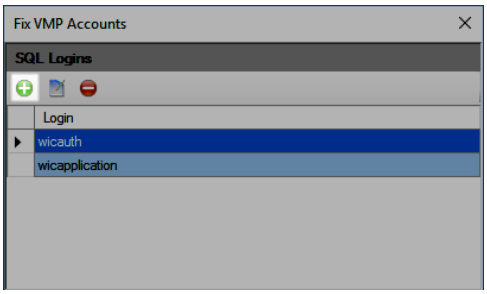
3. In the **Connect To SQL Server** dialog box, supply the SQL Server authentication:



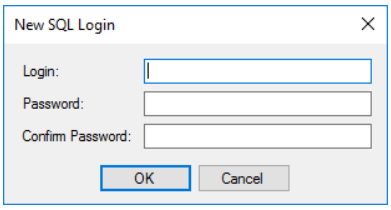
   a. Select the authentication method to use by selecting either **Windows Authentication** or **SQL Server Authentication**.
   b. If you have selected **SQL Server Authentication**, enter your SQL login and password in the **Login** and **Password** fields.
   c. Click **OK**. The Fix VMP Accounts window appears.



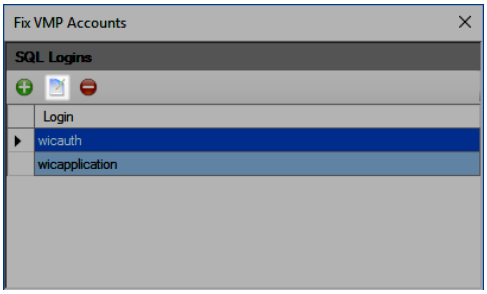
4. To add a new SQL account:
   a. Click **Add**.



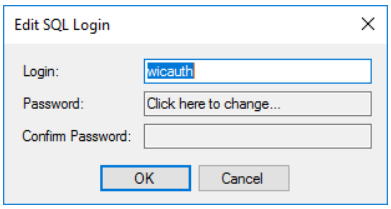
   The New SQL Login dialog appears.



   b. In the **Login** field, type the new SQL account name.
   c. In the **Password** field, type the password for the new SQL account.
   d. In the **Confirm Password** field, retype the password for the account.
   e. Click **OK**.
5. To edit an SQL account:
   a. Highlight the account that you want to edit, and click **Edit**.

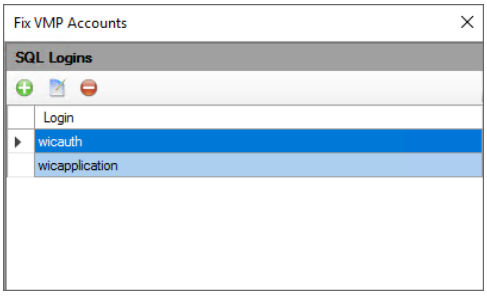


The Edit SQL Login dialog appears.



b. In the **Login** field, edit the SQL account name if needed.
c. In the **Password** field, type the new password for the SQL account.
d. In the **Confirm Password** field, retype the new password.
e. Click **OK**.

6. To delete an SQL account, highlight the account that you want to delete, and click **Delete**.



In the confirmation dialog box that appears, click **Yes**.

7. To change a VMP SQL account, in the **VMP SQL Accounts** pane, select the account that you want to change:
   - **Authentication**: The user authentication account.
   - **Application server**: The VMP system application account.
   - **Instance: name**: The account that you use to log in to the VMP Server database named **name**. A standard installation of the VMP Server has a database named **MAIN**.

   From the dropdown list in the **SQL Login** column, select the VMP SQL account that you want to use.
8. Click **Start fixing**. This runs a script that updates your SQL database. The progress of the script is displayed in a dialog box.
9. When the script has completed, click **OK** to close the display window.

VMP Server Integration

After you have installed the VMP Server, you must integrate it with the other Vocera products and servers in your environment.

Vocera Voice Server Integration

Vocera Voice Server to VMP integration enables Vocera Collaboration Suite users to make Calls and use other Vocera Voice Server capabilities from their devices.

Note: Vocera Voice Server is integrated with the platform as a connector and no additional licensing is required.

To configure the VMP Server to integrate with Vocera Voice Server, prepare the following:

Table 6: Vocera Voice Server configuration requirements

Configuration Requirement	Description
Vocera Voice Server Software Requirements	See VMP Software Requirements on page 10 for information on software requirements.
Vocera Voice Server Credentials	You must have administrator access to the Vocera Voice Server.
VMP Server IP Address	You must have the VMP Server IP address.
Vocera User Email Address	If using the default setting, make sure that each Vocera Voice Server user profile includes the user email address. Or see Synchronizing Using Vocera User ID and Active Directory on page 66 for details on how to synchronize the Vocera User ID field with a field in the Active Directory source.

The following Vocera Voice Server components must be installed to use the VMP Server with Vocera Collaboration Suite:

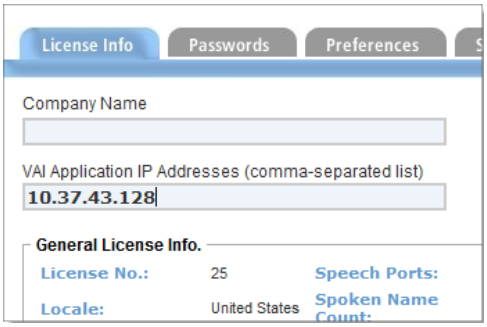
- Vocera Client Gateway: required for Wi-Fi calling
- Vocera SIP Telephony Gateway: required for cellular calling

Configuring Vocera Voice Server and VMP

To configure the Vocera Voice Server and VMP to work together, you must access the Vocera Voice Server Administration Console and the VMP Administrator to make the necessary changes.

1. Open the Vocera Voice Server Administration Console.
2. Log on with your administrator credentials.

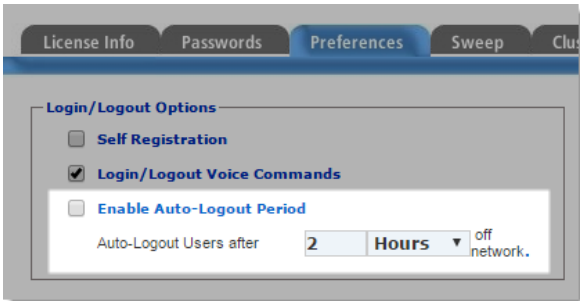
3. Select the **System** view.
4. Select the **License Info** tab.



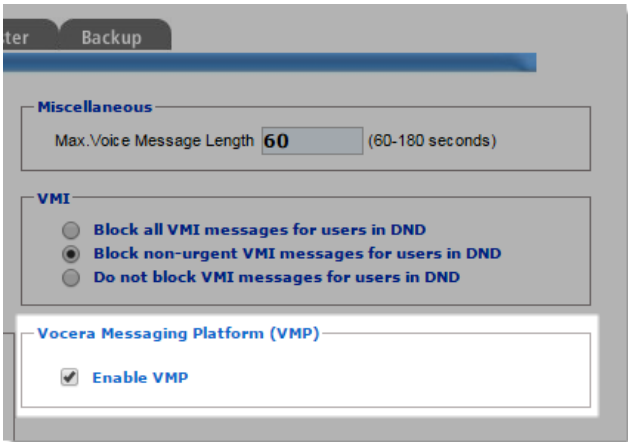
5. In the **VAI Application IP Addresses** field, type the VMP Server IP address. For load balanced environments, use comma-separated values.
   If you have installed the standalone VMP Administrator on a separate computer, and you want to synchronize the VMP Server and Vocera Voice Server from this computer, you must add this computer's IP address to the list.

   Note: If you are using other VAI applications, the IP address for VMP must be the first IP address listed in the VAI address field.

6. Click **Save Changes**.
7. Click the **Preferences** tab.
8. If the **Enable Auto-Logout Period** checkbox is selected, set the auto-logout period to a value greater than **1 Minute**. This ensures that clients that use the iOS operating system are not unexpectedly logged out.



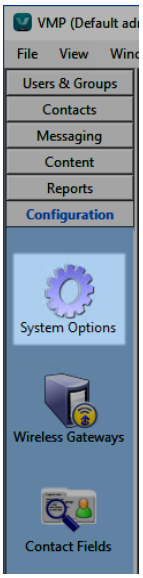
9. Select the **Enable VMP** checkbox.



10. Click **Save Changes**.
11. Start the VMP Administrator:

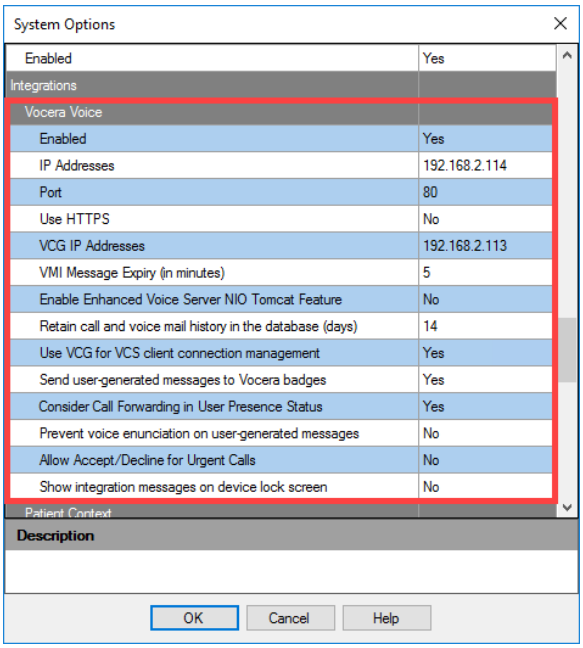
All Programs > VMP > VMP Administrator

12. In the **VMP Login** dialog, type `admin` and the password for the administrator account, and click **OK**.
13. Select **Configuration > System Options**.



The System Options dialog box appears.

14. Scroll down the **System Options** dialog box to the **Vocera Voice** section. This displays the Vocera Voice Server configuration options.



Important: If you change any of these values, you must manually restart the VMP Server by restarting the Vocera Data Exchange Service. See Starting and Stopping the VMP Server on page 26 for details on how to do this.

15. Set the **Enabled** option to **Yes**.
16. If the **IP Addresses** field was not specified when you installed VMP, provide it. If you are using more than one Vocera Voice Server in a clustered environment, separate the IP addresses with commas, and ensure that the active Vocera Voice Server is listed first.
17. In the **Port** field, enter the Vocera Voice Server port number. The default port number is 80.

18. Set any other configuration options as needed. See VMP Administrator Configuration Options on page 258 for descriptions of these options.
19. Click **OK** to save your changes.

After you have configured the Vocera Voice Server and VMP to work with one another, the next step is to import the Vocera Voice Server contacts into the VMP Server. See Importing Users From Vocera Voice Server on page 50 for information.

Enabling Enhanced Vocera Voice Server NIO Tomcat Support

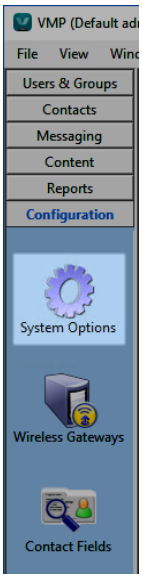
If your Vocera Voice Server has enabled Non-Blocking I/O (NIO) connectivity with Tomcat, you can configure VMP to use it.

This allows more than 2000 simultaneous Vocera Collaboration Suite clients to connect.

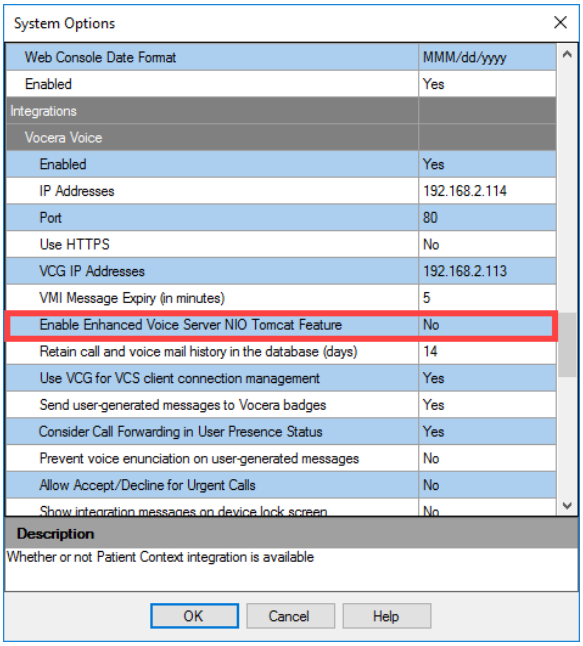
Important: When this capability is enabled, Vocera Collaboration Suite clients connect to the Vocera Voice Server on a different port. The connection is on port 8080, unless you have manually edited the VMP Server configuration to use some other port. (Normally, Vocera Collaboration Suite clients connect to the Vocera Voice Server on port 80 if SSL is disabled, or port 443 if SSL is enabled.) This port change could affect connectivity if you are filtering traffic between the wireless VLAN used by VCS clients and the Vocera Voice Server.

To enable enhanced Vocera Voice Server NIO Tomcat support:

1. Start the VMP Administrator.
2. Select **Configuration > System Options**.



   The System Options dialog box appears.
3. Scroll down to the **Integrations** > **Vocera Voice** section.
4. Set the **Enable Enhanced Voice Server NIO Tomcat Feature** option to **Yes**.



5. Click **OK** to save your change.

VCS Users in the Vocera Voice Server

When you are creating Vocera Collaboration Suite users, you must create them as Vocera Voice Server users, not as Vocera Voice Server address book entries.

This ensures that the Vocera Collaboration Suite users will have voice capabilities.

Address Book Entry Exporting

When importing users into VMP from an external source, you can create a spreadsheet of address book entries to be exported to the Vocera Voice Server.

This enables badge and Vocera Collaboration Suite users to contact these imported users using the Vocera Voice Server voice recognition capability (the Genie).

To export address book entries to the Vocera Voice Server, select the **Export Address Book Entries to Vocera** checkbox when synchronizing users in the VMP Administrator.

Note: If a VMP user is using the Vocera Collaboration Suite client and wants to use the Genie from this client, this user must also be a Vocera Voice Server user, not a Vocera Voice Server address book entry.

Vocera Secure Texting Integration

Vocera Secure Texting (VST) extends the reach of your VMP messaging capabilities to include employees of your affiliated organizations.

When VMP is integrated with the VST cloud platform:

- Your on-premises badge and VCS users will appear properly in the VST **Directory**, allowing VST users to send messages to them. VST users in your own organization and also your affiliated hospitals and practices appear in the VST **Directory** as well.
- Both your internal VST users and also the users of your affiliated hospitals and practices appear properly in the **Contacts** list of the VCS app, if you have the VMP integration. Badge users and your organization's VCS users continue to appear in the VCS **Contacts** list as well.

- The messaging and voice capabilities of your on-premises solution are integrated with the VST messaging and basic voice capabilities of the cloud platform.

Important: VST 2.1 or later is required.

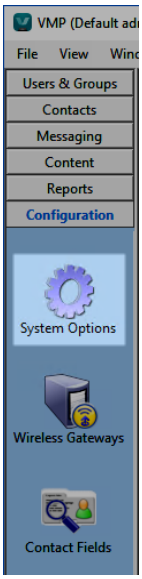
Enabling VST Message Exchange

You can configure the VMP Server to enable messages and images to be exchanged between Vocera Collaboration Suite users and VST users.

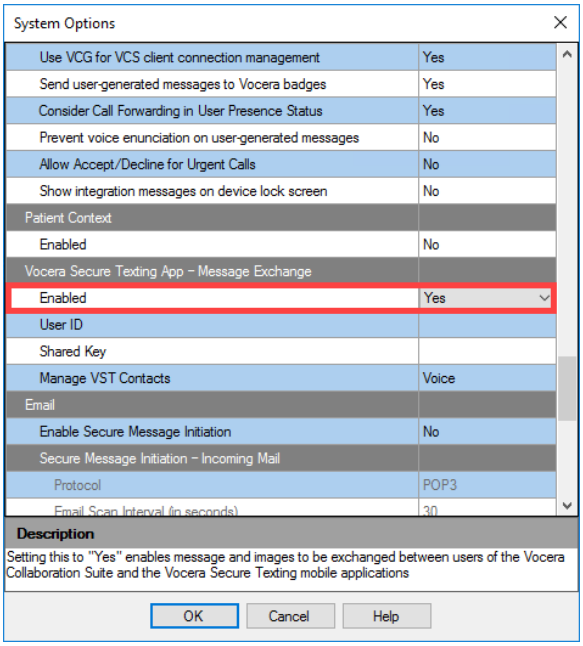
When this capability is enabled, VST users are automatically imported from the VST cloud server into the VMP Server.

Important: VST 2.1 or later is required. If you have previously installed the VST Sync Connector in your on-premises network, you must uninstall it before enabling VST message exchange on the VMP Server. See the VST Hospital Administrator Guide for information on upgrading existing VST integrations.

1. Start the VMP Administrator.
2. Select **Configuration > System Options**.



   The System Options dialog box appears.
3. Scroll to the **Integrations** section, and then to the **Vocera Secure Texting App - Message Exchange** subsection.
4. Set the **Enabled** field to **Yes**.



5. In the **User ID** field, type the ID that the VST cloud server uses to identify the connected Vocera organization.
6. In the **Shared Key** field, type the key that authenticates the connection between the VST cloud server and the connected Vocera organization.
7. In the **Manage VST Contacts** field, select **Voice** to manage your VST contacts on the Vocera Voice Server, or select **VMP** to manage your VST contacts on the VMP Server.

   If you are managing your VST contacts on the VMP Server, VMP creates the **VSTContacts** distribution list to contain them.
8. Click **OK** to save your changes.
9. On the computer on which the VMP Server is running, ensure that outgoing connections on port 443 are not blocked by your firewall. The VMP Server uses this port to transmit information to the VST server.

The **User ID** and **Shared Key** fields are generated from the VST Administration Console. See the VST Vocera Administrator Guide for more details.

When the VMP Server synchronizes with the VST cloud server, all VST users on the cloud server are imported into the VMP Server as VMP users. These users also automatically become members of the **VST Users** Distribution List. To control which VMP users can view these VST users as contacts, specify access permissions on this Distribution List. See Managing Access to a Distribution List on page 159 for more details.

VST Message Routing

Messages sent to merged VST are sent to either the VST client or the badge based on predefined rules.

- Conversation-based messages are delivered to VST clients, not to badges.
- User-generated notifications from the VMP Web Console, VCS, and Staff Assignment are delivered to VST clients, not to badges.
- Third-party system-generated notifications from sources such as VMI, email, WCTP, and CWE are delivered to badges, not to VST clients.

Configuring VMP for Active Directory

You can use the VMP Enterprise Manager to configure VMP to work with an Active Directory server.

The following configuration options are available:

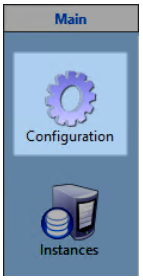
- You can configure the VMP Server to interact with Active Directory using an SSL connection.
- You can allow users to log into the VMP Administrator or VMP Web Console using their Active Directory username and password, provided you have granted permission to these users.

If you specified an Active Directory server when installing VMP, some of the fields described here have already been supplied.

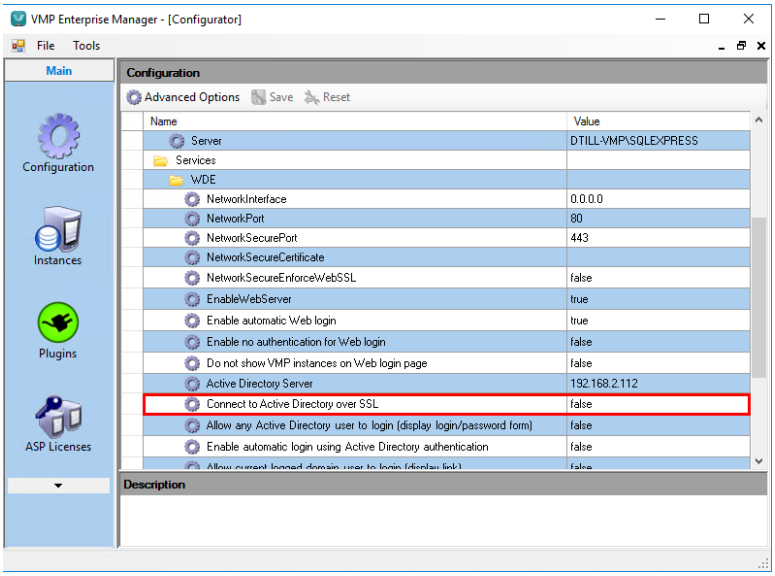
Note: See Editing User Information on page 122 for more information on how to edit user information to grant user access to the VMP Administrator or the VMP Web Console.

Note: If you have previously imported users from an Active Directory server, you must supply the same server information here. See Importing Users From Active Directory on page 52 for details.

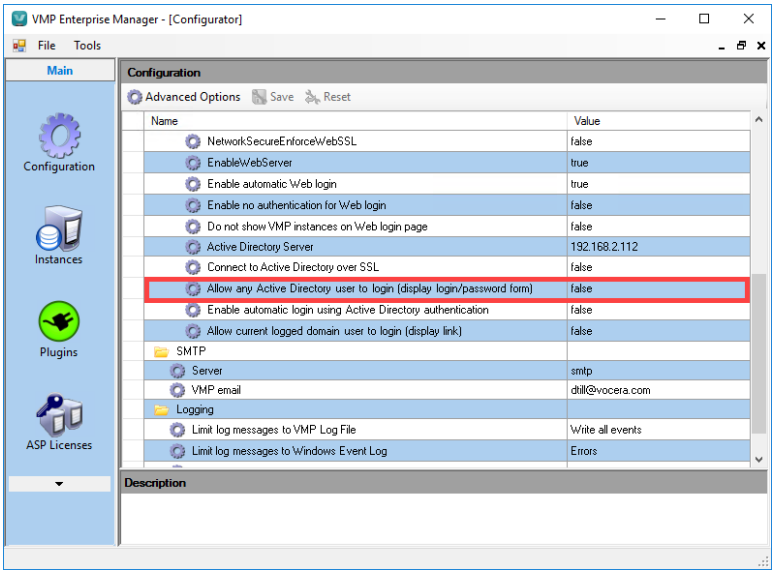
1. Start the VMP Enterprise Manager application:
   All Programs > VMP > VMP Enterprise Manager
2. Select **Configuration** .



   The Configuration window appears.
3. Scroll down to the **Active Directory Server** field. If this field is empty, type the domain name or the IP address of an Active Directory server.
   If your Active Directory server is not using port 389, you must specify the port number. For example, for an Active Directory server on `vocera.com` using port 50000, specify `vocera.com:50000`.
4. If you want to use SSL with Active Directory, set the **Connect to Active Directory over SSL** to **true**.



5. If you want to enable users to use their Active Directory usernames and passwords to access either the VMP Administrator or the VMP Web Console, depending on granted permissions, set **Allow any Active Directory user to login (display login/password form)** to **true**.



6. Save the configuration changes. In the confirmation dialog, click **Yes** to restart the VMP Server.
7. Click **OK** to close the restart dialog and complete the configuration.
8. Close the VMP Enterprise Manager.

Note: If you have set up VMP in a clustered environment, you must repeat these instructions for each cluster node on which the VMP Server is installed. To ensure the least amount of down time, integrate the Active Directory on the standby server first, then repeat on the active server.

Engage Integration

You can integrate VMP with one or more Engage servers. This enables users to add information on a patient to a message conversation and view alarms sent by patients or care providers as notifications.

Two types of connections are supported:

- Connections to the Engage Patient Context Adapter, which enable users to add information on a patient to a message conversation.
- Connections from Engage to the VMP SOAP interface, which send alarms sent by patients or care providers as VCS or VMP Web Console notifications.

Note: If you plan to use Engage with VMP, a member of the Vocera Professional Services team will install and configure it for you. Contact your Vocera representative for more details.

To integrate the VMP Server with an Engage environment:

- Ensure that the Active Directory server that your Engage environment is using is also integrated with the VMP Server. This ensures that both the Engage server and the VMP Server use a common user identifier. See Configuring VMP for Active Directory on page 38 for more information on integrating VMP with Active Directory.
- Specify the following when adding Engage server information:
  - The Engage Patient Context Adapter that you are using.
  - If you are displaying waveform information, the AirStrip ONE platform that you are using.

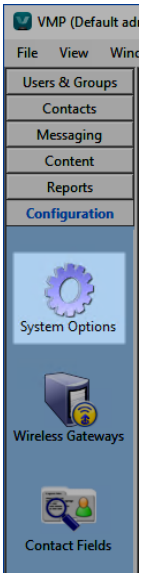
- Create one or more VMP users and grant access rights to the SOAP API gateway. Engage uses this gateway to send alarms as notifications. See Enabling Engage SOAP Access on page 45 for details on how to enable Engage SOAP access for a VMP user.

Note: If you are upgrading from a previous version of Vocera Voice Server while integrating VMP with Engage, and are therefore replacing a connection between the Engage server and the Vocera Voice Server with a connection between the Engage server and VMP, the Vocera Voice Server VMI license that you have been using for the Engage integration is now freed up.

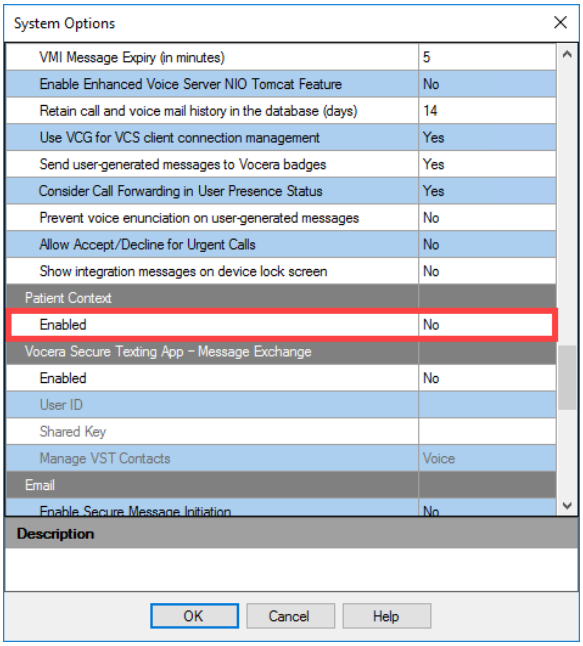
Integrating with the Engage Patient Context Adapter

You can configure the VMP Server to obtain information from one or more Engage Patient Context Adapters. This enables Vocera Collaboration Suite and VMP Web Console users to include links to patient information in message conversations.

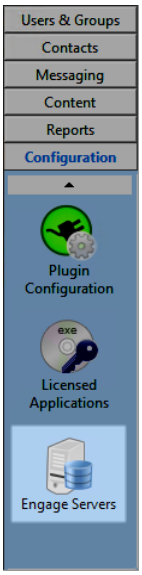
1. Start the VMP Administrator.
2. Select **Configuration > System Options**.



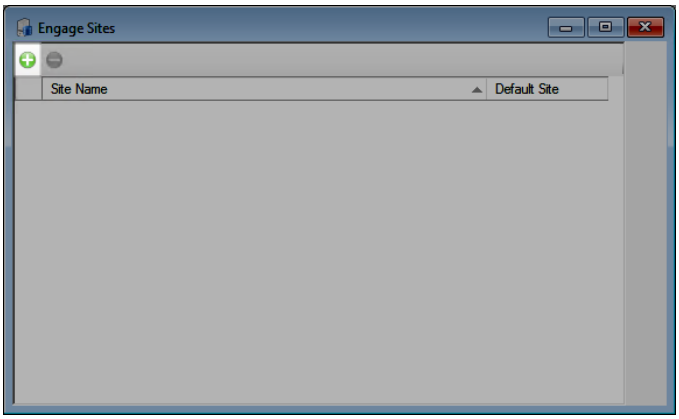
   The System Options dialog box appears.
3. Scroll to the **Integrations** section, and then to the **Patient Context** subsection.
4. Set the **Enabled** field to **Yes**.



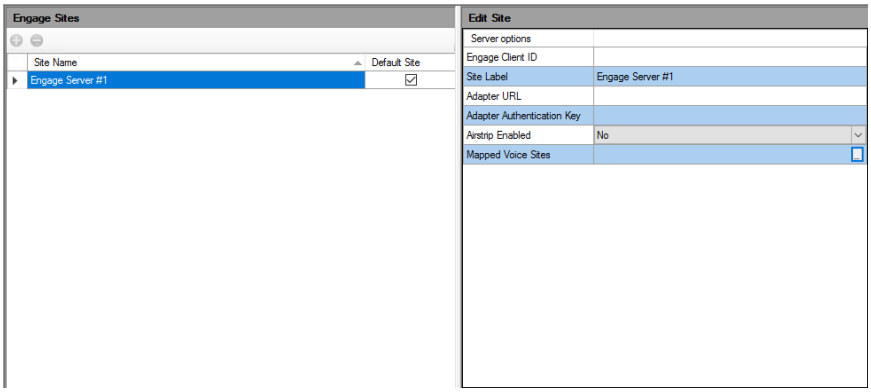
5. In the VMP Administrator, select **Configuration > Engage Servers**.



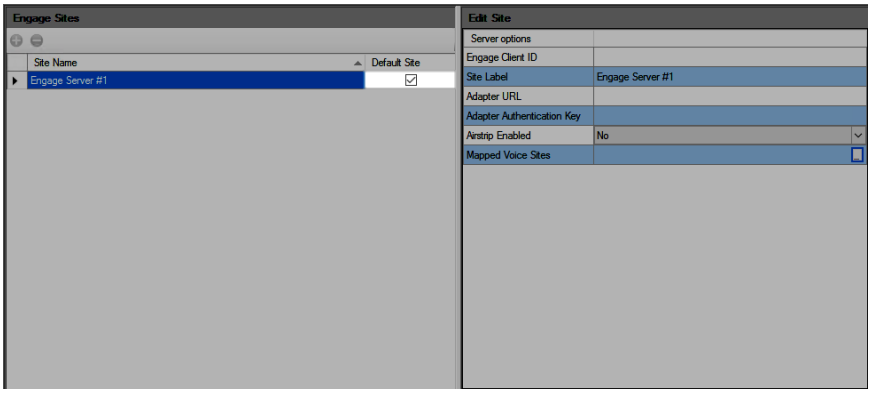
6. In the Engage Sites window, click the Add icon.



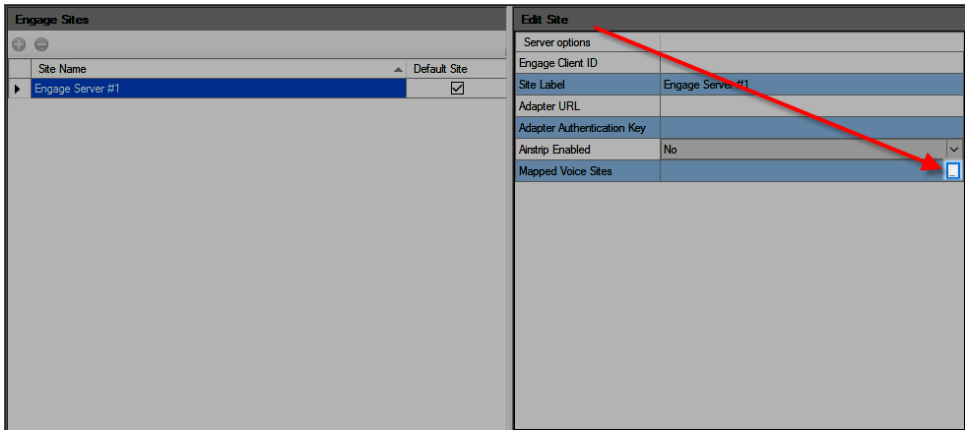
The Engage Sites and Edit Site panels appear.



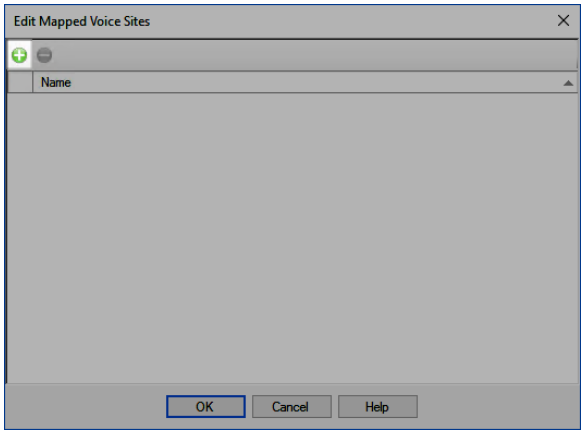
7. If the Engage site that you are adding is to be the default site, select the **Default Site** checkbox.



8. In the Edit Site panel, supply the following information for your Engage site.
   a. In the **Engage Client ID** field, type the client ID that the Engage server uses to represent your VMP Server.
   b. In the **Site Label** field, specify the name that you want to use to identify this Engage server.
   c. In the **Adapter URL** field, type the URL of the Engage Patient Context Adapter. An example URL is `http://172.30.1.1/myadapter/PatientContext/api/1`.
   d. In the **Adapter Authentication Key** field, type the key that authenticates the connection between the VMP Server and the Engage Patient Context Adapter.
   e. If your Engage server is integrated with an Airstrip platform that displays waveform data for patients whose information has been obtained through the server's Engage Patient Context Adapter, set **Airstrip Enabled** to **Yes**.
   f. If **Airstrip Enabled** has been set to **Yes**:
      - In the **Airstrip Shared Key** field, type the Airstrip authentication field.
      - In the **Airstrip Site ID** field, type the Airstrip site ID.
   g. To map a VMP Server site to this Engage server:
      - Click the icon in the **Mapped Voice Sites** field.



- In the Edit Mapped Voice Sites window, click the Add icon.

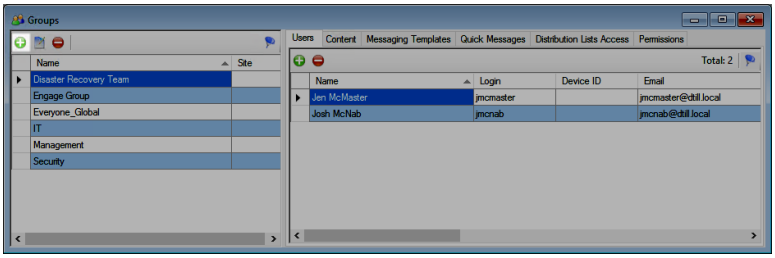


- In the Select Sites window, select the site or sites to map, and click **OK**.
- Click **OK** in the Edit Mapped Voice Sites window.

9. To add an additional Engage site, click the Add icon again and repeat the preceding steps.
10. Click **OK** to save your changes.
11. The next step is to create a VMP group containing the users that have permission to access the Engage Patient Context Adapter. To do this, select **Users & Groups > Groups**.

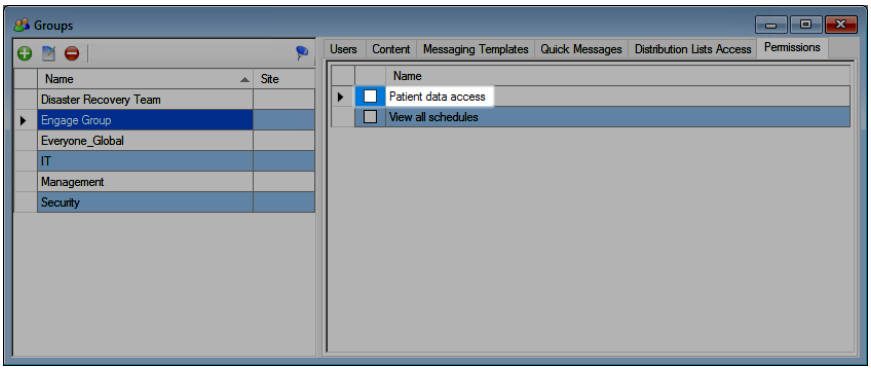
Note: You can also use an existing group, if this fits better with your group organization.

12. If you are creating a new group:
    a. In the toolbar in the Groups pane, click **Add**.

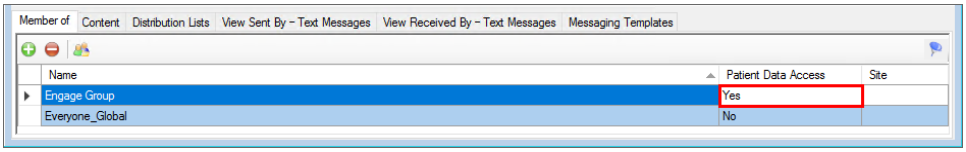


b. In the New Group dialog box, enter the name of the group (for example, `Engage Group`), and click **OK**.

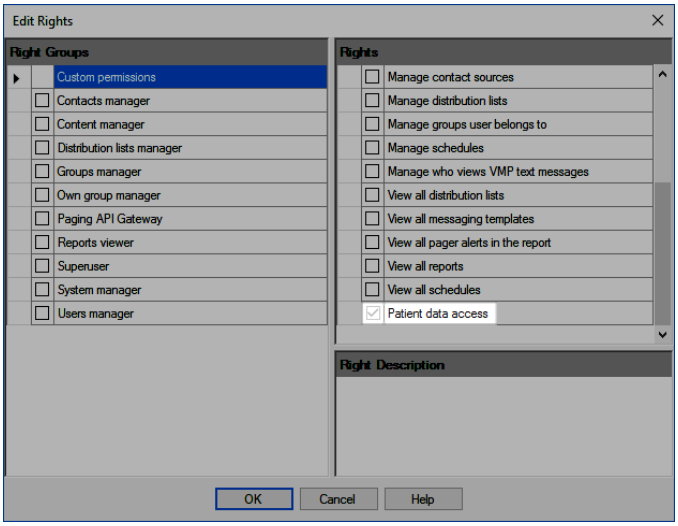
13. In the Groups view, select the group that is to receive Engage Patient Context Adapter permissions, and click the Permissions tab.
14. Select the **Patient data access** checkbox.



After you have created this group, if you are viewing a user who is a member of the group, and you select the **Member of** tab, the Patient Data Access column indicates that the user is a member of a group that has patient data access.



The user is also listed as having the **Patient Data Access** user right:



This user right is not editable in the Edit Rights dialog box.

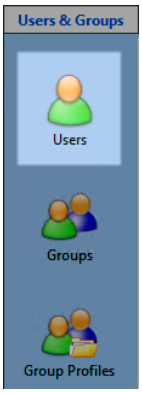
Enabling Engage SOAP Access

You can create a VMP user and enable SOAP access for this user from Engage.

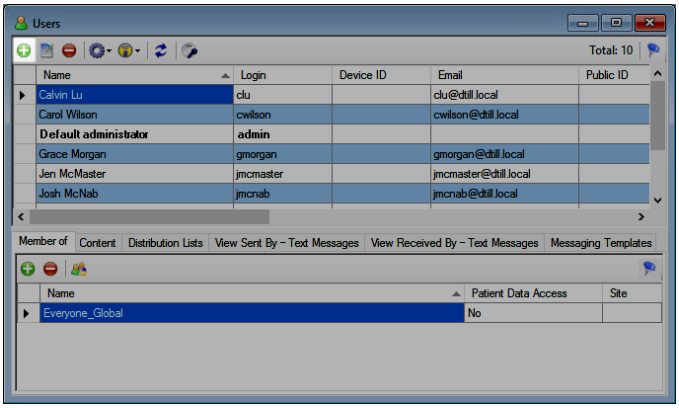
Note: To enable SOAP access from Engage, VMP must be licensed to use the Pager Inbound SOAP Connector. By default, VMP licenses do not include this connector. See Configuring the VMP License on page 19 for more information on licensing.

Important: You must create a new VMP user to access SOAP from Engage. If you use an existing VMP user, SOAP access may not work properly.

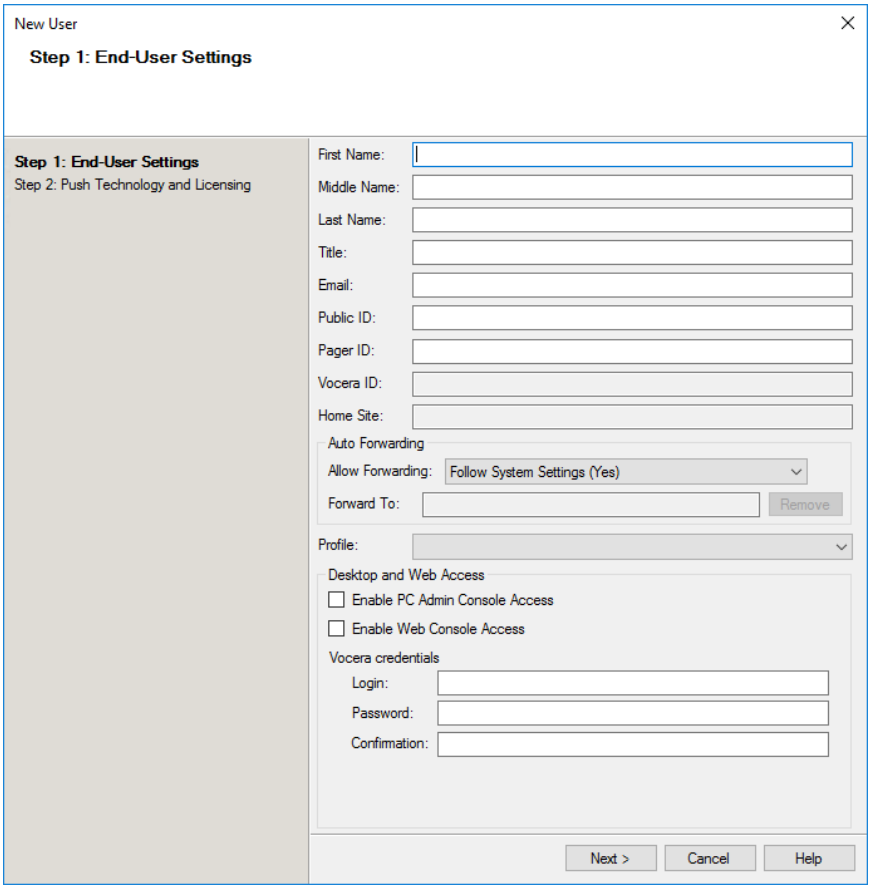
1. From the VMP Administrator, select **Users & Groups** > **Users**.



2. In the toolbar in the Users pane, click **Add**.



The End-User Settings window appears.

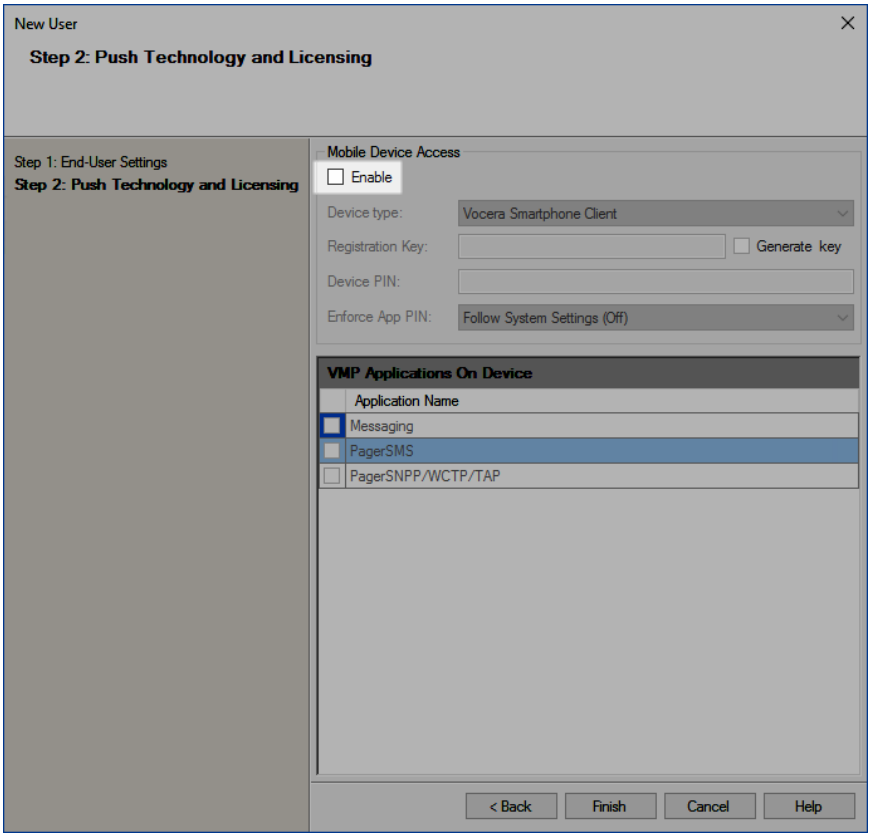


3. Enter the following end-user settings.

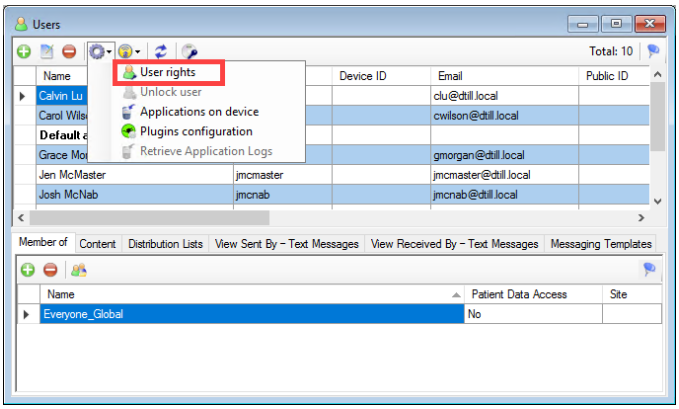
   Table 7: End-user settings

Field	Description
First Name	The first name of the user.
Middle Name	The middle name of the user (optional).
Last Name	The last name of the user.
Title	The job title for the user.
Email	The email address for the user.
Enable PC Admin Console Access	Select this checkbox to allow the user to access the VMP Administrator.
Vocera credentials	Provide Vocera credentials for the new user: enter a unique user name in the **Login** field, enter the password in the **Password** field, and re-enter the password in the **Confirmation** field.

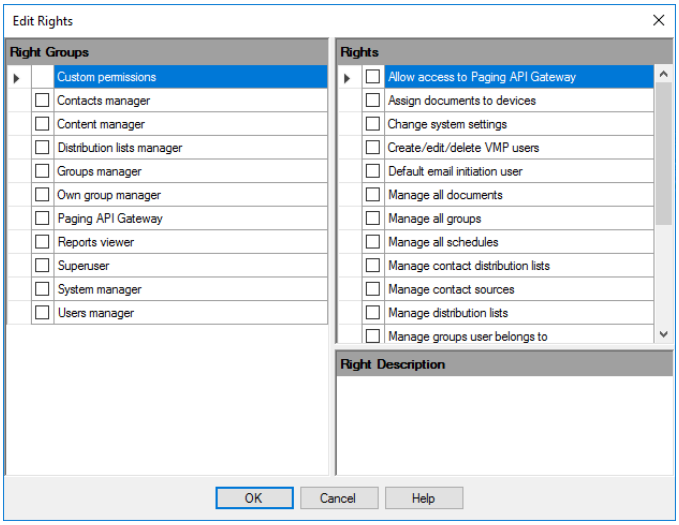
4. Click **Next** to display the Push Technology and Licensing window. Ensure that the **Enable** checkbox in the Mobile Device Access section is cleared.



5. Click **Finish** to create the user.
6. In the Users view, select the user that you have just created.
7. In the toolbar, from the **User preferences** dropdown list, select **User rights**.



The Edit Rights dialog box appears.



8. In the Rights pane, select **Allow access to Paging API Gateway**.
9. Click **OK**.

About Importing and Synchronizing

Use the VMP Administrator to import users and contacts into the VMP Server from one or more sources.

If a user with the same email address, Public ID, Pager ID or Vocera ID is imported from multiple sources, the VMP Server merges the information from these sources into a single VMP user entry.

Note: A user and a contact are linked if the email address is the same for both.

You can import from any or all of the following sources:

- Vocera Voice Server: see Importing Users From Vocera Voice Server on page 50
- Active Directory: see Importing Users From Active Directory on page 52
- Excel and CSV files: see Importing Users From an Excel or CSV File on page 55
- SQL: see Importing Users From SQL on page 57

You can synchronize the VMP Server with its sources to ensure that the list of users and contacts is kept up to date. You can start the synchronization process manually, or configure the VMP Server to synchronize at regular intervals.

Vocera Secure Texting users are automatically imported when VST message exchange is enabled. See Enabling VST Message Exchange on page 36 for more details.

Attention: Each user or contact on the VMP Server must have a unique email address, Public ID, Pager ID, or Vocera ID, as these fields are used as key fields. If multiple users or contacts have the same email address, Public ID, Pager ID, or Vocera ID, the VMP Server may not operate as expected.

Tip: You can customize the field mappings that the VMP Server will use when importing users or contacts. For details about source field mapping, see About User Field Editing on page 187 and About Contact Fields on page 186.

Note: BlackBerry Enterprise Server (BES) sources are included in the list of available source types, but are no longer supported.

About Users and Contacts

When importing from sources into the VMP Server, you can import both users and contacts.

A user is anyone who can send or receive a message from a licensed device, from the VMP Web Console, or by email. Most users are employees who have application licenses assigned to them. Some users who generate messages but do not receive them do not need application licenses.

Contacts are parties who may or may not be part of your organization, but with whom critical and frequent communication occurs. You can think of contacts as a set of employees and non-employees who are entered into the system with one or many contact points for easy communication.

Importing Users From Vocera Voice Server

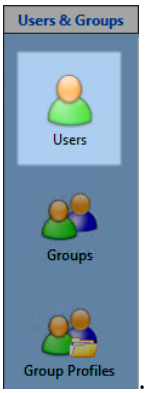
If you plan to integrate the VMP Server with a Vocera Voice Server, you must import the Vocera Voice Server users into the VMP Server.

Note: See Vocera Voice Server Integration on page 31 for information on integrating the VMP Server with a Vocera Voice Server.

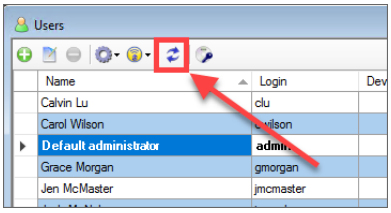
Important: If you are using the email address field to match Vocera Voice Server users with VMP users, ensure that each Vocera Voice Server user has an email address defined. This prevents duplicate user entries. This does not apply if you are matching Vocera Voice Server user IDs to Active Directory fields.

Note: If a Vocera Voice Server user has been linked to a Vocera Secure Texting account, this user cannot access the Vocera Collaboration Suite.

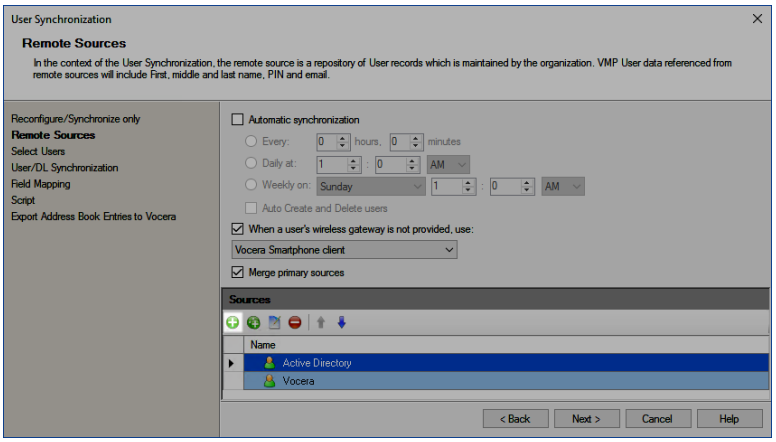
1. Select **Users & Groups > Users**.



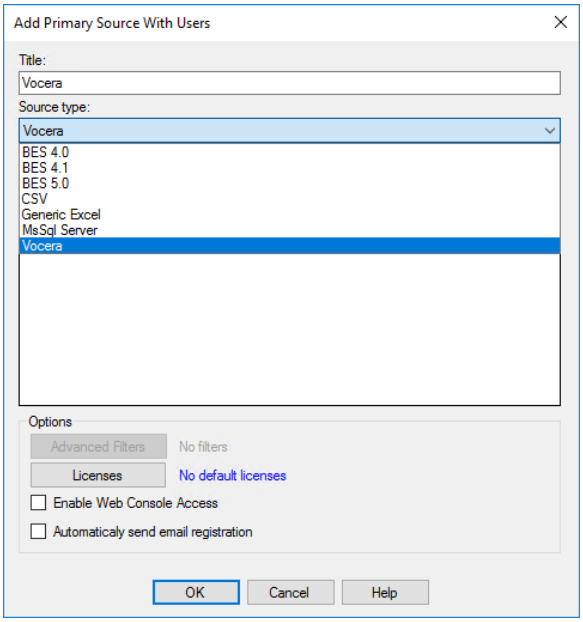
2. Click **Synchronization** in the **Users** view.



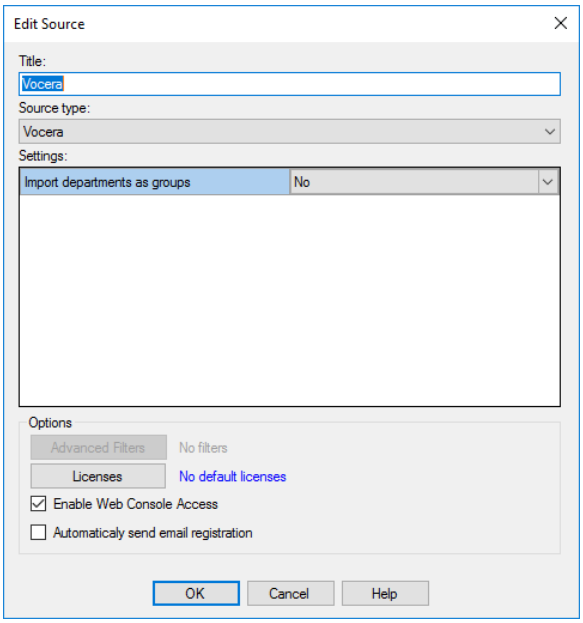
3. If you have previously imported one or more sources into the VMP Server, the **Reconfigure/ Synchronize only** window appears. Select **Yes, reconfigure settings** and click **Next**.
4. In the **User Synchronization** dialog, click **Add primary source with users** (under **Sources**).



5. Select **Vocera** from the **Source type** dropdown list. This selection auto-populates the **Title** field. You can accept the default title or customize the title.



6. Set **Import departments as groups** to **Yes** if you want to import Vocera Voice Server departments into the VMP Server as VMP groups.



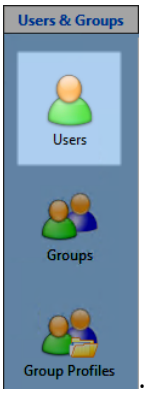
Note: The availability of this feature depends on the Vocera Voice Server version that you have installed.

7. Optionally specify the import source options described in Specifying Source Importing Options on page 59.
8. Click **OK** to close the dialog.
9. Follow the steps in Synchronizing Users and Contacts on page 60 to synchronize the Vocera Voice Server users and contacts with the VMP Server.

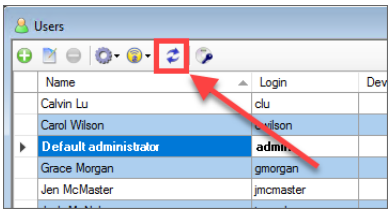
Importing Users From Active Directory

The VMP Server can synchronize with an Active Directory or an Active Directory Lightweight Directory Service to import Organizational Units, security groups, and Distribution Lists. When an import is complete, VMP has the ability to convert the Organizational Units to VMP Distribution Lists.

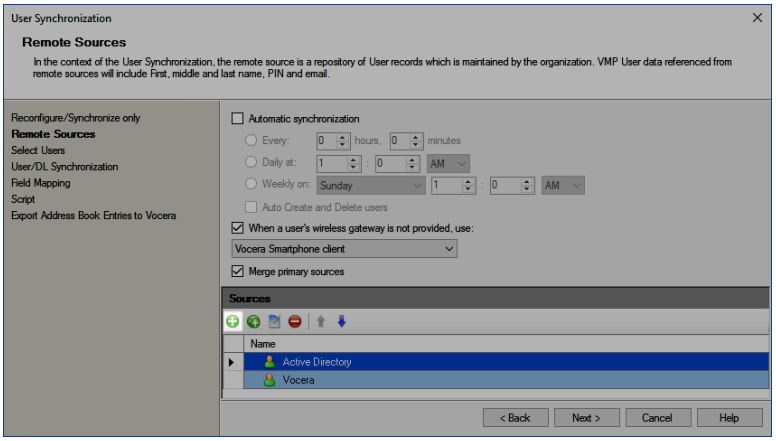
1. Select **Users & Groups > Users**.



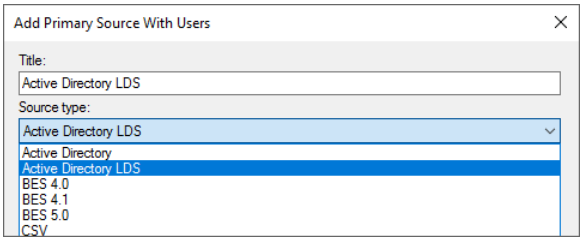
2. Click **Synchronization** in the **Users** view.



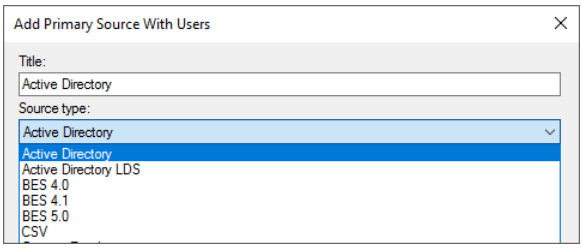
3. If you have previously imported one or more sources into the VMP Server, the **Reconfigure/ Synchronize only** window appears. Select **Yes, reconfigure settings** and click **Next**.
4. In the **User Synchronization** dialog, click **Add primary source with users** (under **Sources**).



5. Select one of the following from the **Source Type** dropdown list:
   - Select **Active Directory LDS** if you are using an Active Directory Lightweight Directory Service.



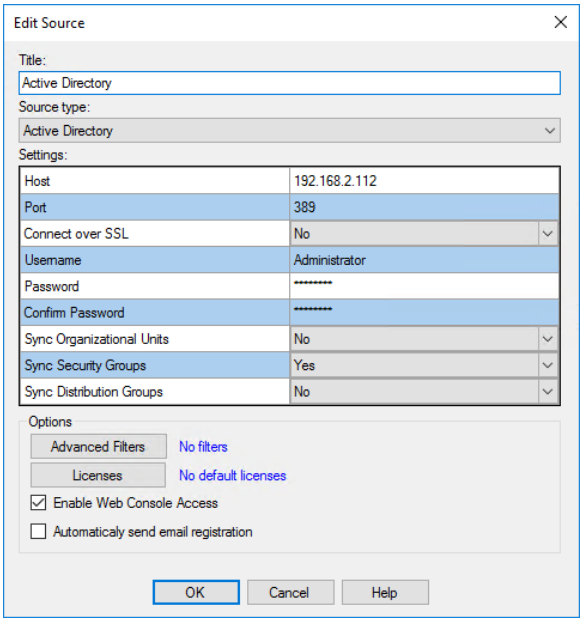
- Select **Active Directory** if you are using a standard Active Directory service.

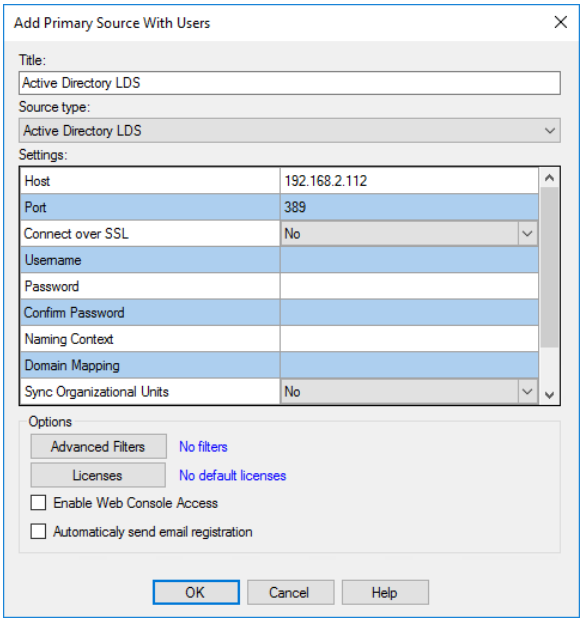


This selection auto-populates the **Title** field. You can accept the default title or customize the title.

Note: You cannot add both an Active Directory source and an Active Directory LDS source.

6. In the **Connection Parameters** section, enter the Active Directory or Active Directory LDS credentials.





Note: The Active Directory server, port, and SSL connectivity information supplied here must match the information supplied when installing VMP or in the VMP Enterprise Manager configuration options. See Configuring VMP for Active Directory on page 38 for more details.

For the Active Directory LDS source, you must provide the following additional fields:

- **Naming Context**: The Active Directory LDS naming context that contains the groups and users that you want to synchronize with VMP.
  Select a naming context from the list provided.
- **Domain Mapping**: The domain name mapping to use, in the format `mydomain.com = MYDOMAIN`.
  For example, if your Active Directory LDS source users have email addresses such as `user@voceradomain.com`, the domain mapping

  ```
  voceradomain.com = VOCERADOMAIN
  ```

  indicates that these addresses can be accessed as `VOCERADOMAIN\user`, which is the format that the VMP Server requires.

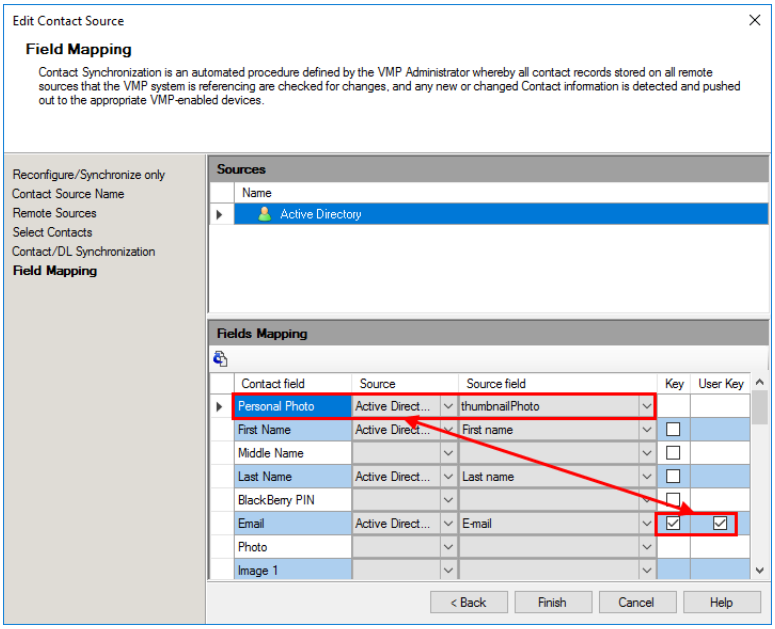
  Note: The service account that connects to LDS must have reader access for the default naming context.

7. Configure the following options using their associated dropdown lists:
   - **Sync Organization Units**
   - **Sync Security Groups**
   - **Sync Distribution Groups**
8. Optionally specify the import source options described in Specifying Source Importing Options on page 59.
9. Click **OK** to close the dialog.
10. Follow the steps in Synchronizing Users and Contacts on page 60 to synchronize the Vocera Voice Server users and contacts with the VMP Server.

Displaying Active Directory Profile Pictures in VCS

If your Active Directory server includes user photographs in the **thumbnailPhoto** source field, you can ensure that these photographs are displayed in the Vocera Collaboration Suite.

1. Create a contact source for the Active Directory server. See Importing Contacts From a Source on page 67 for details on how to do this.
2. In this contact source, map the **Personal Photo** contact field to **thumbnailPhoto**, and set the **Key** and **User Key** checkboxes in the row that contains the **Email** contact field.



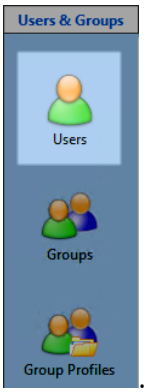
3. Create a Contacts Distribution List for the Active Directory users for which photos are to be displayed. See Creating a Contacts Distribution List on page 137 for more details.

Importing Users From an Excel or CSV File

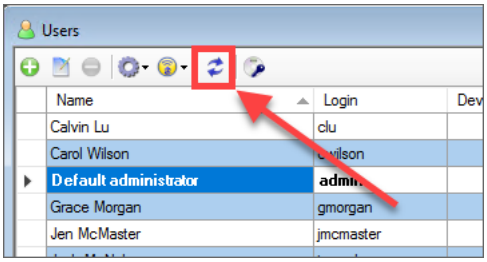
If your list of users is stored in an Excel spreadsheet or CSV file, you can import these users into the VMP Administrator.

Tip: Avoid using an Excel or CSV file as a user or contact source if at all possible, as difficulties may arise if this file becomes no longer available.

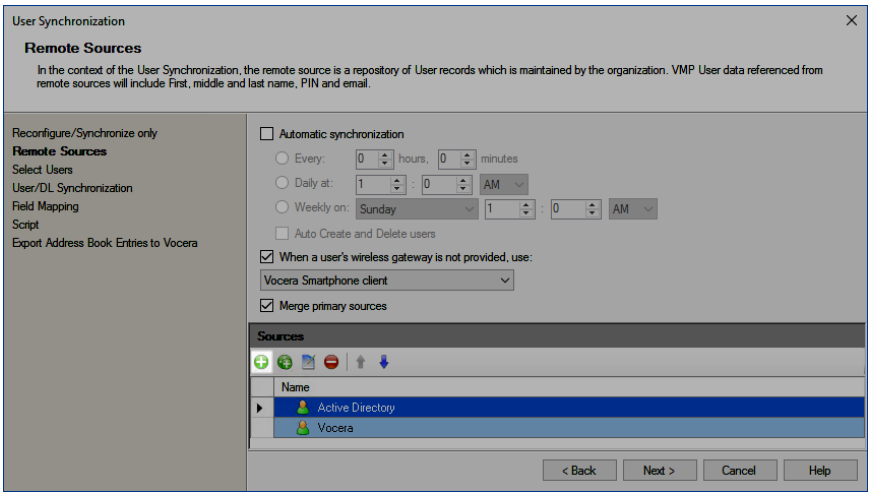
1. Select **Users & Groups > Users**.



2. Click **Synchronization** in the **Users** view.



3. If you have previously imported one or more sources into the VMP Server, the **Reconfigure/ Synchronize only** window appears. Select **Yes, reconfigure settings** and click **Next**.
4. In the **User Synchronization** dialog, click **Add primary source with users** (under **Sources**).



5. Select **Generic Excel** or **CSV** from the **Source type** dropdown list. This selection auto-populates the **Title** field. You can accept the default title or customize the title.
6. If your file is an Excel file, edit the connection parameters listed below.

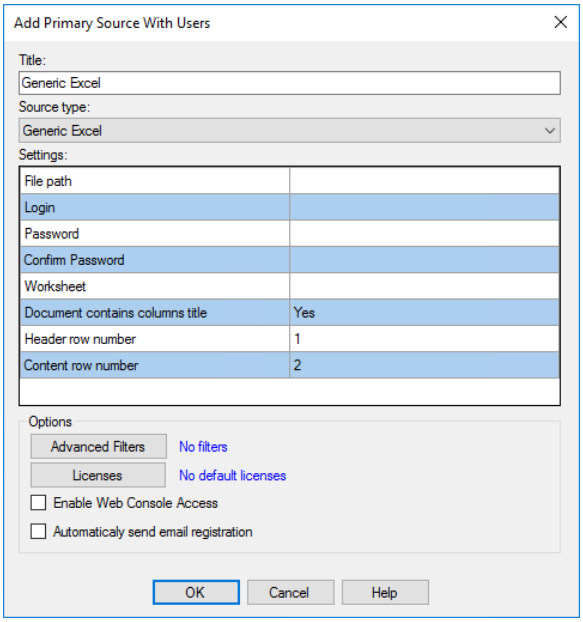


Table 8: Generic Excel connection parameters

Parameter	Description
File path	Click in this field to browse for the file, or type the path in the box.
Login	If required, enter a login and a password to access the Excel file.
Password	
Confirm Password	If a login and password are required to access the file, enter the password a second time to confirm the credentials.
Worksheet	If the spreadsheet includes more than one worksheet, enter the name of the worksheet to import as source data.

Parameter	Description
Document contains columns title	Select **Yes** if the spreadsheet uses title columns to define the data. Select **No** if the spreadsheet does not include title columns.
Header row number	Enter the header row number.
Content row number	Enter the content row number.

7. If your file is a CSV file, edit the connection parameters listed below.

   Table 9: CSV connection parameters

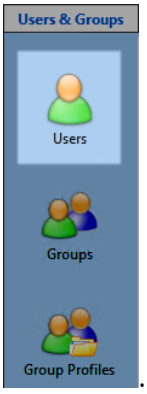
Parameter	Description
File path	Click in this field to browse for the file, or type the path in the box. **Note:** If your file resides on a remote network, automatic synchronization will not work unless the Vocera Data Exchange service is modified to use the local administrator account instead of the VMP local system account.
Login	If required, enter a login and a password to access the CSV file.
Password	
Confirm Password	If a login and password are required to access the file, enter the password a second time to confirm the credentials.
Encoding	Select the text encoding option appropriate for the imported data. In most cases, the default option of **Automatic** is appropriate.
Delimiter	Use the dropdown list to choose a comma or semicolon as the string separator.
Document contains columns title	Select **Yes** if the spreadsheet uses title columns to define the data. Select **No** if the spreadsheet does not include title columns.

8. Optionally specify the import source options described in Specifying Source Importing Options on page 59.
9. Click **OK** to close the dialog.
10. Follow the steps in Synchronizing Users and Contacts on page 60 to synchronize the Excel or CSV file users and contacts with the VMP Server.

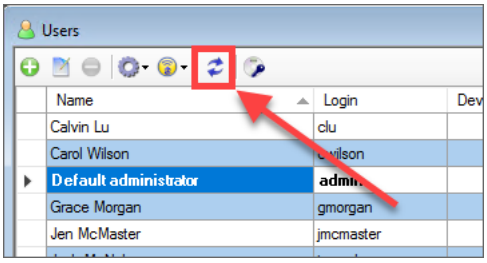
Importing Users From SQL

If you have your own SQL database for keeping track of user information, you can import the users from this database into the VMP Server.

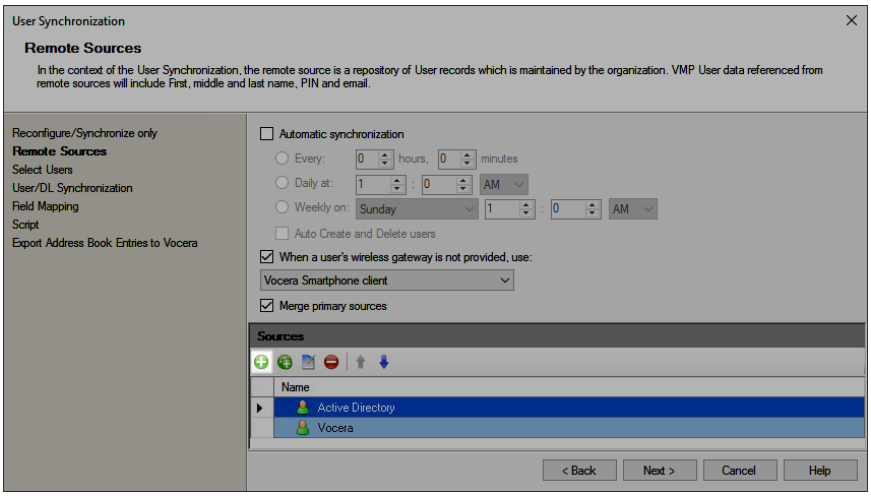
1. Select **Users & Groups > Users**.



2. Click **Synchronization** in the **Users** view.



3. If you have previously imported one or more sources into the VMP Server, the **Reconfigure/ Synchronize only** window appears. Select **Yes, reconfigure settings** and click **Next**.
4. In the **User Synchronization** dialog, click **Add primary source with users** (under **Sources**).



5. Select **MsSqlServer** from the **Source type** dropdown list. This selection auto-populates the **Title** field. You can accept the default title or customize the title.
6. Enter the **Connection Parameters**.

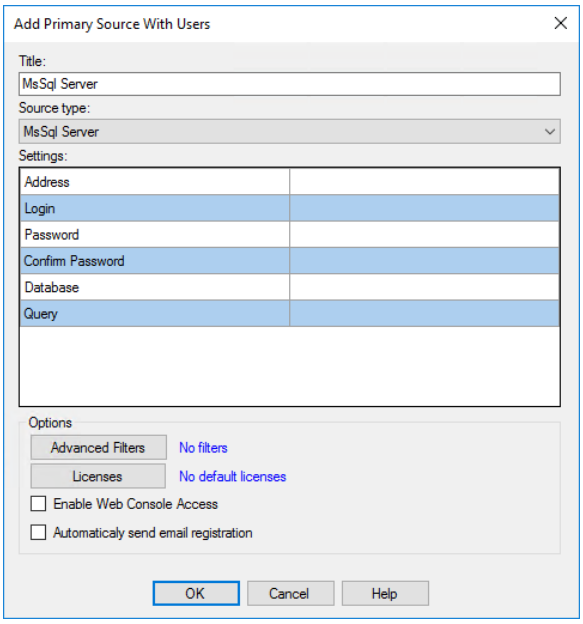


Table 10: SQL connection parameters

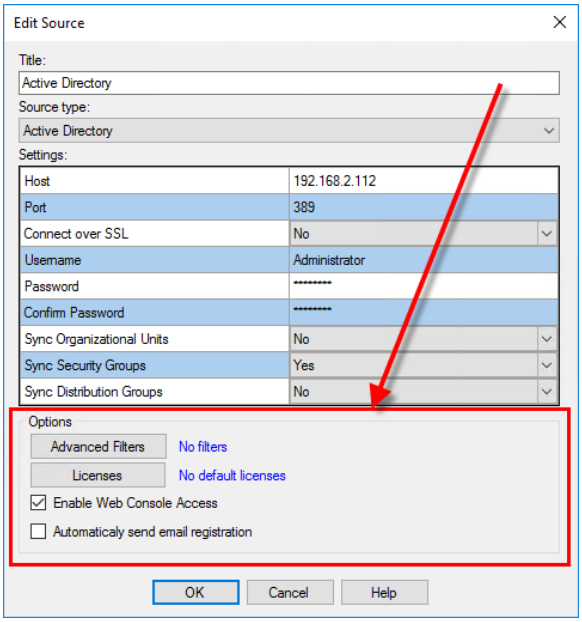
Parameter	Description
Address	The computer name or IP address of the SQL server.

Parameter	Description
Login	The SA login credentials.
Password	
Confirm Password	Enter the password a second time to confirm the credentials.
Database	Select the database to import from the dropdown list.
Query	Use the dropdown list to select any specifc query options for the import.

7. Optionally specify the import source options described in Specifying Source Importing Options on page 59.
8. Click **OK** to close the dialog.
9. Follow the steps in Synchronizing Users and Contacts on page 60 to synchronize the SQL users and contacts with the VMP Server.

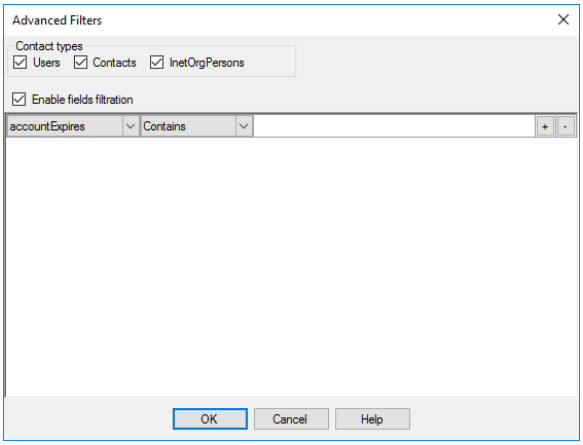
Specifying Source Importing Options

When you are importing users from a source, you can use the source importing options to specify which users to import, enable VMP Web Console access, assign licenses, or email registration instructions.

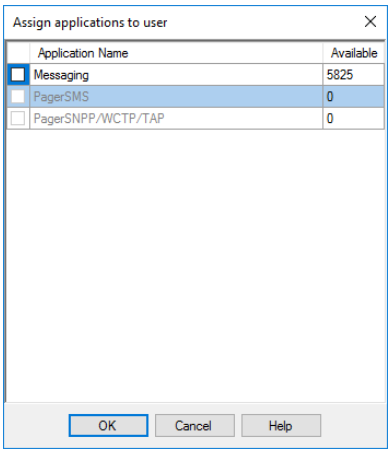


To specify source importing options:

1. If the **Advanced Filters** button is enabled, click it to display the advanced filtering options for this import source operation. These filters enable you to specify which users are to be imported from the source.



2. In the **Contact types** pane, select the check boxes of the types of users that you want to import.
3. Select **Enable fields filtration** to specify that only users that match the specified criteria are to be imported. In the list of fields displayed, select the filtration criteria that you want to use.
4. Click **OK** to close the Advanced Filters dialog box.
5. Click **Licenses** to display the **Assign applications to user** dialog box.



6. In this dialog box, specify the application licenses that are to be granted by default to all imported users.
7. Click **OK** to close this dialog box.
8. Select the **Enable Web Console Access** check box if imported users are to be granted VMP Web Console access by default.
9. Select the **Automatically send email registration** check box to automatically email registration instructions to all imported users.

Synchronizing Users and Contacts

After you have specified the sources for the VMP Server, you can synchronize your sources with the server to ensure that all information is up to date. You can synchronize manually or set up automatic synchronization.

The following synchronizations happen automatically, whether or not you have set up automatic synchronization:

- If a Vocera Voice Server has been set up as a source, the VMP Server is automatically updated whenever a Vocera Voice Server user is added, edited, or deleted.

- If the VMP Server has been integrated with Vocera Secure Texting, the VMP Server is automatically updated whenever a VST user is added, edited, or merged with a Vocera Voice Server user. When a VST user is deleted, the VMP Server is updated within 10 minutes.

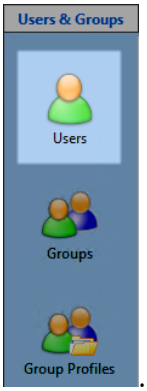
Note: Contacts are never automatically synchronized.

The steps of the synchronization process depend on the sources that you have specified. The following screens are included:

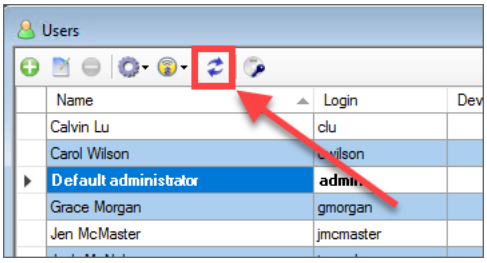
Screen	Description
Reconfigure/Synchronize only	Specifies whether to reconfigure import sources before synchronization. This screen appears if you have already imported at least one source.
Remote Sources	Lists the remote sources to be used in synchronization. Also enables you to specify automatic synchronization.
Select Users	If you are importing from an Active Directory source, this screen enables you to specify which Organizational Units (OUs) are to be synchronized to create a VMP Distribution List.
User/DL Synchronization	If you are importing from an Active Directory source, this screen enables you to specify whether to import users only, or whether to also import the OU hierarchy. If you are importing the OU hierarchy, you can specify whether you want the VMP Server to automatically create Distribution Lists from the imported OUs.
Default DL Permissions	This screen appears only if you are importing from an Active Directory source, you are importing the OU hierarchy, and you are automatically converting OUs to Distribution Lists. For the initial Active Directory import, you can configure permissions for the default administrator and any groups selected for import.
Field Mapping	For each selected source, this screen specifies how fields in the source are to be mapped to VMP user fields.
Script	Creates the internal script that performs the synchronization. In this screen, you can manually specify the users or contacts to be added or updated and configure contact options before running the script. These options can be changed manually at any time after deployment. This screen is useful for defining device and wireless gateway assignments.
Export Address Book Entries to Vocera	If you are importing from a Vocera Voice Server, this screen enables you to export a CSV file containing a list of the VMP users that do not have a Vocera ID. You can use this file to create address book entries in the Vocera Voice Server. See Address Book Entry Exporting on page 35 for more information on this capability.

Follow the steps shown below to perform a synchronization.

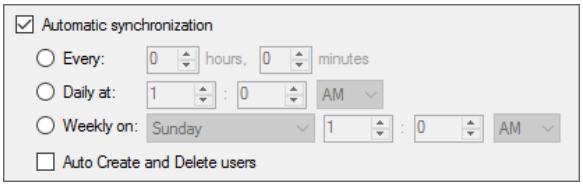
1. In the VMP Administrator, select **Users & Groups > Users**.



2. Click **Synchronization** in the **Users** view.

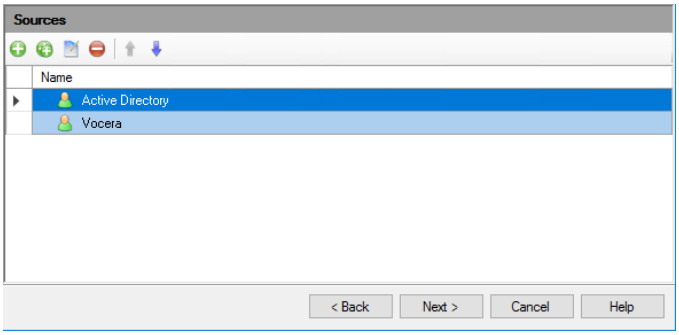


3. If the **Reconfigure/Synchronize only** screen appears, select **Yes, reconfigure settings**.
4. Click **Next**.
5. In the **Remote Sources** screen, you can enable automatic synchronization of user data from the selected sources:
   a. Select the **Automatic synchronization** checkbox.
   b. Select one of the following:
      - **Every**: Synchronize after the specified number of hours and minutes has elapsed.
      - **Daily at**: Synchronize every day at the specified time.
      - **Weekly on**: Synchronize once a week at the specified day and time.



Tip: The best auto synchronization time depends on your specific environment. The setting should keep the system updated with new and updated user data and occur when network traffic is not typically heavy.

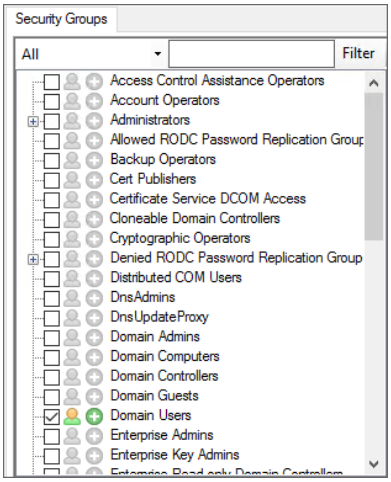
   c. Select **Auto Create and Delete users** if users that have been added or deleted in the source are to be automatically added or deleted in the VMP Administrator.
6. Clear the **When a user's wireless gateway is not provided, use** checkbox.
7. Ensure that the **Merge primary sources** checkbox is selected.
8. Click **Next**.



9. The **Select Users** screen appears if you have included Active Directory as a source. In this screen, select the Active Directory users to import by clicking the checkbox next to the Organization Unit (OU) name, if you have not already done this.

   Depending on the user import configuration, the options may be included in the following three tabs:
   - Organization Units
   - Security Groups
   - Distribution Groups

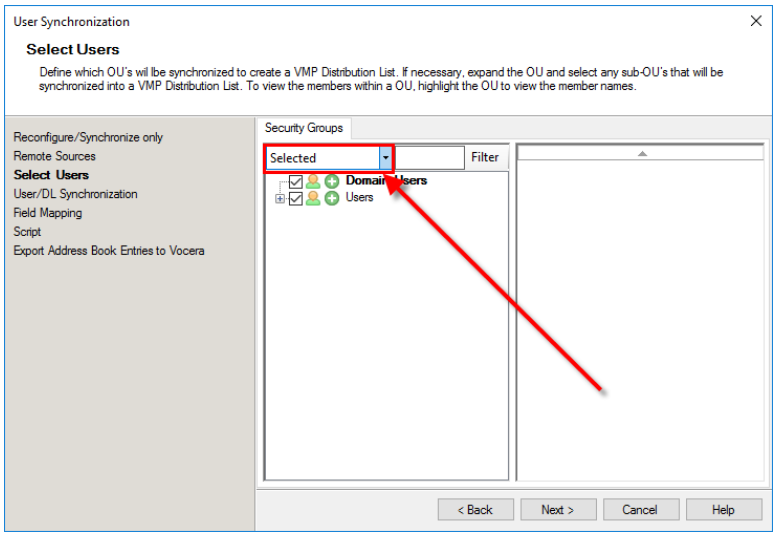
   a. To import an OU, select its checkbox.



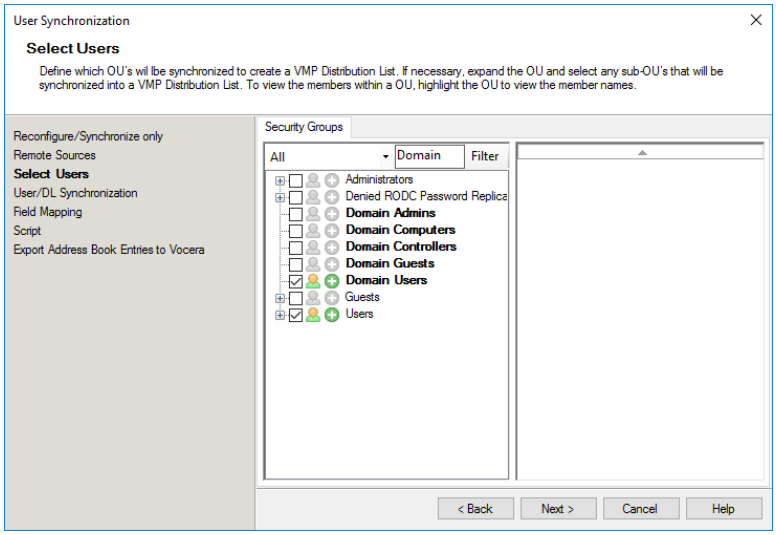
To import a sub-OU, expand the OU and select its checkbox.

b. To limit the display of OUs, use either or both of the following:

- From the dropdown list, select **Selected** to display only the OUs that you have selected.



- To filter the OU list, type text in the field provided and click **Filter**. Only the OUs that contain the filter text are displayed, along with some OUs that are always displayed.



To remove the filter, clear the text field and click **Filter** again.

c. Click **Next**.

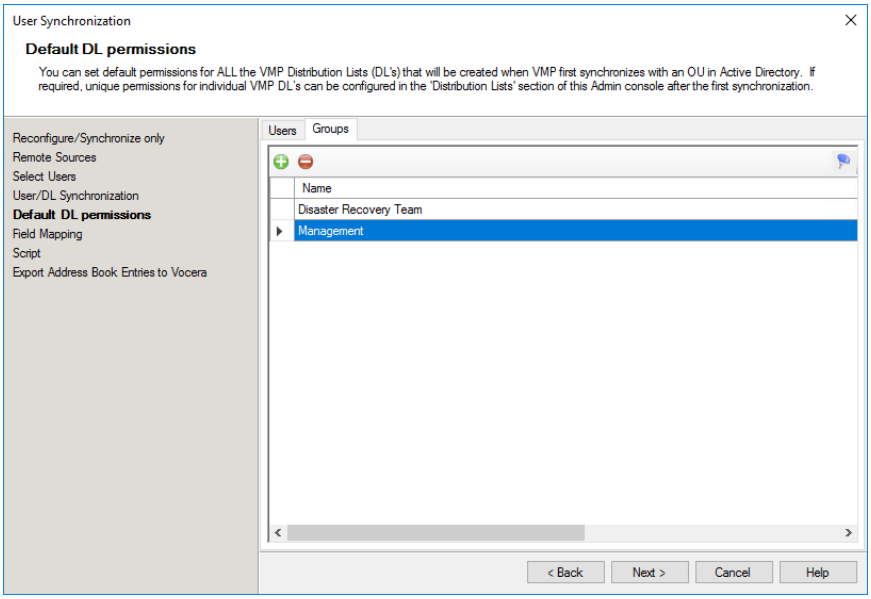
10. The **User/DL Synchronization** screen appears if you have included Active Directory as a source. In this screen, use the radio button selection to configure the Active Directory synchronization options appropriate for your deployment. Depending on the user import configuration, the options are included in the following three tabs:
    - Organization Units
    - Security Groups
    - Distribution Groups

    a. Click each tab to configure the options for the group.

    You can import only the users or import the existing OU hierarchy.

    b. When the options are selected, click **Next**.

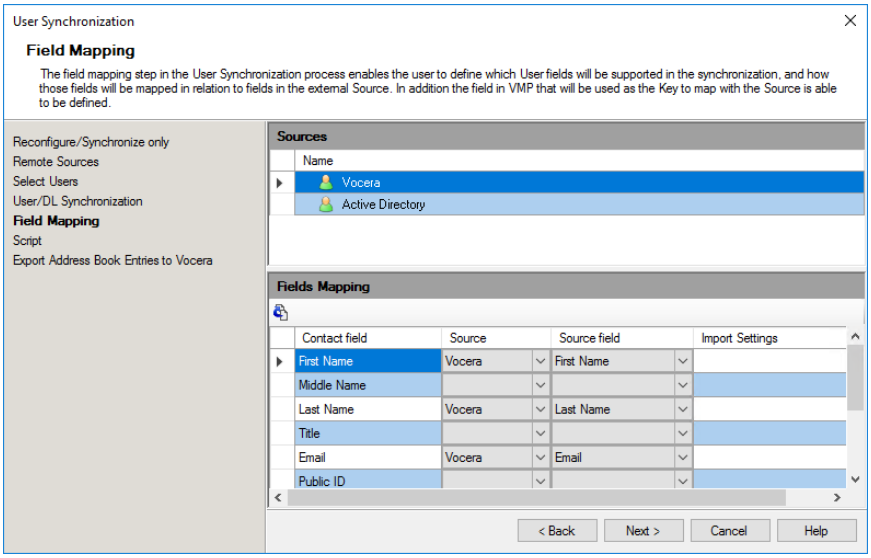
11. The **Default DL Permissions** screen appears if you have included Active Directory as a source and are importing the existing OU hierarchy. In this screen, configure permissions for the default administrator and any groups selected for import. Use the tabs to toggle between User and Group permissions. When the configuration is complete, click **Next**.



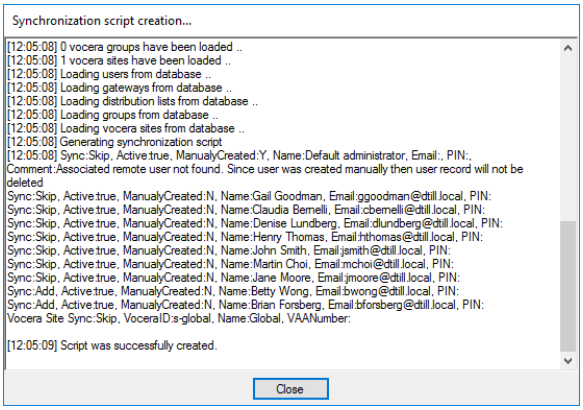
12. In the Field Mapping window, define the field mappings for your deployment, and click **Next**.

    By default, the VMP Server uses email addresses to synchronize contacts between sources. If your environment does not use email addresses, you can synchronize between the Vocera Voice Server **User ID** field and the a field in your Active Directory server (such as **sAMAccountName**). See Synchronizing Using Vocera User ID and Active Directory on page 66 for details on how to do this.

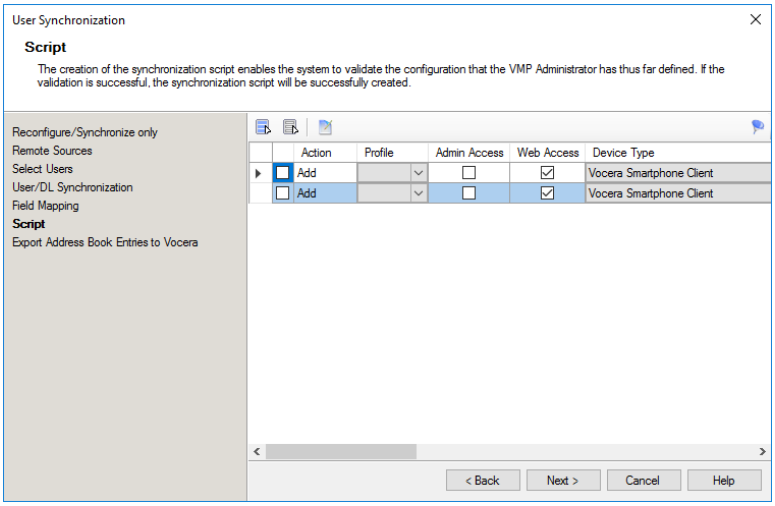
Note: For more information about field mappings, see About Contact Fields on page 186 and About Contact Fields on page 187.



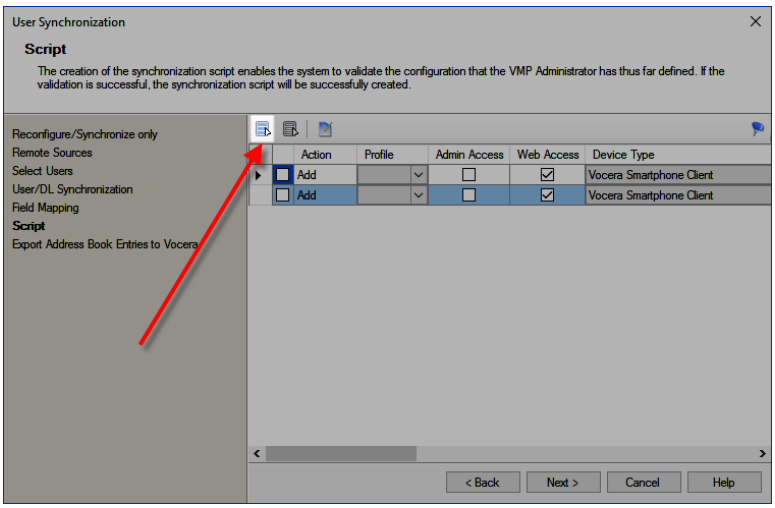
13. The synchronization script is generated by the import wizard options selected and is revealed in a script dialog box. Use the scroll bar to review the script and click **Close**.



14. In the Script dialog, configure the script options as needed:



a. Click **Check All** to confirm the previously configured values.



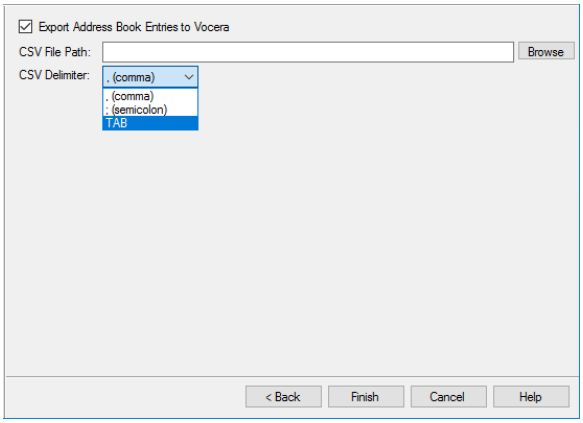
b. To specify that a user imported using this script is to be given access to the VMP Administrator, select the **Admin Access** checkbox.

c. To specify that a user imported using this script is to be given access to the VMP Web Console, select the **Web Access** checkbox.

d. When you have finished configuration, click **Next** or **Finish** to continue. (The button that appears here depends on whether the **Export Address Book Entries to Vocera** screen appears.)

15. The **Export Address Book Entries to Vocera** screen appears if you have included the Vocera Voice Server as a source. In this screen, select the **Export Address Book Entries to Vocera** checkbox to export a CSV file containing a list of the VMP users that do not have a Vocera ID.

    You can use this file to create address book entries in the Vocera Voice Server. See Address Book Entry Exporting on page 35 for more information on this capability.



    Click **Finish** to continue.

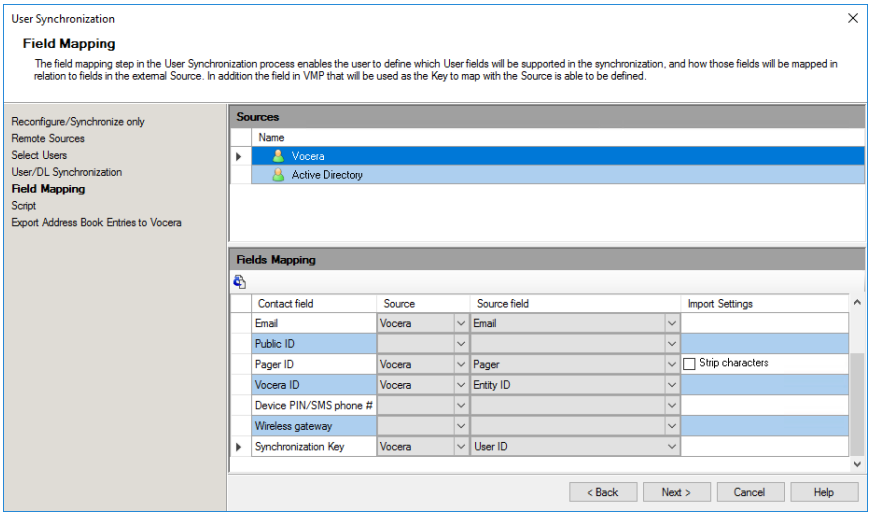
16. The synchronization script runs. When the sync is complete, click **OK** to close the successful sync dialog, and click **Close** to close the script window.

Synchronizing Using Vocera User ID and Active Directory

By default, the VMP Server synchronizes using the email address of each user defined in each source. If you have imported the Vocera and Active Directory sources, you can now synchronize the **User ID** field in the Vocera source with a field in the Active Directory source, such as the **sAMAccountName** field. This is useful in environments where users do not have email addresses.

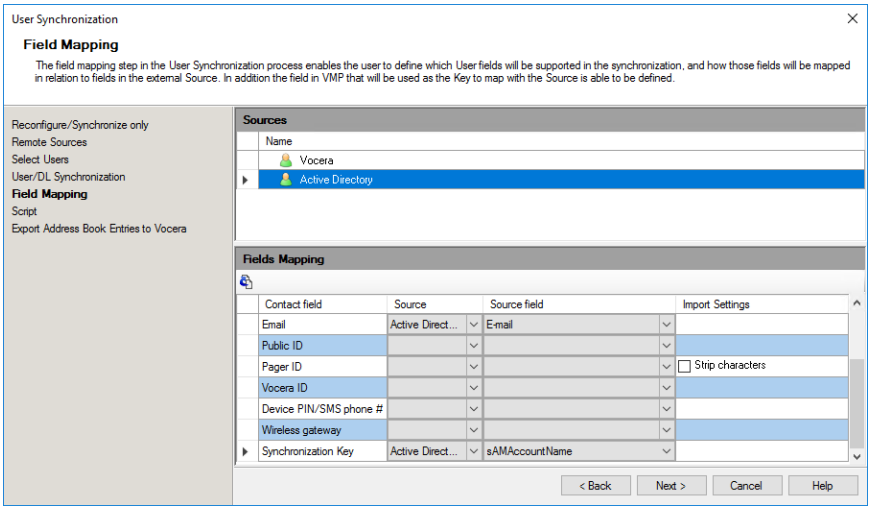
1. Follow the steps described in Synchronizing Users and Contacts on page 60 to start the synchronization process.

2. When you reach the Field Mapping screen, select the Vocera source.
3. Scroll down to the **Synchronization Key** row.
4. In the **Source** column of the **Synchronization Key** row, select **Vocera**.
5. In the **Source field** column of the **Synchronization Key** row, select **User ID**.



Note: By default, in the **Vocera ID** row, the **Source field** column is set to **Entity ID**. Do not change this.

6. Select the Active Directory source.
7. Scroll down to the **Synchronization Key** row.
8. In the **Source** column of the **Synchronization Key** row, select **Active Directory**.
9. In the **Source field** column of the **Synchronization Key** row, select the field that you want to use to synchronize (such as **sAMAccountName**).



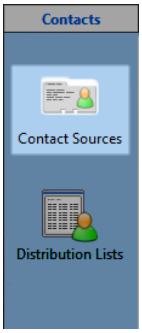
10. Click **Next** to complete the field mapping.
11. Continue following the instructions in Synchronizing Users and Contacts on page 60 to finish user synchronization.

Importing Contacts From a Source

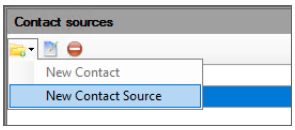
If you have an external source of contact information, you can import the contacts into the VMP Server. You can then regularly synchronize the external source with the VMP Server.

For information on how to import contacts from a Vocera Voice Server global address book, see Importing Contacts From a Vocera Voice Server Address Book on page 69.

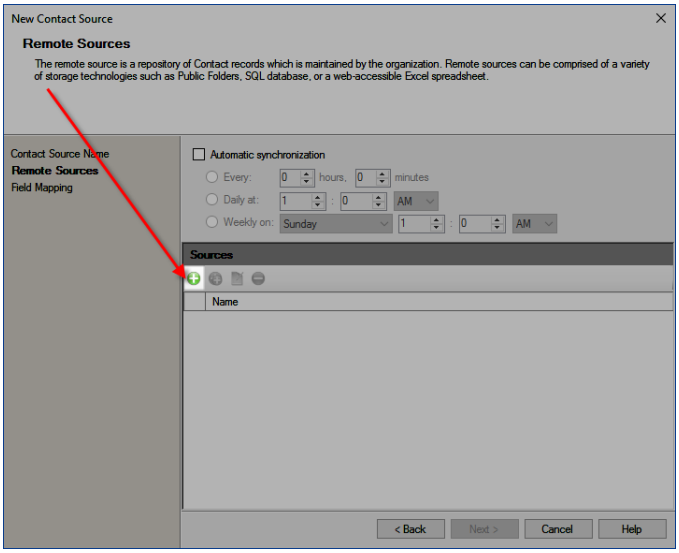
1. Select the **Contacts** module, and select **Contact Sources**.



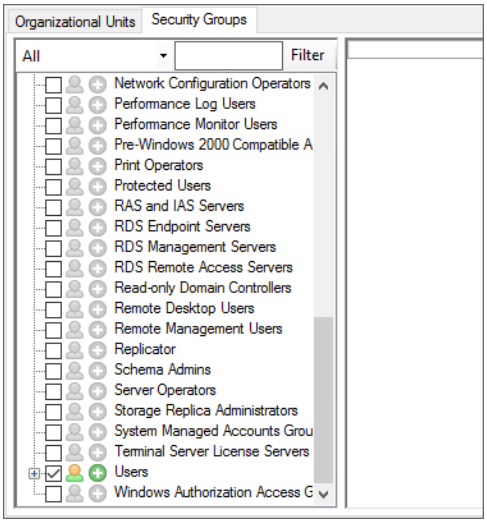
2. Select **New** and choose **New Contact Source**.



3. Enter a name for the new source, select the **Associated with remote source** checkbox, and click **Next**.
4. If you want the VMP Server to be synchronized with this source:
   a. Select the **Automatic synchronization** checkbox.
   b. Select whether you want to synchronize every few hours, daily, or weekly, and then select the time period or time at which synchronization is to take place.
5. Select an existing source or click **Add primary source with contacts**.



6. If the import is from Active Directory, select the contacts and groups to import, and click **Next**.



7. If the import is from Active Directory, configure group and Distribution List import options, and click **Next**.
8. Customize the **Field Mappings**, if desired, and click **Finish**.

   Note: For more information about field mappings, see About Contact Fields on page 186 and About User Field Editing on page 187.

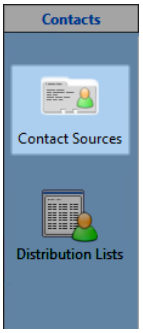
9. Confirm that the synchronization is successful and click **OK** to close the dialog.

Importing Contacts From a Vocera Voice Server Address Book

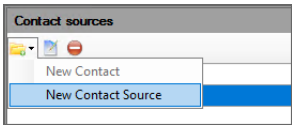
If you have stored contacts in an address book on the Vocera Voice Server, you can import them into VMP. This enables you to access these contacts from the VMP Web Console or Vocera Collaboration Suite.

To import contacts from a Vocera Voice Server address book:

1. Select the **Contacts** module, and select **Contact Sources**.

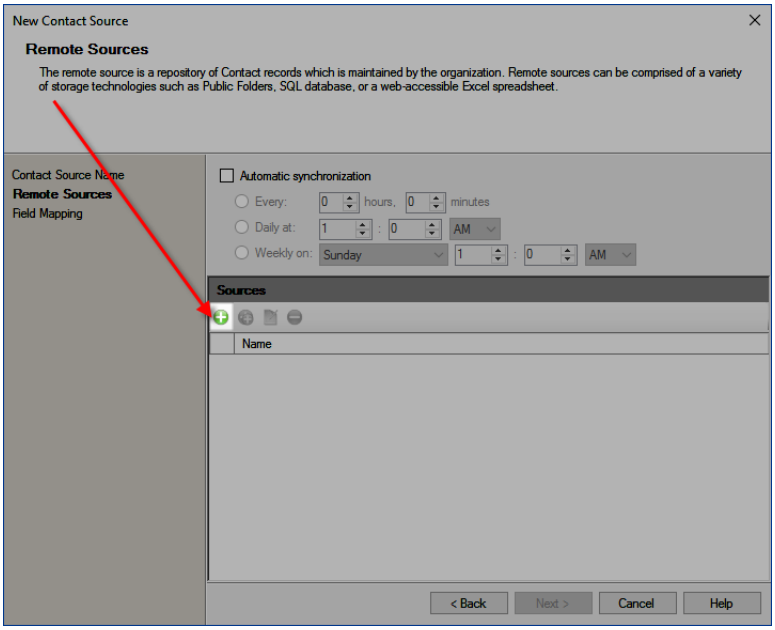


2. Select **New** and choose **New Contact Source**.

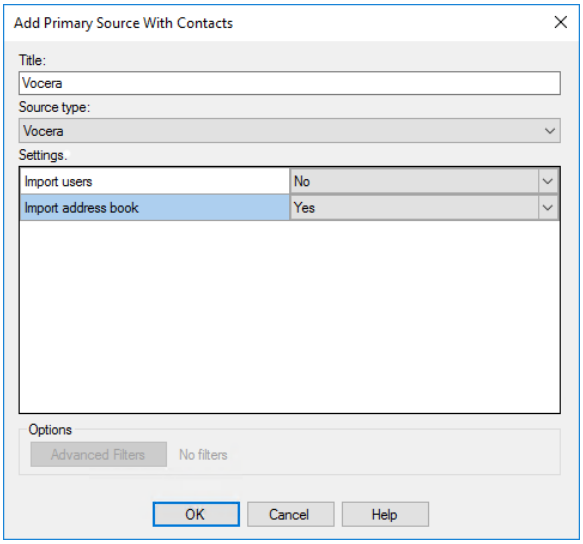


3. Enter a name for the new source, select the **Associated with remote source** checkbox, and click **Next**.
4. If you want the VMP Server to be synchronized with this source:
   a. Select the **Automatic synchronization** checkbox.
   b. Select whether you want to synchronize every few hours, daily, or weekly, and then select the time period or time at which synchronization is to take place.

5. If the Vocera source is not included in the list of contact sources, click **Add primary source with contacts**.

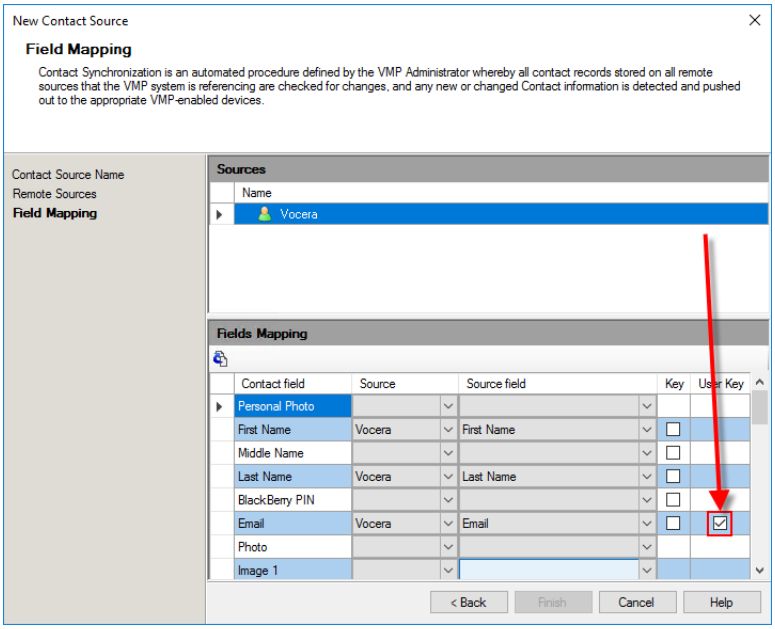


6. In the Add Primary Source With Contacts window, in the **Source type** dropdown list, select **Vocera**.

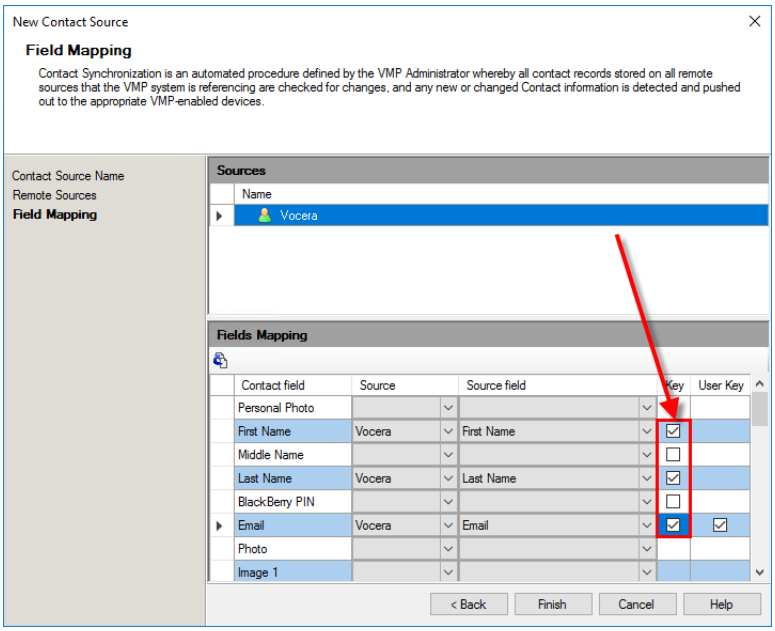


Click **OK**. In the Remote Sources window, click **Next**. The Field Mapping window appears.

7. In the Field Mapping window, locate the Fields Mapping table at the bottom of the window. In the **User Key** column, ensure that the checkbox in the Email row is selected.



8. In the **Key** column, select the checkboxes in the First Name, Last Name, and Email rows, as shown below. Then, scroll down to Business Phone and select this checkbox also. These define the unique key that will be used to identify each address book entry.



   If your site uses pagers, scroll to the Pager checkbox and select it also.

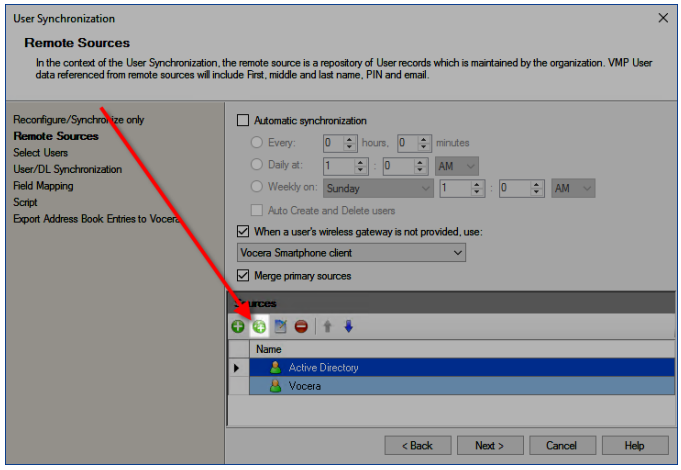
   Setting these key entries is the best practice for most deployment models. Check your Vocera Voice Server address book to see what model works best for you.

9. Click **Finish** to start synchronizing the address book.
10. Confirm that the synchronization is successful and click **OK** to close the dialog.

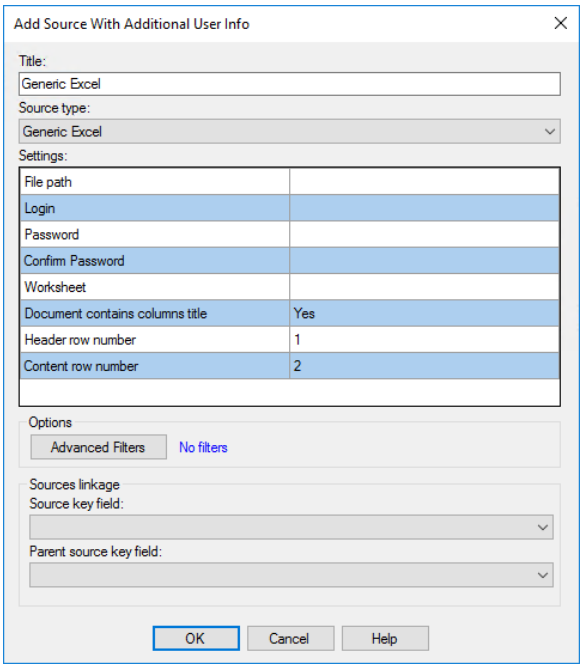
Adding a Secondary Source

When synchronizing, you can specify a secondary source that is to be linked with data in one of the sources that you have previously created. To link a secondary source with a primary source, you must specify the common key between the two sources.

1. During synchronization, in the Remote Sources window, locate the Sources pane and click **Add source with additional user info**.



2. In the Add Source With Additional User Info dialog box, supply the title, source type, and connection parameters for the new secondary source. These fields are identical to those that you provide when you are creating a primary source.



   For details on providing these fields, see one of the following, depending on the type of the secondary source that you are creating:

   - Active Directory: see Importing Users From Active Directory on page 52
   - Vocera Voice Server: see Importing Users From Vocera Voice Server on page 50
   - Excel and CSV files: see Importing Users From an Excel or CSV File on page 55
   - SQL: see Importing Users From SQL on page 57

3. In the **Source key field**, specify the secondary source field to use as the common key.
4. In the **Parent source key field**, specify the primary source field to associate with the secondary source key field.
5. Click **OK** to add the secondary source.

User Devices and Client Application Configuration

To enable user devices and client applications to work with the VMP Server, you can perform these tasks.

- Send device installation information to a user device.
- Set up autoconfiguration for Vocera Collaboration Suite devices.
- Enable or disable email communication on user devices and the VMP Web Console.

Vocera Solution Comparison

Vocera smartphone and badge solutions offer secure messaging capability to any health care professional. Regardless of role or location, you can use Vocera to send secure, HIPAA-compliant messages to any member of your care team.

The following table lists the attributes and capabilities of the Vocera badge, Vocera Secure Texting, Vocera Collaboration Suite, and the Vocera Smartbadge. Use this table to determine what solution is the best choice for you.

Attribute	Vocera Badge	Vocera Secure Texting		Vocera Collaboration Suite		Vocera Smartbadge
Network Supported	**Wi-Fi**	**Cellular**	**Wi-Fi**	**Cellular**	**Wi-Fi**	**Wi-Fi**
Supports Shared Devices	✓			✓	✓	✓
Hands Free	✓					✓
Voice Automated	✓			✓	✓	✓
Contact by Name, Role, Group	✓	✓	✓	✓	✓	✓
Receive Group Call and Broadcast	✓				✓	✓
Initiate Group Call and Broadcast	✓			✓	✓	✓
Push-to-Talk	✓				✓	✓
Contacts Directory Search		✓	✓	✓	✓	✓
Favorites List		✓	✓	✓	✓	✓
Presence/Availability Information		✓	✓	✓	✓	✓
Select-to-Connect Commands		✓	✓	✓	✓	✓
Keypad for extension dialing				✓	✓	✓
Simple Paging	✓			✓	✓	✓

Attribute	Vocera Badge	Vocera Secure Texting		Vocera Collaboration Suite		Vocera Smartbadge
Alarms/Alerts through integration	✓			✓	✓	✓
Secure transmission and delivery of messages		✓	✓	✓	✓	✓
Text Users and Groups		✓	✓	✓	✓	✓
Web Console Messaging		✓	✓	✓	✓	✓

The Vocera messaging solutions enable you to:

- Reach the **right person, instantly**.
- At the **right time**.
- On the **right device**.
- With the **right information**.
- In the **right place, anywhere**.

MDM Deployment

If you are using a Mobile Deployment Management (MDM) implementation in your environment, you can use it to deploy Vocera Collaboration Suite.

The Vocera Collaboration Suite utilizes the following three key-value pairs. Your MDM solution must implement these in its configuration. Contact your MDM solution vendor for assistance.

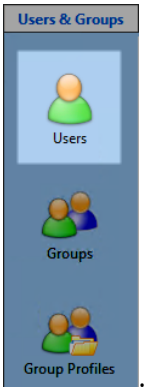
Field Name	Description
LoginType	The method to log into this device. This is either `shared` or `personal`.
ServerIP	The IP address or fully-qualified domain name (FQDN) of the VMP Server.
ServerCertificateCheck	If this is set to `true`, check for a valid server certificate on first connection. If `false`, use the value of the **Enforce server certificate validation on smartphone** configuration option in the VMP Administrator to determine whether to check for a valid server certificate. See About Device Certificates on page 76 for more information on device and server certificates.

Sending Installation Information to User Devices

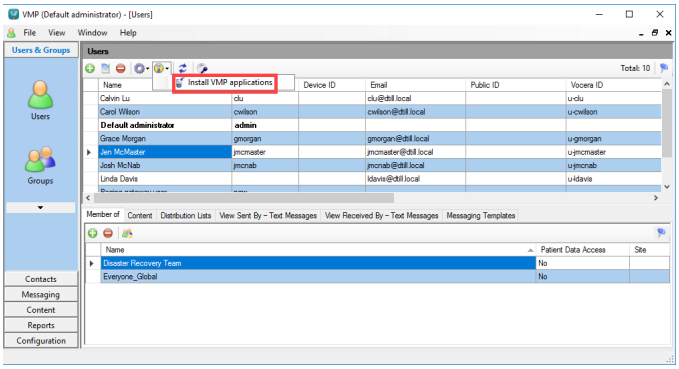
You can send instructions on how to install and register the client application on a user's device.

Note: If you are upgrading your iOS devices to VCS 3.4 or later, and you are installing a new SSL certificate on your VMP Server, you will need to re-register your VCS application on your devices.

1. Select **Users & Groups > Users**.



2. In the Users pane, highlight the name of the user to be sent installation instructions.
3. In the toolbar, click the **Notify mobile device** dropdown list and select **Install VMP applications**.



4. If no registration key exists for this user, you will be asked whether you want to generate one. Click **Yes**.
5. A notification dialog box appears, indicating that the installation information has been sent to the user's email address.

Note: The generated registration key is valid for 48 hours only.

Autoconfiguration of Vocera Collaboration Suite Devices

When the Vocera Collaboration Suite is started on a device, a startup screen appears on which the user can specify the fully-qualified domain name (FQDN) or IP address of the VMP Server. You can autoconfigure the Vocera Collaboration Suite client to display the FQDN or IP address of the server on this startup screen.

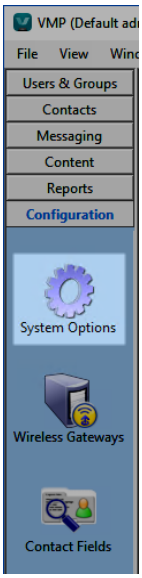
To set up autoconfiguration, have your IT department create a DNS entry named **autodiscovervs** for the VMP Server. The recommended approach is to configure the autodiscovervs entry as a CNAME record and reference the FQDN of the VMP Server (or the VMP Server load balancer). The VCS client will use the FQDN present in the CNAME record if there is an A record for the FQDN. If no DNS CNAME record is found but an A record exists for autodiscovervs, the VCS client will use the IP address specified to connect to the VMP Server.

The VCS client will search for **autodiscovervs.localdevice** if it cannot find **autodiscovervs**.

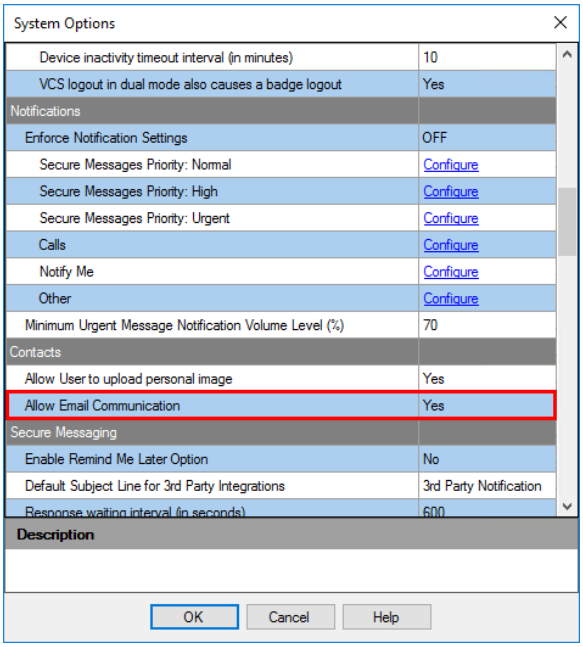
Enabling Email Communication

You can configure the VMP Server to enable or disable email communication on user devices and the VMP Web Console.

1. Start the VMP Administrator and select **Configuration > System Options**.



   The System Options dialog box appears.
2. Scroll to **Contacts**.
3. From the **Allow Email Communication** dropdown list, select **Yes** to allow clients to send email to contacts, or select **No** to disallow email.



4. Click **OK** to save your change.

About Device Certificates

You can use a certificate-based solution to ensure that only trusted devices can use the Vocera Collaboration Suite application to connect to the VMP Server.

To employ this solution, contact your IT administrator and obtain a root and child certificate pair for use in your VMP and VCS environment. This certificate pair should not be used for any other purpose.

The root certificate is then installed on the VCS devices that are to be trusted. You can install this certificate in any of the following ways:

- Use a Mobile Device Management (MDM) solution. Ensure that your VCS devices can gain access to the certificate from the MDM.
- For Apple devices, use the Apple Configuration Utility.
- Provide a link to the certificate in an email message that is provided to devices as part of the device registration process.

Note: Each VCS device must have the same root certificate.

The child or leaf certificate of the root certificate is then installed on the VMP Server. See Uploading a Device Certificate on page 77 for details on how to install this child or leaf certificate.

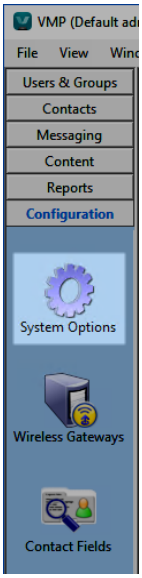
Note: For technical details on the certificate and public key pinning solution used here, see Certificate and Public Key Pinning.

Uploading a Device Certificate

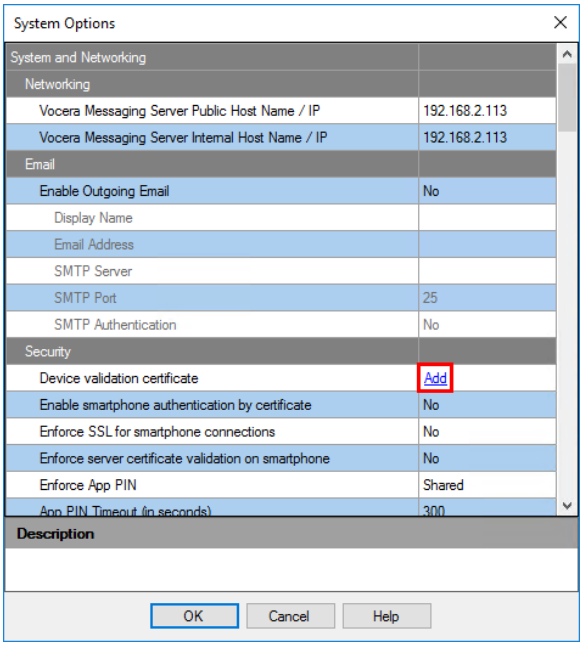
If you have used a Mobile Device Management solution or other solution to install a root certificate on your devices, you can provide a child or leaf certificate of this root certificate to the VMP Server. This ensures that only trusted devices can use the Vocera Collaboration Suite application to connect to the VMP Server.

To upload a child or leaf certificate to the VMP Server:

1. Start the VMP Administrator and select **Configuration > System Options**.



   The System Options dialog box appears.
2. In the **System and Networking** section, scroll to **Security**.
3. In the **Device Validation Certificate** row, click **Add**.



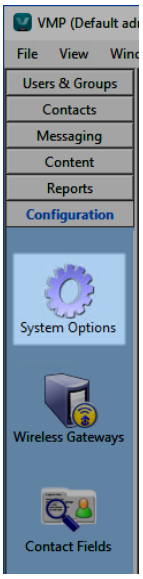
4. Locate the child or leaf certificate on your computer. The file name for this certificate has the suffix `.cer`.
5. Click **Open**. The device certificate is now uploaded.

Configuring VCS to Use Vocera Client Gateway

You can specify that VCS is to use TCP to communicate with the Vocera Client Gateway server instead of using Comet to communicate with the Vocera Voice Server. This is recommended, as it improves resource management on the VCS clients.

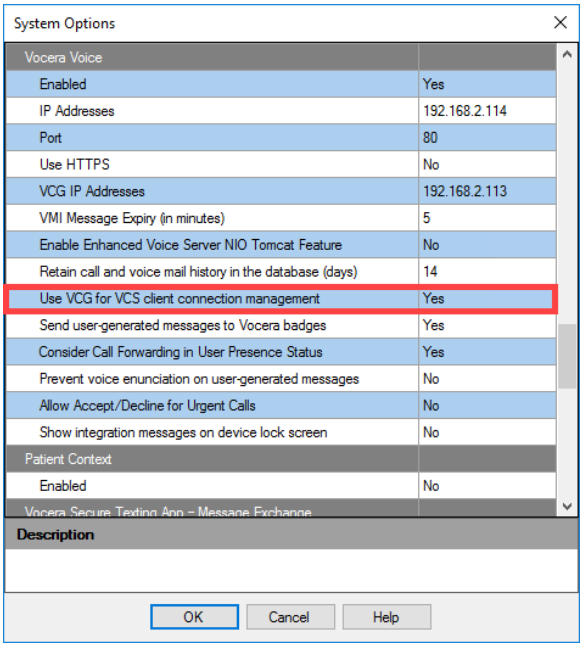
Note: Vocera Voice Server 5.3.1 or later and VCS 3.2 or later are prerequisites if you want to use TCP to communicate with the Vocera Client Gateway server. To use TCP to communicate with the Vocera Client Gateway server when using devices that operate on Wi-Fi only, VCS 3.6 or later is required.

1. Start the VMP Administrator and select **Configuration > System Options**.



The System Options dialog box appears.

2. Scroll down to the **Integrations** > **Vocera Voice** section.
3. Set the **Use VCG for VCS client connection management** option to **Yes**.



4. Click **OK** to save your changes.

On the Vocera Client Gateway server, you can edit a properties file named `vgwproperties.txt` to control the behavior of the VCS and VMP interface. For more details, see the Vocera Voice Server Telephony Configuration Guide.

Vocera Client Gateway Site Awareness

In a multi-site environment, the Vocera Collaboration Suite client provides information to the VMP Server to determine the location of the Vocera Client Gateway servers to use when making calls. This ensures that calls do not have to traverse multiple network hops.

When a VCS client first registers with the VMP Server, it presents information to the server to register the client's location. The VMP Server then determines which Vocera Client Gateway servers are closest to this client's location. If necessary, the VMP Server communicates with the Vocera Voice Server to obtain this location information.

After receiving this location information, the VCS client uses it to determine which Vocera Client Gateway server to use. If the closest Vocera Client Gateway server is unavailable, the next closest is used, until the list is exhausted.

If the Vocera Collaboration Suite client is an older version, and does not provide any location information, the VMP Server provides a default set of Vocera Client Gateway server addresses to use. This list of servers is obtained from the Vocera Voice Server.

For more information on locations, see the documentation on locations in the Vocera Voice Server Administration Console Guide.

Wakeup Notifications for VCS Clients

The VMP Server sends wakeup notifications to clients that are offline or do not have a Vocera Voice Server ID, and that have not sent a `getpushdata` query to the server within the last 5 minutes and 15 seconds.

When the server sends a wakeup notification, it sends a VoIP notification to clients running version 3.2 or later of VCS on iOS or a FCM notification to clients running version 3.2 or later of VCS on Android. It sends a regular APNS or FCM message to clients running older versions of VCS.

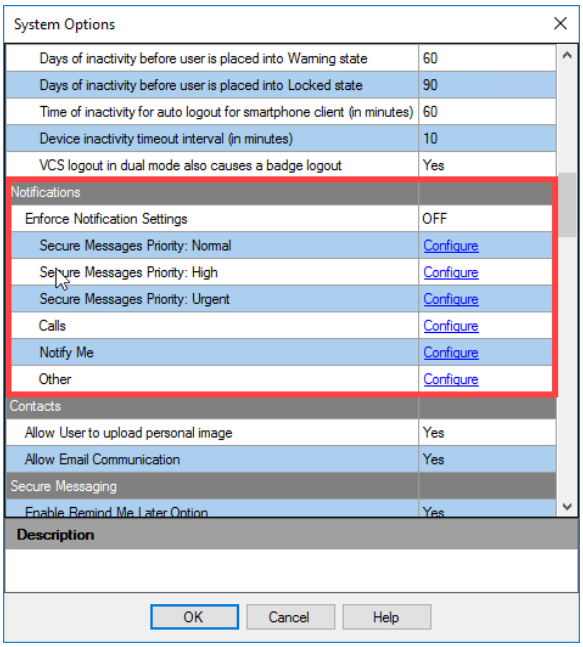
If a VCS client is also a Vocera Voice Server user and is logged into the Vocera Voice Server, notification is handled by both the Vocera Client Gateway and the VMP Server.

Specifying Notification Options

You can specify the vibration and ringtone for messages, calls, and other notifications sent to the use of these system-level notifications on all devices.

1. Start the VMP Administrator and select:

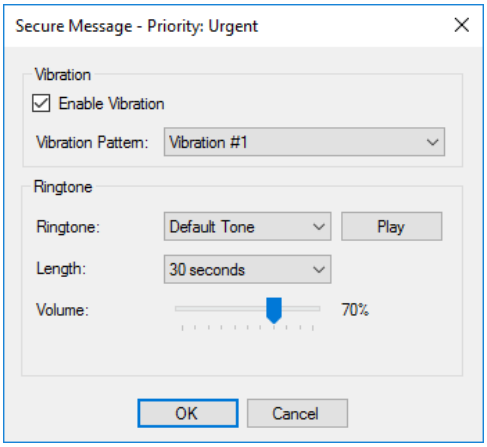
   Configuration > System Options
2. Scroll to **Notifications**.



3. In this section, locate the notification option for which you want to define the default vibration and ringtone. The following settings are available:

Setting	Description
Secure Messages Priority: Normal	The vibration pattern and ringtone for Normal priority secure messages.
Secure Messages Priority: High	The vibration pattern and ringtone for High priority secure messages.
Secure Messages Priority: Urgent	The vibration pattern and ringtone for Urgent priority secure messages.
Calls	The vibration pattern and ringtone for calls.
Notify Me	The vibration pattern and ringtone for notifications that are generated when the **Notify Me** checkbox is selected for messages that require a response, and a response is not provided in the specified time.
Other	The vibration pattern and ringtone for notifications for changes in On-Call status, new or updated Content, missed calls, and voicemails.

   In the located option, click **Configure** to display the dialog box for configuring the vibration and ringtone.



In this dialog box, do the following:

a. Select the **Enable Vibration** checkbox to enable a vibration to be included as part of the notification.
b. From the **Vibration Pattern** dropdown list, select the vibration pattern to use.
c. From the **Ringtone** dropdown list, select the ringtone to use. Click **Play** to hear a sample of the ringtone that you have selected. The sample ringtone is played three times.

   For the **Notify Me** option, **Ringtone** can be set to **Silent**. This turns off this ringtone on client devices.

   Important: Ringtones 9 through 14 are not available on Android devices that are using versions of VCS prior to version 3.4. You must upgrade your Android devices to version 3.4 to use these ringtones.

d. In the Secure Messages Priority configurations, from the **Length** dropdown list, select the length of time that the ringtone is played in seconds. This can be 1 second, or any 5-second interval from 5 seconds to 30 seconds. In the **Secure Messages Priority: Urgent** configuration, the length of the ringtone can also be set to 60 seconds or Unlimited.

   If the ringtone is shorter than the specified length, it is played repeatedly throughout the selected time period.

   When a user receives a message within a conversation, a single tone is played.
e. In the **Secure Messages Priority: Urgent** configuration, use the **Volume** slider to specify a minimum volume level on client devices for messages classified as Urgent. The default value is 70%.
f. Click **OK** to close the dialog box.

4. Repeat the previous step for all other notification options for which you want to specify the vibration and ringtone.
5. If you want to force all devices to use these system-level options, set the **Enforce System Settings** option to **ON**. By default, this option is set to **OFF**, which means that users can specify their own vibration and ringtone notifications.
6. Click **OK** to save your changes.

VCS SSL Requirements

If your devices are using VCS 3.4 or later for iOS, you must have SSL enabled on the VMP Server.

See VMP Server Requirements on page 10 for more details on VMP hardware requirements.

If you are upgrading your iOS devices to VCS 3.4 or later, and you are installing a new SSL certificate on your VMP Server, you will need to re-register your VCS application on your devices. See Sending Installation Information to User Devices on page 74 for more details on registration.

VCS Wi-Fi Configuration Best Practices

Smartphones are a necessary tool in today's workplace. Vocera Collaboration Suite is an essential smartphone application that allows users to securely stay connected. This documentation lists considerations to take into account before designing and deploying Vocera Collaboration Suite (VCS) as part of your workflow solution.

Wi-Fi Supported Settings

The Wi-Fi settings listed here are supported.

Setting	Recommendation
Wi-Fi Quality (2.4 and 5 GHz will be different)	Voice Grade
2.4 or 5 GHz	5 GHz only
MDM	Supported
Phone Model / OS	See the Vocera Collaboration Suite release notes
Wi-Fi Assist or Smart Wi-Fi Switcher	Disabled
SSID Priority Queue	Highest
VPN / Per App VPN	No
Captive Portal	No
Session Timeouts	None
Wireless Authentication	WPA2 PSK
	802.1X w/ 802.11k/r
Client Exclusion Policies	Disabled

Site Survey

Vocera Collaboration Suite includes a voice application which connects over Wi-Fi. For best results, a Voice grade wireless network must be designed, and a site survey must be completed to verify proper coverage for the frequency band it will be deployed on.

If you have badges running on 2.4 GHz and plan to run VCS on 5 GHz, the 5GHz must be validated. The radio characteristics and planning of 2.4 and 5GHz are very different. Sufficient coverage on the 2.4 GHz network does not mean adequate coverage for 5 GHz. In both cases, the requirements are to have -65dBm power coverage with an SNR of 25 at 50mW or lower AP power output wherever the devices will be utilized.

Smartphones

One of the most important considerations when deploying Vocera Collaboration Suite is the capability of the smartphone platform.

Most smartphones are consumer grade devices and are limited in their Wi-Fi capabilities. Improvements come with each generation of the phone. For the best user experience, use a phone released in 2014 or later. Improvements have come in three main areas:

- Wi-Fi Roaming

- Wi-Fi Security
- Battery Management

Deployment Models

There are three typical models of smartphone use in the enterprise: Corporate Owned, BYOD, and Mixed.

Corporate Owned

The corporate owned model allows the business to completely secure the device and restrict applications and use for business needs.

A Mobile Device Management (MDM) solution is highly recommended to deploy and control these devices. With an MDM, the smartphone can be completely locked down so users can only use the necessary resources.

BYOD

Many employees have personal smartphones and use them at work. The challenge with this model is that it is difficult to know if the BYOD phone will perform well.

Use of an MDM can be highly beneficial in making sure the device meets the minimum technical and security requirements.

WLAN Settings

Many Vocera deployments are likely to have a combination of Vocera Badges and smartphones with the Vocera Collaboration Suite client installed. This section discusses the best practices for deploying for this mixture.

Wireless Priority and Applications

This table provides a list of priority classes and their associated data types and applications.

Priority Class	Data Type	Application	Example
Voice	Voice only	Critical, voice only applications	Vocera Badges
Video	Video/mixed use	Latency sensitive, mixed voice/data	Smartphone running Vocera CS
Best Effort	Data	Data only applications	Web, email, chat
Background	Guest	Not business related	Guest chat, video, etc.

Quality of Service

In the wireless world, QoS is used to make sure the most important traffic will have priority over less sensitive traffic.

Voice traffic is sensitive to delays in audio delivery (latency) and to variations in the timing of the audio delivery (jitter). Voice over wireless is especially challenged because it is a shared medium. For the best user experience, all audio traffic must be tagged with the appropriate QoS markings on the wired infrastructure and be allocated to the appropriate wireless priority queue. The recommendations described here focus on wireless prioritization, as it is typically more constricted.

Tip: An important thing to remember about Quality of Service (QoS) is that it is only important if there is contention on the media. Traffic metering lights on freeway entrances are a type of quality of service. When there is no traffic on the freeway there is no need to restrict traffic coming on.

> When the freeway is very busy, the metering lights are used to restrict the cadence of adding more traffic. This restriction prevents the freeway from coming to a standstill.

Wireless prioritization is usually done at the SSID level. Vocera recommends that all voice only applications, such as the Vocera Badge, be allocated to the voice SSID.

Mixed use devices, such as smartphones running Vocera Collaboration Suite (VCS), should use an SSID with highest priority. Because the smartphone can only associate to one SSID, it cannot send voice packets to the voice SSID and other packets to a lower priority SSID. It allows VCS voice packets to have higher priority over other data traffic. The data packets from VCS will not impact voice quality on the voice only SSID.

All other data applications in the environment should use an SSID with Best Effort priority. Data applications typically use TCP and HTTP, which have protocol layer redundancy. Latency and jitter that would seriously impact a voice application have no discernable effect on data applications.

The Background priority should be used for traffic that is least important to business. While Guest access is important to patient and family satisfaction, it is less important than most business traffic. Care should be taken to provide a balance for guest access to the wireless network.

2.4 vs 5 GHz Frequency Bands

The current generation of Apple and Android smartphones contain Wi-Fi radios that support both the 2.4 and 5 GHz frequency bands.

The 2.4 GHz band is typically overutilized because there are fewer channels and it is used by more devices. It also has more common interference sources, such as microwave ovens, wireless security cameras, and Bluetooth devices.

It is highly recommended that VCS enabled smartphones be deployed on a voice quality 5GHz infrastructure only.

5GHz Channels and Dynamic Frequency Selection (DFS)

Depending on location, some channels may not be available in the 5GHz frequency band. Channel use is limited by each country's regulatory agency.

Some of the 5 GHz channels are sometimes not available, as other applications (primarily RADAR) have priority use. If the Wi-Fi is using one of these channels and the AP detects it is being used by RADAR, the AP will change channels. When this happens, the clients associated with that AP will be forced to look for another AP. If a voice call is active during the channel change, voice audio will be interrupted.

If your facility is near an airport or a weather station (common users of RADAR), you should disable DFS channels.

Security

Wireless security is an important consideration, especially when deploying a BYOD model.

Captive Portal

Wi-Fi Captive Portals require the user to log in through a web page before getting full access to the Wi-Fi network.

The granted access is usually for a limited time. When that time expires, you must login again through the web page.

A Captive Portal should not be used when deploying VCS. If it must be deployed, set the session timeout to longer than a shift so that users do not have to re-login during their shift.

Virtual Personal Network (VPN)

VPNs are typically used to create a secure connection to a network. Using a VPN with VCS is not recommended.

- The VCS client is already on a secure network. Unless the VCS client is on the guest network (not recommended), it is already secure.
- VPN can be computationally intensive, which may cause delay or jitter in the audio packets.

iOS 7 Per App VPN

With iOS 7, Apple introduced a way to initiate a VPN on a per-application basis. Unfortunately, the implementation limits traffic over the VPN tunnel to TCP and HTTP traffic.

VCS uses UDP for both audio and signaling, and therefore will not work over a Per App VPN.

802.1X

Before a smartphone can use the Wi-Fi network, it must associate with the network and be validated.

The easiest way to do this is to configure a key on the smartphone. After it is configured and when it comes on the network, or when it roams between APs, the smartphone uses the key to get on the network.

A more secure method is to use an Authentication server (such as RADIUS, IAS, ICS, AAA). Authentication uses the 802.1X protocol to validate the user by using an Extensible Authentication Protocol (EAP) type. There are many EAP types, but they are all similar in that they communicate to the Authentication server before allowing access to the network. While 802.1X and EAP are more secure, they take time to perform the authentication. The authentication can take several seconds and occurs when the device first comes on the network and every time the smartphone roams between APs. If a smartphone is in a VCS call while roaming, there could be several seconds of lost audio on each roam.

802.11k/r

If 802.1X is required, 802.11k/r must be used. 802.11k/r are protocols that improve the roaming times drastically when using 802.1X.

VMP Security

The following sections describe how security is implemented in the VMP environment.

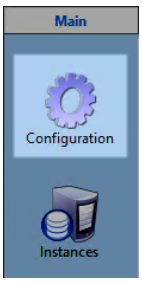
Configuring the VMP Server For Secure Connections

If the VMP Server was not configured to use SSL during installation, you can use the VMP Enterprise Manager to configure it to use SSL after installation.

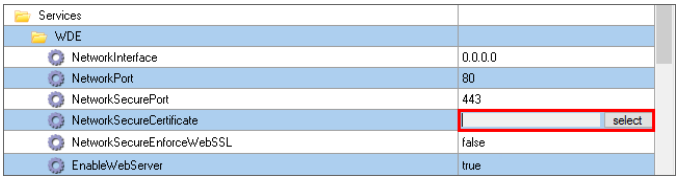
You can also follow these steps to configure the VMP Server to use an updated SSL certificate.

Note: If you are using VMP in a clustered environment, and want to use SSL, you must configure each cluster node to use SSL.

1. Start the VMP Enterprise Manager.
2. Select **Configuration**.

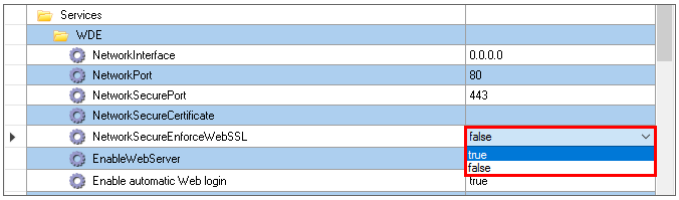


   The Configuration window appears.
3. Scroll down to the **Services** folder and then to the **WDE** subfolder.
4. In the **NetworkSecureCertificate** row, click in the **Value** column, then click **select**.



5. In the Select Certificate dialog box, select the SSL certificate that you want to use, and click **OK**.

   Note: Vocera recommends that you use a publicly issued SSL certificate rather than a self-signed certificate. If a self-signed certificate is used, most web browsers will generate an error when the VMP Server is accessed from the VMP Web Console, which might cause confusion for end users.
6. If you want to enforce the use of SSL when connecting from a web browser to this VMP Server, click in the **Value** column of the **NetworkSecureEnforceWebSSL** row. From the dropdown list that appears, select **true**. Users that attempt to connect using HTTP are now directed to the HTTPS URL.



For information on enforcing the use of SSL between the VMP Server and VMP clients, see Enforcing SSL on the VMP Server on page 87.

7. Click **Save** to save your changes. In the confirmation dialog box that appears, click **OK**.
8. After you have made your changes, the VMP Server needs to be restarted. In the dialog box that appears, click **Yes** to restart the VMP Server now, or click **No** to restart it later.

Enforcing SSL on the VMP Server

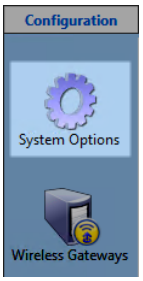
From the VMP Administrator, you can enforce that all communications between the VMP Server and VMP clients are to use SSL. This ensures that all communications are securely encrypted.

Note: The use of SSL can be enforced during the installation of the VMP Server. See Installing the VMP Server on page 13 for details.

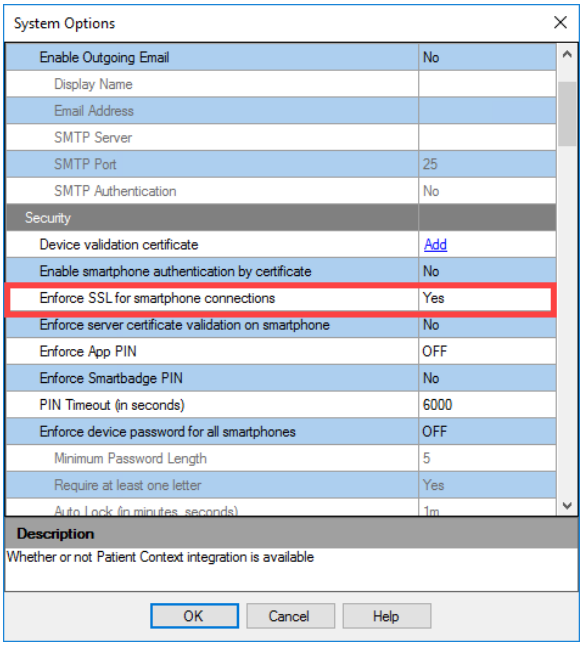
If you are updating a previously installed VMP Server to enforce the use of SSL, all existing VMP clients that are not using SSL must re-register to use the VMP Server, as the connection protocol used by a client is specified when the client is registered.

Before you can enforce SSL use, you must configure a SSL certificate. For details, see Configuring the VMP Server For Secure Connections on page 86.

1. Start the VMP Administrator.
2. Select **Configuration > System Options**.



3. In the **System Options** dialog box, scroll to the **Security** section and click in the right column of the **Enforce SSL for Smartphone connections** row.



4. From the dropdown list that appears, select **Yes**.
5. Click **OK**.

SSL Certificate Expiry Notification

If the SSL certificate that you are using with your VMP Server is set to expire in 30 days, the VMP Server sends you an email notification once a day to remind you.

The format of the email message is:

```
Subject: VMP SSL certificate expiring on <datetime>
Your VMP SSL certificate used for HTTPS connections is expiring on <datetime> and
needs to be renewed. Failure to renew the certificate can result in connectivity issues
 between
the VMP server and other devices.
```

iOS and Android Security

For clients on the iOS and Android operating systems, the security and encryption structure depends on whether you are using the client within your organization's Wi-Fi network.

- If you are using a device running the iOS operating system outside of your corporate Wi-Fi environment, the VMP Server uses the security features provided with the Apple Push Notification Service (APNS).
- If you are using a device running the Android operating system outside of your corporate Wi-Fi environment, the VMP Server uses the security features provided with the Firebase Cloud Messaging (FCM) service.

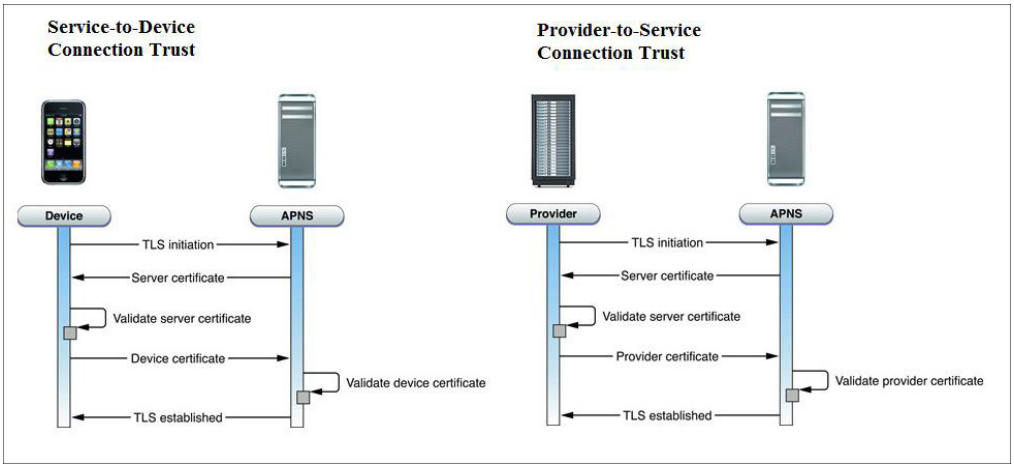
Note: On Android and iOS devices, the Vocera Collaboration Suite application performs its own data encryption and decryption. It does not depend on the operating system's encryption process.

Apple iOS Server Data Encryption

To enable communication between a provider and a device, the Apple Push Notification Service (APNS) must expose port 443. To ensure security, it must also regulate access to this entry point. For this purpose,

APNS requires two different levels of trust for providers, devices, and their communications. These are known as connection trust and token trust.

- Connection trust establishes certainty that, on one side, the APNS connection is with an authorized provider with whom Apple has agreed to deliver notifications. On the device side of the connection, APNS must validate that the connection is with a legitimate device.
- Token trust is made possible through the device token. A device token is an opaque identifier of a device that APNS gives to the device when it first connects with it. The device shares the device token with its provider. Thereafter, this token accompanies each notification from the provider. It is the basis for establishing trust that the routing of a particular notification is legitimate. In a metaphorical sense, it has the same function as a phone number, identifying the destination of a communication.



Apple APNS Data Transfer Encryption

Apple Push Notification Service (APNS) is a robust and highly efficient service for sending secure data to devices running on the iOS operating system. Each device establishes an accredited and encrypted IP connection with the service and receives notifications over this persistent connection. If a notification for an application arrives when that application is not running, the device alerts the user that the application has data waiting for it.

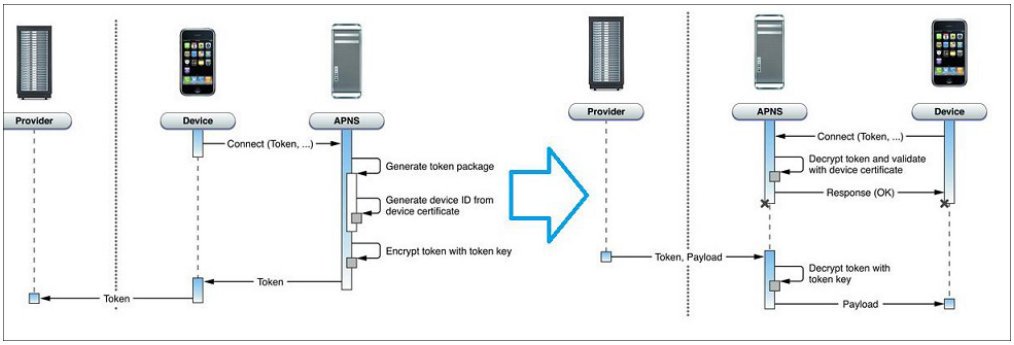
APNS includes a default Quality of Service (QoS) component that performs a store-and-forward function. If APNS attempts to deliver a message when the device is offline, the QoS stores the notification. It retains only one notification per application on a device: the last notification received from a provider for that application. When the offline device later reconnects, the QoS forwards the stored notification to the device. The QoS retains a notification for a limited period before deleting it.

Apple iOS Device Data Encryption

All devices using Vocera Collaboration Suite with iOS must register with the VMP Server to receive push notifications. The registration occurs after the application is installed.

Once iOS receives the registration request from an application, it connects with APNS and forwards the request. APNS generates a device token using information contained in the unique device certificate. The device token contains an identifier of the device. It then encrypts the device token with a token key and returns it to the device.

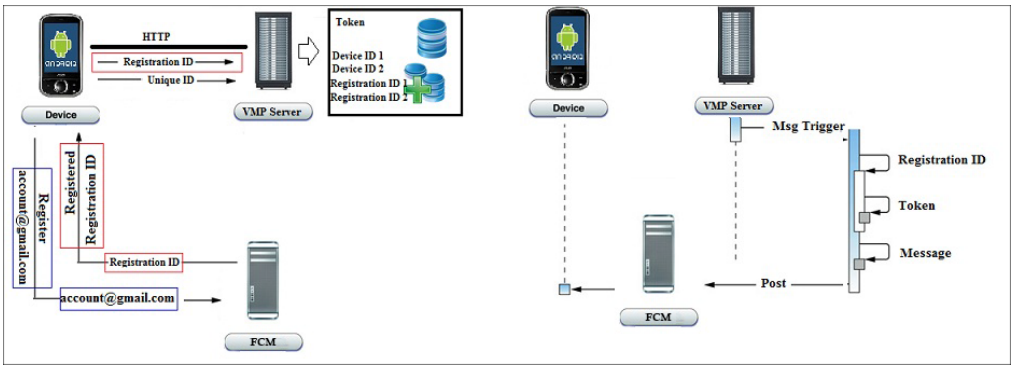
The diagram below shows the token relationship between the VMP Server, APNS, and the client device.



Android Server Data Encryption

The VMP Server needs to authenticate itself with the FCM. This is done via an authentication token that is determined with an HTTP POST request to the FCM servers.

The token is stored on the VMP Server and is used to authenticate the application server with the FCM servers once it sends out data. In a FCM, you have three involved parties: the VMP Server that wants to push messages to the Android device, the Google FCM servers, and the Vocera Collaboration Suite client application.



For the server to send a message, the application must have a registration ID that allows it to receive messages for a particular device. The registration keys are securely stored within the SQL database.

The ClientLogin token authorizes the server to send encrypted data to the client application on the Android device. The server has one ClientLogin token and multiple registration IDs. Each registration ID represents a particular device that has registered to use the messaging service for Vocera Collaboration Suite.

When the VMP Server sends data, the following occurs:

1. The VMP Server sends data to the FCM servers.
2. Google queues and stores the message in case the device is inactive.
3. When the device is online, Google sends the message to the device.
4. On the device, the system broadcasts the message to the specified application via Intent broadcast with proper permissions, so that only the targeted application gets the message. This wakes the application up. The application does not need to be running beforehand to receive the message.
5. The application processes the secure data.

This is the sequence of events that occurs when an Android application running on a mobile device receives a message:

1. The system receives the incoming message and extracts the raw key/value pairs from the message payload.

2. The system passes the key/value pairs to Vocera Collaboration Suite.
3. The Android application extracts the raw data from the RECEIVE Intent by key and processes the data.

Android FCM Device Data Encryption

The Android-based Vocera Collaboration Suite application must register with the VMP Server to receive push notifications. It does this right after it is installed on a device.

The Android mobile OS receives the registration request from an application, connects with FCM, and forwards the request to the server. FCM generates a device token using information contained in the unique device certificate. The device token contains an identifier of the device. It then encrypts the device token with a token key and returns it to the device.

Comet Notifications

Older versions of the Vocera Collaboration Suite client on the iOS or Android operating system used Comet to send a content-less notification to the device when it was operating within the organization's Wi-Fi network.

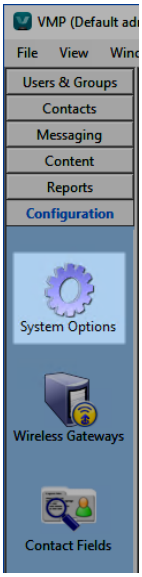
This capability has been retained for backward compatibility, but Vocera recommends that you use a connection to the Vocera Client Gateway server instead. See Configuring VCS to Use Vocera Client Gateway on page 78 for more details.

Enforcing Password and PIN Use

The VMP Server provides configuration options to ensure that all smartphone users are required to protect the device with a password. Additional options specify that Vocera Smartbadge users must provide a four-digit Personal Identification Number (PIN) to access their device, and that Vocera Collaboration Suite users must provide a PIN when accessing the app on either shared devices or all devices.

These options ensure that your confidential internal information is protected if the device is lost or stolen.

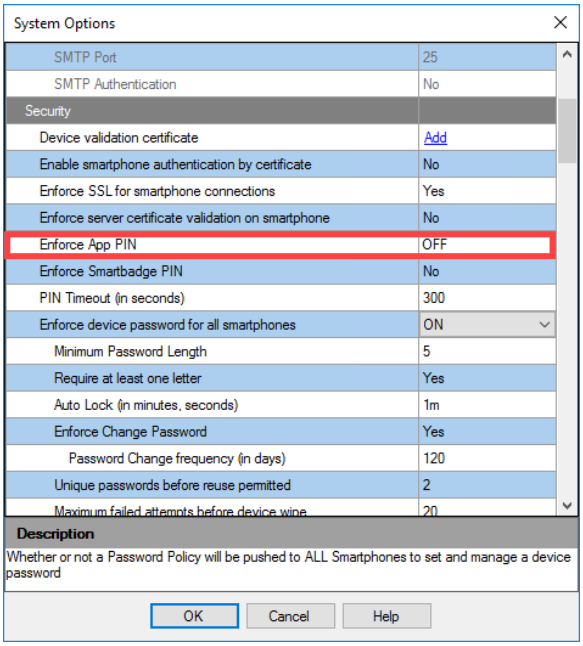
1. Start the VMP Administrator: **All Programs > VMP > VMP Administrator**
2. Type `admin` (or your administrative credentials) in the **VMP Login** dialog, and click **OK**.
3. Select **Configuration > System Options**.



The System Options dialog box appears.

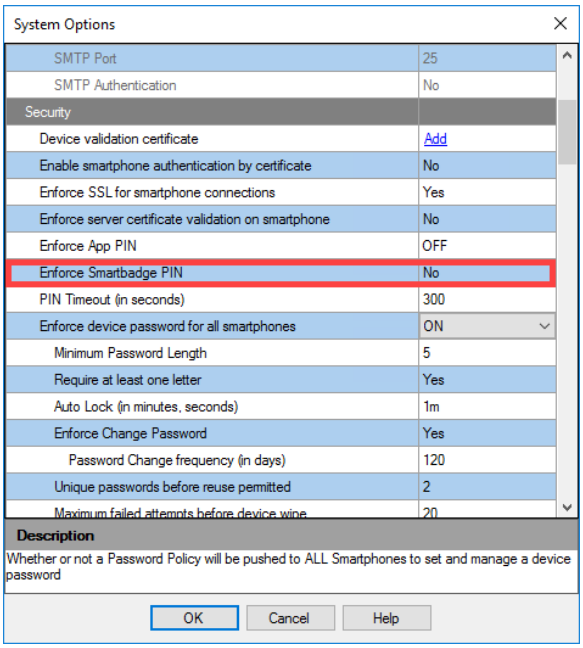
4. Scroll to the **Security** section of the options.

5. To enforce the use of a PIN for Vocera Collaboration Suite users, set the **Enforce App PIN** option to one of the following:
   - **SHARED**: Require the use of a PIN on shared devices only.
   - **ON**: Require all users to supply a PIN. Users of personal devices must have their username and password credentials to supply the PIN, or they will be locked out of the Vocera Collaboration Suite application.



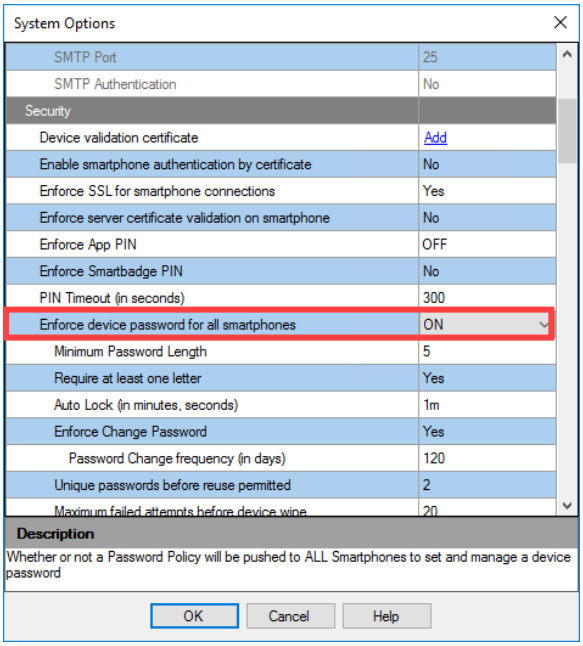
If **Enforce App PIN** is set to **OFF**, VCS users are not required to supply a PIN.

6. To enforce the use of a PIN for Vocera Smartbadge users, set the **Enforce Smartbadge PIN** option to **Yes**.



7. If **Enforce App PIN** or **Enforce Smartbadge PIN** has been selected, set **PIN Timeout** to the amount of time, in seconds, that the device can remain idle before the PIN must be entered again.

8. To enforce a device password for all smartphones, set the **Enforce device password for all smartphones** option to **ON**. To enforce a device password for shared smartphones only, set this option to **Shared**.



Configure the following options:

Option	Description
Minimum Password Length	Enter the number of characters the user must include in the device password. For iPhone users, the device **Passcode Lock** settings must be changed if you want a password longer than 4 numerical digits.
Require at least one letter	Select **Yes** to ensure that the user adds at least one letter to the device password. For iPhone users, you cannot insist on a password with at least one letter. For iPhone users, the device **Passcode Lock** settings must be changed if you want a password to include a letter.
Auto Lock	Set the duration of inactivity, in minutes and seconds, until the device auto-locks. In the following example, the device is set to auto-lock after five minutes and thirty seconds: `5m30`
Enforce Change Password	Select **Yes** to ensure the user changes the device password at a regular frequency.
Password Change frequency	If **Enforce change password** is set to **Yes**, enter the interval, in days, at which the user is required to change the device password.
Unique passwords before reuse permitted	The VMP Server stores a list of the most recently used passwords for a device. A password cannot be reused if it is one of the N most recent passwords used, where N is the value of this option.
Maximum failed attempts before device wipe	Enter the number of times a password can be incorrectly entered before all system sensitive information is wiped from the device.

Tip: When configuring password options, remember to consider the speed at which your users must view and respond to critical communications. An auto-lock setting that is too short will impair the user's ability to quickly respond to messages and communications. A password that requires too many characters may also be inhibiting, depending on the environment.

Note: If you change the **Enforce App PIN** setting to **ON**, device users will not be able to set a PIN if they registered by email or using a registration key and do not have either a valid VMP Server username and password or a valid Active Directory username and password.

Remote Wipe

Vocera Messaging Platform provides a data wipe option to let you remove sensitive Vocera data from the mobile device without affecting any other mobile data. Additionally, if a more in-depth device wipe is required, leveraging Microsoft Exchange or a Mobile Device Management tool may be effective.

This is useful when a user is no longer employed by the organization, a device is lost or stolen, a shared device is assigned to a new user, or in the event of a communicated security breach.

Performing a Remote Wipe from the VMP Administrator

You can use the VMP Administrator to wipe sensitive Vocera data from the device.

1. Select the **Users & Groups** module, and click to highlight the user to remove.
2. Select the **Delete** button. A window will prompt the administrator to remotely wipe the data from the smartphone. Once complete, the user account will be inactive on the server, and VMP data will be removed from the user's device.

Performing Remote Wipe Using Microsoft Exchange

If you have an iOS or Android device, you can use Microsoft Exchange to wipe sensitive Vocera data from it.

1. In the console tree, navigate to **Recipient Configuration > Mailbox**.
2. Select the user from the Mailbox window.
3. In the action pane, click **Manage mobile device**, or right-click the user's mailbox, and click **Manage mobile device**.
4. Select the mobile phone.
5. In the **Actions** section, click **Clear**, and click **Clear** again.

Performing Remote Wipe Using Outlook Web

You can use Outlook Web to wipe sensitive Vocera data from an Android or iOS device.

Note: This process is specific to iOS or Android devices.

1. Open the Outlook Web Application in a browser.
2. Sign in to the device owner's mailbox, and click **Options**.
3. In the Navigation Pane, select **Phone**.
4. Click the **Mobile Phones** tab.
5. Select the ID of the mobile phone that you want to wipe and remove from the list.
6. Click **Wipe device** and click **OK**.
7. Click **Remove Device**.

Performing Remote Wipe Using a Mobile Device Management Solution

You can use a Mobile Device Management (MDM) solution to wipe sensitive Vocera data from your device.

1. Submit a wipe request through the console, MDM Shell, or Self Service Portal. Submit the request as a **Wipe Now** command stored in a central database to be picked up by the device within a determined time in travel.
2. The device receives this Alert and immediately starts a management session with the Device Management server.
3. The device picks up its wipe request from the Device Management server, sends back an acknowledgement that started the wipe, and starts the wipe process.

Performing an Exchange Management Shell Remote Wipe

You can remove sensitive Vocera data from your device using an Exchange Management Shell (ECS) remote wipe.

1. Send a `Get-ActiveSyncDeviceStatistics` command, using the following syntax, where `name` is the user id:
   `Get-ActiveSyncDeviceStatistics - Mailbox` *name* `| fl Identity`
2. Send a `Clear-ActiveSyncDevice` command, using the following syntax, where `name` is the user id:
   `Clear-ActiveSyncDevice -Identity WM_`*name*

High Availability and VMP

The Vocera Messaging Platform is designed to support clustered environments using active server and passive server configuration.

In a clustered environment, the primary server:

- Routes system traffic.
- Responds to the load balancer acknowledgment request every ten seconds.
- Updates the SQL server timestamp every two seconds.

Secondary nodes retrieve a timestamp from the SQL server every two seconds, but stay passive unless the primary node has not updated the SQL server timestamp in the last 20 seconds, at which point the primary node is assumed to have failed. The load balancer manages the status of each VMP Server by sending a health check request to the primary and secondary nodes. The load balancer redirects traffic to a secondary node after a third missed heartbeat from the primary node.

Note: For instructions on how to install VMP on a cluster, see VMP Cluster Installation on page 23.

Tip: Configure email alert notifications to receive an alert when a failover occurs. For details, see Configuring Failover Email Notifications on page 97.

Failover Configuration

A typical failover configuration consists of a primary and secondary VMP Server, a load balancer, and a SQL server.

This table shows the behavior of each of these server nodes.

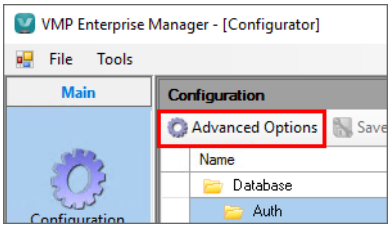
Node	Description
Primary Vocera Messaging Platform (VMP Server 1)	• The primary server is accepting all HTTPS traffic. • The primary server is responding with a positive acknowledgment request from the Load Balancer every 10 seconds. • The primary server is updating the SQL server with a timestamp every 2 seconds.

Node	Description
Secondary Vocera Messaging Platform (VMP Server 2)	• The secondary server is the standby server. • The secondary server is not responding with a positive acknowledgment request from the Load Balancer every 10 seconds. • The secondary server is retrieving a timestamp from the SQL server every 2 seconds. If the SQL timestamp table has not been updated by VMP Server 1 within 20 seconds, VMP Server 2 will automatically start its HTTP interface and begin to accept traffic from the Load Balancer.
The Load Balancer in conjunction with the VMP Server pair	• The Load Balancer is sending an HTTP health check request to both VMP Server 1 and VMP Server 2. • After a third response failure from VMP Server 1, the Load Balancer will start routing traffic to VMP Server 2 (This will happen once VMP Server 2 has initialized its HTTP interface and is accepting requests.).
The SQL Server in conjunction with the VMP Server pair	• VMP Server 1 is updating a timestamp in the SQL Timestamp Table every 2 seconds. • VMP Server 2 is retrieving the timestamp from the SQL Timestamp Table every 2 seconds.

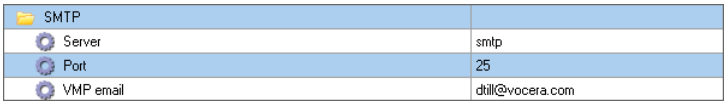
Configuring Failover Email Notifications

You can use the VMP Enterprise Manager to specify where an email notification is to be sent if a failover occurs.

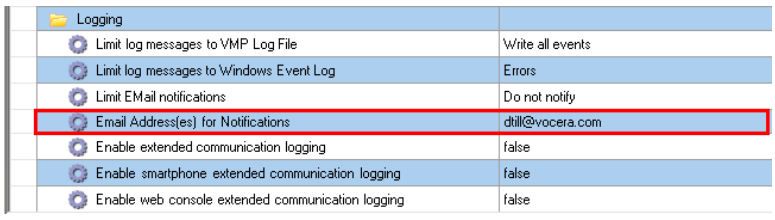
1. From the VMP Server, start the VMP Enterprise Manager:
   Start > All Programs > VMP > VMP Enterprise Manager
2. Select **Configuration > Advanced Options**.



3. In the **SMTP** section, type the SMTP mail settings for your deployment.



4. In the **Logging** section, type the notification email address.



If a failover occurs, the following email is sent:

```
Message from the VMP server: VMP SERVER2
```

```
VMP SERVER2 server becomes active application server
```

Post Failover Configuration

When a failover occurs, the secondary VMP Server takes over the role of the primary server.

The behavior of the two servers is shown below.

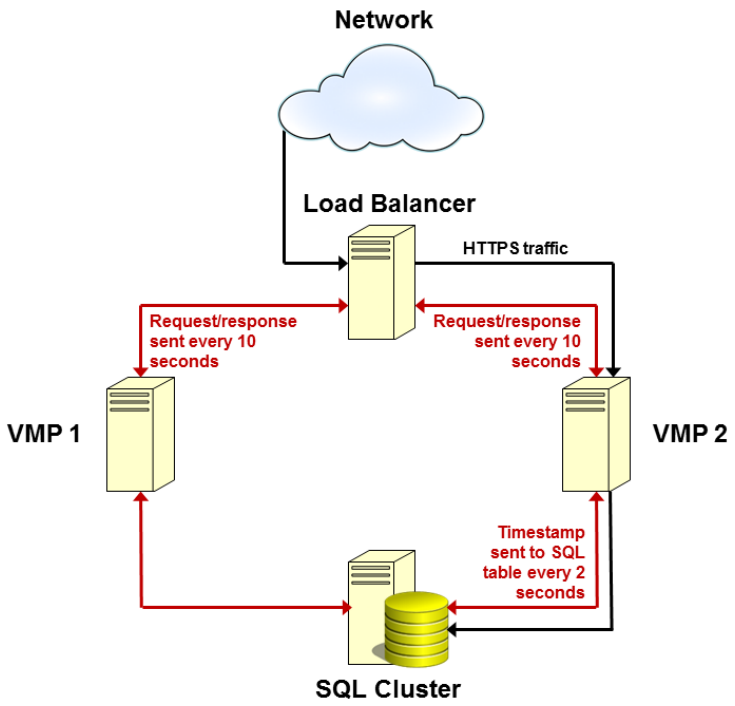
Primary VMP Server - VMP Server 1

- VMP Server 1 is now the secondary (passive) server.
- VMP Server 1 will attempt to send an E-Mail to the Administrator to indicate that a failover has occurred.

Secondary VMP Server - VMP Server 2

- VMP Server 2 is the primary (active) server and is accepting HTTPS traffic from the load balancer.
- VMP Server 2 will send an email to the administrator indicating its primary server status.
- VMP Server 2 is updating the SQL server with a timestamp every 2 seconds.

The Load Balancer is working in conjunction with the VMP Server pair, and is now redirecting all HTTPS traffic to VMP Server 2.



Restarting the Primary Server After Failover

When a failover has occurred, the Load Balancer is now directing the HTTPS traffic to the secondary VMP Server (VMP Server 2). You can reconfigure your environment so that traffic is directed to the primary server.

After this action has started, the Administrator will receive an email indicating that VMP Server 2 has become the primary server.

To reconfigure VMP Server 1 to be the primary server:

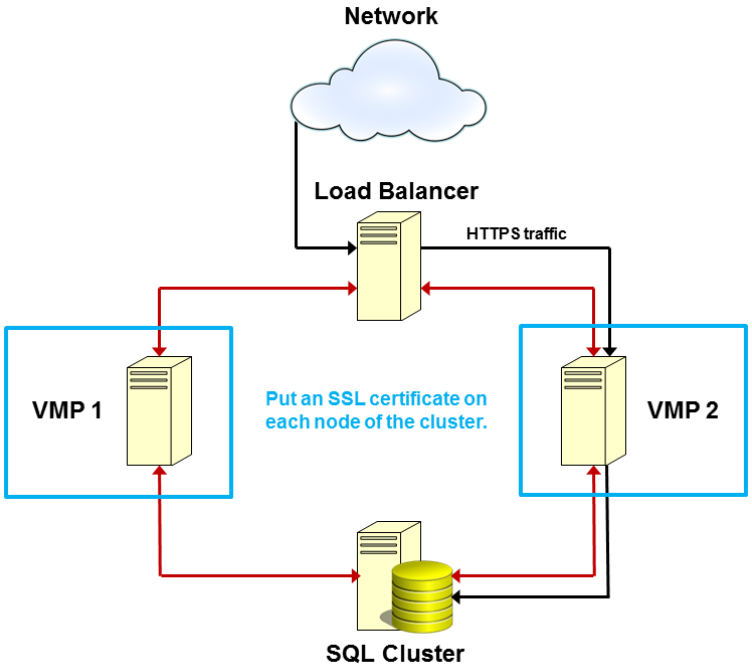
1. Shut down the Vocera Data Exchange Windows service on VMP Server 2.

2. Restart the Vocera Data Exchange Windows service on VMP Server 1. VMP Server 1 will assume primary server status.
3. Restart the Vocera Data Exchange Windows service on VMP Server 2. VMP Server 2 will assume secondary server status.

Note: If VMP Server 1 is to remain as the secondary server, no action is required.

SSL in a VMP Failover Environment

If you want to use SSL in a clustered VMP Server environment, Vocera recommends that you put an SSL certificate on each node on which a VMP Server is running. This ensures that all internal traffic between the Load Balancer and each of the individual servers is secure, which may be a requirement in your jurisdiction if you are transmitting patient information.



To determine whether you need an SSL certificate for your Load Balancer to ensure end-to-end encryption, consult the specifications provided by the manufacturer of the Load Balancer.

Using SQL AlwaysOn Availability Groups and Failover Cluster Instances

SQL AlwaysOn Availability Groups and SQL AlwaysOn Failover Cluster Instances are high availability and disaster recovery solutions that provide an enterprise-level alternative to database mirroring.

SQL AlwaysOn Availability Groups is available for SQL Server 2012 and later, and SQL AlwaysOn Failover Cluster Instances is available for SQL Server 2014 and later.

An AlwaysOn Availability Group supports a failover environment for a discrete set of user databases, known as availability databases, that fail over together. The availability group supports a set of read-write primary databases and one to four sets of corresponding secondary databases.

An AlwaysOn Availability Instance supports a failover environment for a complete SQL instance, known as a failover cluster instance. When one instance fails, the secondary instance is activated. Refer to the Microsoft SQL documentation for information on how many secondary instances you can create in your environment.

Note: Multiple listeners on different subnets in an AlwaysOn environment are supported. Contact Vocera Technical Support for details on how to configure the VMP Enterprise Manager to use this capability.

To set up an AlwaysOn Availability Group for VMP, contact Vocera technical support to obtain SQL scripts needed to run on each secondary SQL instance.

To set up an AlwaysOn Failover Cluster Instance for VMP, no specific VMP-related configuration is required.

Wireless Gateway and Email Configuration

Learn how to configure wireless gateways and email connections in VMP.

Wireless Gateway Configuration

You can configure the SNPP and WCTP wireless gateways for VMP.

SNPP Gateways

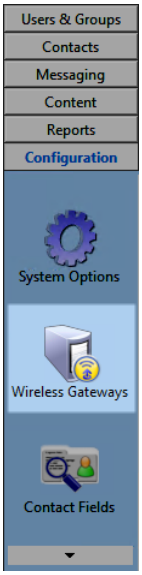
The SNPP protocol facilitates a link between the Internet and a TAP-compliant paging terminal. To configure VMP for use with a provider using SNPP, you must have the provider's SNPP address and port number.

For a list of provider SNPP addresses and port numbers, see Note Page - Simple Network Paging Protocol (SNPP).

Configuring an SNPP Wireless Gateway

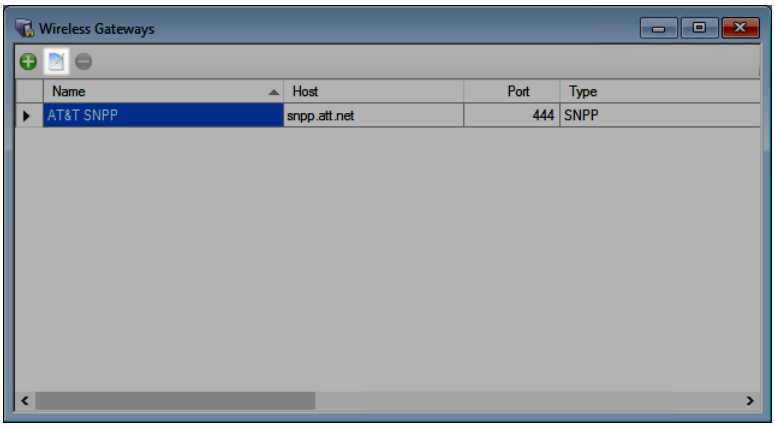
For a deployment with SNPP protocol, you can use the VMP Administrator to configure the SNPP Wireless Gateway.

1. Start the VMP Administrator application:
   All Programs > VMP > VMP Administrator
2. Type `admin` (or your administrative credentials) in the **VMP Login** dialog, and click **OK**.
3. Select **Configuration > Wireless Gateways**.



The Wireless Gateways window appears.

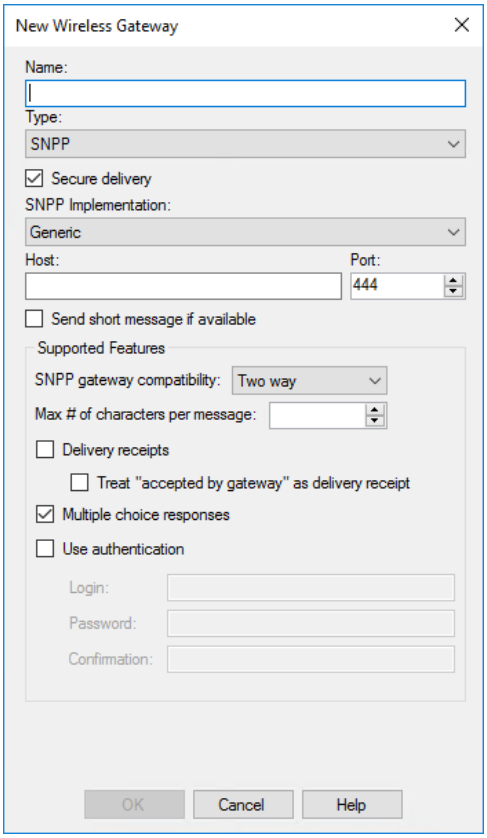
4. Click to highlight **AT&T SNPP**, and click **Edit**.



5. Select the **SNPP Implementation** from the dropdown list.
   ATT, **Sprint**, and **Verizon** are pre-configured. For another implementation, select **Generic** and provide the following details:

Table 11: SNPP Configuration Options

Option	Values
Name	Name the SNPP implementation.
Secure delivery	Select this option if the channel is secure and the full message content can be delivered. If this option is not selected, only the message subject is delivered.
Host	Enter the host name.
Port	Specify the port number to use.
Send short message if available	Use the brief version of the message body provided via SOAP if it exists.
SNPP gateway compatibility	Select **One way** or **Two way** from the dropdown list.
Max # of characters per message	Enter the maximum number of characters allowed in a text message.
Delivery receipts	Select to activate delivery receipts if this option is supported by the provider.
Treat "accepted by gateway" as delivery receipt	Select this option if it is supported by the provider. If this option is selected, the message is deemed delivered when accepted by the gateway.
Multiple Choice responses	This option is selected by default. Leave this option active unless instructed otherwise by the provider.
Use authentication	If authentication is required to establish the gateway connection, click to activate this option and enter the login credentials.

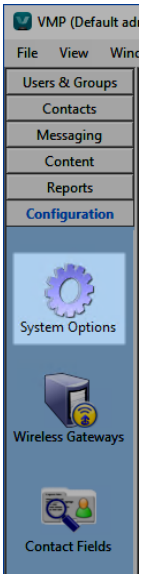


Configuring WCTP Polling

VMP supports polling to add additional features to AT&T Enterprise Paging, Sprint SMS, and US messaging gateways. Polling sends messages to the gateway at a set interval in order to determine if the page is sent, delivered, and read.

Use the following steps to configure polling for WCTP.

1. Start the VMP Administrator.
2. Select **Configuration > System Options**.



The System Options dialog box appears.

3. Scroll down to **WCTP**, enter the polling IDs, and click **OK**.

Inbound Integration

Learn how to integrate inbound WCTP, SOAP, or email connections to the VMP Server.

Note: By default, VMP licenses do not include access to the WCTP or SOAP connectors. See Configuring the VMP License on page 19 for more details.

WCTP Connections

VMP supports inbound WCTP messages from external systems, and forwards these messages to end-users' mobile devices.

Note: VMP supports the features of WCTP version 1.1. Requests from other versions are not rejected.

Messages are delivered from VMP to:

- Supported iOS devices
- Supported Android smartphones
- Cellphones (via SMS)
- Pagers (via SNPP)
- Vocera badges

Delivery receipts, read receipts, text responses, and multiple choice responses are supported. The WCTP request sent to the VMP Server sets the appropriate flags to `true` as per the specification, and the VMP Server provides the response to the initiating system. The VMP Server posts these responses and read/delivery receipts back to the originating system in real time.

The VMP SOAP-based API provides support for external systems to send messages, and to receive delivery statuses and responses to the messages (see the Vocera Messaging Platform API Guide for details).

Systems that support WCTP generally allow the administrator to identify users in the system as WCTP users, and point the WCTP configuration to the VMP Server. When a message needs to be sent, the system will send the message via the WCTP protocol to the VMP Server.

Note: USA Mobility is supported via outbound WCTP through a direct push rather than polling.

To configure WCTP, the third party needs the VMP Server URL with `/wctp?F=XX` appended. The format follows:

`www.domain.com/wctp?F=XX`

`XX` refers to the third-party system initiating the messages. The configuration is shown in the following code sample:

```
F=EM          For Emergin
F=generic     For all other systems (including Connexall)
```

To override the end user's profile settings, based on the priority of the message sent, append one or more of the following additional tags to the URL. Each tag can be set to **Y** (override) or **N** (do not override).

Tag	Description
&OH	Whether to override the user profile when the priority is High.

Tag	Description
&ON	Whether to override the user profile when the priority is Normal.
&OL	Whether to override the user profile when the priority is Low.

The priority of the VMP message depends on these settings and on the priority of the message payload, as shown in the table below.

Priority appended to URL	Message payload priority	Resulting VMP message priority
	High	High
	Normal	Normal
&OH=Y	High	Urgent
&OH=Y	Normal	Normal
&OH=N	High	High
&OH=N	Normal	Normal
&ON=Y	High	High
&ON=Y	Normal	Normal
&ON=N	High	High
&ON=N	Normal	Normal
&OL=Y	High	High
&OL=Y	Normal	Normal
&OL=N	High	High
&OL=N	Normal	Normal

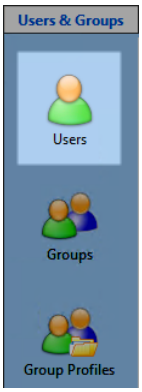
Note: These settings are supported on the Vocera Collaboration Suite and other Vocera smartphone clients.

If you are using an Emergin third-party system, and your message text contains `LVL` or `lvl`, the multiple-choice responses `*ACK` and `*NAK` are automatically inserted into the message.

Linking VMP with the WCTP Source

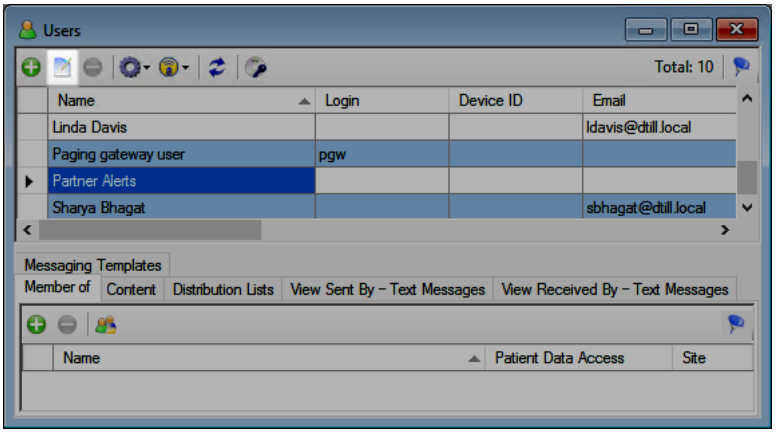
To link users with a WCTP source, a user must be created to support WCTP. This user account will send the messages.

1. Start the VMP Administrator.
2. Select **Users & Groups > Users**.



The Users window appears.

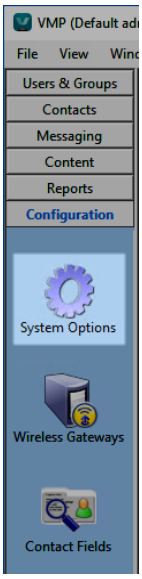
3. Click to highlight the **Partner Alerts** entry, and click Edit.



4. Specify a name that is relevant for your deployment. This is the name that appears as the sender for messages sent via WCTP.

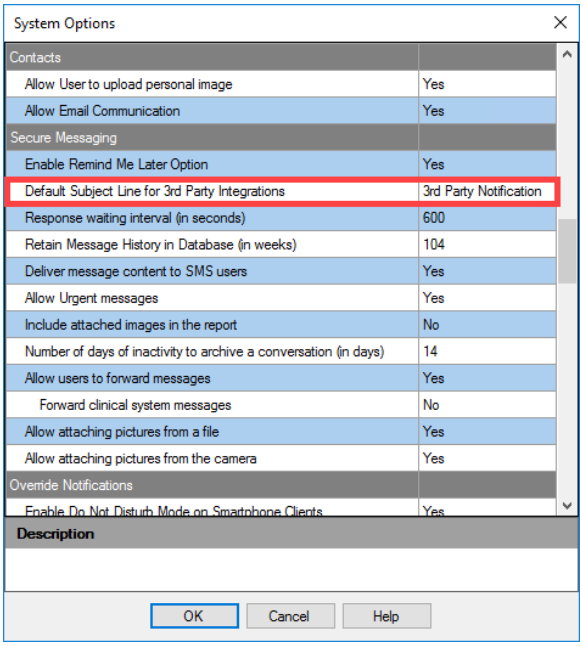
Note: To synchronize this user with the WCTP source, set the **Public ID** field or the **Pager ID** field for this user to match the WCTP Source `senderID`.

5. Click **Next**, and click **Finish**.
6. Select **Configuration > System Options**.



The System Options dialog box appears.

7. Scroll down to the **Default Subject for 3rd Party Integrations** entry, change the subject line as appropriate for your deployment, and click **OK**.



If a WCTP message starts with the text `Subject:`, VMP uses the rest of the line containing this text as the subject field for the message. VMP then skips one empty line and extracts the remaining data as the body of the message.

The following is a simple example of a WCTP XML payload that overrides the default subject:

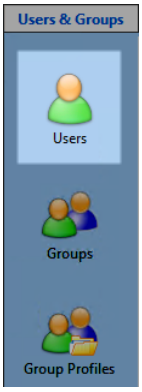
```
<?xml version="1.0"?>
<!DOCTYPE wctp-Operation SYSTEM "http://dtd.wctp.org/wctp-dtd-v1r1.dtd">
<wctp-Operation wctpVersion="wctp-dtd-v1r1">
   <wctp-SubmitRequest>
      <wctp-SubmitHeader submitTimestamp="2010-03-31T01:00:56">
         <wctp-Originator senderID="166.214.43.65:8088/WCTP"
            securityCode=""/>
         <wctp-MessageControl messageID="5345-21" transactionID="5345-21"
            allowResponse="false" notifyWhenDelivered="false"
            deliveryPriority="HIGH" preformatted="true"/>
         <wctp-Recipient recipientID="12345"/>
      </wctp-SubmitHeader>
      <wctp-Payload>
         <wctp-Alphanumeric>Subject: This is a subject.

         This is a message body</wctp-Alphanumeric>
      </wctp-Payload>
   </wctp-SubmitRequest>
</wctp-Operation>
```

Configuring the VMP User to Receive WCTP Messages

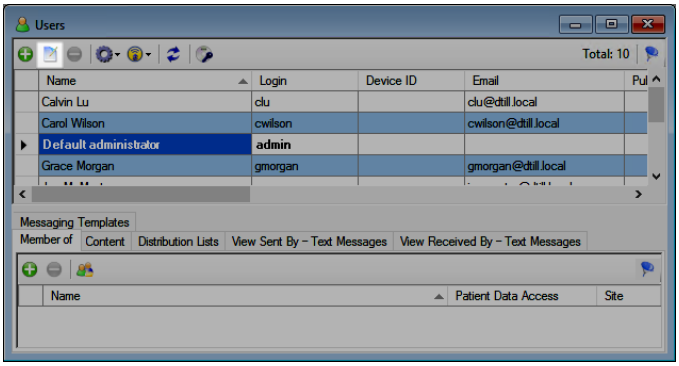
Users that are configured to receive WCTP messages can be set up manually using the VMP Administrator, or the VMP Server can connect to a SQL table and synchronize this information on a regular schedule.

1. Start the VMP Administrator.
2. Select **Users & Groups > Users**.

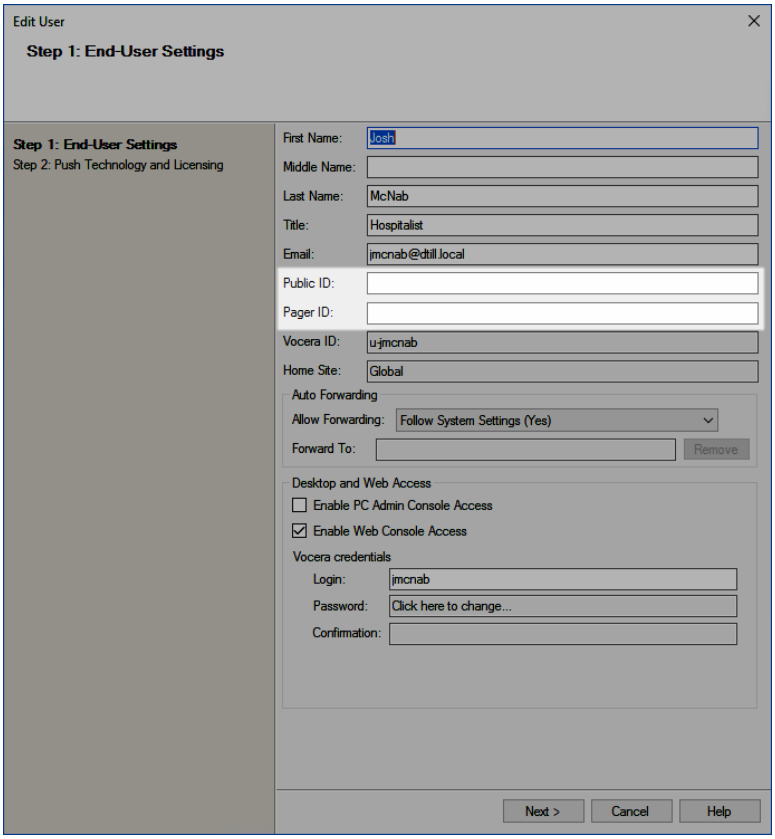


The Users window appears.

3. Click to highlight the user that is to be configured to receive WCTP messages, and click **Edit**.



4. Enter a value in the **Public ID** field or the **Pager ID** field to match the WCTP Source `recipientID`.



Note: The WCTP Source can identify the recipient using a phone number, email address, or randomly generated number. The only requirement is that it must match the user **Pager ID** field.

5. Click **Next**, and click **Finish**.

SOAP Connections

VMP supports inbound SOAP messages from external systems, and forwards these messages to end-users' mobile devices.

SOAP provides considerable flexibility for structuring inbound messages.

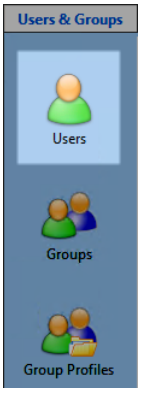
For more information on the SOAP interface to VMP, and on the entry points, data classes, and methods that are defined for it, see the Vocera Messaging Platform API Guide.

Note: By default, VMP licenses do not include access to the WCTP or SOAP connectors. VMP must be licensed to use the SOAP connector. See Configuring the VMP License on page 19 for more information.

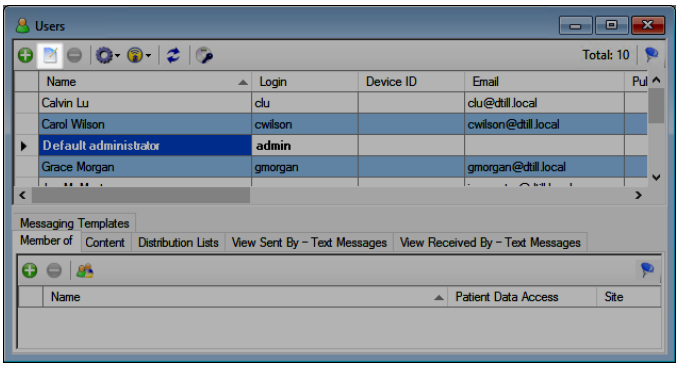
Configuring VMP to Receive SOAP Messages

Users or distribution lists that are configured to receive SOAP messages can be set up manually using the VMP Administrator.

1. Start the VMP Administrator.
2. To configure a user to receive SOAP messages:
   a. Select **Users & Groups > Users**.

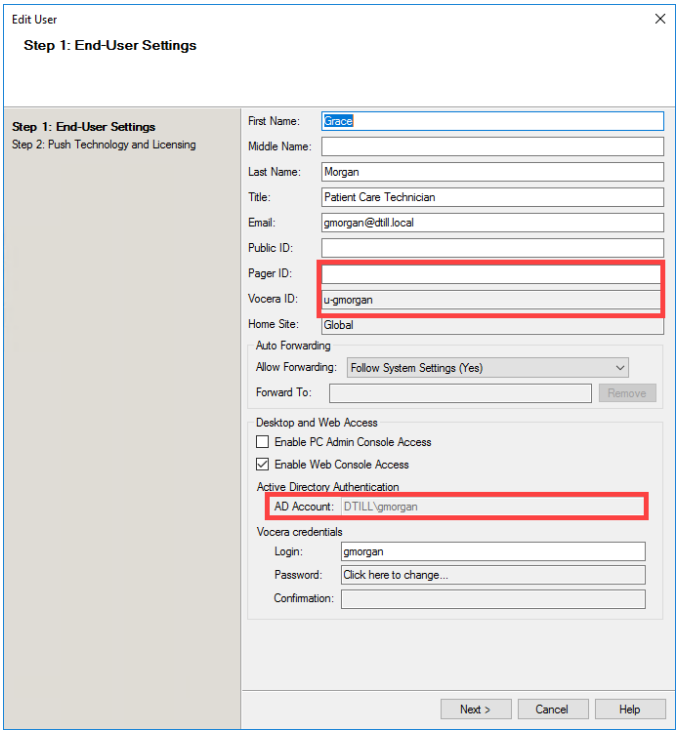


   The Users window appears.
   b. Click to highlight the user that is to be configured to receive SOAP messages, and click **Edit**.



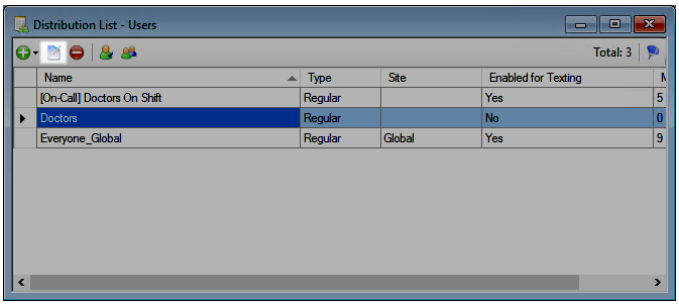
   c. Enter a value in one of the following fields that will match the identifier provided in the SOAP input:

- **AD Account** (visible only if the VMP Server has been configured to allow any Active Directory user to log in)
- **Pager ID**
- **Vocera ID**



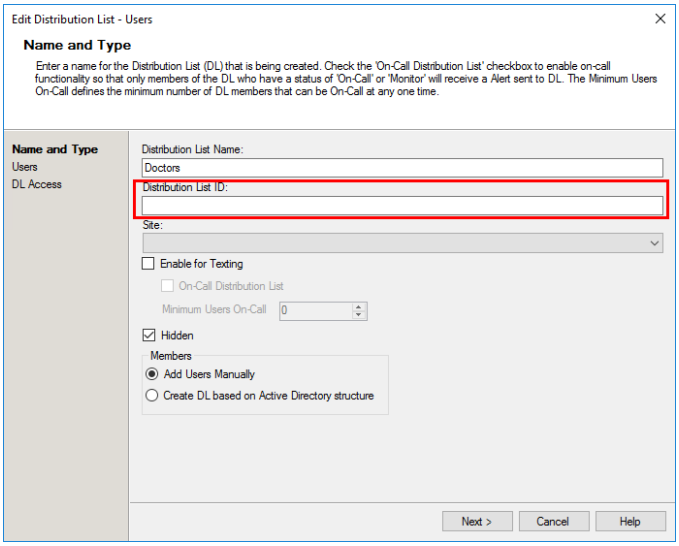
d. Click **Next**, and click **Finish**.

3. To configure a distribution list to receive SOAP messages:
   a. Select **Messaging > Distribution Lists**.
   b. Click to highlight the distribution list that is to be configured to receive SOAP messages, and click **Edit**.



   c. Enter a value in the **Distribution List ID** field that will match the identifier provided in the SOAP input.

Note: If the **Vocera ID** field is available, you can use it to match the identifier provided in the SOAP input.



d. Click **Next**, **Next**, and **Finish**.

Email Monitoring With VMP Messages

Vocera Messaging Platform provides features to integrate user email into the Messaging feature. The server monitors the email box and sends a message to the user when new mail is received.

The following services are supported:

- POP3
- IMAP
- Exchange Web Services (EWS)

The email body is expected to contain an XML document with specific tags used by the VMP Server. Email aliasing and redirection are not necessary, as email messages are sent directly to the monitored mailbox. The XML document contained in the email body defines the recipients for the message. The email header fields are not used to determine the recipients and sender information.

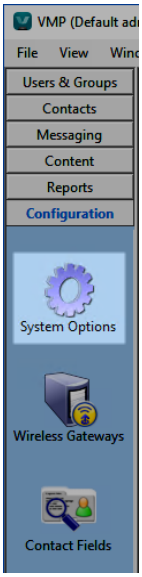
To view an example, see XML Email Template on page 113.

Configuring VMP for Message Email Integration

You can use the VMP Administrator to specify the configuration parameters for sending messages using email.

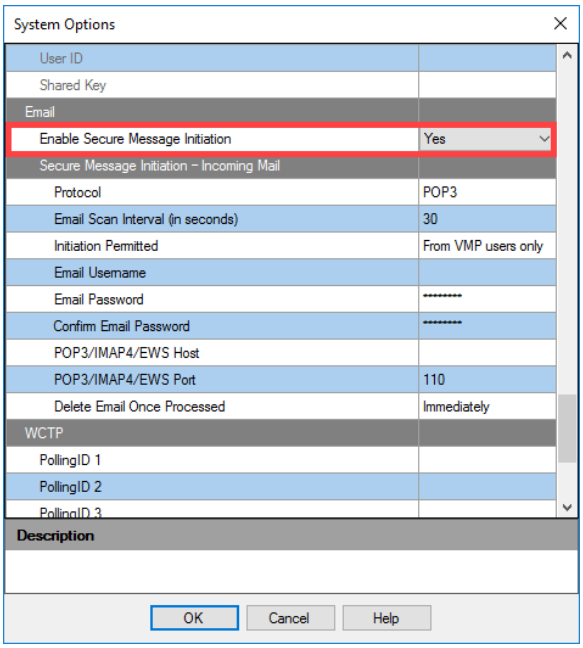
Note: For email messages, the VMP Server supports Plain Text format only. The email body must be in XML format.

1. Start the VMP Administrator.
2. Select **Configuration > System Options**.



The System Options dialog box appears.

3. Scroll to **Integrations** > **Email**.
4. From the **Enable Secure Message Initiation** dropdown list, select **Yes**.



5. In the **Secure Message Initiation - Incoming Mail** section, provide the configuration settings that are appropriate for your POP3, IMAP4, or Exchange Web Services deployment. See the Secure Message Initiation - Incoming Mail section of the Integrations table in VMP Administrator Configuration Options on page 258 for a complete description of these options.
6. Scroll back to **System and Networking** > **Email**.
7. Set **Enable Outgoing Email** to **Yes**. This ensures that delivery and response updates can be sent back to the email initiator.
8. Provide the outgoing email settings that are appropriate for your SMTP deployment. See the Email section of the System and Networking table in VMP Administrator Configuration Options on page 258 for a complete description of these options.

The Email Body Format

Because the email body is in XML Format, email aliasing and redirection are not required, as the XML document contains all of the necessary information.

The following XML tags are supported:

Tag	Description
AlertExternalID:	The ID of the message, as specified by the initiating process or system.
From:	The sender or initiator's name and email address. The value stored in the **From** field must match the **Email** and **Public ID** fields in an existing VMP user definition. See Adding Users Manually on page 118 for more information on the fields that can be specified for a VMP user.
To:	A list of one or more recipient email addresses. The value stored in the **To** field must match the **Public ID** field in an existing VMP user definition, or the **Distribution List ID** field in an existing VMP Distribution List definition. See Adding Users Manually on page 118 for more information on the fields that can be specified for a VMP user, and see Creating a Regular or On-Call Distribution List on page 152 for more information on creating a Distribution List.
Subject:	The message subject.
Message:	The body of the message.
Priority:	The message priority. Must be one of Normal or High. To specify Urgent priority, set **Priority** to High and set **OverridePersonalAlarmSettings** to true. For Normal or High priority, **OverridePersonalAlarmSettings** must be set to false.
OverridePersonalAlarmSe	Whether the message should force the recipient's device to emit a tone and vibration. Valid options are true and false. See the description of **Priority** above.
notifyWhenDelivered:	Whether the Delivered status notification should be sent back to the initiator.
notifyWhenRead:	Whether the Read status notification should be sent back to the initiator.
sendResponse:	Whether the initiator should be notified when a recipient sends a response.
notificationEmail:	The email address for status notifications. Overrides the email address specified in the **From:** tag.
ResponseType:	The response type associated with the message. This is one of the following: • **None**: No response is required. • **Multi**: Recipients must select from one or more responses defined in the message.
Responses:	When **ResponseType** is set to **Multi**, this is a container tag for the responses defined for the message. Each response is contained in an **EmailPagingAlertResponse**, which is defined below.

Each **EmailPagingAlertResponse** tag contained in the **Responses** includes the following subtags:

Subtag	Description
RspExternalID:	The third-party ID associated with this response. This ID is returned to the initiating system if the recipient selects this response.
Text:	The text that is displayed for this response.

XML Email Template

Here is an example of an XML email template.

```
<?xml version="1.0"?>
  <EmailPagingAlert>
  <AlertExternalID>externalID1</AlertExternalID>
  <From>user_sender@company.com</From>
  <To>
```

```
    <string>user_recipient@company.com</string>

    <string>dl_recipient@company.com</string>
  </To>
  <!-- High, Normal -->
  <!-- For urgent priority, set Priority to High and -->
  <!-- OverridePersonalAlarmSettings to true -->
  <Priority>High</Priority>
  <OverridePersonalAlarmSettings>true</OverridePersonalAlarmSettings>
  <notifyWhenDelivered>true</notifyWhenDelivered>
  <notifyWhenRead>true</notifyWhenRead>
  <sendResponse>true</sendResponse>
  <notificationEmail>user_sender@company.com</notificationEmail>
  <Subject>Test subject</Subject>
  <Message>Test message</Message>
  <!-- None, Multi -->
  <ResponseType>Multi</ResponseType>
  <Responses>
  <EmailPagingAlertResponse>
    <RspExternalID>extid1</RspExternalID>
    <Text>Response 1</Text>
  </EmailPagingAlertResponse>
  <EmailPagingAlertResponse>
    <RspExternalID>extid2</RspExternalID>
    <Text>Response 2</Text>
  </EmailPagingAlertResponse>
</Responses>
</EmailPagingAlert>
```

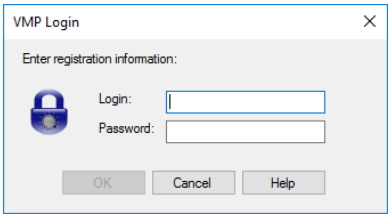
The VMP Administrator

The VMP Administrator enables you to perform all necessary administrative tasks for the VMP Server. It can be installed on the same computer as the VMP Server or on a separate machine.

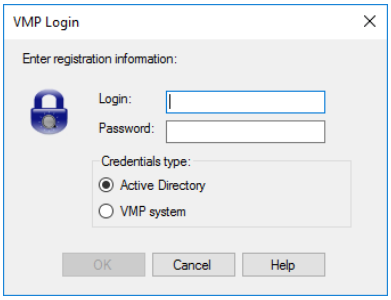
Logging into the VMP Administrator

To use the VMP Administrator, you must first log into it.

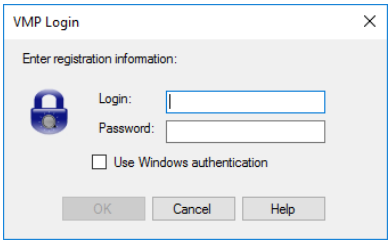
1. Open the VMP Administrator.
2. Select **Start > All Programs > VMP > VMP Administrator**.
   The VMP Login dialog appears. The appearance of this dialog depends on the login options that have been configured. By default, the dialog asks you to type your VMP login name and password:



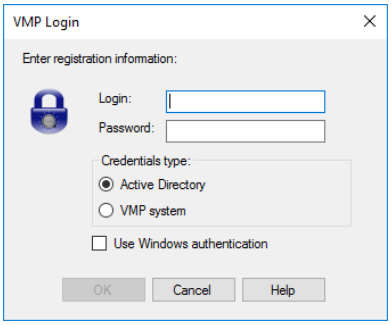
   If the **Allow any Active Directory user to login** configuration option has been set to `true`, radio buttons enable you to specify whether to use Active Directory or VMP credentials to log in:



   If the **Allow current logged domain user to login** option has been set to `true`, a checkbox appears that enables you to use Windows authentication to log in:



   If both of the above options have been set to `true`, both options are available on the login screen:



See Configuring VMP for Active Directory on page 38 for more information on configuring the VMP Server for use with Active Directory, and see VMP Administrator Configuration Options on page 258 for more information on the options shown here.

3. If the **Credentials type** radio buttons are available, select one of the following:

Credentials Type	Description
Active Directory	Select this option to log in using your Active Directory credentials.
VMP system	Select this option to log in using your VMP system credentials if you have been authorized to do so. See Adding Users Manually on page 118 for details on setting the **Enable PC Admin Console Access** option to authorize user access to the VMP Administrator.

4. Alternatively, if the **Use Windows authentication** checkbox is available, select it to use your Windows authentication credentials to log into the VMP Server.
5. If you are not using Windows authentication, type the **Login** and **Password**, and click **OK**.

If you are the system administrator and are logging into the VMP Administrator for the first time:

- If the **Credentials type** radio buttons are available, select **VMP system**.
- In the **Login** field, type `admin`.
- In the **Password** field, type the administrative password that you supplied in the Security Options dialog box during installation. See Installing the VMP Server on page 13 for more details.

Note: To exit the VMP Administrator, select **Exit** from the **File** menu.

The VMP Administrator Modules

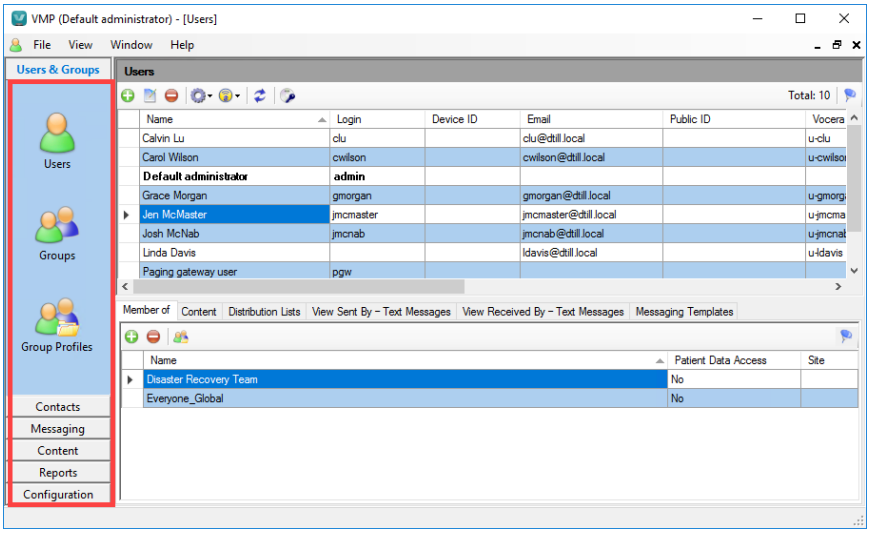
The VMP Administrator is organized into modules, each of which performs a set of common administrative tasks.

The following modules are defined:

- Users & Groups
- Contacts
- Messaging
- Content
- Reports
- Configuration

If you are not the administrator and some or all of these modules are not visible to you, your administrator has not granted the user rights that you need to view them. See Editing User Rights on page 123 for more information on granting user rights.

To access a module, click its name in the left pane of the VMP Administrator window:



You can also access a module or its components from the **View** menu.

Note: If multiple windows are being displayed in the VMP Administrator, you can use the **Window** menu to control the window layout. Select one of **Cascade**, **Tile Horizontally**, or **Tile Vertically** to display all windows, or select a window to view. Select **Close** to close the window that you are viewing.

Users and Groups

The Users & Groups module provides features to import, create, and manage VMP users. This module also allows you to use groups to create user sets and Distribution Lists to manage access permissions and on-call scheduling.

Users can be entered and updated manually, or VMP can synchronize with contact lists in other corporate systems.

Note: Some of the features found in the Users & Groups module are covered in the following sections:

- About Importing and Synchronizing on page 49, which describes how to import users and contacts from a Vocera Voice Server, an Active Directory server, and a SQL server, and how to import from Excel and CSV files.
- Sending Installation Information to User Devices on page 74, which describes how to send installation and registration instructions to a client device.

About Adding and Deleting Users Manually

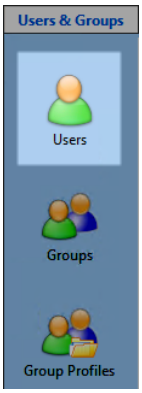
If you want to add a user that is not included in your remote resource, you can add the user manually. You can also manually delete users from the system.

Tip: When editing imported users, do not edit fields that synchronize with the imported source. These changes should be made at the source to avoid overwriting the changes when the source synchronizes with the VMP Server. If the email address of a contact is changed on the VMP Server, or the Public ID of the contact is changed if no email address is provided, the contact will not synchronize with the source.

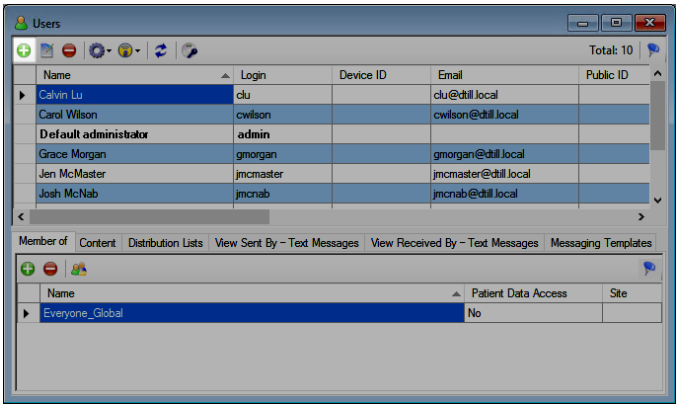
Adding Users Manually

If you want to add a user that is not included in your remote resource, you can add the user manually.

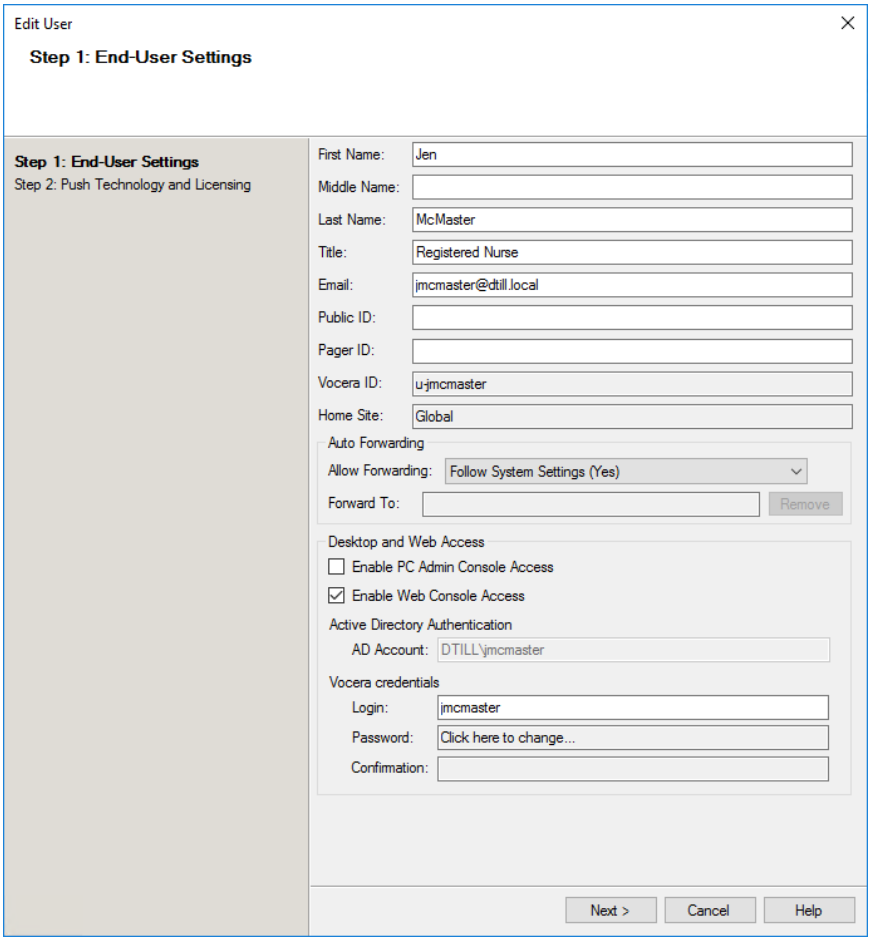
1. From the VMP Administrator, select **Users & Groups** > **Users**.



2. In the toolbar in the Users pane, click **Add**.



The End-User Settings window appears.



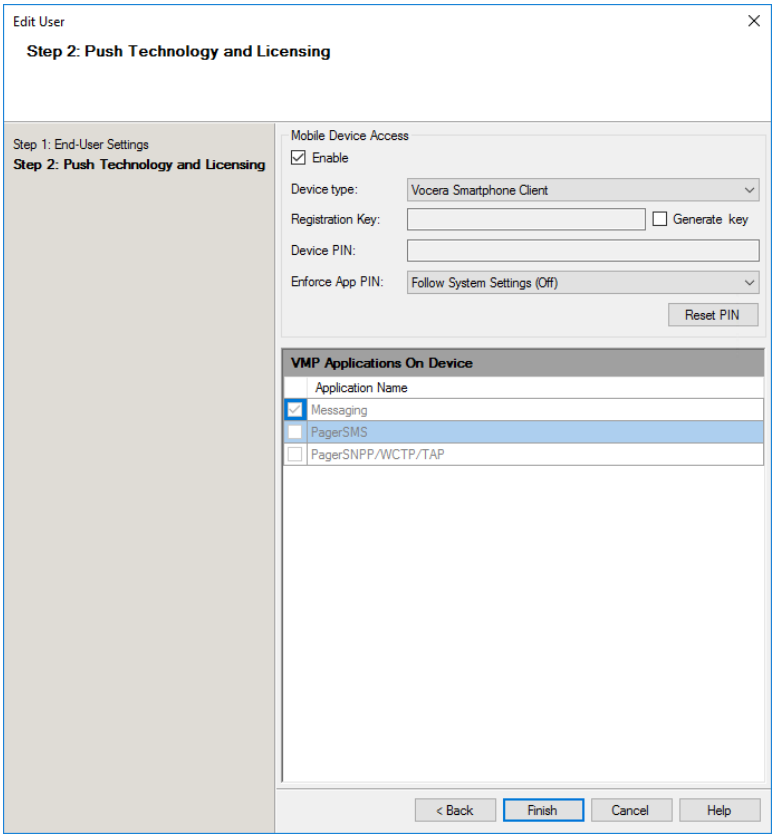
3. Enter the following end-user settings.

Table 12: End-user settings

Field	Description
First Name	The first name of the user.
Middle Name	The middle name of the user (optional).
Last Name	The last name of the user.
Title	The job title for the user.
Email	The email address for the user.
Public ID	The user's public ID. This optional field can be used to identify the recipient in APIs that are supported in VMP.
Pager ID	The user's pager ID. This optional field is populated when the VMP Client Gateway API is implemented.
Vocera ID	The user's Vocera ID. This optional field is populated when the VMP Client Gateway API is implemented.
Home Site	The site to which the new user is to belong. Sites are available if they have been created on the Vocera Voice Server with which the VMP Server has been integrated. See Vocera Voice Server Integration on page 31 for more information on integrating with the Vocera Voice Server.
VST ID	If a user has been imported from a Vocera Secure Texting cloud server, this field contains the StaffID value that was assigned when the user was created in VST.

Field	Description
Allow Forwarding	Use this dropdown list to allow forwarding of messages from this user to another user. Select **Follow System Settings** (the current system setting is shown in brackets), **Yes**, or **No**.
Forward To	When **Allow Forwarding** is enabled, this specifies the user to which messages are being forwarded. This is set in the Vocera Collaboration Suite application only. To remove forwarding if it has been set up, click **Remove**.
Profile	Select from this dropdown list to associate the user with a group profile. See Group Profiles on page 134 for more information on group profiles.
Enable PC Admin Console Access	Select this checkbox to allow the user to access the VMP Administrator.
Enable Web Console Access	Select this checkbox to allow the user to access the VMP Web Console. Activating this field requires you to enter authentication credentials for the user.
AD Account	If the new user has an Active Directory account, enter the account name in the **AD Account** field. This option appears if VMP Administrator access with Active Directory credentials is configured during installation.
Vocera credentials	To provide Vocera credentials for the new user, enter the VMP Administrator login in the **Login** field, enter the password in the **Password** field, and re-enter the password in the **Confirmation** field.

4. Click **Next** to display the Push Technology and Licensing window.



5. To enable mobile device access, select the **Enable** checkbox, and select the device type from the **Device type** dropdown list.
6. To register the user, type the registration information in the fields provided.

Note: For details on how to generate a registration key and email this registration information to the user, see Sending Installation Information to User Devices on page 74.

7. From the **Enforce App PIN** dropdown list, select one of the following:

Follow System Settings	Use the setting defined in the **Enforce App PIN** configuration option, which is set in the VMP Administrator. VMP Server configuration options. This is the default. This option displays the current system setting, which is one of **Off**, **On**, or **Shared**.
Enforce PIN	Enforce the use of an application-level PIN for this user.
Do Not Enforce PIN	Do not require this user to provide an application-level PIN, even if a PIN is normally required.

8. Click **Reset PIN** to reset the PIN for this user. This forces a logout of the user.
9. In the **VMP Applications On Device** pane, select the VMP applications to which the user is to be granted access. Access can be granted to an application only if at least one unused license is available.

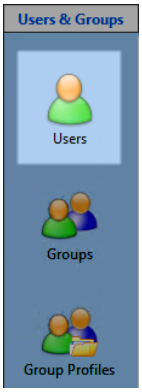
Note: The applications that are available to you depend on whether your license key is in an XML format. See The XML License Key Format on page 21 for more details on this format.

10. Click **Finish** to finish creating the new user.

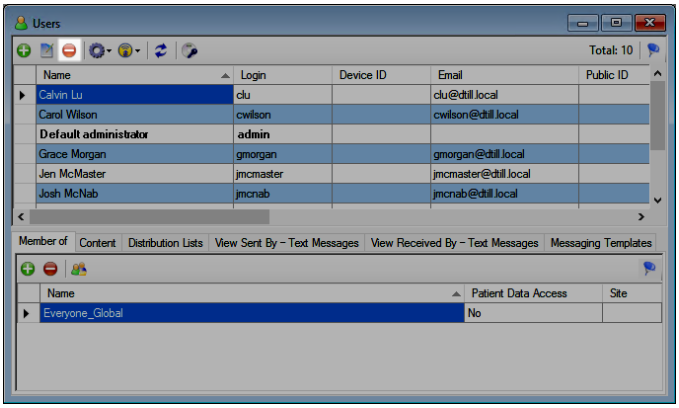
Deleting a User

You can manually delete any user, and can optionally wipe all data stored in the user's smartphone application.

1. From the VMP Administrator, select **Users & Groups** > **Users**.



2. In the Users pane, click the name of the user to be deleted.
3. In the toolbar, click **Delete**.

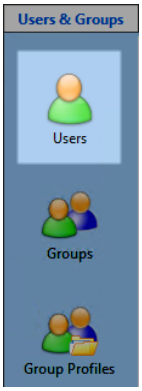


4. In the confirmation dialog box that appears, select the **Wipe data on smartphone** checkbox (if it is enabled) to wipe all data stored in the smartphone application.
5. Click **Yes** to confirm user deletion.

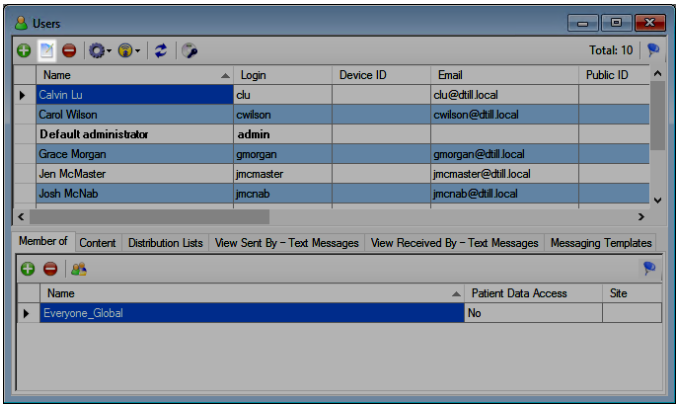
Editing User Information

For any user, you can edit the information, device registration, and list of applications to which access has been granted.

1. From the VMP Administrator, select **Users & Groups** > **Users**.



2. In the Users pane, click the name of the user whose information is to be edited.
3. In the toolbar, click **Edit**.



The End-User Settings window appears.

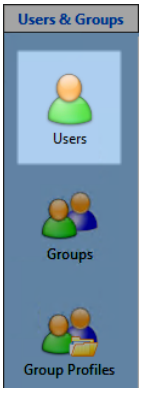
4. Edit the user fields as needed. For more information on user fields, see Adding Users Manually on page 118.

Editing User Rights

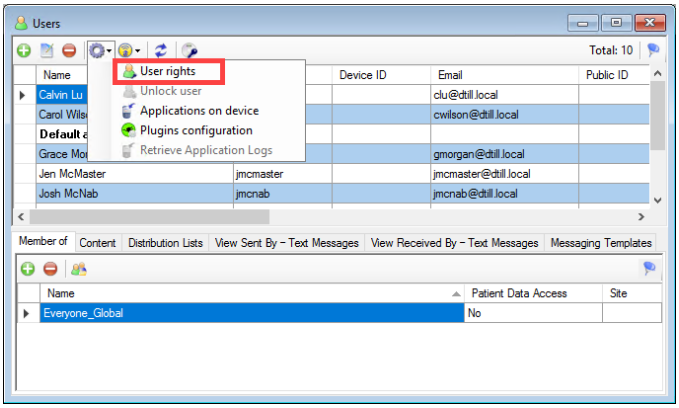
In the VMP Administrator, you can specify the rights that are to be granted to any user on the system.

You can also assign a user to one or more Right Groups. Each Right Group grants a specific set of user rights.

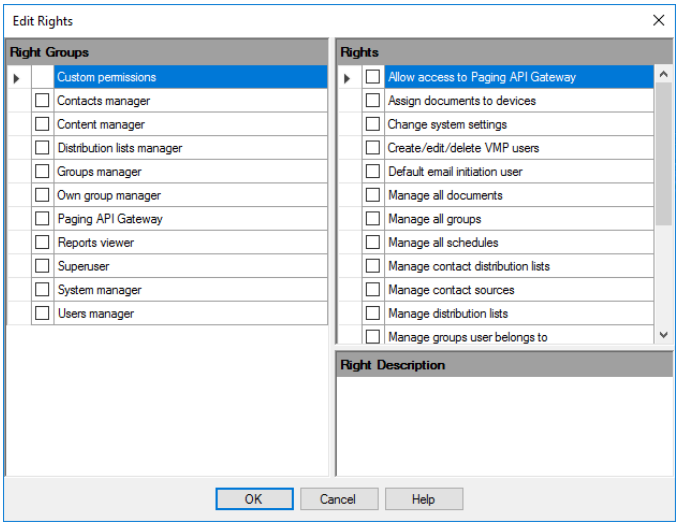
1. From the VMP Administrator, select **Users & Groups** > **Users**.



2. In the Users pane, click the name of the user for which user rights are to be edited.
3. In the toolbar, from the **User preferences** dropdown list, select **User rights**.



The Edit Rights dialog box appears.



4. In the **Right Groups** pane, click a Right Group. The rights associated with the Right Group appear in the **Rights** pane. To grant these rights to the user, select the checkbox next to the Right Group. Repeat this for other Right Groups as needed.

See Right Groups on page 125 for a list of the available right groups.

5. To grant custom permissions without selecting a Right Group, click **Custom permissions** to display a list of rights in the **Rights** pane. Select the checkboxes of the rights that you want to grant. See User Rights on page 124 to view a list of the available rights.

   Note: Rights that have been granted by assigning a user to a Right Group are already selected, and cannot be changed in this way.

6. Click **OK** to finish granting rights to the selected user.

User Rights

You can grant rights to VMP Administrator users to enable access to the server's capabilities.

User Right	Description
Allow access to Paging API Gateway	Allow use of the SOAP API interface. For more information on this interface, see the Vocera Messaging Platform API Guide.
Assign documents to devices	Deprecated - no longer in use.
Change system settings	Enable access to the Configuration settings in the VMP Administrator and the Group Profiles screen in the Users & Groups section.
Create/edit/delete VMP users	Enable access to the Users screen in the Users & Groups section of the VMP Administrator. Enabling this user right does not grant permission to view the **View Sent By - Text Messages** and **View Received By - Text Messages** tabs in the Users screen. To grant permission to view these tabs, you must grant the **Manage who views VMP pager alerts** user right.
Default email initiation user	Deprecated - no longer in use.
Manage all documents	Enable permission to import and share content.
Manage all groups	Enable access to the Groups screen in the Users & Groups section of the VMP Administrator.
Manage all schedules	Grant permission to create and manage schedules that anyone has created in the VMP Web Console. For more information, see Granting Users Scheduling Permissions on page 232.
Manage contact distribution lists	Enable edit access to the Distribution Lists screen in the Contacts section of the VMP Administrator. Without this permission, users can view the Distribution Lists screen, but cannot add, update, or change contact distribution lists.
Manage contact sources	Enable access to the Contact Sources screen in the Contacts section of the VMP Administrator.
Manage distribution lists	Enable access to the Distribution Lists screen in the Messaging section of the VMP Administrator.
Manage groups user belongs to	Deprecated - no longer in use.
Manage schedules	Grant permission to create and manage schedules that you have created in the VMP Web Console. For more information, see Granting Users Scheduling Permissions on page 232.
Manage who views VMP text messages	In the Users screen, grant access to view the **View Sent By - Text Messages** and **View Received By - Text Messages** tabs. To grant this user right, you must also grant the **Create/edit/delete VMP users** user right.
View all distribution lists	Deprecated - no longer in use.

User Right	Description
View all messaging templates	Grant permission to edit existing messaging templates. Without this permission, users can view and create templates, but can only edit templates that they have created.
View all pager alerts in the report	Deprecated - no longer in use.
View all reports	Enable permission to access the Reports section to open and view reports.
View all schedules	Enable permission to view on-call schedules without being part of the on-call distribution list.
Patient data access	Enable permission to access Engage patient data. This right is not editable in this view. See Integrating with the Engage Patient Context Adapter on page 40 for information on how to integrate VMP with the Engage Patient Context Adapter and how to grant patient data access to a user.

Right Groups

You can assign VMP Administrator users to right groups. Each right group grants one or more rights to its members.

Note: Some of the rights listed here are now deprecated because they are no longer in use. See User Rights on page 124 for more details. A right group is marked as deprecated if all of its rights are deprecated.

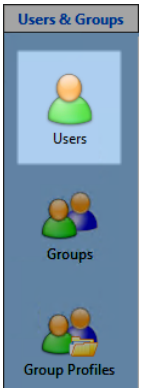
Right Group	Rights included in group
Contacts manager	Manage contact distribution lists Manage contact sources
Content manager	Assign documents to devices Manage all documents
Distribution lists manager	Manage distribution lists Manage schedules
Groups manager	Manage all groups
Own group manager	Assign documents to devices Manage groups user belongs to
Paging API Gateway	Allow access to Paging API Gateway
Reports viewer	View all reports
Superuser	Allow access to Paging API Gateway Assign documents to devices Change system settings Create/edit/delete VMP users Manage all documents Manage all groups Manage all schedules Manage contact distribution lists Manage contact sources Manage distribution lists Manage groups user belongs to Manage schedules Manage who views VMP text messages View all distribution lists View all messaging templates View all pager alerts in the report View all reports

Right Group	Rights included in group
System manager	Change system settings
Users manager	Create/edit/delete VMP users Manage all groups Manage who views VMP text messages

Unlocking a User

If a user has been inactive for a specified number of days, the user is placed in a Locked state, and cannot access the VMP Administrator. You can unlock any user that has been Locked.

1. From the VMP Administrator, select **Users & Groups** > **Users**.



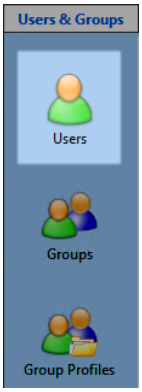
2. In the Users pane, click the name of the user to be unlocked.
3. In the toolbar, from the **User preferences** dropdown list, select **Unlock user**. The selected user is unlocked.

Note: The number of days of inactivity before a user is placed in a Locked state is specified in the **Configuration** > **System Options** section of the VMP Administrator.

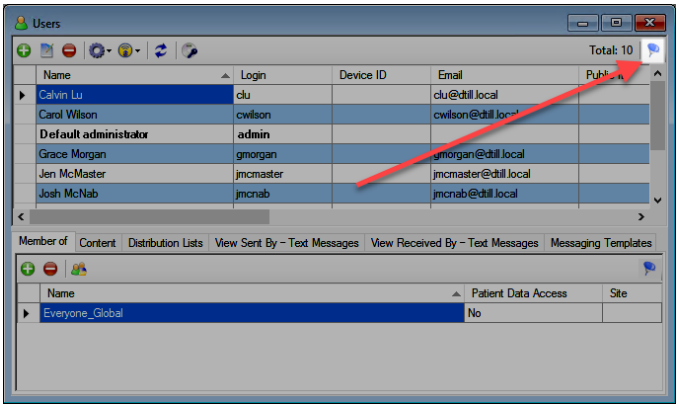
Filtering the User Display

You can filter the list of users to make it easier to find a particular user.

1. From the VMP Administrator, select **Users & Groups** > **Users**.



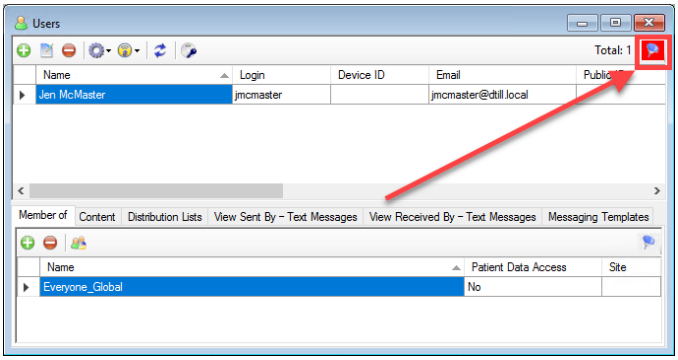
2. Click **Filter**.



The Filter Users popup appears.

3. To improve filtering, enter a search string in any or all of the fields provided, and select an item from any or all of the dropdown lists provided.
4. To filter by group, click **Select** and add one or groups to the filter list. To remove a group from the list, highlight it and click **Remove groups**.
5. Click anywhere outside the popup to close it.

When you enter a search string in a text field, select an element from a dropdown list, or specify a group, the Users list automatically updates to use the filtering that you have specified, and the Filter icon changes color.



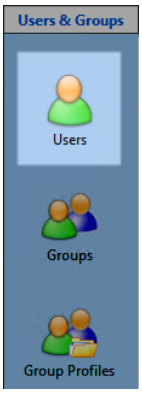
Right-click this icon to reset filtering.

Retrieving Application Logs

From the VMP Administrator, you can retrieve application logs for any VCS user for which a device ID has been specified. This enables you to respond quickly if a problem is detected.

Note: To use this capability, your devices must be using version 3.2 or later of VCS.

1. From the VMP Administrator, select **Users & Groups** > **Users**.



2. In the Users pane, click the name of the user for which you want to retrieve the application logs.
3. In the toolbar, from the **User preferences** dropdown list, select **Retrieve Application Logs**. The Retrieve Application Logs dialog box appears.
   The **Retrieve Application Logs** option is available only when a Device ID has been specified for the user.
4. In the **Notification email address** field, optionally type the email address to which to send a notification that logs are available.
5. Click **OK** to upload the client logs to the VMP Server. These logs are stored in the `WIC\Logs` subfolder of the folder in which you have installed VMP.

Important: Logs are retrieved without notifying the user. It is your responsibility to create and implement suitable policies to ensure that your use of this capability does not violate applicable laws. For example, you may need to obtain a waiver of privacy rights from employees who use Vocera Collaboration Suite as part of their employment.

Groups

You can use groups to organize users who have similar roles. From groups, you can manage access permissions and on-call scheduling.

From the Users & Groups module, you can:

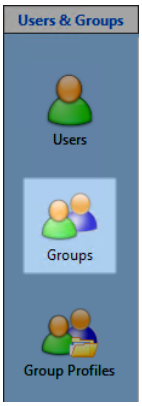
- Create, rename, and delete groups
- Add users to a group and remove users from a group
- Indicate what items are to be made accessible to the group

Note: If you have defined a large number of groups, you can use a filter to limit the groups that are displayed. To filter the list of groups, click **Filter** and type the filter to use. The Filter icon changes color. Right-click this icon to reset filtering.

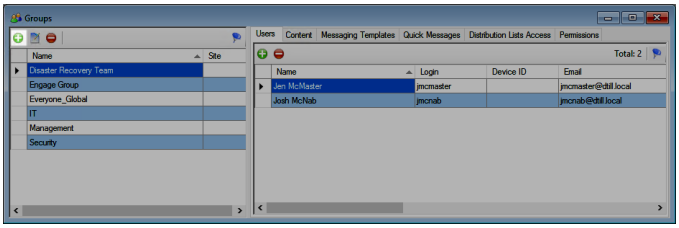
Creating a New Group

From the Users & Groups module, you can create a new group.

1. From the VMP Administrator, select **Users & Groups** > **Groups**.



2. In the toolbar in the Groups pane, click **Add**.



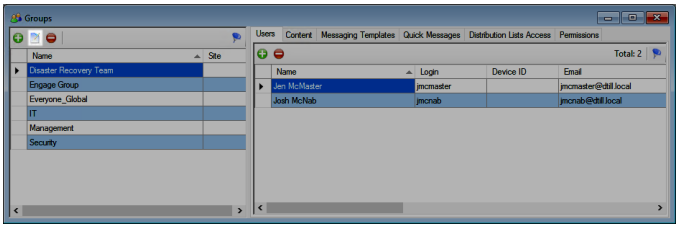
3. In the New Group dialog box, enter the name of the new group and click **OK**.

Changing a Group Name

You can change the name of any group that you have created.

1. From the VMP Administrator, select **Users & Groups** > **Groups**.

2. In the toolbar in the Groups pane, click **Edit**.

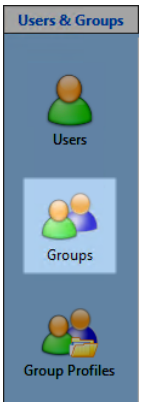


3. In the Edit Group dialog box, enter the new name of the group and click **OK**.

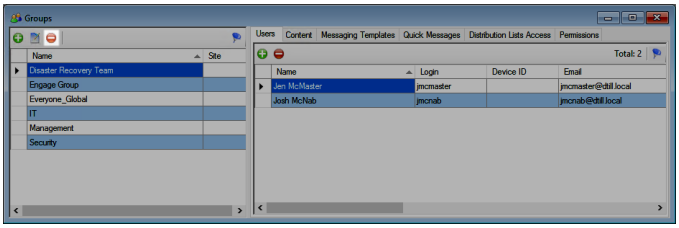
Deleting a Group

From the Users & Groups module, you can delete any existing group.

1. From the VMP Administrator, select **Users & Groups** > **Groups**.



2. In the toolbar in the Groups pane, click **Delete**.

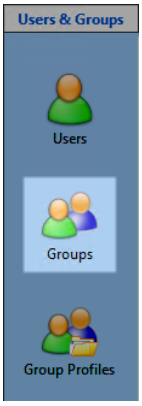


3. When asked to confirm whether you want to delete the group, click **Yes**.

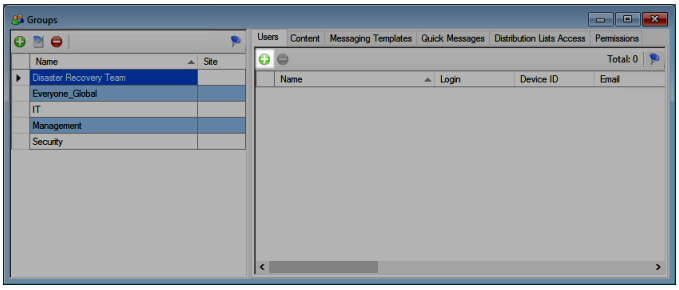
Adding Users to a Group

From the Users & Groups module, you can add users to any existing group.

1. From the VMP Administrator, select **Users & Groups** > **Groups**.

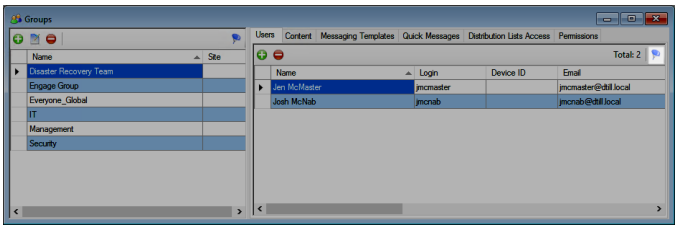


2. In the Groups pane, highlight the group to which you want to add users.
3. In the pane at the right, click the **Users** tab and then click **Add**.

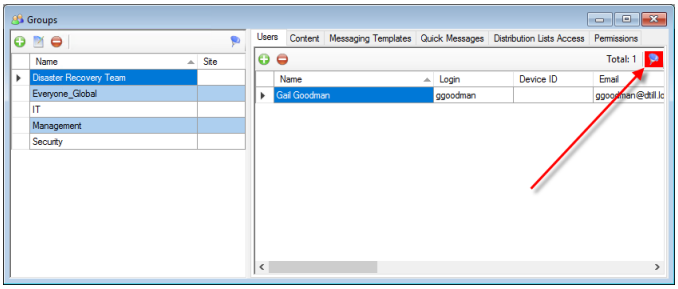


4. In the Select Users dialog box, click to highlight the users to be added and click **OK**.

To filter the list of users in a group or in the Select Users dialog box, click **Filter** and enter the filtering criteria to use.



The Filter icon changes color.

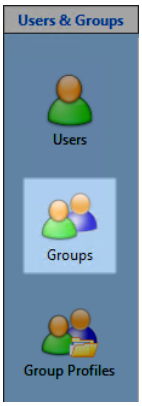


To reset filtering, right-click **Filter**.

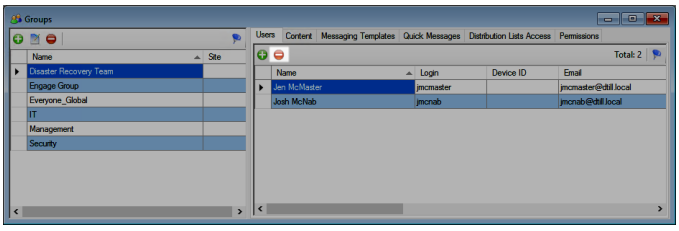
Removing Users from a Group

If a user is no longer required to be in a particular group, you can remove the user from the group.

1. From the VMP Administrator, select **Users & Groups** > **Groups**.



2. In the Groups pane, highlight the group from which you want to delete users.
3. In the pane at the right, click the **Users** tab.
4. Highlight the users that you want to delete.
5. Click **Delete**.



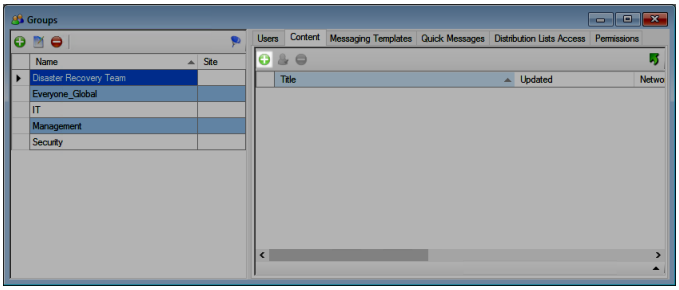
6. When asked to confirm whether you want to delete the users from the group, click **Yes**.

Granting Group Access

You can specify that items such as content, Messaging Templates, and Distribution Lists are to be made accessible to a group.

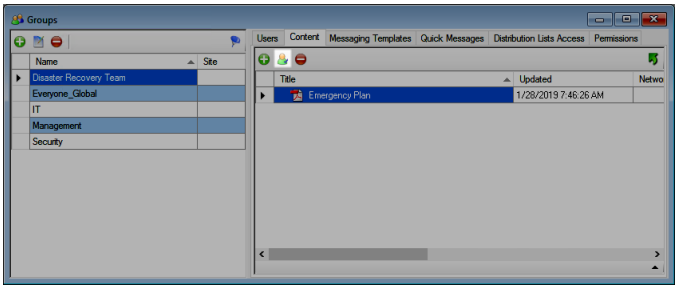
1. From the VMP Administrator, select **Users & Groups** > **Groups**.

2. In the Groups pane, highlight the group with which you want to associate items.
3. In the pane at the right, click the tab corresponding to the item that you want to make accessible. For example, click **Content** to make content accessible to the group.
4. Click **Add**.

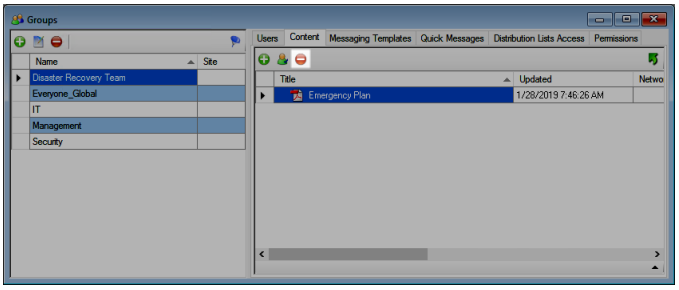


5. From the list of available items, highlight the item to be made accessible.
6. To grant additional permissions, click any or all of the following checkboxes:
   - **Allow update**
   - **Allow delete**
   - **Allow manage access**
   - **Visible on device by default**
7. Click **OK**.

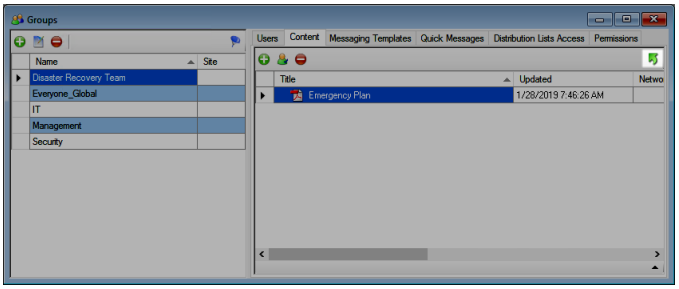
To change the permissions for any item that has been made accessible, highlight the item, click **Manage access**, and click any or all of the permissions checkboxes.



To make an item inaccessible, highlight the item, click **Remove**, and click **Yes** to confirm that you want to remove access to the item.



To refresh the list of available content in the Content tab, click **Refresh**.



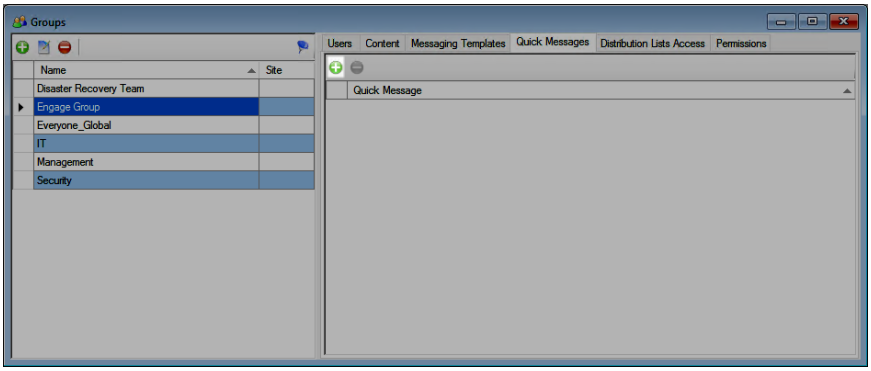
Specifying Group Permission for a Quick Message

You can specify what groups are to be given permission to use a quick message. Any user that is a member of the group can then use the message.

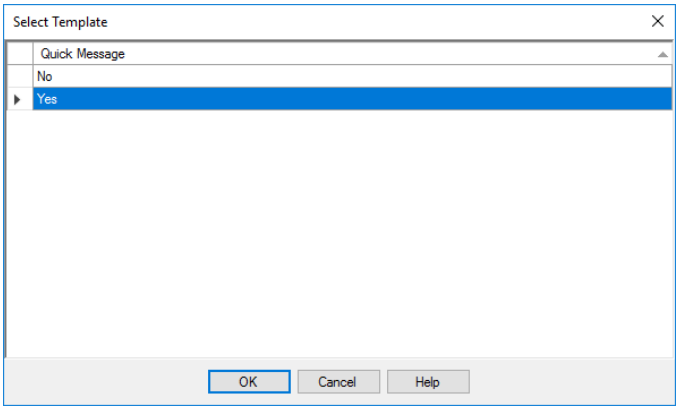
Note: For more information on quick messages, see About Quick Messages on page 162.

1. From the VMP Administrator, select **Users & Groups** > **Groups**.

2. In the Groups pane, highlight the group that you want to give permission to access a quick message.
3. Click the **Quick Messages** tab.
4. Click the **Add** icon.

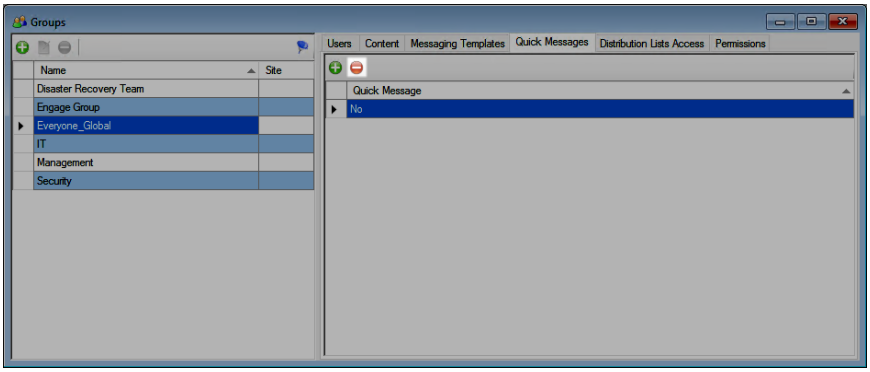


5. In the Select Template dialog box, highlight the quick messages that you want to assign to the group.



6. Click **OK** to assign the quick message to the group.

To remove a quick message from the list of quick messages assigned to a group, highlight the quick message and click the **Delete** icon.



Confirm that you want to delete access.

Group Profiles

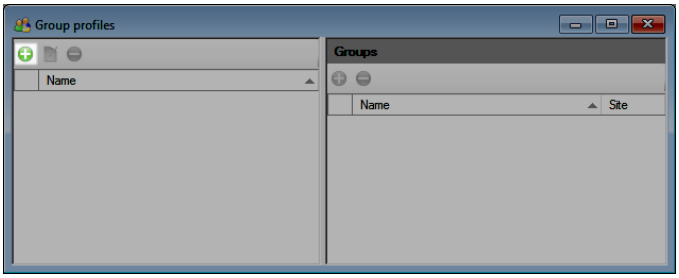
You can create group profiles for groups that share the same set of fields and permissions. Users that are assigned a group profile become members of all groups belonging to the group profile.

Creating Group Profiles

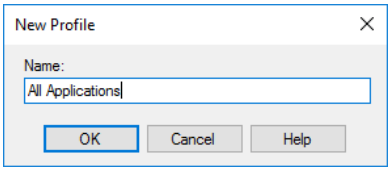
From the Users & Groups module, you can create a group profile for groups that have the same fields and permissions.

1. From the VMP Administrator, select **Users & Groups** > **Group Profiles**.

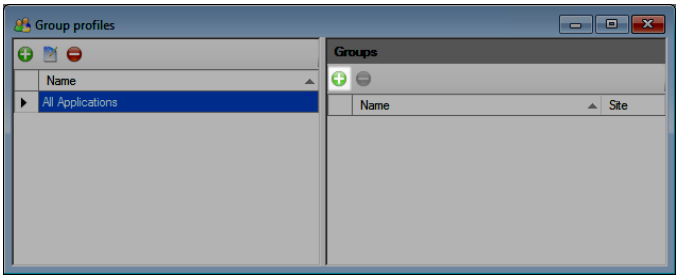
2. Select **New**.



3. Name the profile, and click **OK**.



4. With the profile selected under **Group profiles**, click **New**.

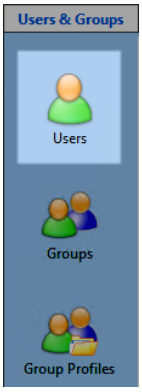


   Select the groups to include with the profile.
5. Click **OK** to close the dialog box.

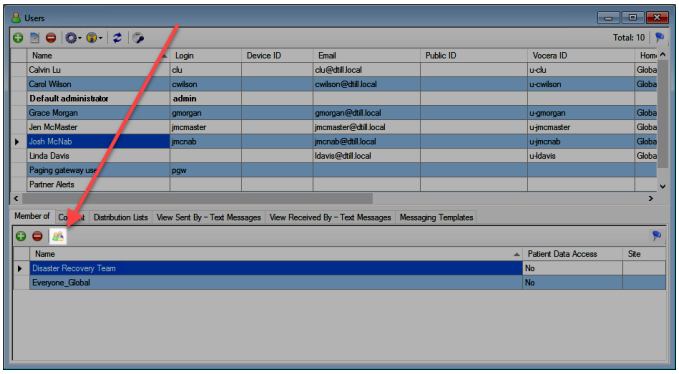
Assigning Group Profiles

From the Users & Groups module, you can assign a group profile to a user. This makes the user a member of all groups in the group profile.

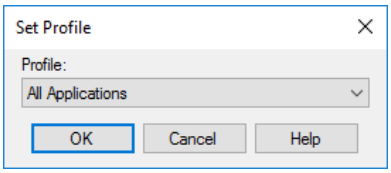
1. From the VMP Administrator, select **Users & Groups** > **Users**.



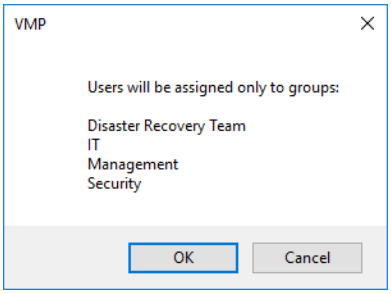
2. Click to highlight a user.
3. From the **Member of** tab, select **Set Profile**.



4. Use the dropdown list to select the profile, and click **OK** to close the dialog.



5. Click **OK** to confirm the assigned groups.



Contacts

The Contacts module enables you to import contact information for people and places that are not VMP users, such as local businesses.

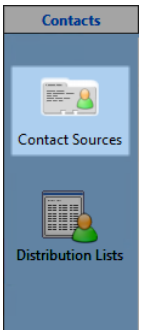
Note: Some of the features found in the Users & Groups module are covered in About Importing and Synchronizing on page 49, which describes how to import contacts from a source, including from a Vocera Voice Server global address book.

Manually Adding a New Contact

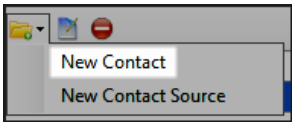
You can use the VMP Administrator to add a new contact manually.

You must already have at least one contact source available in the **Contact Sources** view.

1. Select the **Contacts** module, and select **Contact Sources**.

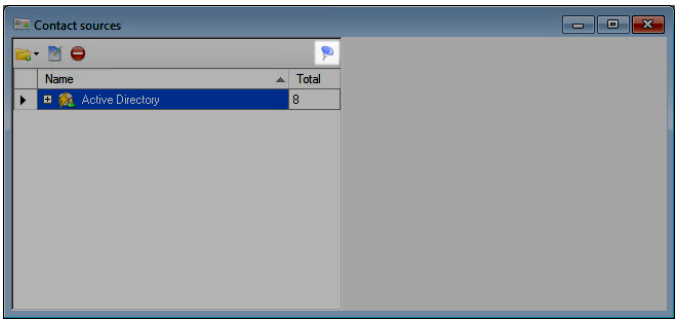


2. Click to highlight the contact source that is to contain the new contact.
3. Select **New** and choose **New Contact**.

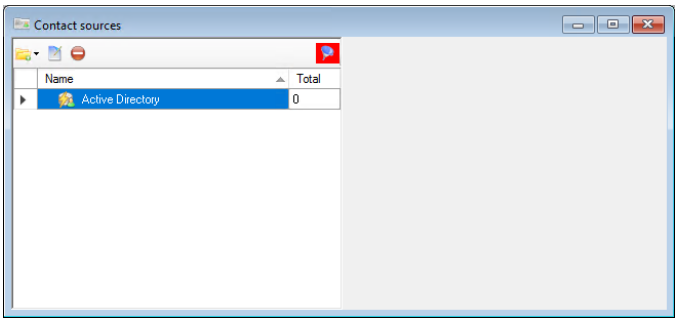


4. Enter the contact details in the **New Contact** dialog, and click **OK**.

To filter the list of contact sources, click **Filter** and select the filter criteria to use.



The Filter icon changes color.

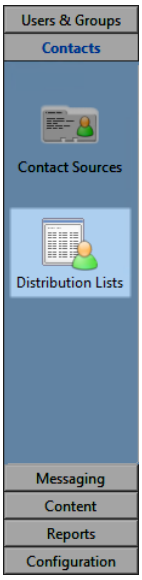


To reset filtering, right-click **Filter**.

Creating a Contacts Distribution List

Contacts Distribution Lists enable you to organize your contacts for quicker access. You can create a Contacts Distribution List from the Contacts module.

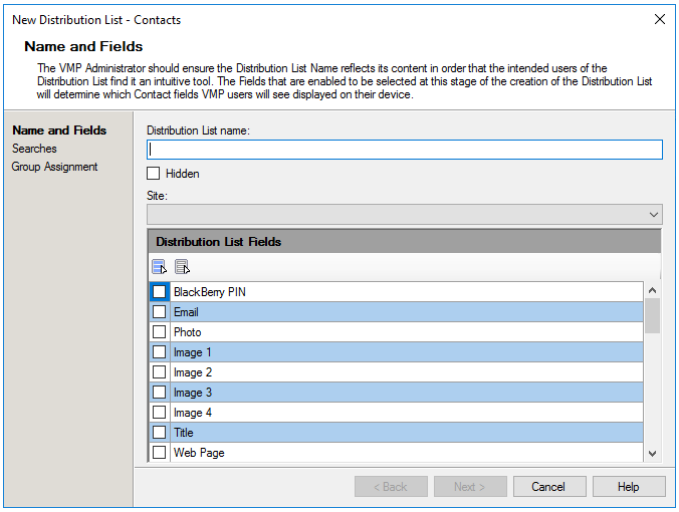
1. Select the **Contacts** module, and select **Distribution Lists**.



2. Select **New** from the **Distribution List - Contacts** view.
3. In the **Distribution List name** field, enter the name of the new Contacts Distribution List.
4. If sites have been defined, use the **Site** dropdown list to select the site for this Contacts Distribution List.

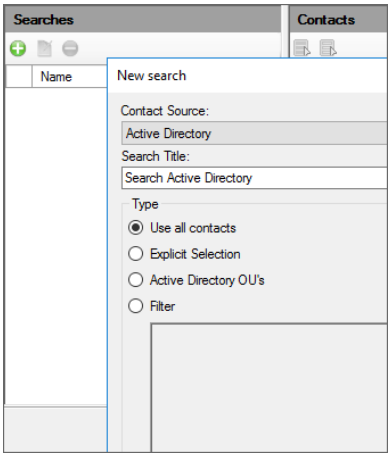
Note: Sites are available if they have been created on the Vocera Voice Server with which the VMP Server has been integrated. See Vocera Voice Server Integration on page 31 for more information on integrating with the Vocera Voice Server.

5. Select the **Hidden** checkbox if the Contacts Distribution List is to remain hidden. The contacts that are members of this list remain accessible.
6. In the Distribution List Fields pane, select the fields to display on the client.



Tip: Click **Select All** to add all available fields.

7. Click **Next**.
8. Select the Contact Source in **Searches**.



9. Select from the following options:

Table 13: Contact source options

Option	Description
Use all contacts	Automatically add all source contacts to the list.
Explicit Selection	Manually choose the source contacts for the list.
Active Directory OU's	If the source is imported from Active Directory, you can choose to add Organization Units.
Filter	Filter for contact to add based on contact fields.

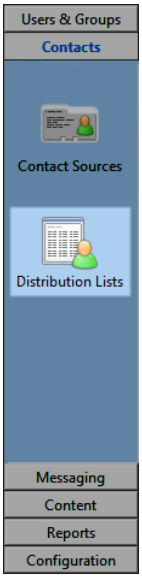
Tip: Filter for contacts with crucial fields (mobile phone, email address, etc.) to ensure you are adding only contacts with these fields populated.

10. Click **Next** to display the **Group Assignment** pane.
11. Choose the users and groups who have access to the **Distribution List** and click **Finish**.

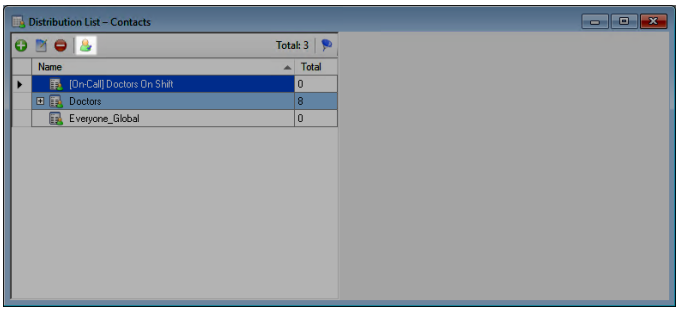
Managing Contacts Distribution List Access

You can control which users and groups can view a Contacts Distribution List.

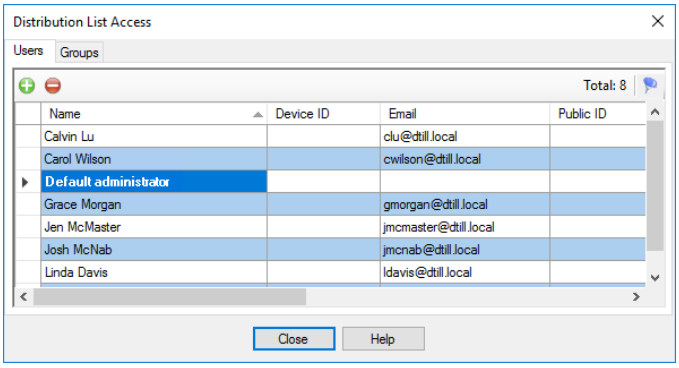
1. Select the **Contacts** module, and select **Distribution Lists**.



2. Select a list and click **Manage Access**.

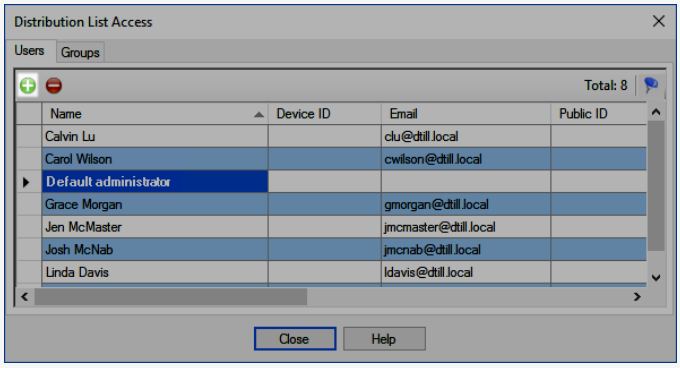
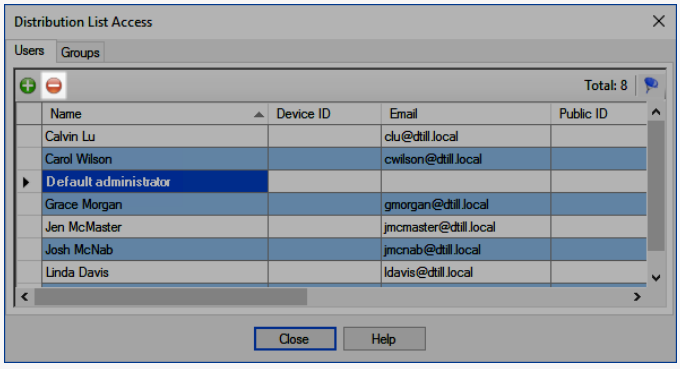


The Distribution List Access dialog box appears.



3. The Distribution List Access dialog box allows you to perform the following tasks:

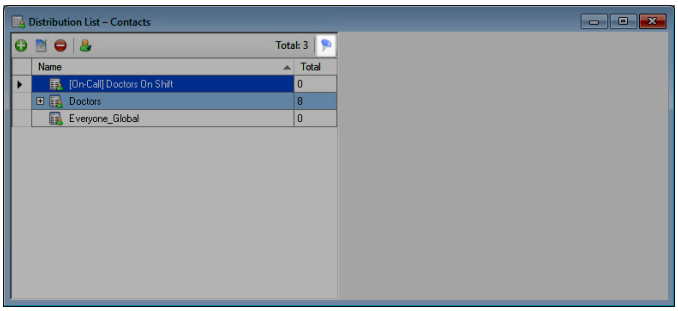
Table 14: Distribution List access task options

Task	Description
Add User	Click the **Users** tab, and click **Add** to select users who can access the list. 
Add Group	Click the **Groups** tab, and click **Add** to select groups who can access the list.
Delete User	Click the **Users** tab, select the user, and click **Remove** to revoke access to the list. 

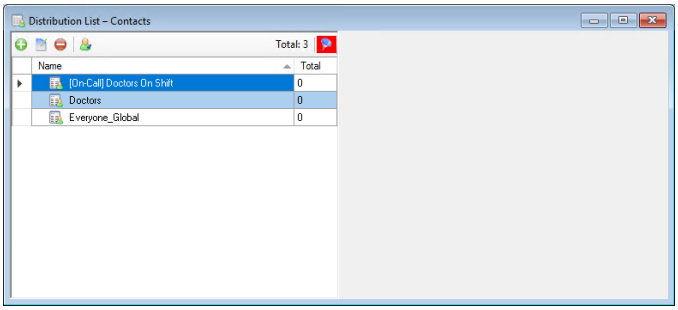
Task	Description
Delete Group	Click the **Groups** tab, select the group, and click **Remove** to revoke access to the list.

4. Click **Close** to save the access changes.

To filter the list of Contact Distribution Lists, click **Filter** and enter the filtering criteria to use.



The Filter icon changes color.



To reset filtering, right-click **Filter**.

Messaging

The Messaging module in the VMP Administrator enables you to configure the messaging environment in the VMP Web Console and the Vocera Collaboration Suite app.

In the Messaging module, you can:

- Create Message Templates that enable users to quickly create and send commonly used or urgent messages.
- Create Distribution Lists that enable users to send a message to multiple users simultaneously.

About Messaging Templates

Messaging Templates enable users to quickly create frequently sent or important messages. For example, you can create a Code Blue template to ensure that emergency notifications are sent out immediately.

When you create a Messaging Template, you can specify:

- Which users or groups are to be given permission to access the template.
- The default list of recipients for any message sent using this template.

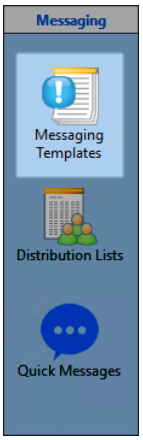
The list of recipients can contain users, Distribution Lists, or both.

Creating Messaging Templates

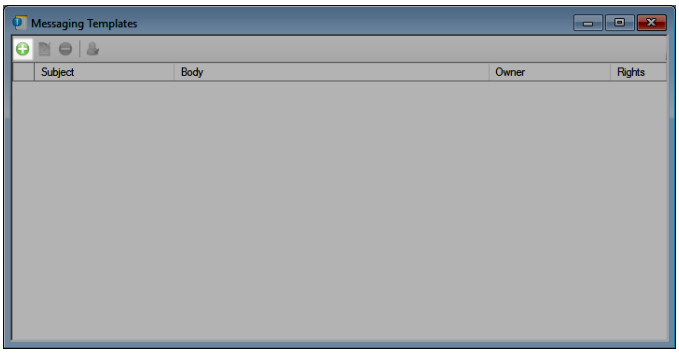
If your organization has a message that you send frequently, you can create a messaging template to help users create messages more quickly, which can be useful in emergency situations. You can create a template by copying from an existing template.

When you create a messaging template, you can specify the list of users, the message subject, text, and priority, an optional conversation expiration time, and one or more optional or mandatory fields. You can also supply a list of multiple choice responses for recipients to choose from.

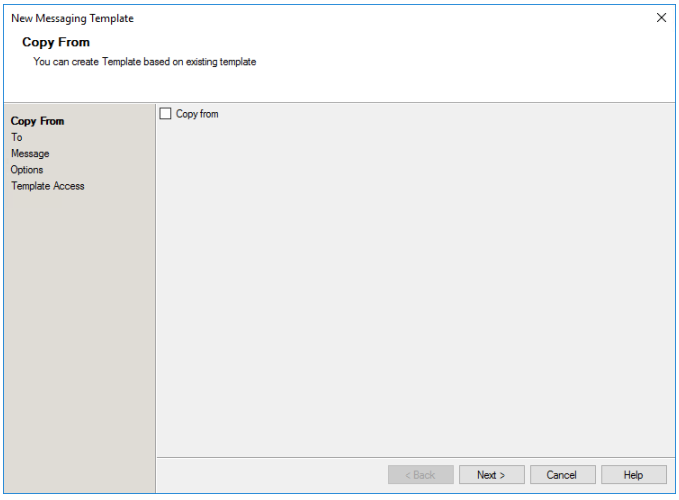
1. Open the VMP Administrator and select **Messaging** > **Messaging Templates**.



2. Click **New**.

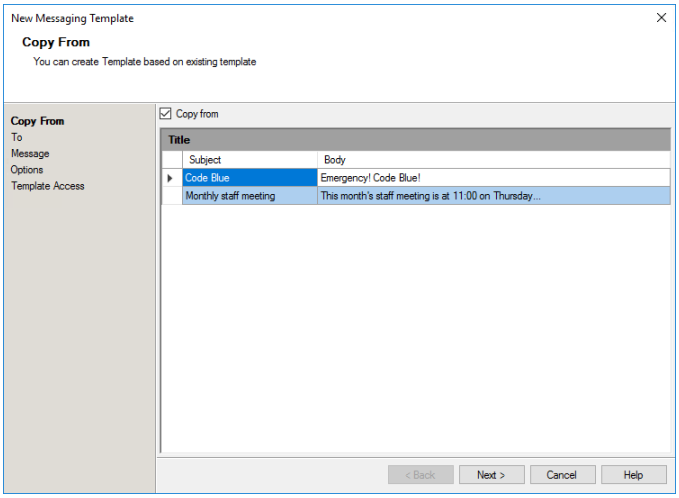


The Copy From pane appears.



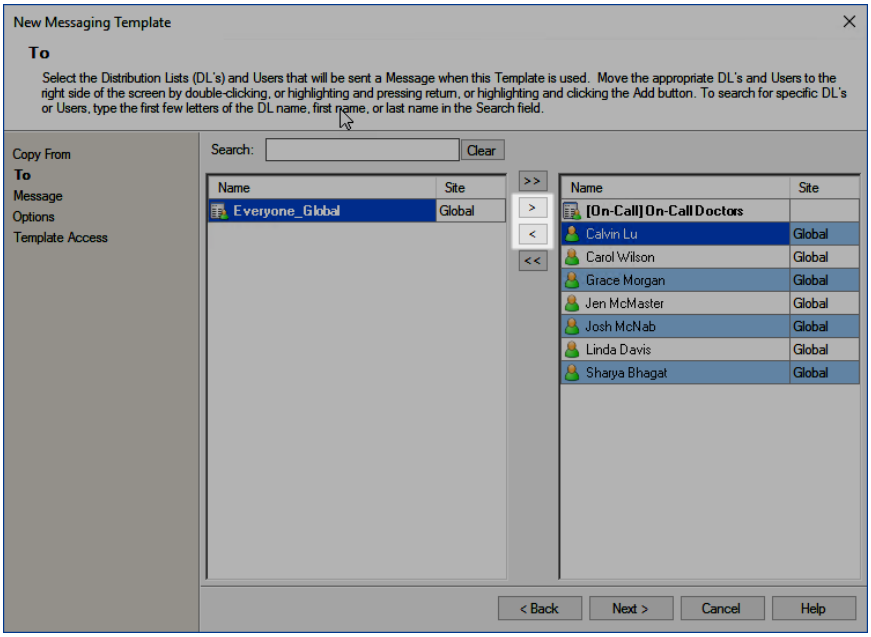
3. Do one of the following:

- If you are copying from an existing template, select the **Copy from** checkbox. A list of existing templates appears.



  Click on the template that you want to copy from. Click **Next** to continue.
- If you are not copying from an existing template, leave the **Copy from** checkbox unselected. Click **Next** to continue.

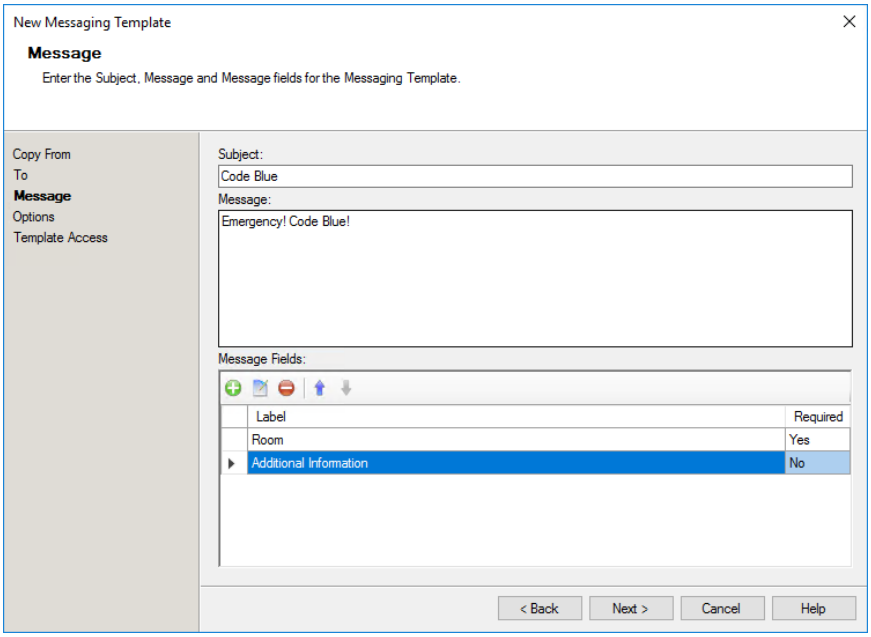
4. Click to highlight each user or Distribution List that will receive a message when the template is used. Click **>** to add users and Distribution Lists to the list of recipients, or click **<** to remove them.



When you have finished adding users and Distribution Lists, click **Next**.

Note: The list of recipients can include only one Escalation Distribution List.

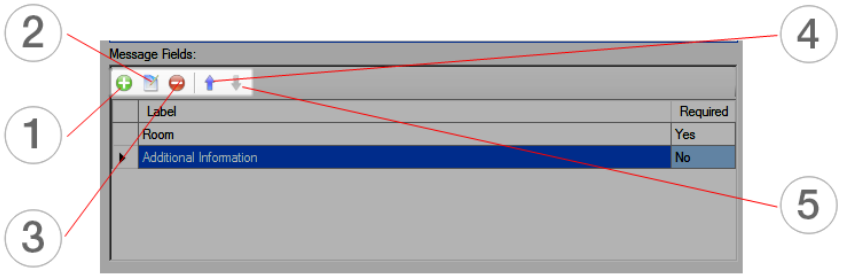
5. In the Message panel, supply the fields listed below. If you are copying from an existing template, some or all of these fields might already be provided.



a. In the **Subject** field, type the subject of the messages to be generated from this template. This field can be up to 512 characters in length, and must be provided.

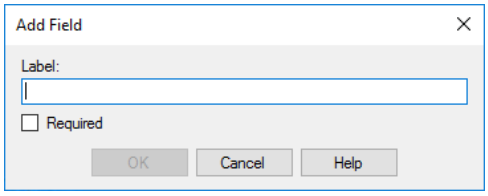
b. In the **Message** field, type the default text for messages sent from the template.

6. In the Message Fields section of the Message panel, you can define one or more fields that are to be included with each message generated from this template. For each field that you define, you can specify whether the field is required.



1

Click **Add** to add a field.



In **Label**, type the name of the field.

Select the **Required** checkbox if users must supply this field.

Click **OK** to add the field.

2

Click **Edit** to edit a field that you have created.

3	Click **Delete** to delete a field that you have created.
4	To rearrange the fields, click a field to highlight it. Click **Move Up** to move the field up in the list.
5	Click **Move Down** to move the field down. Repeat **Move Up** and **Move Down** until the fields are in the order that you want.

Click **Next** when you have finished creating fields.

7. In the Options screen, enter the following template details, and click **Next**:

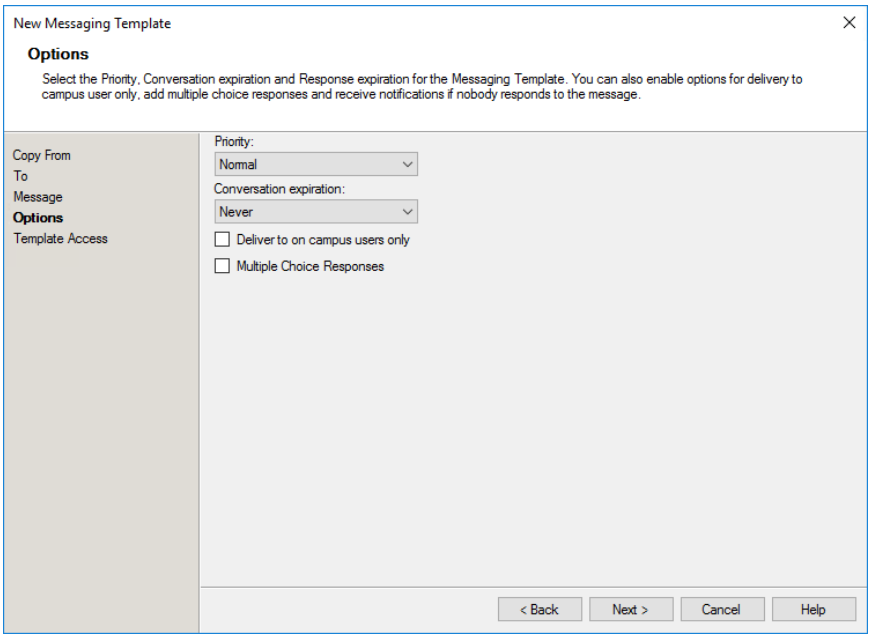


Table 15: Messaging Template options

Option	Description
Priority	The message priority can be: • Urgent • High • Normal
Conversation expiration	The time in minutes before the message conversation expires. This can be one of the following: • Never (the default) • 2 min • 5 min • 10 min • Custom If you select **Custom**, a field appears in which you can specify the number of minutes. **Note:** Once a message conversation has expired, the message will no longer be delivered to VCS and VMP Web Console users that have not yet received it and will not be retrieved the next time they log in.

Option	Description
Deliver to on campus users only	Select this checkbox if messages are to be sent only to recipients who are present.
Multiple Choice Responses	Select this checkbox if you want to define multiple choice responses for this template.

8. If you have selected **Multiple Choice Responses**, additional fields appear:

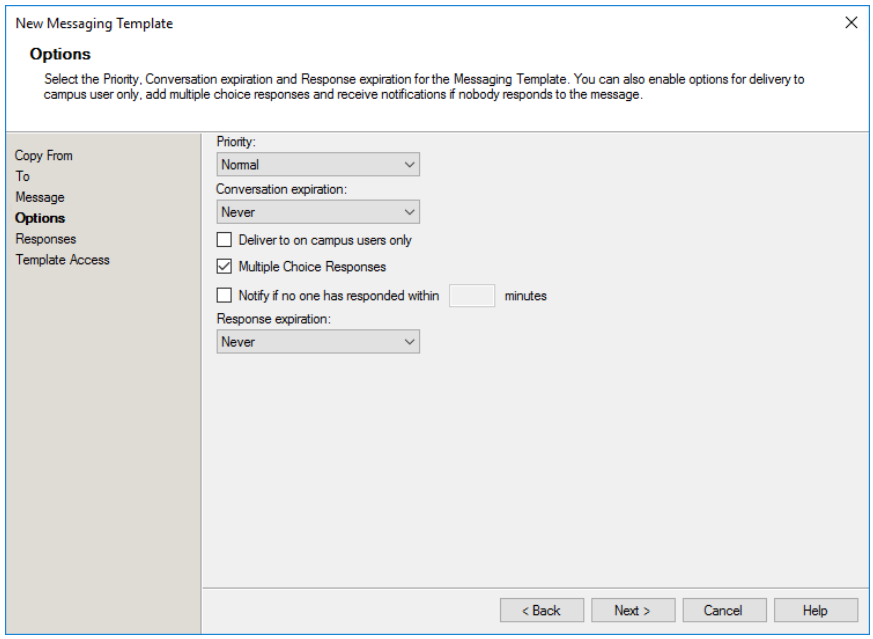
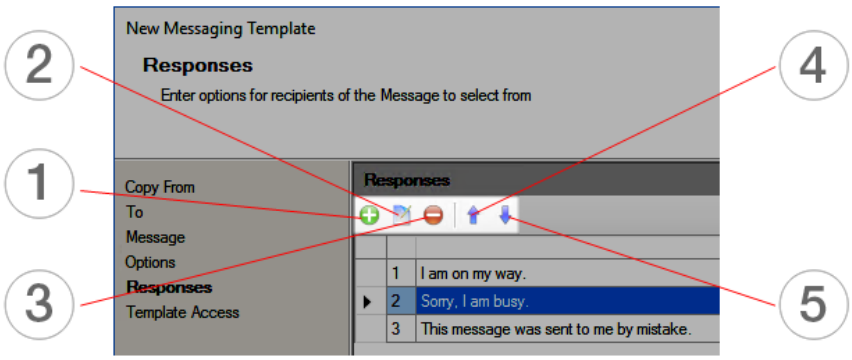


Table 16: Additional Messaging Template options

Option	Description
Notify if no one has responded	Select this checkbox if a notification is to be sent if no one has responded within the number of minutes that you specify.
Response expiration	The amount of time in which a response is expected. Select one of the following: • Never • 2 min • 5 min • 10 min • Custom - Enter the amount of time, in minutes, before the message expires.

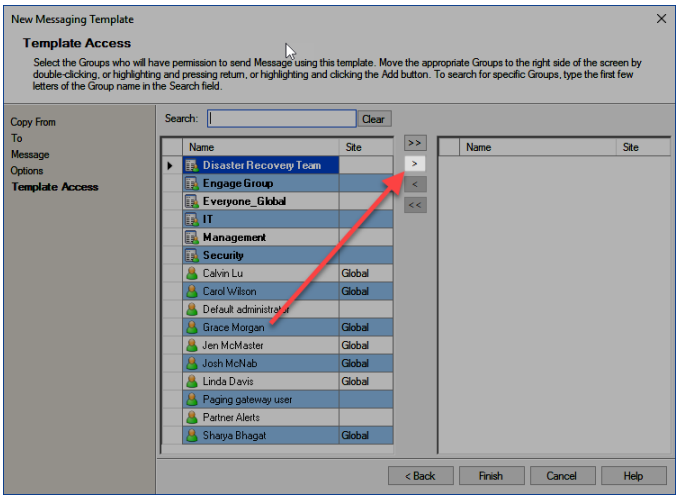
9. If you selected **Multiple Choice Responses**, click **Next** to provide the response options.



1	Click **Add** to add a response. Type the text of the response in the dialog box provided, and click **OK**.
2	Click **Edit** to edit a response that you have created.
3	Click **Delete** to delete a response that you have created.
4	To rearrange the responses, click a response to highlight it. Click **Move Up** to move the response up in the list.
5	Click **Move Down** to move the response down. Repeat **Move Up** and **Move Down** until the responses are in the order that you want.

Click **Next** when you have finished creating message options.

10. Click to highlight each user or group that can use the template, and click **>**.

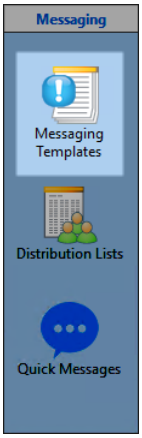


When you have finished adding groups, click **Finish**.

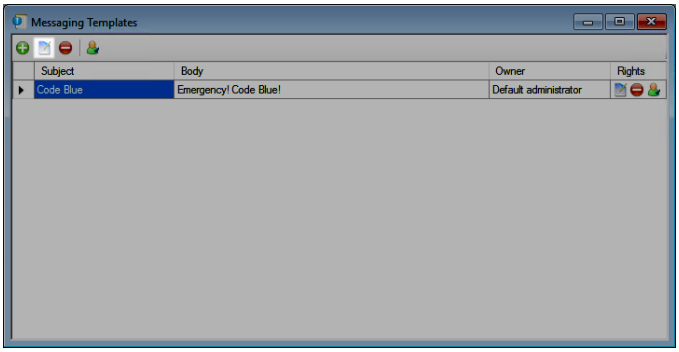
Editing a Messaging Template

You can edit any Messaging Template that you have created.

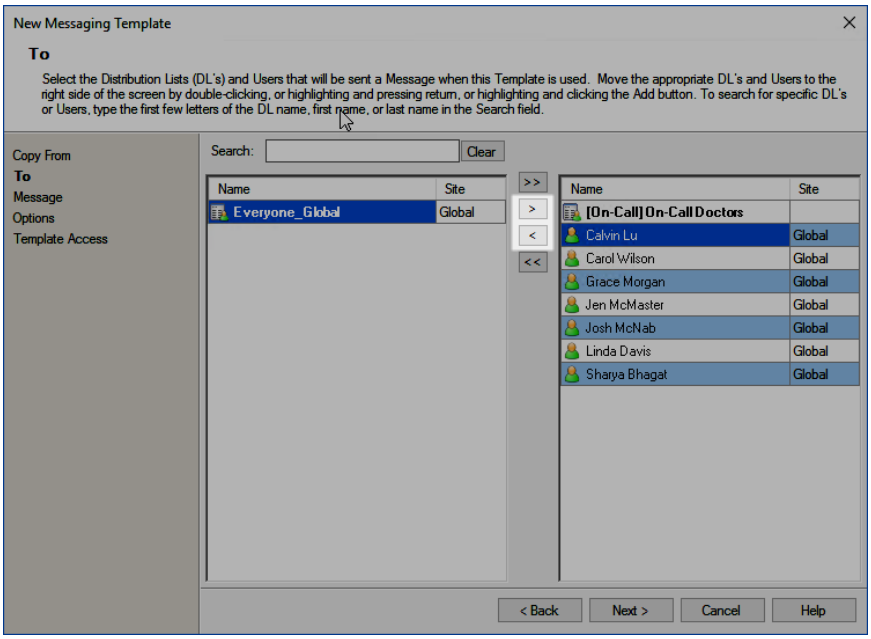
1. In the VMP Administrator, select **Messaging** > **Messaging Templates**.



2. Highlight the Messaging Template that you want to edit and click **Edit**.



3. Click **>** to add users and Distribution Lists to the list of recipients, or click **<** to remove them.



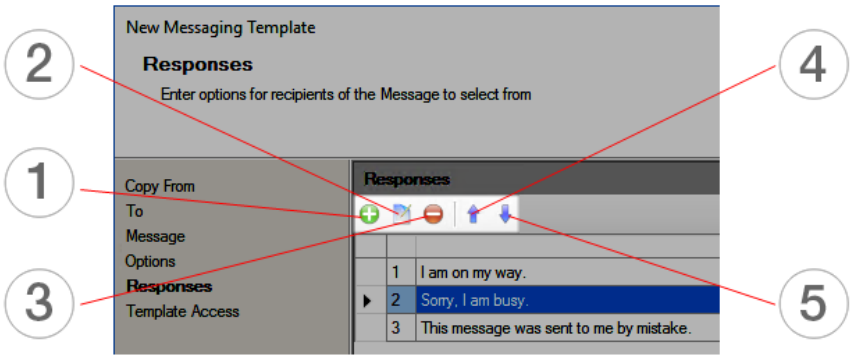
When you have finished adding users and Distribution Lists, click **Next**.

Note: The list of recipients can include only one Escalation Distribution List.

4. Edit the messaging options as needed, and click **Next** when finished.

Note: For more information on these options, see Creating Messaging Templates on page 142.

5. If you selected **Multiple Choice Responses**, you can update the response options.



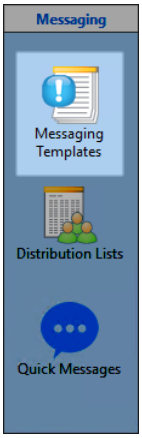
1	Click **Add** to add a response. Type the text of the response in the dialog box provided, and click **OK**.
2	Click **Edit** to edit a response that you have created.
3	Click **Delete** to delete a response that you have created.
4	To rearrange the responses, click a response to highlight it. Click **Move Up** to move the response up in the list.
5	Click **Move Down** to move the response down. Repeat **Move Up** and **Move Down** until the responses are in the order that you want.

   Click **Next** when you have finished updating message options.
6. To update the list of users or groups that can access the Messaging Template:
   a. To add a user or group, highlight it in the left pane of the Template Access dialog and click **>**.
   b. To remove a user or group, highlight it in the right pane and click **<**.
7. Click **Finish** when you have finished editing the Messaging Template.

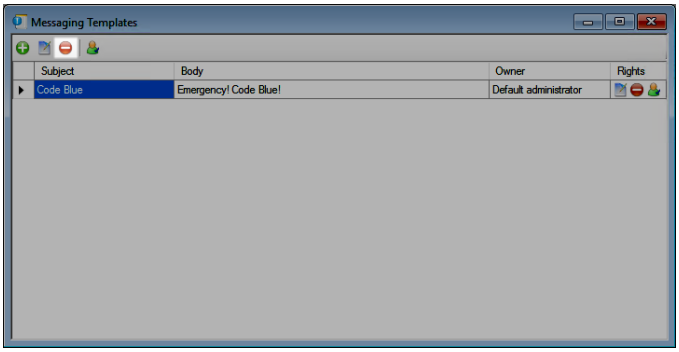
Deleting a Messaging Template

If you no longer need a Messaging Template, you can delete it.

1. In the VMP Administrator, select **Messaging** > **Messaging Templates**.



2. Highlight the Messaging Template that you want to delete and click **Delete**.

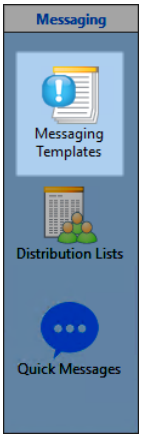


3. In the confirmation dialog box that appears, click **Yes** to confirm that you want to delete the Messaging Template.

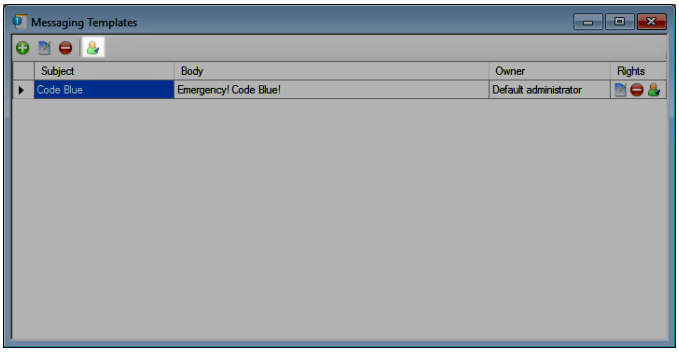
Changing Messaging Template Permissions

For any Messaging Template, you can specify the users that are allowed to update, delete, or manage access to the template.

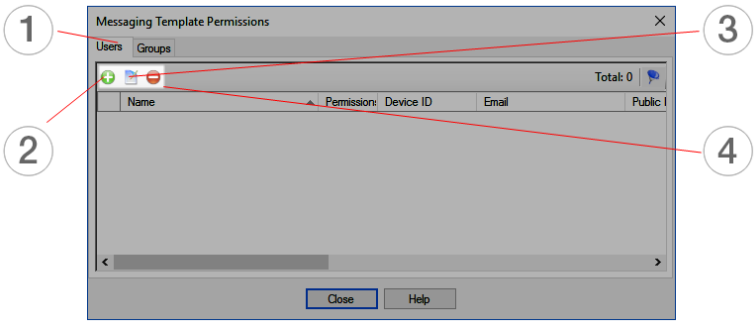
1. In the VMP Administrator, select **Messaging** > **Messaging Templates**.



2. Highlight the Messaging Template that you want to change permissions for, and click **Manage access**.



3. In the Messaging Template Permissions dialog box:



1	Click the **Users** tab to change permissions for users, or click the **Groups** tab to change permissions for groups.
2	Click **Add** to add a user or group to the list of users or groups with permissions. In the New Permission dialog box, highlight a user or group and click one or more permission checkboxes: • **Allow update**: Members with this permission can add users to the list of message recipients, and can edit the message body, subject, and other Messaging Template properties. • **Allow delete**: Members with this permission can remove this template. • **Manage access**: Members with this permission can add or delete groups in the Messaging Template access list. Click **OK** when done. The default administrator has **Manage access** permission on every Messaging Template.
3	Click **Edit** to edit the permissions of a user or group.
4	Click **Delete** to delete from the list of users or groups with permissions.

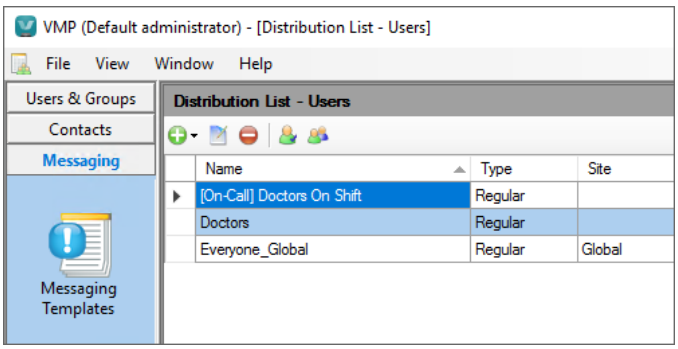
4. Click **Close** to close the Messaging Template Permissions dialog box.

About Distribution Lists

In VMP, a Distribution List (DL) is a list of users. You can send a message to an entire DL, use a DL to set up an on-call roster, or create an Escalation Distribution List to ensure that your message is escalated if it is not seen by its initial recipients.

When you create a DL, you specify whether it is to be a Regular Distribution List or an Escalation Distribution List. An On-Call Distribution List, which you can use to create an on-call roster, is a special type of Regular Distribution List.

To display a list of all defined DLs, open the VMP Administrator application and select **Messaging > Distribution Lists**. The Distribution List - Users view appears.



In this view, On-Call Distribution Lists have the prefix **[On-Call]**, and Escalation Distribution Lists have the prefix **[Escalation]**. All other DLs are Regular Distribution Lists.

VMP automatically creates the following DLs:

- If your VMP Server is integrated with a Vocera Voice Server, the **Everyone_Global** DL is a copy of the **Everyone** group that is defined on your Vocera Voice Server. See Vocera Voice Server Integration on page 31 for more information on integrating with a Vocera Voice Server.
- If your VMP Server is integrated with Vocera Secure Texting, the **VST Users** DL lists all VST users. See Vocera Secure Texting Integration on page 35 for more information on integrating with VST.

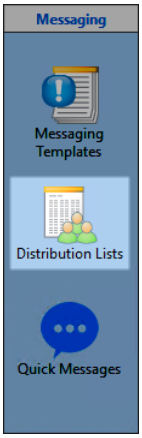
Note: VMP also enables you to define Contacts Distribution Lists, which are lists of contacts. See Creating a Contacts Distribution List on page 137 for more details.

Creating a Regular or On-Call Distribution List

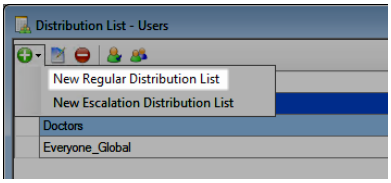
You can use the VMP Administrator to create a regular Distribution List (DL). You can specify that this regular DL is to be an On-Call Distribution List.

A regular DL is any DL other than an Escalation Distribution List, which is a special case that is created separately.

1. Open the VMP Administrator application and select **Messaging > Distribution Lists**.



2. Click **New** and select **New Regular Distribution List**.



3. In the **Distribution List Name** field, enter the name of the new DL.
4. In the **Distribution List ID** field, enter the ID of the new DL.

   Note: When a message is initiated by an external system such as email or WCTP, VMP uses this ID to determine the DL to which the message is to be sent.

5. If this Distribution List is to be associated with a site, select the site from the **Site** dropdown list.

   Note: Sites are available if they have been created on the Vocera Voice Server with which the VMP Server has been integrated. See Vocera Voice Server Integration on page 31 for more information on integrating with the Vocera Voice Server.

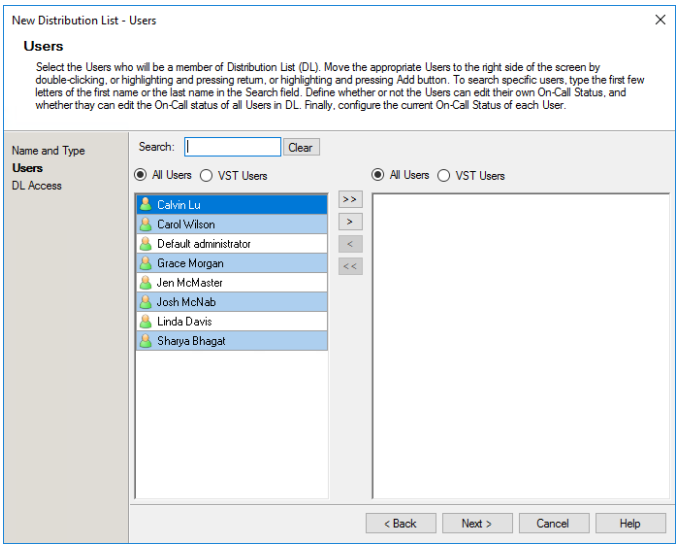
6. Select **Enable for Texting** if you want this DL to be available to Messaging users.
7. If **Enable for Texting** is selected, you can select **On-Call Distribution List** to ensure that DL members receive messages only if their status is **On-Call** or **Monitor**. In the **Minimum Users On-Call** field, select or type the minimum number of users that can be On-Call at any one time.

   Note: If a user is having messages forwarded, the user can still be On-Call.

8. In the **Notify On-Call status changes** section, select **On-Call** to send a notification to a user when the user's status changes to **On-Call**. Select **Not On-Call** to send a notification when the user's status changes to **Not On-Call**.
9. Select **Hidden** if this DL is to remain hidden. Users can send messages to members of a hidden DL, but cannot send a message to the DL itself.
10. Select how users can be added to the DL. You can select either **Add Users Manually** or **Create DL based on Active Directory structure**.
11. Click **Next**.
12. If you have selected **Add Users Manually**:
    a. Type in the **Search** field to display only users whose names contain the search string. Click **Clear** to clear the search string.
    b. Select **All Users** to display all users, or select **VST Users** to display Vocera Secure Texting users only. You can do this for either the list of users that have not yet been added to the DL or the list of users that have been added.

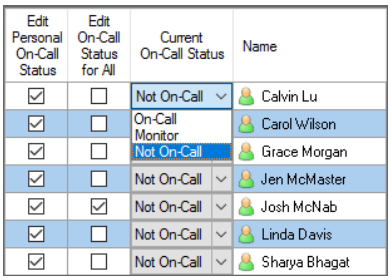
Note: For more information on importing Vocera Secure Texting users into VMP, see Enabling VST Message Exchange on page 36.

c. Click to highlight a user, and then click **>** to move the user to the Distribution List. You can click to highlight one or many users. To move all users to the Distribution List, click **>>**.



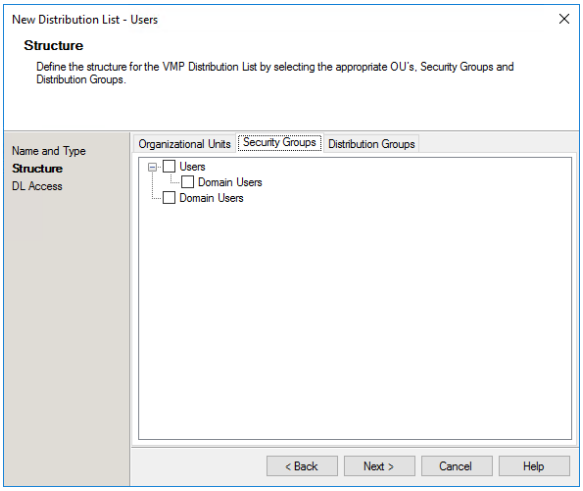
d. If the DL is an On-Call DL:

- Select **Edit Personal On-Call Status** to let users edit their own on-call status.
- Select **Edit On-Call Status For All** to let users manage the on-call status for all members of the DL.
- In the **Current On-Call Status** dropdown list, specify the on-call status for each user. Select **Not On-Call**, **Monitor**, or **On-Call**.

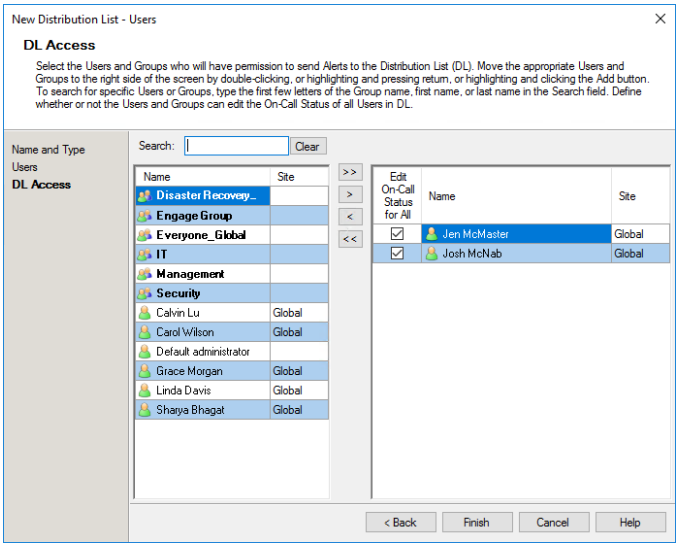


e. Click **Next**.

13. If you are creating the DL from an existing Active Directory structure, select the users and groups from the tabbed lists, and click **Next**.



14. The DL Access window appears, which lets you select the users and groups who will have permission to send messages to this DL.



Type in the **Search** field to display only users whose names contain the search string. Click **Clear** to clear the search string.

15. Click to highlight a user, and then click **>** to give the user permission to send a message to this Distribution List. You can click to highlight one or many users. To give all users permission to send messages, click **>>**.
16. If the new list is an On-Call Distribution List, select the **Edit On-Call Status for All** checkbox next to each user who is to be given permission to edit anyone's on-call status.

Note: If a user is both a member of a DL and has permission to send a message to the DL, you can select the **Edit On-Call Status for All** checkbox in either this screen or the Users screen. Selecting either checkbox enables the ability to edit anyone's on-call status.

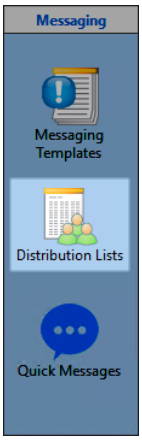
17. Click **Finish** to create the DL.

Creating an Escalation Distribution List

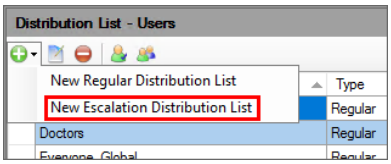
Use Escalation Distribution Lists to improve message response times by forwarding the message through a defined escalation workflow.

For each list, one or more branches of groups or users are defined. When a message is sent to the list, it is sent to the first branch. If no one in the first branch responds in the specified time, the message is escalated to the next branch. It is then escalated to additional branches if necessary.

1. Open the VMP Administrator application and select **Messaging > Distribution Lists**.



2. Click **New** and select **New Escalation Distribution List**.



3. In the **Distribution List Name** field, enter the name of the new DL.
4. In the **Distribution List ID** field, enter the ID of the new DL.

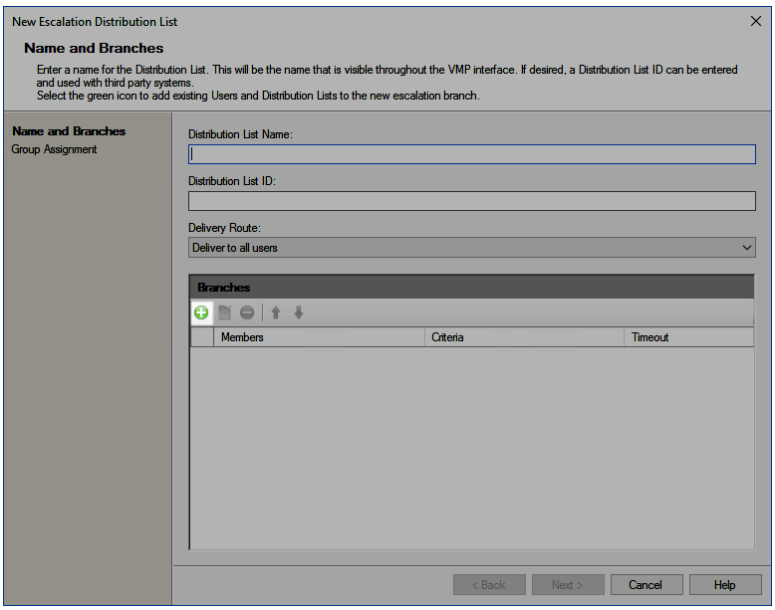
Note: When a message is initiated by an external system such as email or WCTP, VMP uses this ID to determine the DL to which the message is to be sent.

5. Use the **Delivery Route** dropdown list to select from one of the following options:

Table 17: Delivery route options

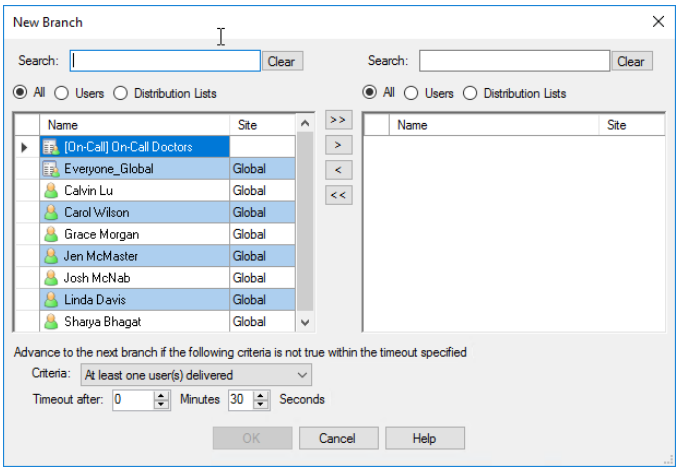
Option	Description
Deliver to all users	Deliver to all DL members.
Deliver only to users who are present on the Wi-Fi network.	Messages sent to the DL are delivered only to active members who are currently logged onto the Vocera Voice Server and are not in DND mode. **Note:** If a user is present on the Wi-Fi network, but is forwarding messages to a user who is not present, the message is not delivered.

6. Next, create the branches for the Escalation Distribution List:
   a. Click **New** to add a **New Branch** to the Escalation Distribution List.



Each branch contains one set of users to be contacted. If the response criteria are not met, the Escalation Distribution List escalates to the next branch.

b. In the New Branch dialog box, type in the **Search** field to display only users whose names contain the search string. Click **Clear** to clear the search string.



c. Filter the selection criteria using one of the following options:
   - **All**
   - **Users**
   - **Distribution Lists**

Note: If a search string has been specified, only users whose names contain the search string are listed.

d. Click to highlight a user, and then click **>** to move the user to the new branch of the Escalation Distribution List. You can click to highlight one or many users. To move all users to the new branch, click **>>**.

e. Use the **Criteria** dropdown list to specify the response criteria. If these criteria are not met, the message is escalated. The available response criteria are:
   - **At least one user(s) delivered**
   - **At least one user(s) opened**

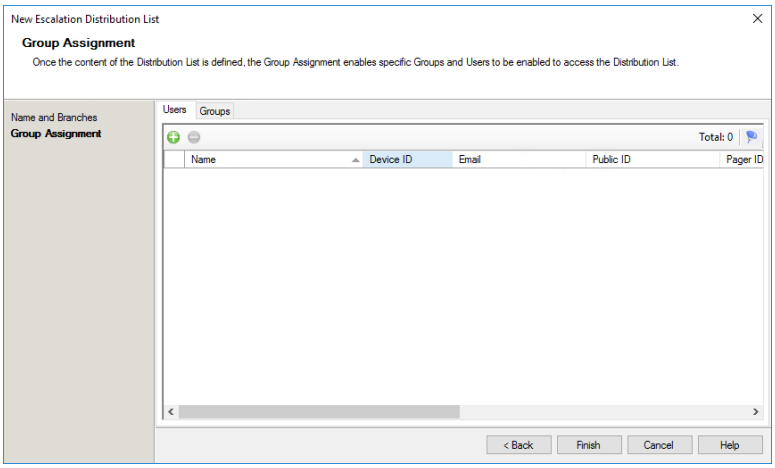
- **At least one user(s) responded**
- **All users delivered**
- **All users opened**
- **All users responded**

f. Set the timeout value and click **OK** to continue. The timeout value must be 5 seconds or greater.

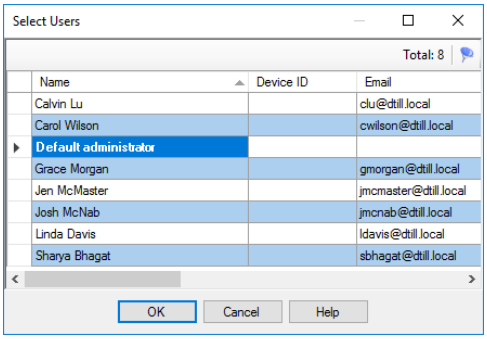
Note: When a message is sent to an Escalation Distribution List, and all members of a branch of the list are off campus, the message is immediately escalated to the next branch of the list without waiting for the timeout period to elapse.

g. Repeat these steps as necessary to create additional branches.

7. Click **Next**. The Group Assignment window appears, which lets specific users and groups access the DL.
8. Click the **Users** tab to add a user to the access list, or click **Groups** to add a group:
   a. Click **Add** to display a list of users or groups.



The Select Users or Select Groups window appears.

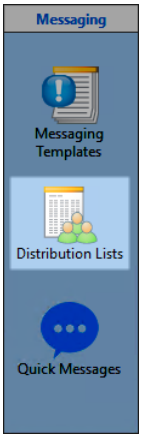


   b. Select one or more users or groups from the list.
   c. Click **OK** to add the users or groups to the list.
   d. Repeat the above steps to add additional users or groups.
9. Click **Finish** to create the DL.

Editing a Distribution List

You can edit any Distribution List or Escalation Distribution List that you have created.

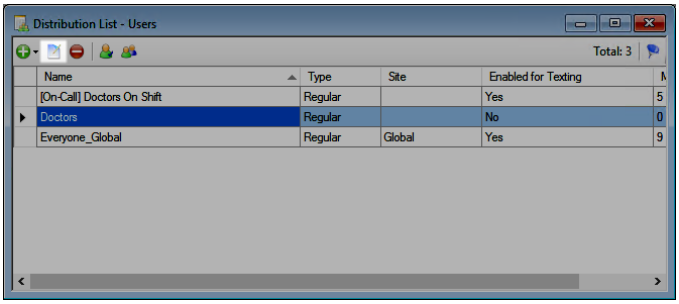
1. Open the VMP Administrator application and select **Messaging > Distribution Lists**.



2. Click the name of a Distribution List to select it.

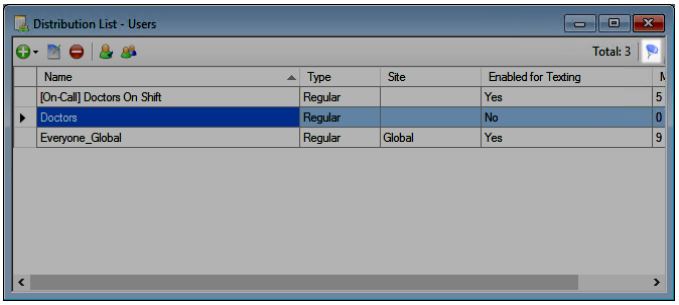
   Note: On-Call Distribution Lists are labeled with the prefix **[On-Call]**. Escalation Distribution Lists are labeled with the prefix **[Escalation]**.

3. Click **Edit**.



4. The instructions for editing a Distribution List are the same as those for creating a list:
   - If you are editing a regular Distribution List, see Creating a Regular or On-Call Distribution List on page 152.
   - If you are editing an Escalation Distribution List, see Creating an Escalation Distribution List on page 155.

To filter the list of Distribution Lists, click **Filter** and enter the filtering criterion to use.

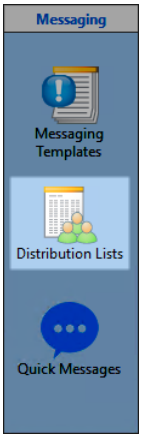


The Filter icon changes color. To reset filtering, right-click **Filter**.

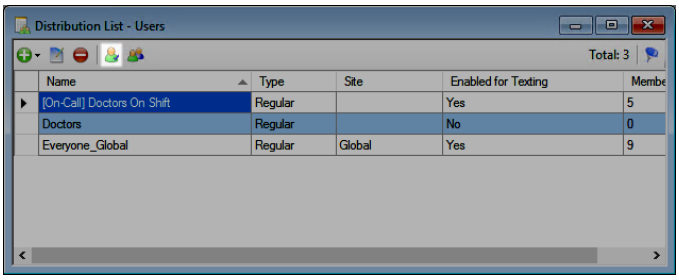
Managing Access to a Distribution List

After you have created a Distribution List, you can specify users that can access the list.

1. Open the VMP Administrator application and select **Messaging > Distribution Lists**.

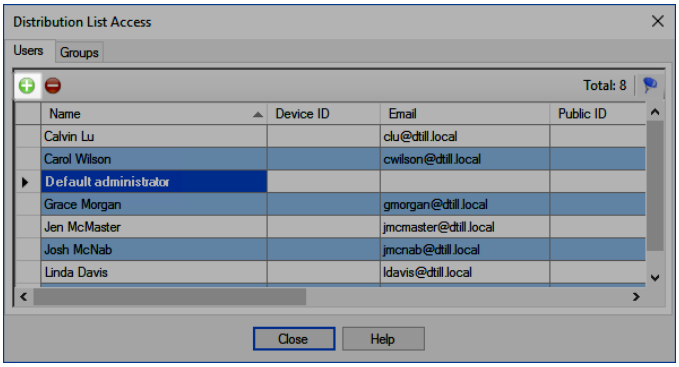


2. Click the name of a Distribution List or Escalation Distribution List to select it.
3. Click **Manage Access**.



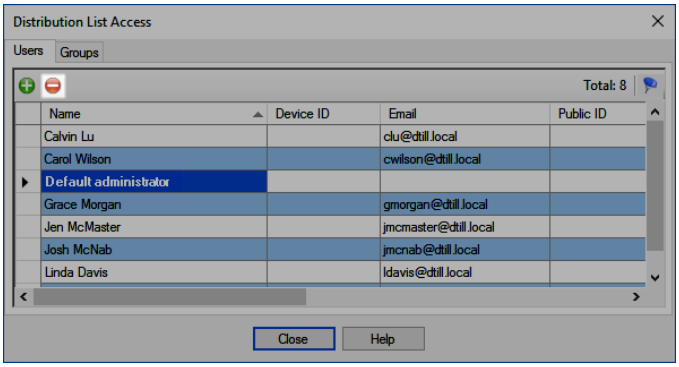
The Distribution List Access dialog box appears.

4. To add users or groups that can access the list, click **Add**.



In the dialog box that appears, click the **Users** or **Groups** tab, click the names of the users or groups to add, and then click **OK**.

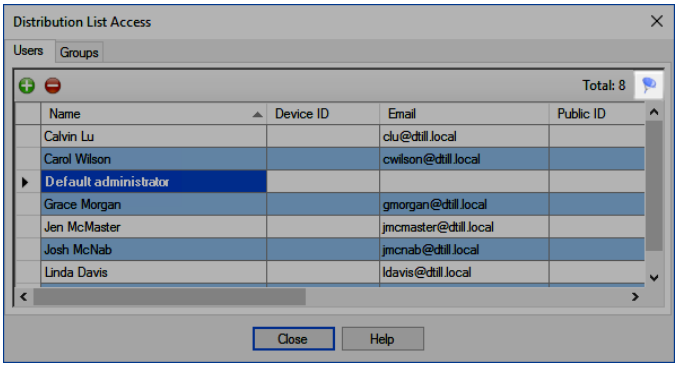
5. To remove access to the list, click the **Users** or **Groups** tab, click the names of the users or groups whose access is to be removed, and then click **Delete**.



When asked whether you want to remove these users or groups, click **Yes**.

6. When you have finished updating user access, click **Close**.

To filter the list of users in the Distribution List Access dialog box, click **Filter** and enter the filtering criteria to use.

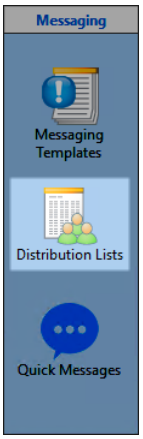


The Filter icon changes color. To reset filtering, right-click **Filter**.

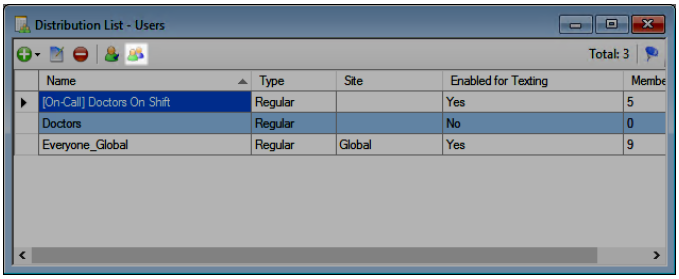
Viewing the Members of a Distribution List

You can view a list of all members of any existing Distribution List.

1. Open the VMP Administrator application and select **Messaging > Distribution Lists**.



2. Click the name of a Distribution List or Escalation Distribution List to select it.
3. Click **View Members**.



A dialog box appears, containing a list of Distribution List members.

Additional fields are displayed with this list of members, depending on the type of DL:

- For Regular DLs created in VMP, this dialog box lists the Device ID, email address, and Public ID for each user.
- For DLs imported from Vocera groups, the status for each user is displayed.

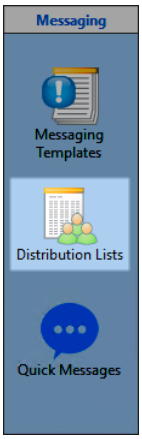
- For Escalation DLs, the branch number is displayed.

4. Click **OK** to close the dialog box.

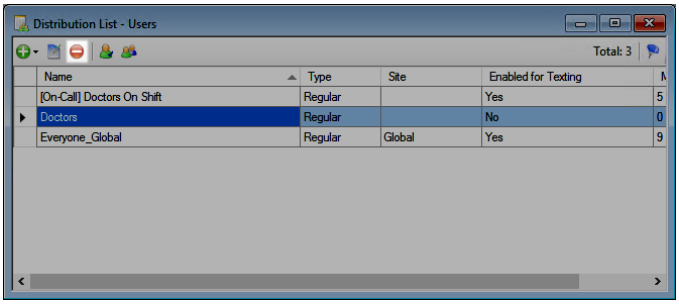
Deleting a Distribution List

If you no longer need a Distribution List, you can delete it.

1. Open the VMP Administrator application and select **Messaging > Distribution Lists**.



2. Click the name of a Distribution List or Escalation Distribution List to select it.
3. Click **Delete**.



4. In the dialog box that appears, click **Yes** to confirm that you want to delete the list.

About Quick Messages

A quick message is a pre-defined message text that a user can select and instantly add to a conversation. This makes it easier for users to include a frequently used message response or an urgent message response.

You can define quick messages, and you can specify what groups can use the quick messages that you define.

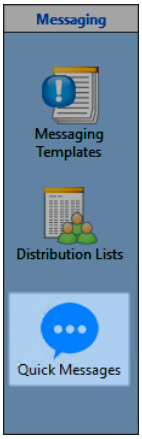
Note: See Specifying Group Permission for a Quick Message on page 133 for details on how to grant permission to a group to use a quick message.

Creating a Quick Message

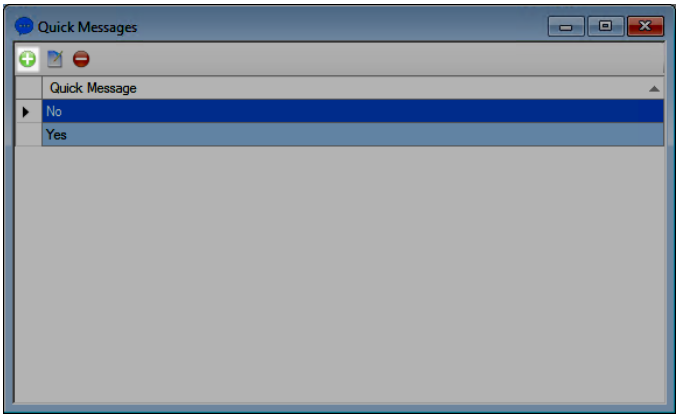
You can create a quick message for use in message conversations.

Note: After you have created a quick message, you must specify what groups have permission to use it. See Specifying Group Permission for a Quick Message on page 133 for details on how to grant permission to a group to use a quick message.

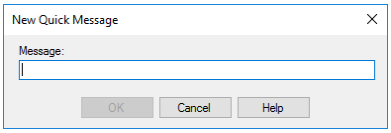
1. Open the VMP Administrator application and select **Messaging > Quick Messages**. The Quick Messages pane appears.



2. Click **New**.



The New Quick Message dialog box appears.



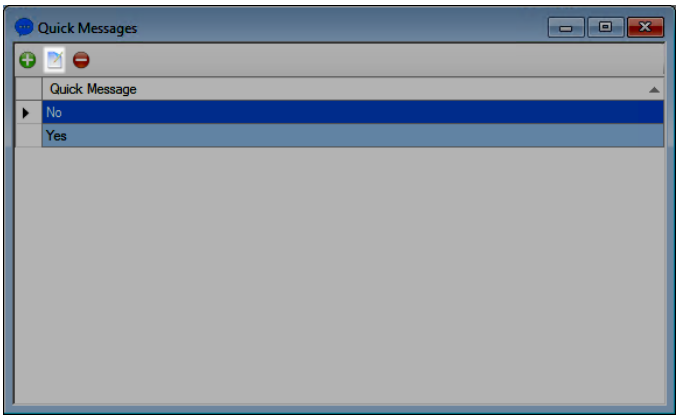
3. In the **Message** field, type the text of the new quick message.
4. Click **OK** to add the new quick message, or click **Cancel** to return to the Quick Messages pane without adding a new message.

Editing a Quick Message

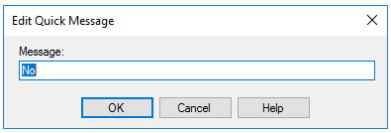
You can edit the text of a quick message that you have created.

1. Open the VMP Administrator application and select **Messaging > Quick Messages**. The Quick Messages Pane appears.

2. Click the quick message that you want to edit.
3. Click **Edit**.



The Edit Quick Message dialog box appears.



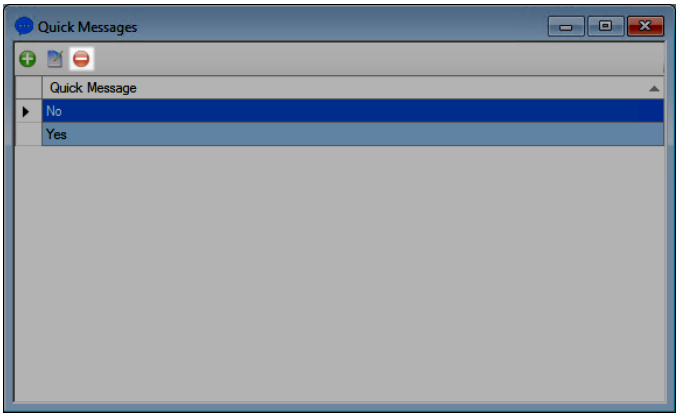
4. In the **Message** field, edit the quick message text as needed.
5. Click **OK** to edit the quick message, or click **Cancel** to cancel editing.

Deleting a Quick Message

You can delete a quick message that you have created.

1. Open the VMP Administrator application and select **Messaging > Quick Messages**. The Quick Messages Pane appears.

2. Click **Delete**.



3. In the confirmation dialog box that appears, click **Yes** to confirm that you want to delete the quick message.

The quick message is deleted.

Content

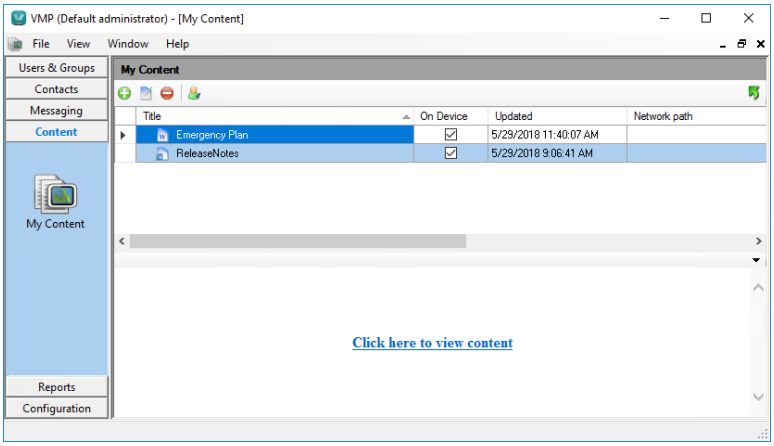
The Content module provides the tools to manage documents and image files that are stored on the VMP Server and can be distributed and shared with licensed devices. It can deliver floor-plans, forms, and other essential team documents.

Content is uploaded and managed by the administrator. When a file is uploaded to the VMP Server, the title and upload date are posted to the main screen of the console. VMP supports the following file types:

- HTML file
- Image file (JPEG, GIF, BMP and PNG)
- PDF file
- Microsoft Word document
- Excel document
- Text
- Audio and video

If you plan to distribute Microsoft Word and Excel documents, you must have Microsoft Word and Excel installed on your server so that it can properly format the documents for the device. For audio and video, all content is streamed, and client devices can play all files that are supported by their media players.

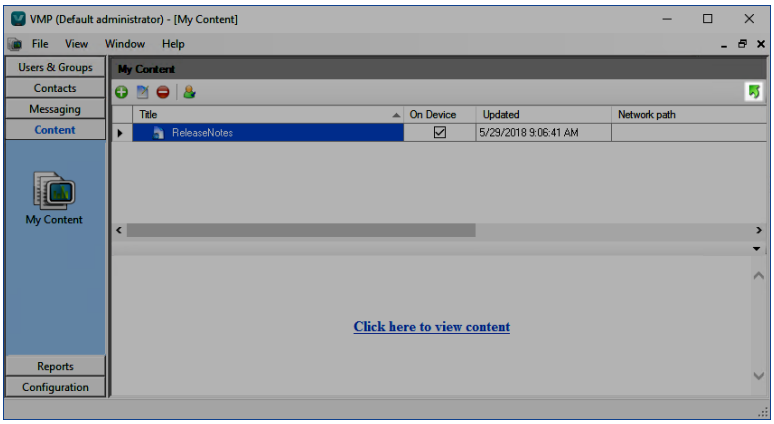
The My Content view provides a list of the current documentation in the configured hierarchy.



Features of this view include:

- Content view window
- Activate or deactivate device presence
- Content update timestamp
- Network path information

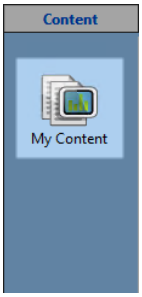
Note: To refresh the list of available content displayed in the Content module, click **Refresh**.



Adding Content

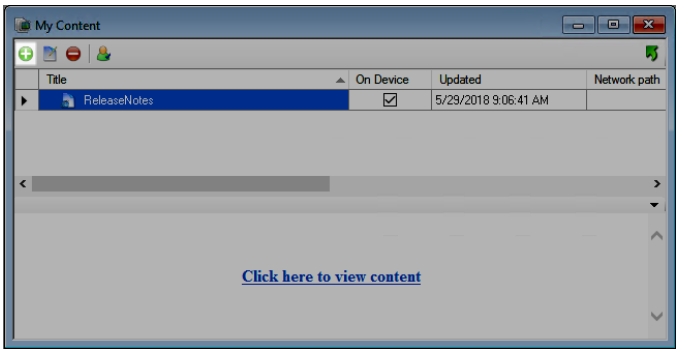
You can use the VMP Administrator to add new content that can be made available to client devices.

1. Open the VMP Administrator application and select **Content > My Content**.

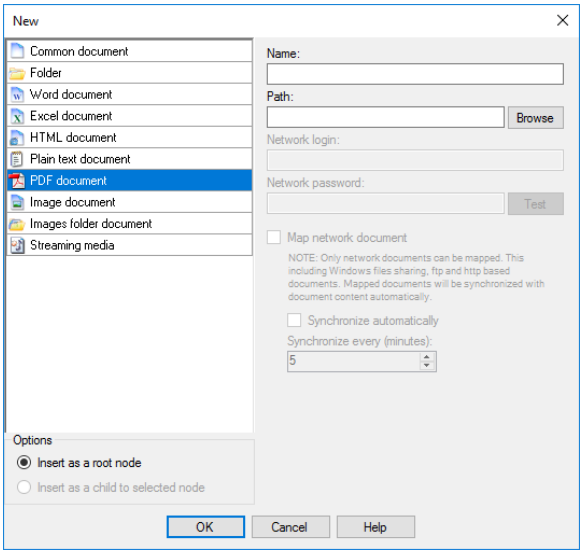


2. If you are adding content to an existing folder, or as a child of an existing content instance, click to highlight the folder or instance.

3. Click **Open** to open the **New Content** view.



4. Click to highlight the document type and click **Browse** to select the new document.



Note: The **Name** field contains the document name, and it auto-populates based on the selected document. If you enter a name in the **Name** field, it will persist.

5. If the document resides on a network that requires credentials, use the **Network login** and **Network password** fields to enter the credentials.
6. Optionally, you can select **Map network document**. Mapping allows you to configure automatic synchronization for document updates. If desired, select this option and configure a synchronization interval.

Note: If your documents reside on a remote network, automatic synchronization will not work unless the Vocera Data Exchange service is modified to use a local administrator account instead of the default VMP Local System account.

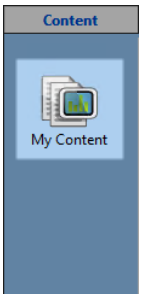
7. If the document type you have selected is **Word document** or **HTML document**, the **Document style** dropdown list appears. Select the document style to use.
8. If the document type you have selected is **Word document**, **Excel document**, or **HTML document**, the **Use first tables row as column names** dropdown list appears. Select one of the following:
   - **Yes** - Use the entries in the first row of the table as the column names.
   - **No** - Do not use table row entries as column names.
   - **Use parent folder settings** - Use the settings specified in the parent folder.
9. In the **Options** section, select **Insert as a root node** to insert the new document into the My Content folder, or select **Insert as a child to selected node** to insert the new document into the selected folder.

10.Click **OK** to close the dialog and upload the document to the server.

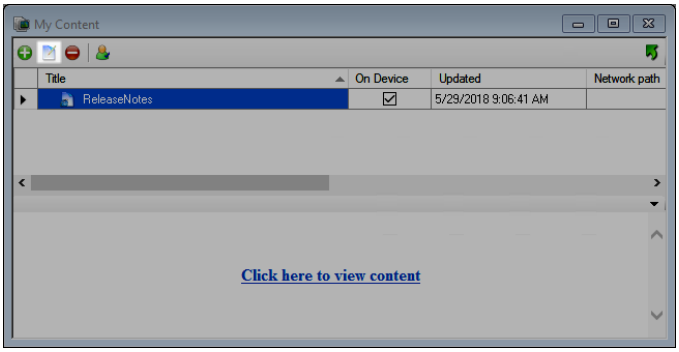
Updating Content

If necessary, you can update content that you have already uploaded to the VMP Server.

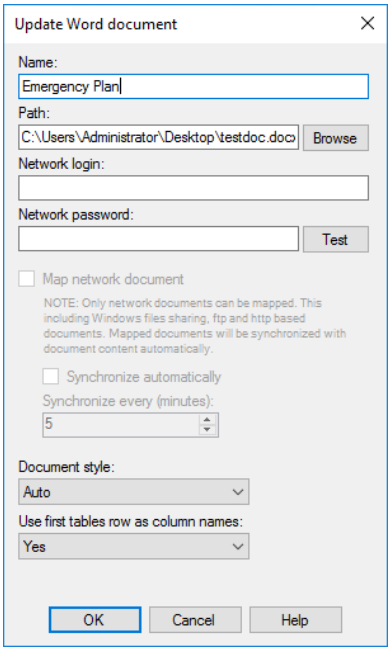
1. Open the VMP Administrator application and select **Content > My Content**.



2. Click to highlight the folder or document, and select **Edit**.



3. If the document is a Word document or an HTML document, from the **Document style** dropdown list, select the document style to use.
4. If the document is a Word document, an Excel document, or an HTML document, from the **Use first tables row as column names** dropdown list, select one of the following:
   - **Yes** – Use the entries in the first row of the table as the column names.
   - **No** – Do not use table row entries as column names.
   - **Use parent folder settings** – Use the settings specified in the parent folder.
5. Click **OK** to save your changes.

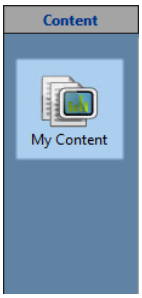


Assigning Document Permissions

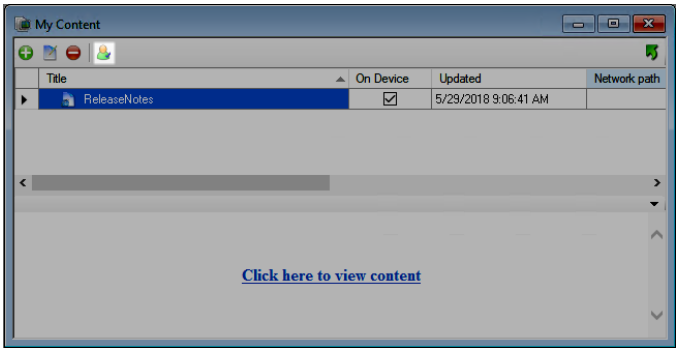
You can use document permissions to specify the content that is to be made available to any client device user.

Use the following steps to define document privileges.

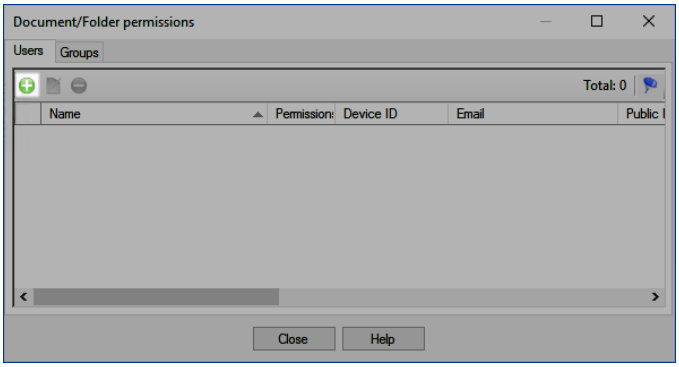
1. Open the VMP Administrator application and select **Content > My Content**.



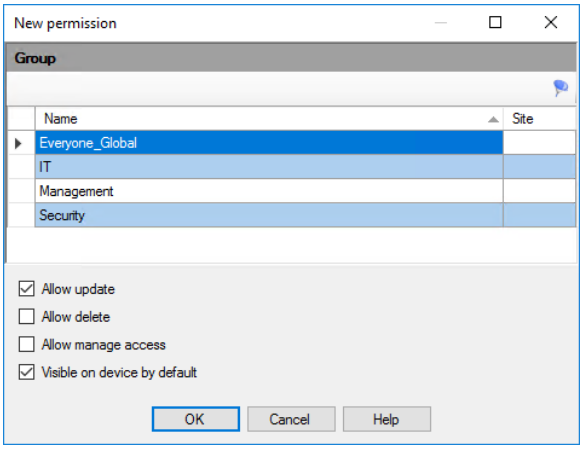
2. Click to highlight the folder or document, and select **Manage Permissions**.



3. Choose the **Users** or **Groups** tab, and select **New**.

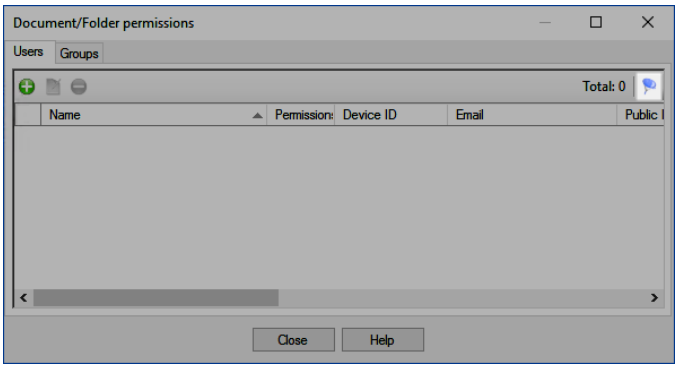


4. Click to highlight one or more entries.
5. Select one or more of the following permission options:
   - **Allow updates**
   - **Allow delete**
   - **Allow manage access**
   - **Visible in device by default**



6. Click **OK**.

To filter the list of entries, click **Filter**.

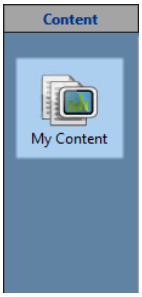


To reset filtering, right-click **Filter**.

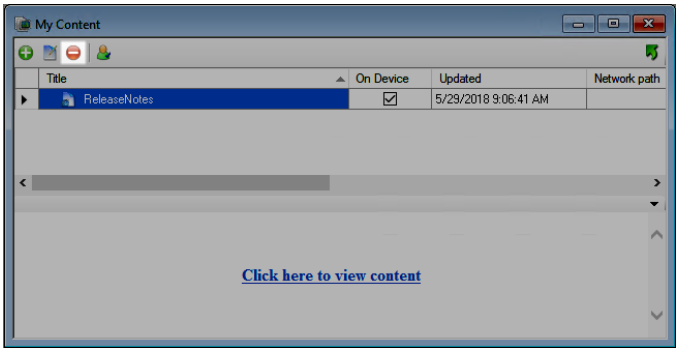
Deleting Content

You can delete content that you have added.

1. Open the VMP Administrator application and select **Content > My Content**.



2. Click to highlight the folder or document, and select **Delete**.
3. In the Delete Documents / Folders dialog, click **Yes** to confirm that you want to delete the content.



Reports

The Reports module gives Vocera administrators the ability to customize reports for organizational requirements such as audits and quality of service. Administrators can generate a report at any time and filter specific messaging details.

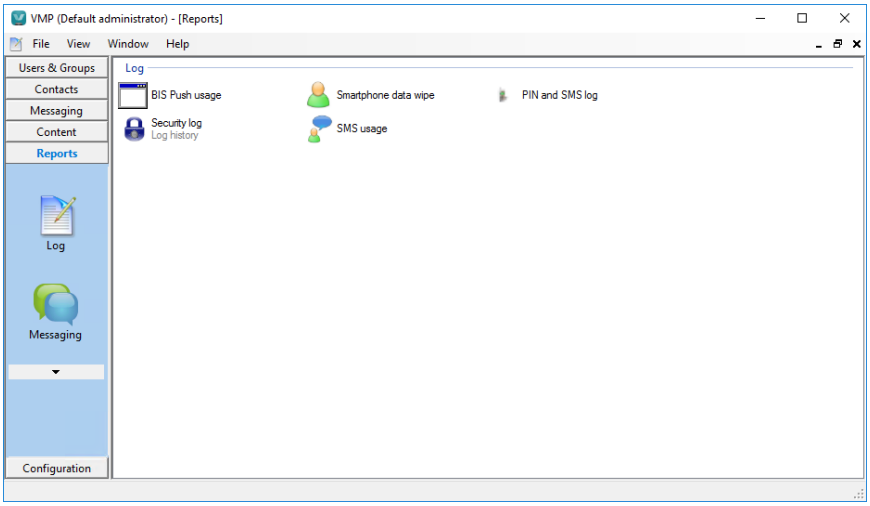
The following categories of reports are available:

- Log
- Messaging
- Transmit Status

About Logging Reports

In the Reports module, you can display the logging reports that can be generated.

To display the logging reports, select the **Log** icon.



The following Log reports can be generated:

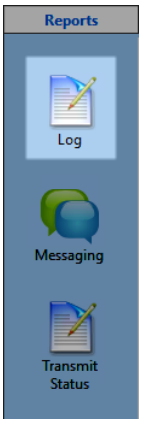
Table 18: Log reports

Report Type	Description
BIS Push usage	This legacy report provides the number of BlackBerry Push API messages sent by the server.
Smartphone data wipe	This lets Administrators view whether a data wipe was successful when sent to a device. This report is the only way to determine the status of a sent device deletion.
PIN and SMS log	This legacy report displays the BlackBerry PIN and SMS log by selected time frame.
Security log	Provides a record of Administrator actions. The report can record actions such as include logging in and out, creating users, and the deletion of contacts, Distribution Lists, groups, or other server entities.
SMS usage	Shows the SMS usage of a device.

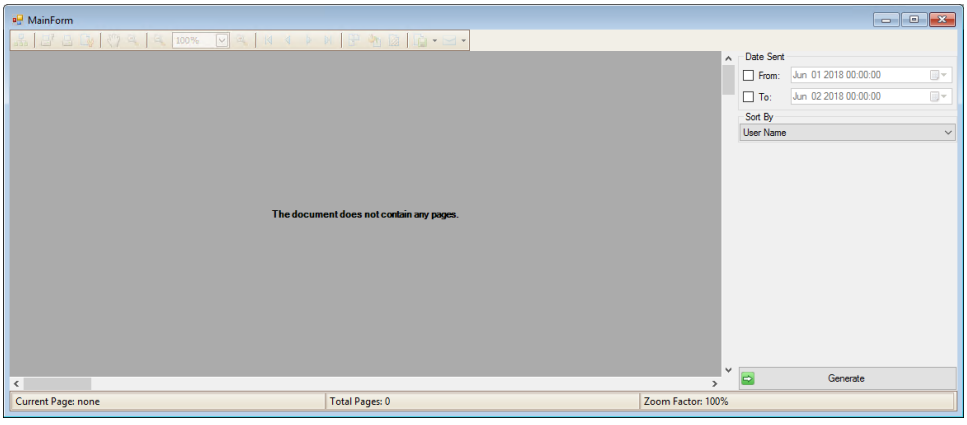
Creating a Smartphone Data Wipe Report

You can generate a report that indicates whether a data wipe was successful when sent to a device.

1. Open the VMP Administrator application and select **Reports > Log**.



2. In the Reports pane, click **Smartphone data wipe**. The Smartphone Data Wipe Report window opens.



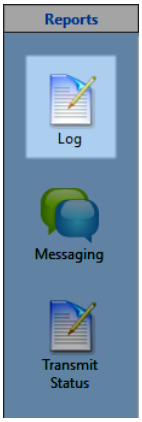
3. In the **Date** section, in the **From** field, select the start date for which wipe data is to be displayed. The default is midnight at the start of today's date.
4. In the **To** field, select the end date for wipe data. The default is midnight at the start of the next day's date.

5. From the **Sort By** dropdown list, select one of the following:
   - **User Name**: sort by user name,
   - **Kill Pill Generated timestamp**: sort by the date on which the smartphone wipe request was sent.
   - **Kill Pill Acknowledged timestamp**: sort by the date on which the smartphone wipe request was acknowledged.
6. Click **Generate** to generate the security log report.

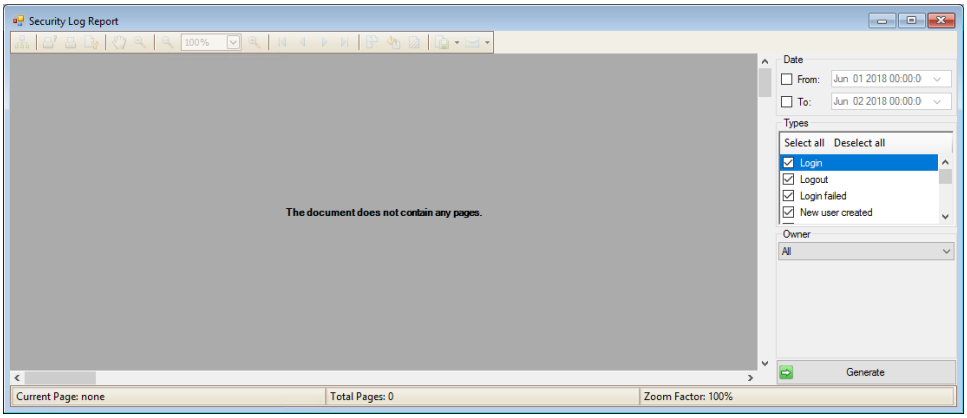
Creating a Security Log Report

You can generate a report that produces a security log. This log lists when users were created, all attempts to log in and log out, and all changes made in the VMP Server.

1. Open the VMP Administrator application and select **Reports > Log**.

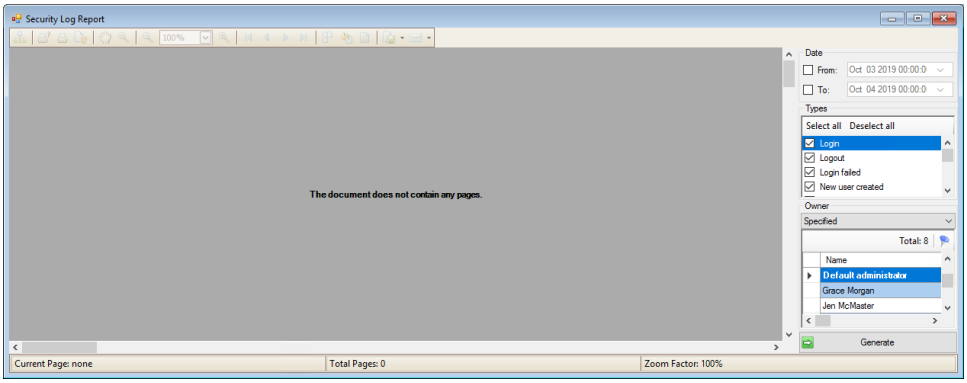


2. In the Reports pane, click **Security log**. The Security Log Report window opens.

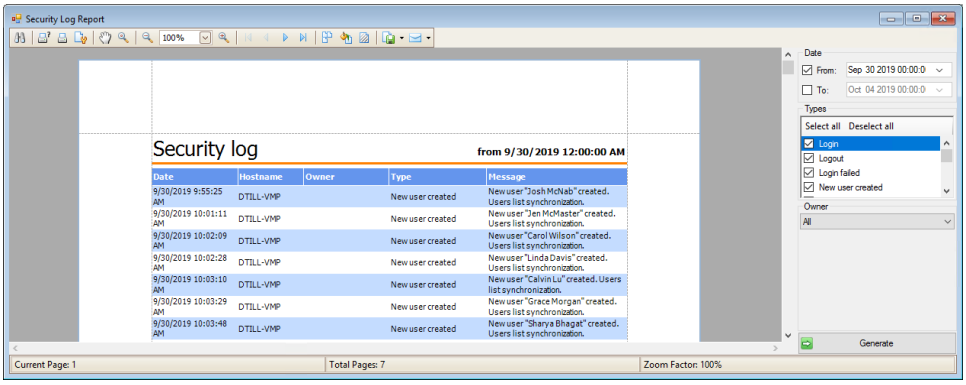


3. In the **Date** section, in the **From** field, select the start date for which log information is to be displayed. The default is midnight at the start of today's date.
4. In the **To** field, select the end date for log information. The default is midnight at the start of the next day's date.
5. In the **Types** section, select the checkboxes next to the log activities that are to be included in the report. Click **Select all** to select all checkboxes, or click **Deselect all** to clear all checkboxes.
6. From the **Owner** dropdown list, select one of the following:
   - **All**: display security log information for all users,
   - **Selected**: specify the users for which you want to display information.
   - **Unknown user**: display security log information for unknown users only.

   a. If you select **Selected**, a list of users appears. Select the users for which you want to display security log information.



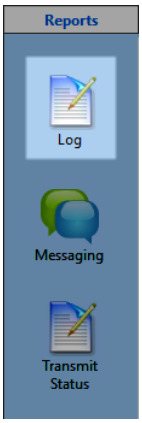
7. Click **Generate** to generate the security log report.



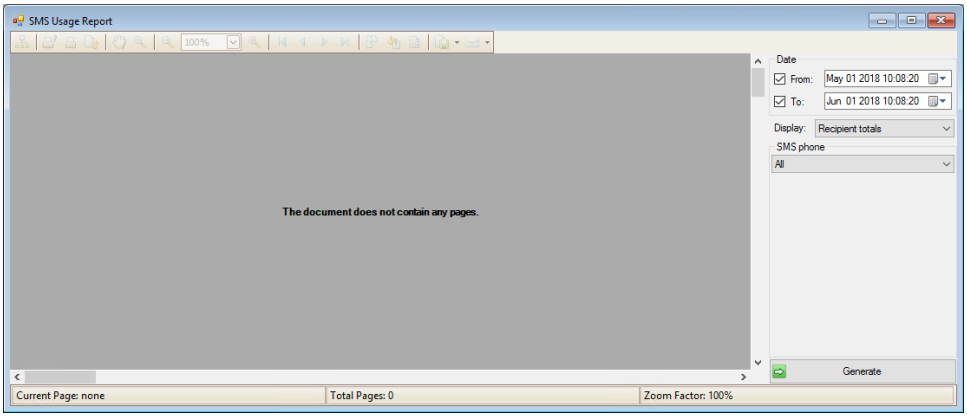
Creating an SMS Usage Report

You can generate a report that shows the SMS usage for each device.

1. Open the VMP Administrator application and select **Reports > Log**.



2. In the Reports pane, click **SMS usage**. The SMS Usage Report window opens.

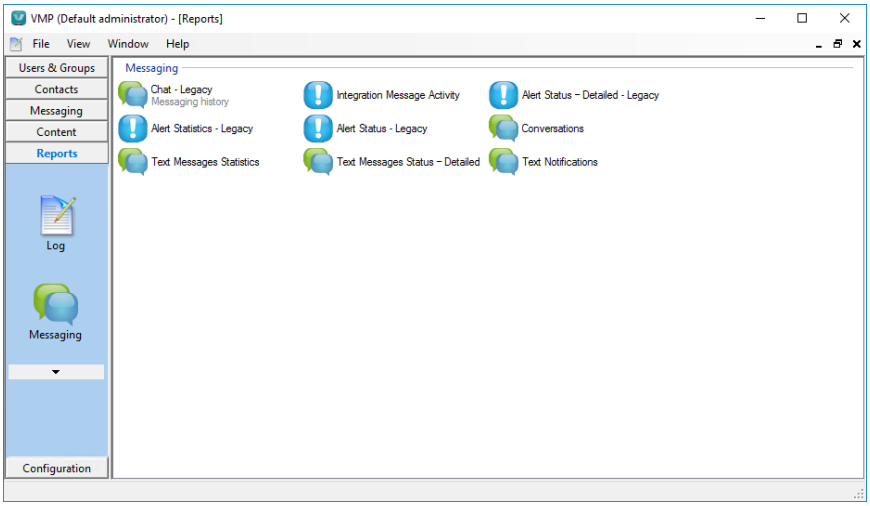


3. In the **Date** section, in the **From** field, select the start date for which log information is to be displayed. The default is midnight at the start of today's date.
4. In the **To** field, select the end date for log information. The default is midnight at the start of the next day's date.
5. From the **Display** dropdown list, select either **Recipient totals** or **Total only**.
6. From the **SMS phone** dropdown list, select either **All** or **Specified**. If you select **Specified**, select the SMS phones whose information you want to display.
7. Click **Generate** to generate the SMS usage report.

About Messaging Reports

In the Reports module, you can display reports that list the messaging history, statuses, and statistics for the VMP Server.

To display these reports, select the **Messaging** icon.



The following Messaging reports can be generated:

Table 19: Messaging reports

Report Type	Description
Chat - Legacy	For clients that have used the legacy Chat capability that was provided in previous versions of VMP, this displays a timestamp of each Chat message and provides the sender name, participants, images, and message details.
Integration Message Activity	This report is not currently in use.

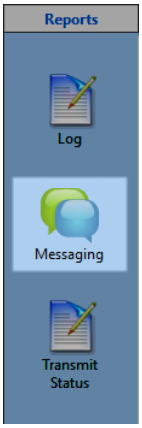
Report Type	Description
Alert Status - Detailed - Legacy	For clients that have used the legacy Alert capability that was provided in previous versions of VMP, this displays specific details for Alerts sent to any device.
Alert Statistics - Legacy	For clients that have used the legacy Alert capability that was provided in previous versions of VMP, this displays information on all Alerts sent in a specified time period.
Alert Status - Legacy	For clients that have used the legacy Alert capability that was provided in previous versions of VMP, this displays the Alert statuses for any user. Select the user from the user filter that appears when the report screen is displayed.
Conversations	Displays the conversations or text messages for any user.
Text Messages Statistics	Displays information on all text messages sent in a specific time period.
Text Messages Status - Detailed	Displays specific details for text messages sent to any device.
Text Notifications	Displays the text notifications for any user. Select the user from the user filter that appears when the report screen is displayed.

The reports that are not legacy reports from previous versions of VMP are described in more detail below.

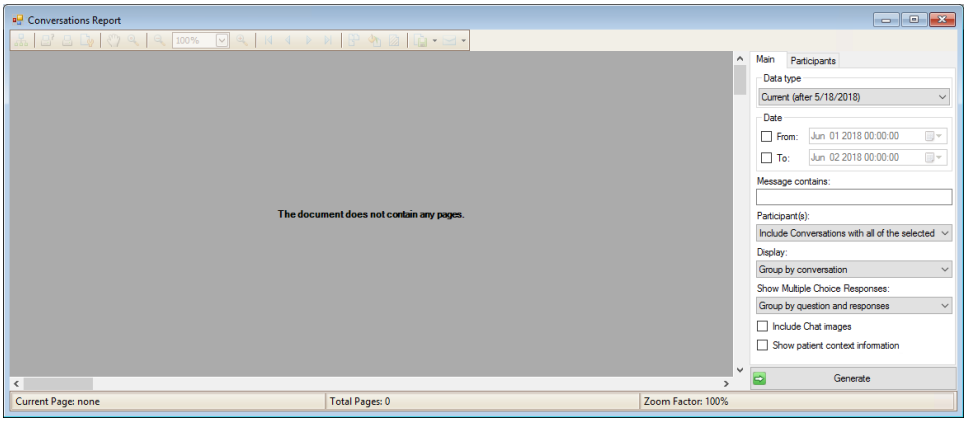
Creating a Conversations Report

You can generate a report that displays the conversations or text messages for any user or group of users.

1. Open the VMP Administrator application and select **Reports > Messaging**.

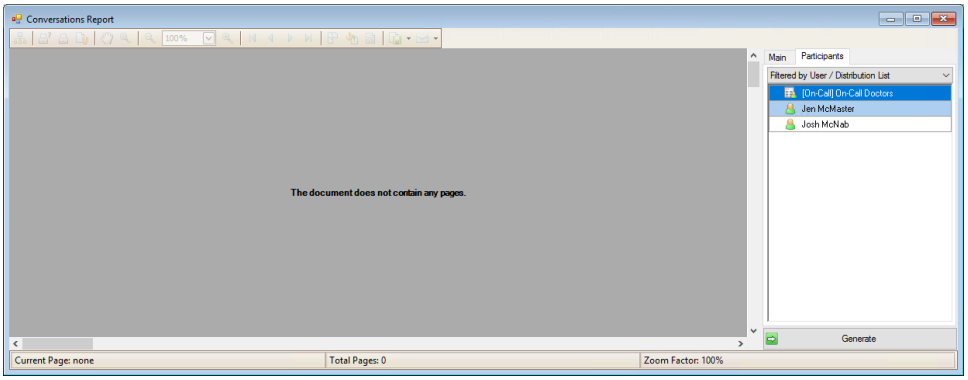


2. In the Reports pane, click **Conversations**. The Conversations Report window opens.



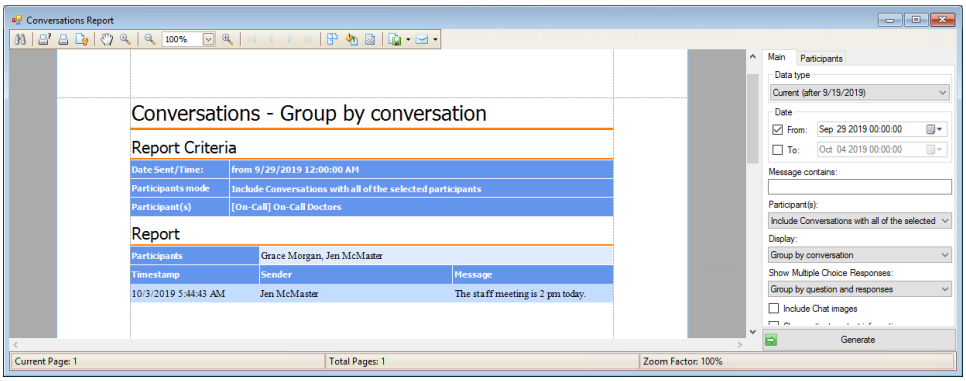
3. Click the **Participants** tab.

4. From the dropdown list that appears, select **All** to show all conversations, or select **Filtered by User / Distribution List** to specify the users whose conversations are to be displayed.
   a. If you have selected **Filtered by User / Distribution List**, a list of users is displayed. Select the users whose conversations are to appear in the report.



5. Click the **Main** tab.
6. In the **Date** section, in the **From** field, select the start date for which conversations are to be displayed. The default is midnight at the start of today's date.
7. In the **To** field, select the end date for conversations. The default is midnight at the start of the next day's date.
8. In the **Message contains** field, optionally type search criteria. If you specify any search criteria, only conversations that contain the search text are displayed.
9. From the **Participant(s)** dropdown list, select one of the following:
   - **Include Conversations with all of the selected participants**
   - **Include Conversations with at least one selected participant**

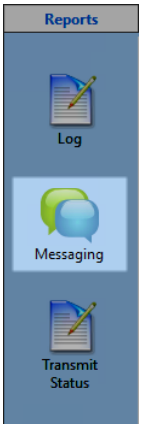
   These are the participants that you selected in the **Participants** tab.
10. From the **Display** dropdown list, select how the displayed conversations are to be organized. Select either **Group by conversation** or **Sort by timestamp**.
11. From the **Show Multiple Choice Responses** dropdown list, select how multiple choice responses are to be displayed. Select either **Group by question and responses** or **As part of conversation**.
12. Select the **Include Chat images** checkbox to include images sent in a conversation as part of the conversation report.
13. Select the **Show patient context information** checkbox to include the patient context of the conversation if it exists.
14. Click **Generate** to generate the conversations report.



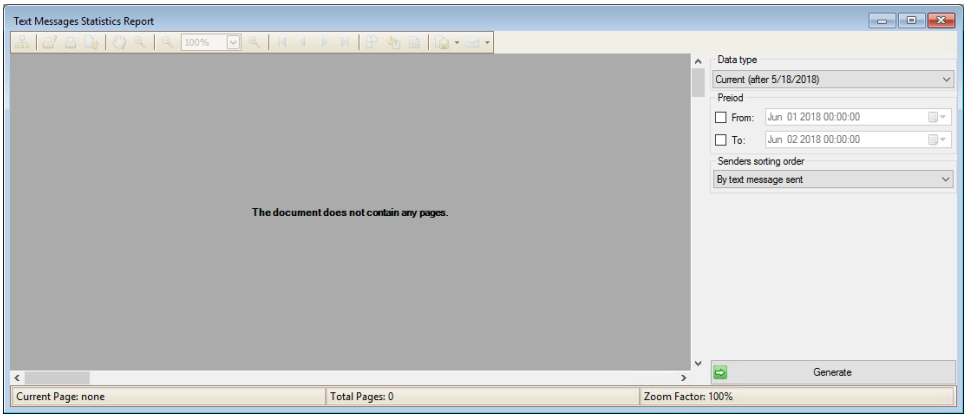
Creating a Text Messages Statistics Report

You can generate a report that provides details on the conversations or text messages for any user or group of users.

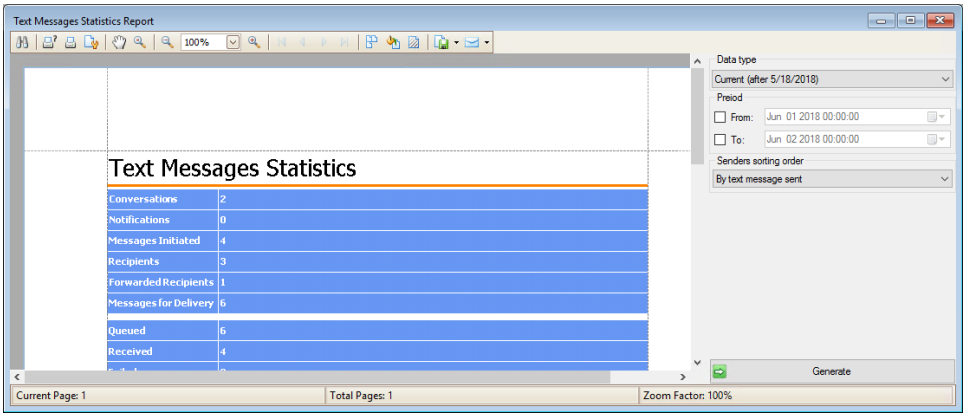
1. Open the VMP Administrator application and select **Reports > Messaging**.



2. In the Reports pane, click **Text Messages Statistics**. The Text Messages Statistics Report window opens.



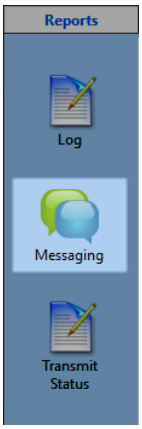
3. In the **Period** section, in the **From** field, select the start date for which conversations are to be displayed. The default is midnight at the start of today's date.
4. In the **To** field, select the end date for conversations. The default is midnight at the start of the next day's date.
5. From the **Senders sorting order** dropdown list, select how the displayed conversations are to be organized. Select either **By text message sent** or **By name**.
6. Click **Generate** to generate the text messages statistics report.



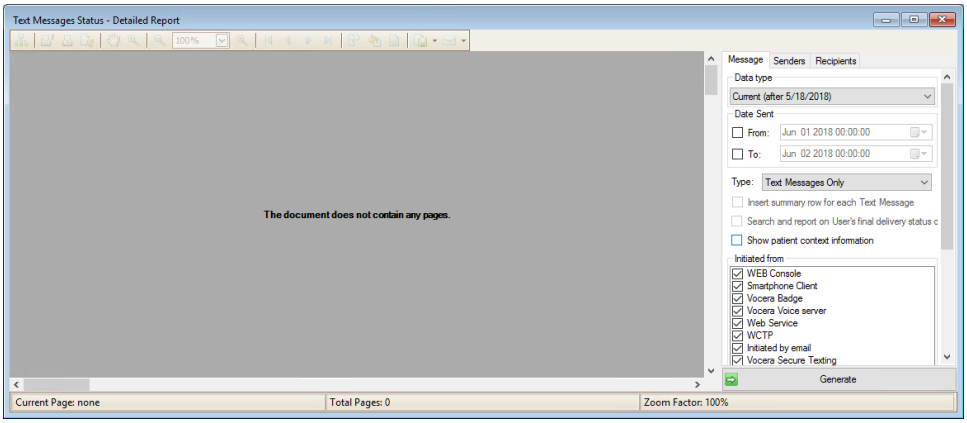
Creating a Detailed Text Messages Status Report

You can generate a report that provides detailed data on the text messages and status reports sent and received by the VMP Server. In this report, you can specify the message sources, senders, recipients, priority, and subject or message content.

1. Open the VMP Administrator application and select **Reports > Messaging**.

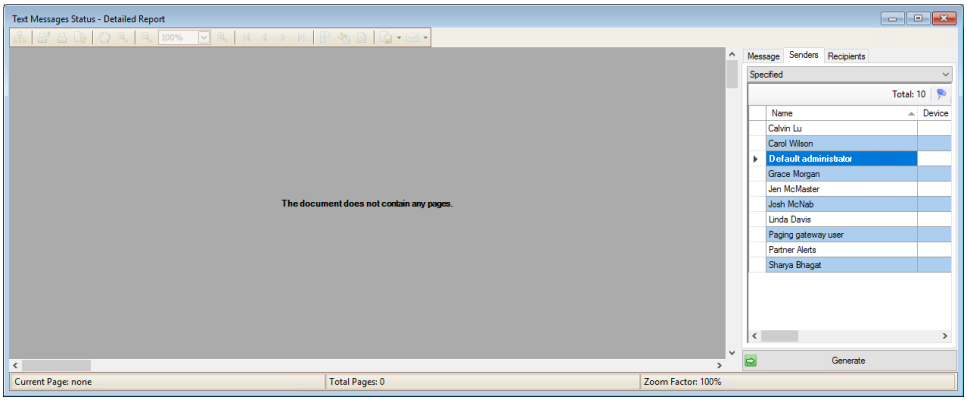


2. In the Reports pane, click **Text Messages Status - Detailed**. The Text Messages Status - Detailed Report window opens.

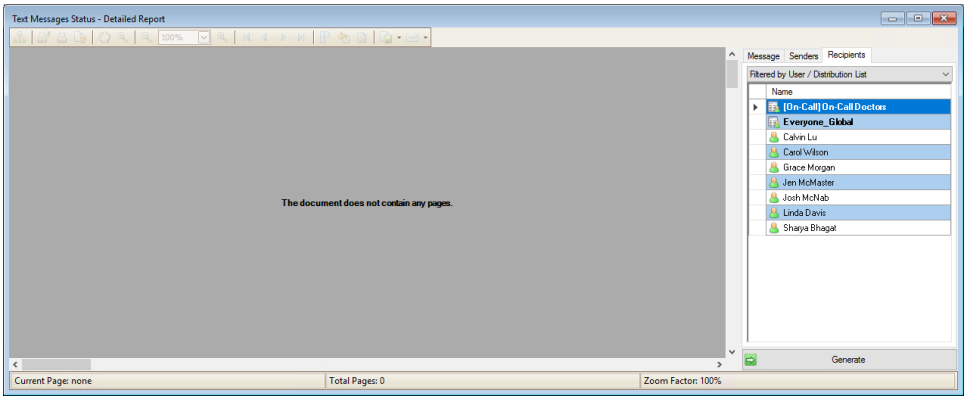


3. Click the **Message** tab.
4. In the **Date Sent** section, in the **From** field, select the start date for which conversations are to be displayed. The default is midnight at the start of today's date.
5. In the **To** field, select the end date for conversations. The default is midnight at the start of the next day's date.

6. From the **Type** dropdown list, select the information to display in the report. Select either **Text Messages Only** or **Text Messages and Statuses**.
7. If you have selected **Text Messages and Statuses:**
   a. Select the **Insert summary row for each Text Message** checkbox if you want the report to contain summary rows.
   b. If needed, select the **Search and report on User's final delivery status only** check box.
8. Select the **Show patient context information** checkbox to include the patient context if it exists.
9. In the **Initiated from** section, clear the checkboxes next to the message sources that you do not want to display in the report.
10. In the **Subject contains** field, optionally type search criteria. If you specify any search criteria, only conversations whose subject contains the search text are displayed.
11. In the **Message contains** field, optionally type search criteria. If you specify any search criteria, only conversations whose message body contains the search text are displayed.
12. In the **Priority** section, clear the checkboxes of the message priorities that you do not want to see in the report.
13. If you have selected **Text Messages and Statuses** from the **Type** dropdown list, the **Status** area appears, which displays the message statuses that you can include in the report. Clear the checkboxes of the message statuses that you do not want to see in the report.
14. Click the **Senders** tab.
15. From the dropdown list that appears, select **All** to show all senders, or select **Specified** to specify the senders whose conversations are to be displayed.
   a. If you have selected **Specified**, a list of senders is displayed. Select the senders that are to appear in the report.



16. Click the **Recipients** tab.
17. From the dropdown list that appears, select **All** to show all recipients, or select **Filtered by User / Distribution List** to specify the recipients whose conversations are to be displayed.
   a. If you have selected **Filtered by User / Distribution List**, a list of recipients is displayed. Select the recipients whose conversations are to appear in the report.

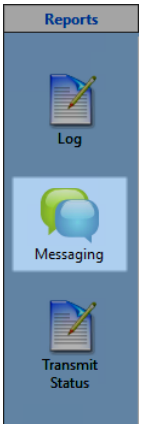


18.Click **Generate** to generate the detailed text messages status report.

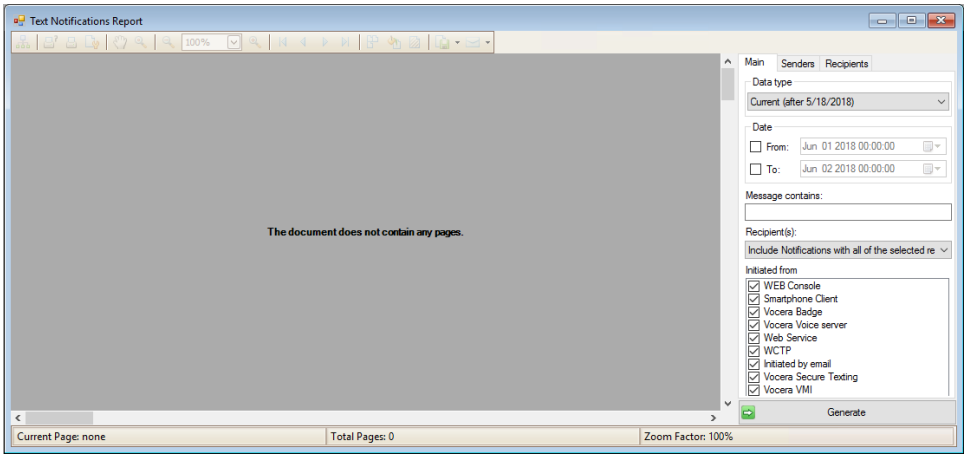
Creating a Text Notifications Report

You can generate a report that displays the text notifications sent and received in the VMP Server.

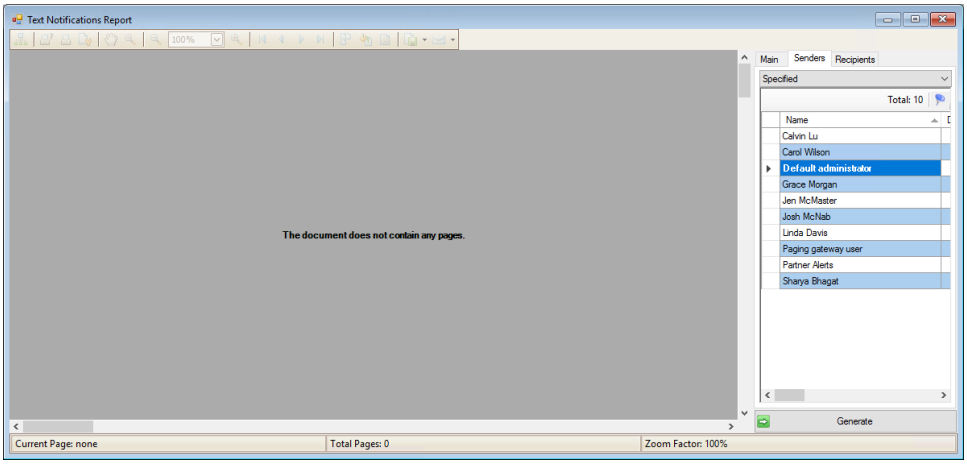
1. Open the VMP Administrator application and select **Reports > Messaging**.



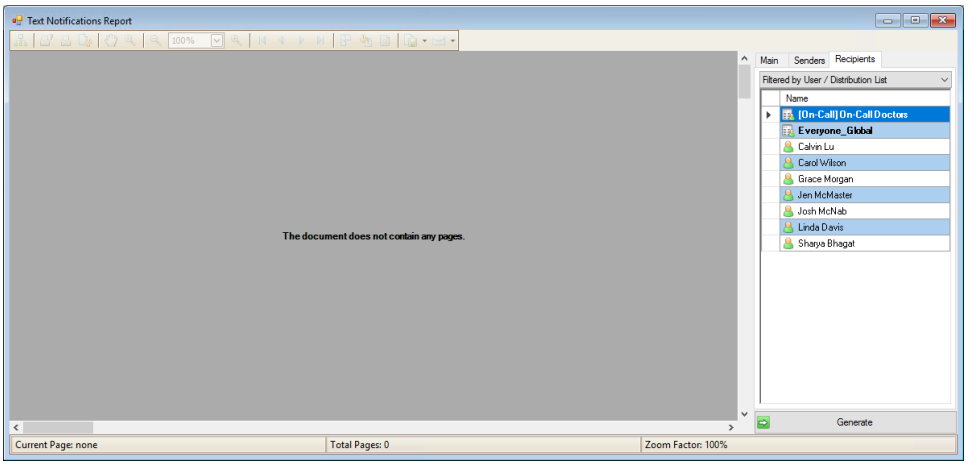
2. In the Reports pane, click **Text Notifications**. The Text Notifications Report window opens.



3. Click the **Senders** tab.
4. From the dropdown list that appears, select **All** to show all notifications, or select **Specified** to specify the senders whose notifications are to be displayed.
   a. If you have selected **Specified**, a list of senders is displayed. Select the senders whose notifications are to appear in the report.

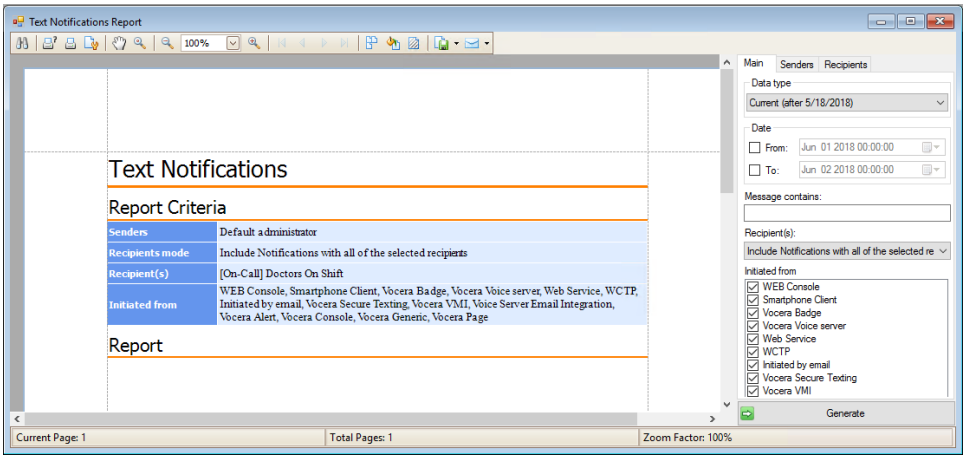


5. Click the **Recipients** tab.
6. From the dropdown list that appears, select **All** to show all notifications, or select **Filtered by User / Distribution List** to specify the recipients whose notifications are to be displayed.
   a. If you have selected **Filtered by User / Distribution List**, a list of recipients is displayed. Select the recipients whose notifications are to appear in the report.



7. Click the **Main** tab.
8. In the **Date** section, in the **From** field, select the start date for which notifications are to be displayed. The default is midnight at the start of today's date.
9. In the **To** field, select the end date for notifications. The default is midnight at the start of the next day's date.
10. In the **Message contains** field, optionally type search criteria. If you specify any search criteria, only notifications containing the search text are displayed.
11. From the **Recipient(s)** dropdown list, select one of the following:
    - **Include Notifications with all of the selected recipients**
    - **Include Notifications with at least one selected recipient**

    These are the recipients that you selected in the **Recipients** tab.
12. In the **Initiated from** section, clear the checkboxes next to the message sources that you do not want to display in the report.
13. Select the **Show only notifications with multiple choice responses** checkbox to display only notifications for which a multiple choice response was requested.
14. Click **Generate** to generate the text notifications report.



About Transmit Status Reports

In the Reports module, you can display reports that list the status of Chat messages and content sent from the VMP Server.

Select the **Transmit Status** icon to display these reports.

The following Transmit Status reports can be generated:

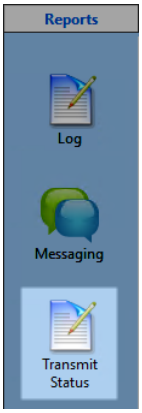
Table 20: Transmit Status reports

Report Type	Description
Chat by user - Legacy	For clients that have used the legacy Chat capability that was provided in previous versions of VMP, this displays transmit status information on Chat messages. You can specify the user for which Chat status information is to be displayed.
Content	Displays transmit status information on content transmitted from this server.

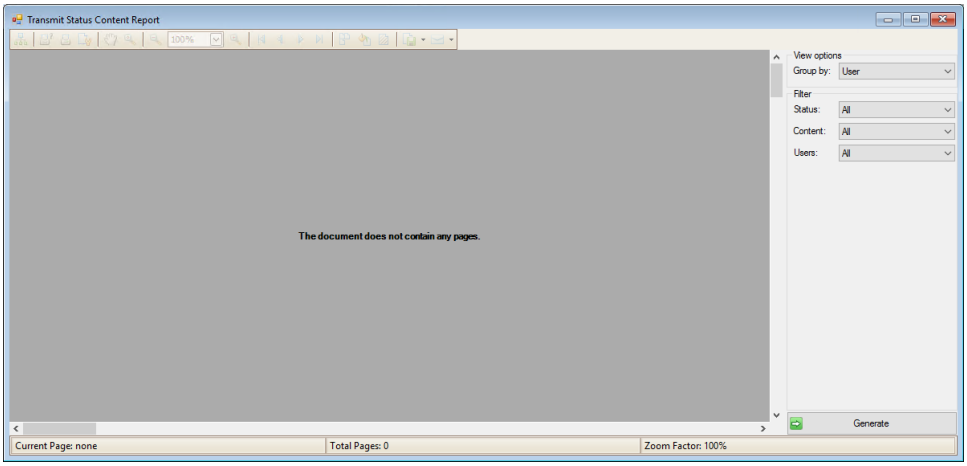
Creating a Content Transmit Status Report

You can generate a report that lists the users that have received content that has been provided for them.

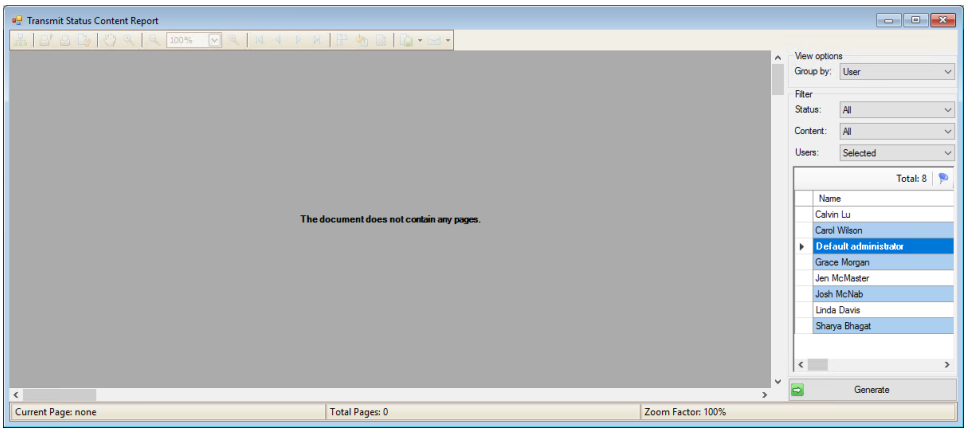
1. Open the VMP Administrator application and select **Reports > Transmit Status**.



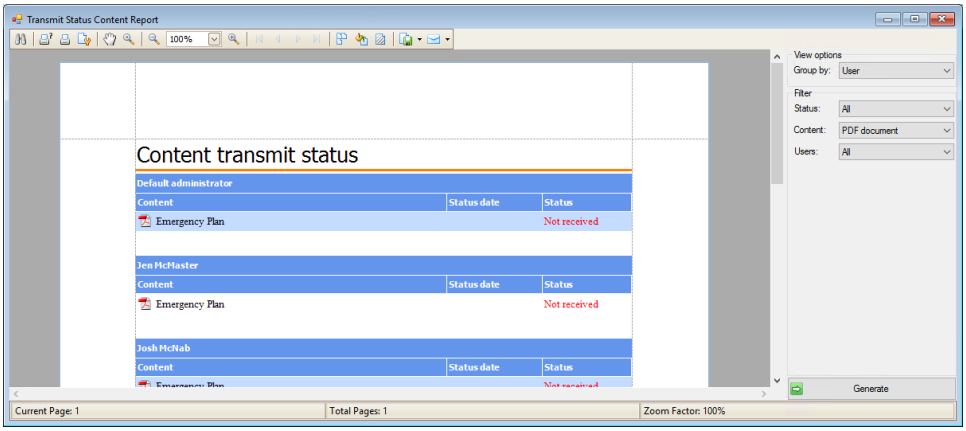
2. In the Reports pane, click **Content**. The Transmit Status Content Report window opens.



3. From the **Group by** dropdown list, select **User** to organize the report by user name, or select **Content** to organize the report by content items.
4. From the **Status** dropdown list, select one of the following:
   - **All**: Display all users, whether or not they have received the content.
   - **Received**: Display users that have received the content.
   - **Not received**: Display users that have not received the content.
5. From the **Content** dropdown list, select the type of content for which content transmit status information is to be displayed, or select **All** to display information for all content types.
6. From the **Users** dropdown list, select **All** to display content transmit status information for all users, or select **Selected** to specify the users for which you want to display information.
   a. If you select **Selected**, a list of users appears. Select the user for which you want to display content transit status information.



7. Click **Generate** to generate the content transmit status report.



About Editing Reports

After you have created a report, you can use the tools provided to edit, print, or export the report.

These tools are available in a toolbar at the top of the report:

The following table describes these tools.

Tool	Description
Search	Search for a word or text in the report.
Print	Select a printer and print the report.
Print Direct	Print the report on the last selected printer.
Page Setup	Set up the report pages for printing.
Hand Tool	Move around in the displayed report.
Magnifier	Toggle between smaller and larger display views.
Zoom Out	Display more of the report in a smaller size.
100% Zoom	Specify the percentage size to use when displaying the report.
Zoom In	Display less of the report in a larger size.
First Page	Go to the first page of the report. This appears only when you are not already on the first page of the report.
Previous Page	Go to the previous page. This appears only when you are not already on the first page of the report.
Next Page	Go to the next page. This appears only when you are not already on the last page of the report.
Last Page	Go to the last page of the report. This appears only when you are not already on the last page of the report.
Multiple Pages	Display multiple pages at once.
Background Color	Select the background color for the report.
Watermark	Supply a watermark for each page of your report.

Tool	Description
Export Document	Export the document in the format specified in the dropdown menu. Depending on the format you specify, additional formatting options may appear.
Send E-mail	Include the document in an email message in the format specified in the dropdown menu. Depending on the format you specify, additional formatting options may appear.

Configuration

The Configuration module enables you to customize your VMP environment to suit your needs.

The Configuration module is organized into views, which are listed in the table below.

Table 21: Configuration module views

View	Description
System Options	Manage system options.
Wireless Gateways	Create and modify system wireless gateways.
Contact Fields	Customize contact fields for your deployment.
Contact Source Mapping	Map contact fields to source fields.
User Source Mapping	Map user fields to source fields.
Plugin Configuration	Configure integrated plugins.
Licensed Applications	Manage application licensing.

For more information on System Options, see VMP Administrator Configuration Options on page 258.
For more information on Wireless Gateways, see Wireless Gateway Configuration on page 101.

System Options

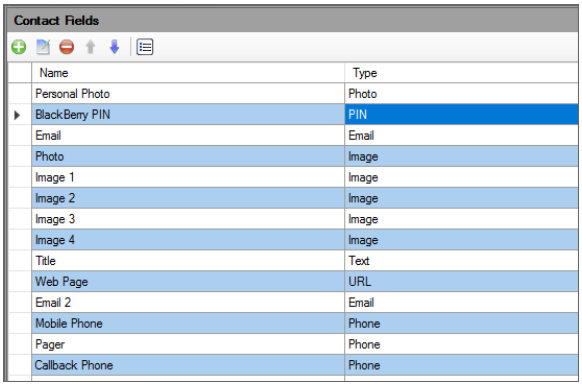
The System Options control the behavior of the VMP Server and the VMP Administrator.

For more information on system options, see VMP Administrator Configuration Options on page 258.

About Contact Fields

The **Contact Fields** module provides options to define the field source mapping appropriate for your contacts.

Field source mappings should be defined before the source import is initiated. You can map contact fields from one or many sources. This view also provides options to define field types specific for your environment.



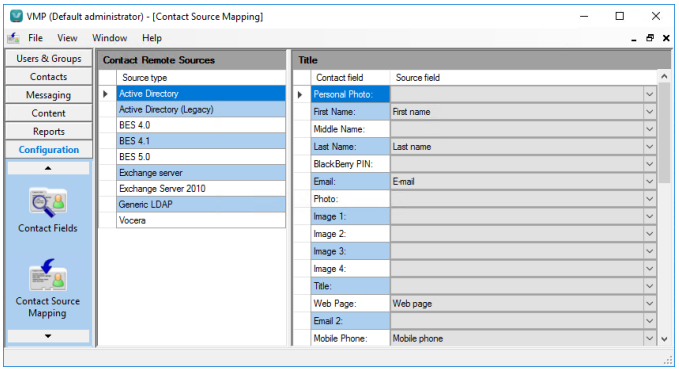
The Contact Fields view includes the following options:

Table 22: Contact field options

Option	Description
	Open the Define Field dialog to create a new field.
	Delete a highlighted field.
	Edit a highlighted field.
	Move the highlighted field up.
	Move the highlighted field down.
	Define the fields that are included in a search from the client for indexing.

About Contact Fields

Use the VMP Administrator Contact Source Mapping module to edit contact fields.

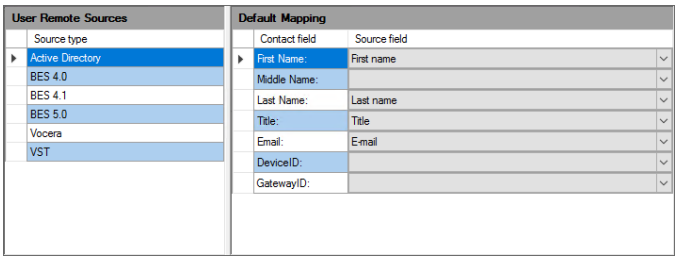


This view lists available sources on the left. Click to highlight the source for mapping edits. Each source field is listed on the right. The fields contain a dropdown list to map the source field to a VMP field.

Tip: The field mappings are also defined during an initial source import. Use this view only when updates are required.

About User Field Editing

Use the VMP Administrator User Source Mapping module to map VMP fields to fields from the import source.



This view lists available sources on the left. Click to highlight the source for mapping edits. Each source field is listed on the right. The fields contain a dropdown list to map the source field to a VMP field.

Tip: The field mappings are also defined during an initial source import. Use this view only when updates are required.

Plugin Configuration

Use the Plugin configuration view to add and configure licensed plugins for your deployment.

The following plugin configurations are supported.

Table 23: Plugin configuration support

Plugin	Settings
MIR3 FAX	Enter the following settings: • Company • URL • Username • Password • Confirm Password
WIC PIN Blaster	Enter the following settings: • Server • Login • Password • Confirm Password
MIR3 SMS	Enter the following settings: • URL • Username • Password • Confirm Password
SendWordNow SMS connector	Enter the following settings: • Login • Password • Confirm Password
SMTP connector	Enter the following settings: • Server • Port • SSL • PrimaryPagerID
MIR3 Voice	Enter the following settings: • URL • Username • Password • Confirm Password
SendWordNow Voice	Enter the following settings: • Login • Password • Confirm Password

Plugin	Settings
TFC Voice	Enter the following settings: • Username • Password • Confirm Password • cli_id • user_id • caller_id
Voice Gate	Enter the following settings: • Client Name • Client ID • Confirm Client ID • Display Number

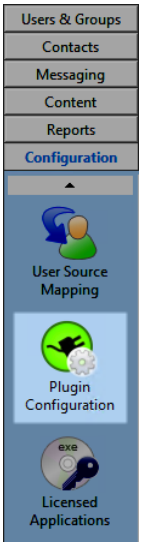
Plugin	Settings

GEMUSE integration	Enter the following settings:
	• Scanning folder (Required field): The local or network location where incoming GE MUSE XML files will be located. The service account credentials used by the Vocera Data Exchange service are used to authenticate to network locations.
	• XML Mapping Field (Required field): The XML tag to use when mapping field values to Distribution Lists. Examples of commonly used XML tags include `<ReferringMDLastName>` and `<SiteName>`.
	Note: The value of this field - the XML tag to match in incoming messages - is referred to as XMLMappingField elsewhere in this section.
	• Default distribution list (Required field): Used if the defined Mappings do not match the value of XMLMappingField that is specified in the incoming XML.
	• Default notification distribution list (Required field): When a new XML file is processed for an unmatched XMLMappingField value, send a notification to this Distribution List.
	• Mapping 1 through Mapping 100 (Optional fields): Enter XMLMappingField = <Distribution List Name> to map each XMLMappingField value specified in the incoming XML to its corresponding Distribution List name.
	• Notification DL 1 through Notification DL 100 (Optional fields): When a new XML file is processed that matches the specified Mapping, send a notification to this Distribution List.
	The body of a generated message contains the following fields from the GE MUSE XML file:
	`Subject: GE MUSE consult from XMLMappingField`
	`Patient ID: <PatientID>`
	`Patient Name: <PatientLastName>, <PatientFirstName>`
	`Gender: <Gender>`
	`Age: <PatientAge>`
	`Ordering Physician: <HISOrderingMDLastName>, <HISOrderingMDFirstName>`
	`<TestReason>`
	All messages are given Urgent priority.
	When a new XML file is processed, the format for the notification sent to the notification Distribution List is:
	`Subject: GE MUSE consult status changed for Patient ID <PatientID> at XMLMappingField MappingFieldValue`
	`Body: The GE MUSE consult request sent to <first name> <last name> received the response <response> at <timestamp>.`

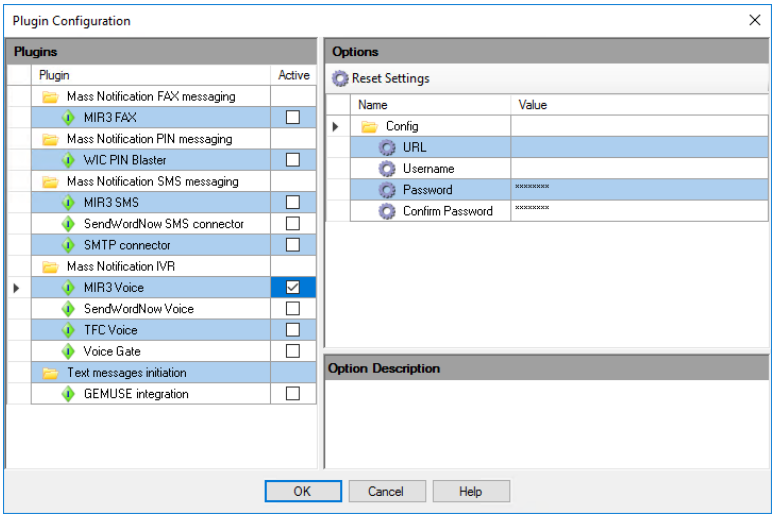
Using the Plugin Configuration Module

You can configure any licensed plugin that you have added to your VMP Server.

1. From the VMP Administrator, select **Configuration** > **Plugin Configuration**.



2. Click the **Active** checkbox for the plugin you want to configure.



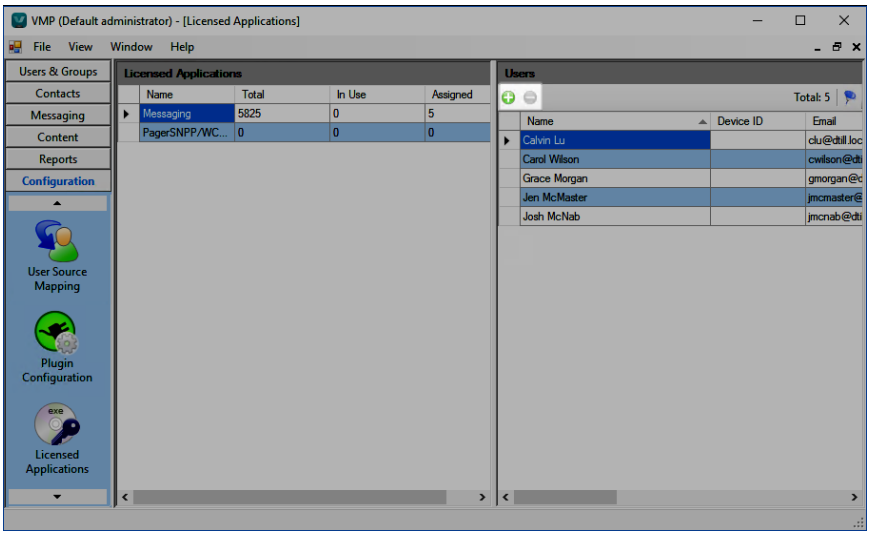
3. For each required setting, enter its value in the **Value** column.
4. Click **OK** to save the configuration.

Licensed Applications

Use the Vocera Messaging Platform Licensed Application view to display available application licenses and assign licenses to platform users. This view lists each licensed application, the available licenses, and the number of licenses currently assigned to users.

To display the Licensed Application view, select **Configuration > Licensed Applications**.

Highlight an application to view the assigned users. Add or remove a licensed user from an application by clicking to highlight the user and selecting **Add** or **Delete**.



Note: The applications that are available to you depend on whether your license key is in an XML format. See The XML License Key Format on page 21 for more details on this format.

The VMP Web Console

The VMP Web Console provides a browser-based way to send messages, view on-call status, and create schedules. You can also place calls from the VMP Web Console if your device is logged into Vocera Collaboration Suite.

VMP Web Console Overview

The VMP Web Console provides administrator and user access to the VMP communication platform from your Web browser.

The URL for the VMP Web Console is the DNS entry or the IP address of the VMP Server.

Depending upon the firewall configuration, the VMP Web Console can be opened up to external, off-network users.

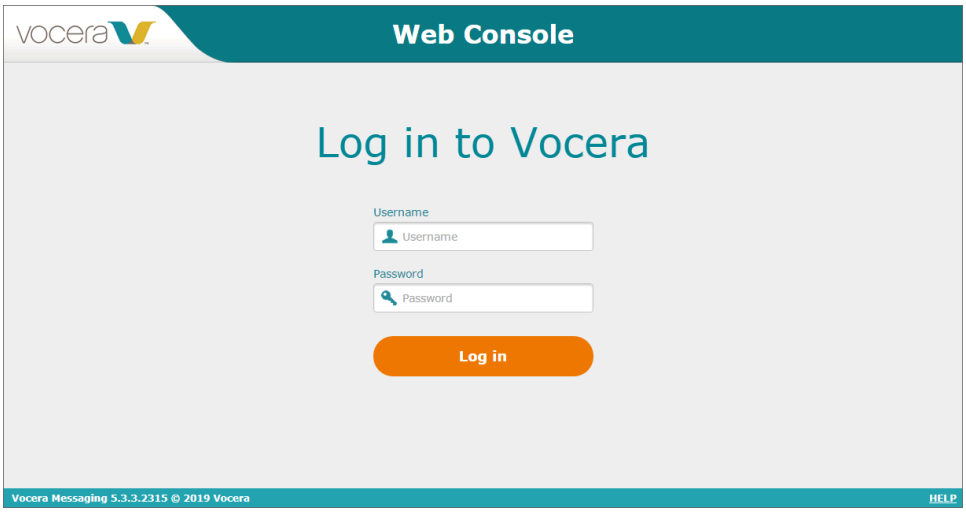
Users are assigned access to the VMP Web Console in the VMP Administrator. For details about granting users access to the VMP Web Console, see Granting Existing Users Access to the VMP Web Console on page 231.

Browser Requirements

The VMP Web Console is supported on Microsoft Internet Explorer version 11, Google Chrome, Mozilla Firefox, and Microsoft Edge. Safari is supported on MacOS.

Logging into the VMP Web Console

To use the VMP Web Console, you must log in.



1. In the **Username** field, type your username.

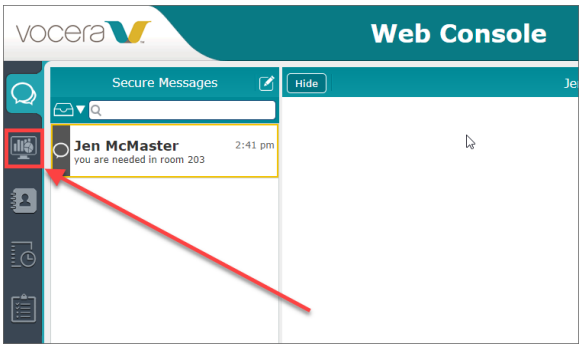
2. In the **Password** field, type the password for your username.
3. Click **Log in** to log in to the VMP Web Console.

Note: If you are a Vocera Secure Texting user, you cannot log into the VMP Web Console.

The Monitor View

The VMP Web Console Monitor View lists messages sent or received by the users for which you have granted viewing permission.

To access the Monitor view, select the Monitor View icon.



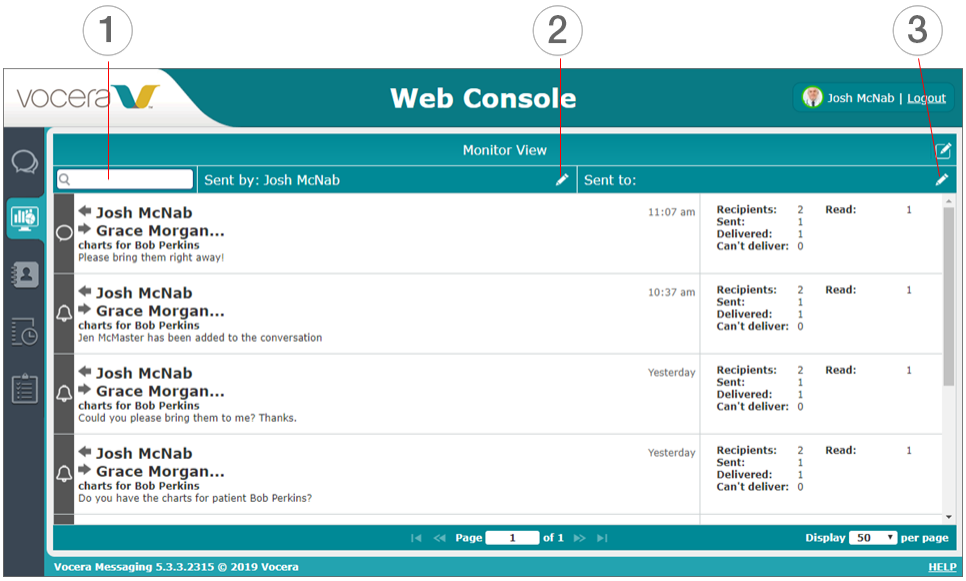
Note: This icon appears only when the user that is logged on has permission to view either sent messages or received messages. See Allowing Users to View Messages on page 234 for more information on granting permission to view messages.

The Monitor View lists each message.

Click a message to display its details.

Monitor View Features

From the Monitor View, you can search for messages, or select the source or recipient of a message.



1. Use the search box to search for messages by:
   - Sender
   - Recipient
   - Subject
   - Keyword (in the message subject)
2. The **Sent by** field. Click the pencil icon to create Sent By filters.
3. The **Sent to** field. Click the pencil icon to create Sent To filters.

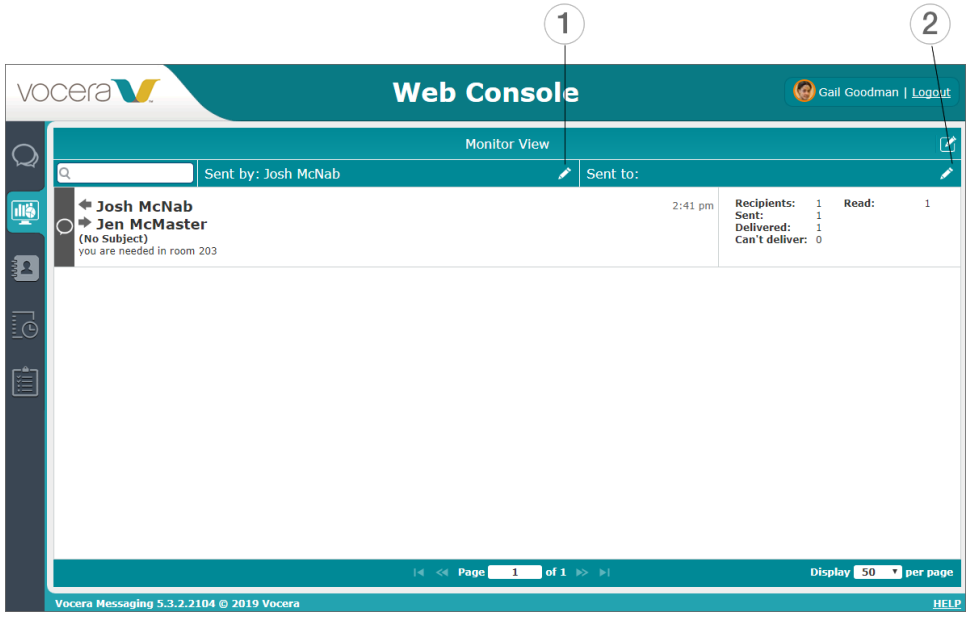
For more information on using the Sent By and Sent To filters, see Filtering the Monitor View on page 195.

Note: You must use the VMP Administrator to grant permission for a user to view messages sent or received by any other user. See Allowing Users to View Messages on page 234 for more information on granting permission to view messages.

Filtering the Monitor View

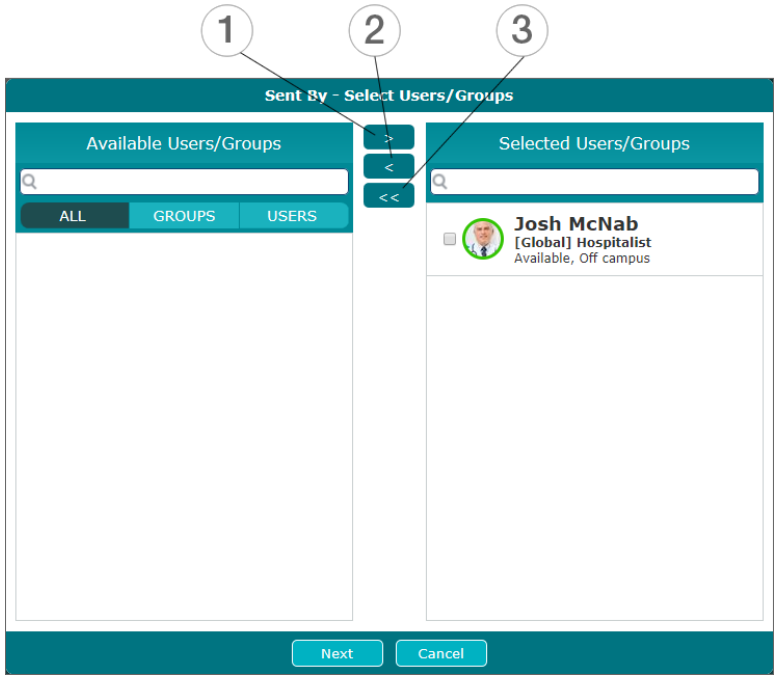
In the Monitor View, you can create Sent By and Sent To filters that limit the messages that are displayed on the screen.

1. Do one of the following:
   1. Click the pencil icon in the **Sent by** field to edit the Sent By filter.
   2. Click the pencil icon in the **Sent to** field to edit the Sent To filter.



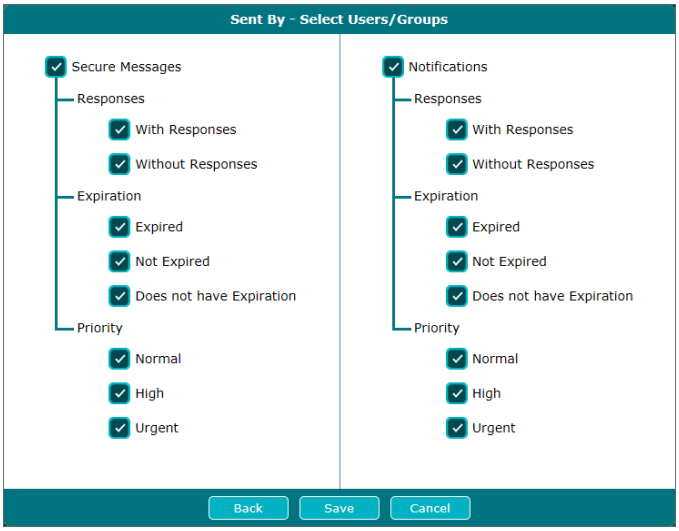
2. In the Select Users/Groups dialog box, select the **All** tab to display both users and groups, select the **Groups** tab to display groups only, or select **Users** to display users only.
3. Select the checkboxes of the users and groups to include in the filter:

1	Click **>** to add a user or group.
2	Click **<** to remove a user or group.
3	Click **<<** to remove all users and groups.



4. Click **Next**.

5. In the selection tree dialog box that appears, select the checkboxes of the criteria to be matched for messages to appear in the Monitor View. You can select separate criteria for secure messages and for notifications.



6. Click **Save** to save this filter, or click **Cancel** to cancel editing the filter. Click **Back** to return to selecting users and groups.

Web Console Secure Messages

Vocera Messaging Platform users can create or send a secure message to users or Distribution Lists using the VMP Web Console. The console provides an interface for sending messages from your Web browser.

You can grant access to the VMP Web Console when you create, import, or edit users. Users can create messages from existing templates if they have been made available, and they can edit the templates if you enable that option.

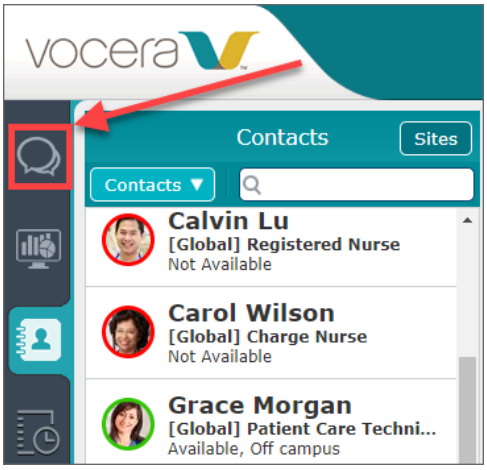
Note: The text of a message can be up to 3000 characters long, and the subject header can contain up to 512 characters. Any ASCII character can be included, but emojis are not supported.

Sending a Message from the VMP Web Console

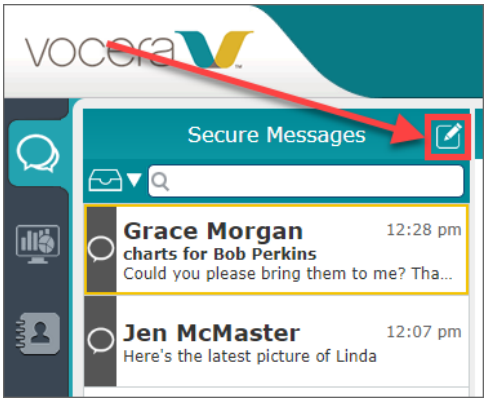
You can use the VMP Web Console to send a message to any user or Distribution List.

Note: If the message has more than 50 recipients, it is defined to be a Mass Notification. See About Mass Notifications on page 212 for details.

1. Open the VMP Web Console from your Web browser.
2. Select the **Message** tab.



3. Click the **Compose** icon.

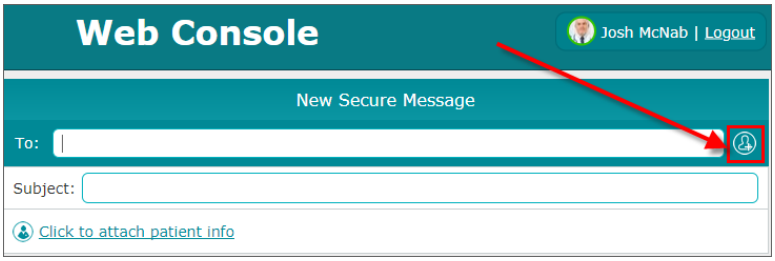


The New Secure Message screen appears.

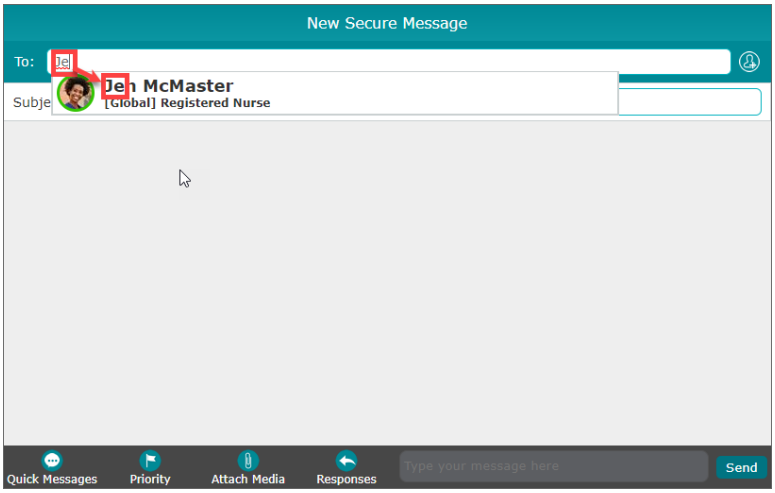
4. Select **New Text** to create a new message.

You can also create a message using a message template. This enables you to send an emergency message quickly. For information on how to send a message using a template, see Sending a Message Using a Template on page 201.

5. To add one or more message recipients, either type the recipient name in the **To:** field, or click the **Add Recipient** icon to select a Distribution List or user to add to the recipient list.



As you type in the **To:** field, a list of all users and groups in your current site that match the text that you type are displayed in a popup window:

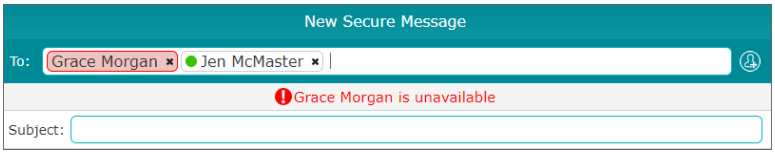


This list includes all favorites that match your typed text, even if they are on a different site.

Note: If a recipient is having messages forwarded to another contact, that contact is automatically added to the list of recipients when the message is sent.

When a message recipient is an individual user, the VMP Web Console indicates the user's availability. A green dot next to the user's name indicates that the user is available:

An orange dot next to the user's name indicates that the user is available but is in Do Not Disturb mode. If a user is unavailable, the user's name is highlighted with a red background, and a banner indicates that the user is unavailable:



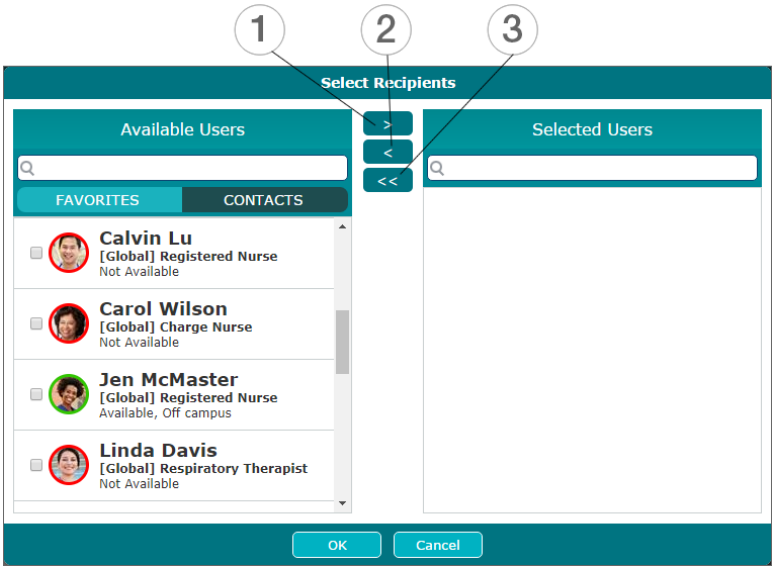
If you are sending a message to multiple users, and one or more users are unavailable, the unavailable users are listed first.

6. If you have clicked the **Add Recipient** icon, the Select Recipients dialog box appears. Select the **Favorites** tab to display favorites only, or select the **Contacts** tab to display all contacts.

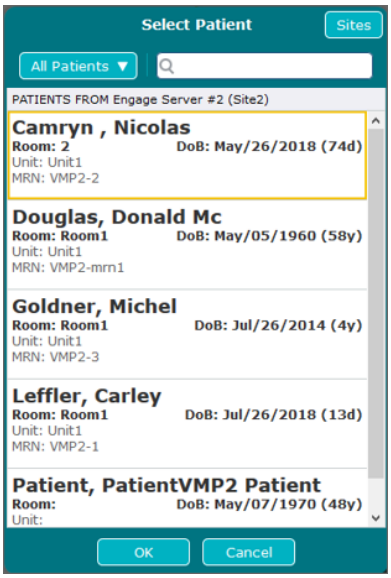
Note: See Using Web Console Favorites on page 252 for more information on creating favorites.

7. Select the checkboxes of the users and Distribution Lists to include as recipients:

1	Click **>** to add a recipient.
2	Click **<** to remove a recipient.
3	Click **<<** to remove all recipients.



8. If your message has a subject, type the subject text in the **Subject** field.
9. To attach patient information to this message:
   a. Click the **Click to attach patient info** link. The Select Patient dialog box appears:



   If no patient information is available, this link does not appear.
   b. Click **My Patients** to view your patient list only, or click **All Patients** to view a list of all available patients.
   c. Type text in the search field to limit the patient list to patients whose name matches your search text.

d. Select the patient whose information you want to attach to this message.
e. Click **OK** to close the Select Patient dialog box. The message now contains a link to the patient information that you have selected.

Note: If you have linked to patient information, and you have not specified a subject for your message, the VMP Web Console uses the patient name as the message subject.

10. Click **Priority** to specify a priority for the message. Select one of **Normal**, **High**, or **Urgent**. The following table lists the notifications sent for each priority:

Priority	Notifications in VCS app
Normal	Single ring and vibration
High	Multiple rings and vibrations
Urgent	Multiple rings (overriding user's volume setting) and vibrations

Important: On some devices, messages sent with Urgent priority may be spoken out loud to some recipients. Sending confidential patient health information with this priority may violate privacy regulations.

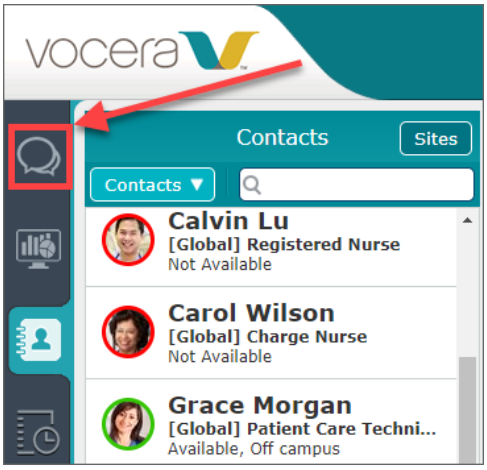
11. Do one of the following:
    a. To send a text message, type the message text in the field at the bottom of the screen and click **Send**.
    b. To send a photo, click **Attach Media** and select the image that you want to send.
    Attach Media is not available if you have disabled the **Allow attaching pictures from a file** configuration option in the VMP Administrator.
    c. To create a message that requires a response, click **Responses**. This displays the interface for sending a message that requires a response. See Sending a Message That Requires a Response on page 208 for more details.

Sending a Message Using a Template

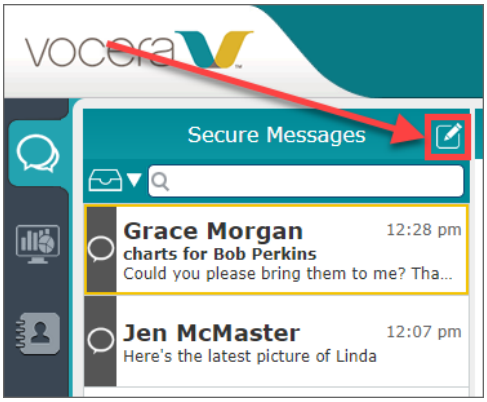
Message templates enable you to send emergency messages quickly, as the text and recipients are defined for you in the VMP Administrator.

For information about creating templates, see Creating Messaging Templates on page 142.

1. Open the VMP Web Console from your Web browser.
2. Select the **Message** tab.

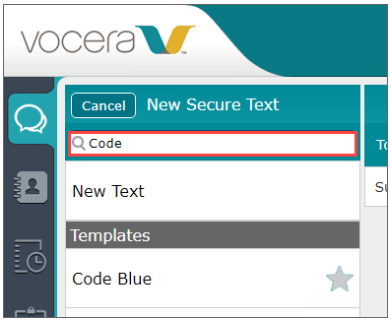


3. Click the **Compose** icon.



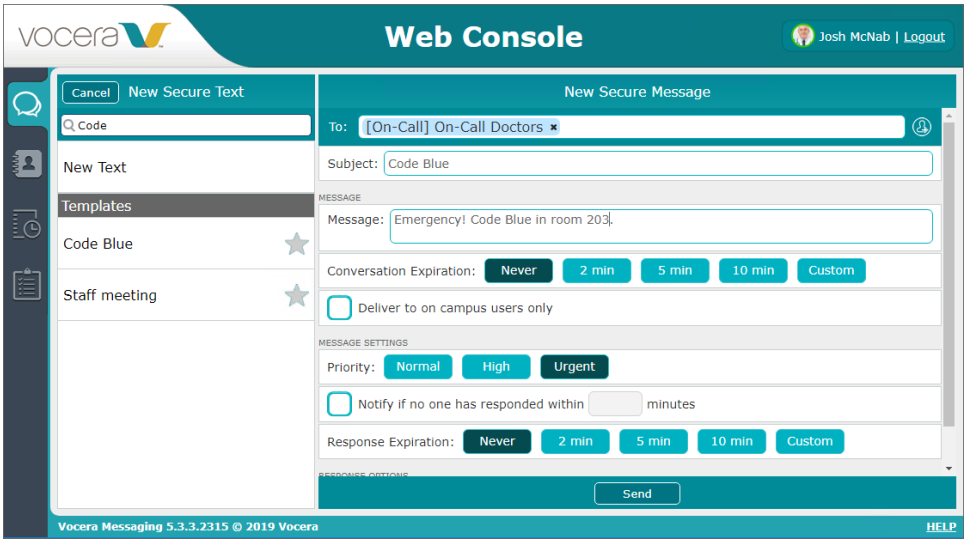
The New Secure Message screen appears.

4. Select the message template from the list of templates. If you have defined a large number of templates, type text in the template search field to display only the templates that match your search text. If you are looking for a template with a long name, expand the New Secure Text pane to view it.

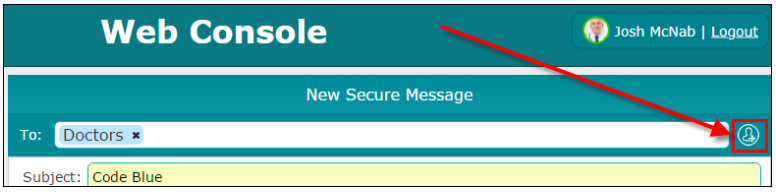


Note: To search for multi-word text or a text fragment that includes a space, enclose your search text in double quote characters, as in "search text".

The message template appears.



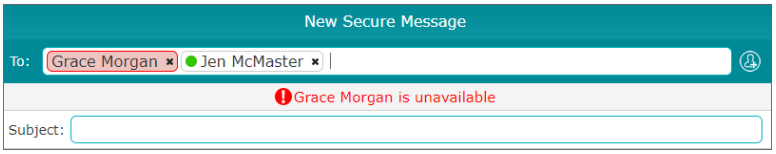
5. Your template may already have specified default recipients for your message. To add one or more additional message recipients, either type the recipient name in the **To:** field, or click the **Add Recipient** icon to select a Distribution List or user recipient.



Note: If a recipient is having messages forwarded to another contact, that contact is automatically added to the list of recipients when the message is sent.

When a message recipient is an individual user, the VMP Web Console indicates the user's availability. A green dot next to the user's name indicates that the user is available:

An orange dot next to the user's name indicates that the user is available but is in Do Not Disturb mode. If a user is unavailable, the user's name is highlighted with a red background, and a banner indicates that the user is unavailable:



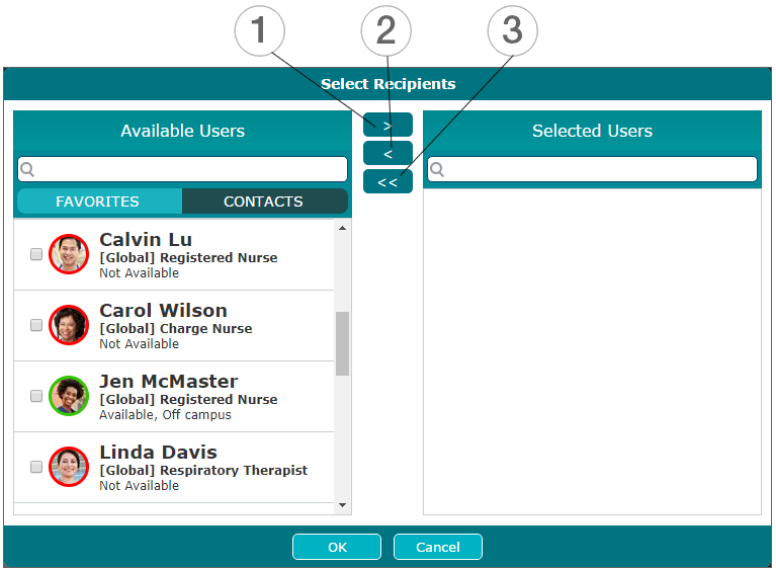
If you are sending a message to multiple users, and one or more users are unavailable, the unavailable users are listed first.

6. If you have clicked the **Add Recipient** icon, the Select Recipients dialog box appears. Select the **Favorites** tab to display favorites only, or select the **Contacts** tab to display all contacts.

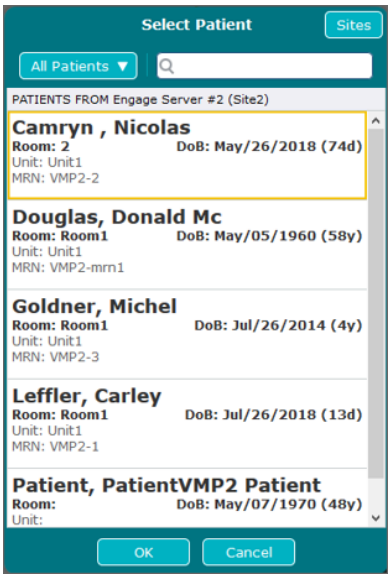
Note: See Using Web Console Favorites on page 252 for more information on creating favorites.

7. Select the checkboxes of the users and Distribution Lists to include as recipients:

1	Click **>** to add a recipient.
2	Click **<** to remove a recipient.
3	Click **<<** to remove all recipients.



8. In the **Subject** field, type or edit the message subject if it is needed. The message template may have provided this text for you.
9. To attach patient information to this message:
   a. Click the **Click to attach patient info** link. The Select Patient dialog box appears:



   If no patient information is available, this link does not appear.
   b. Click **My Patients** to view your patient list only, or click **All Patients** to view a list of all available patients.
   c. Type text in the search field to limit the patient list to patients whose name matches your search text.

d. Select the patient whose information you want to attach to this message.

e. Click **OK** to close the Select Patient dialog box.

Note: If you have linked to patient information, and you have not specified a subject for your message, the VMP Web Console uses the patient name as the message subject.

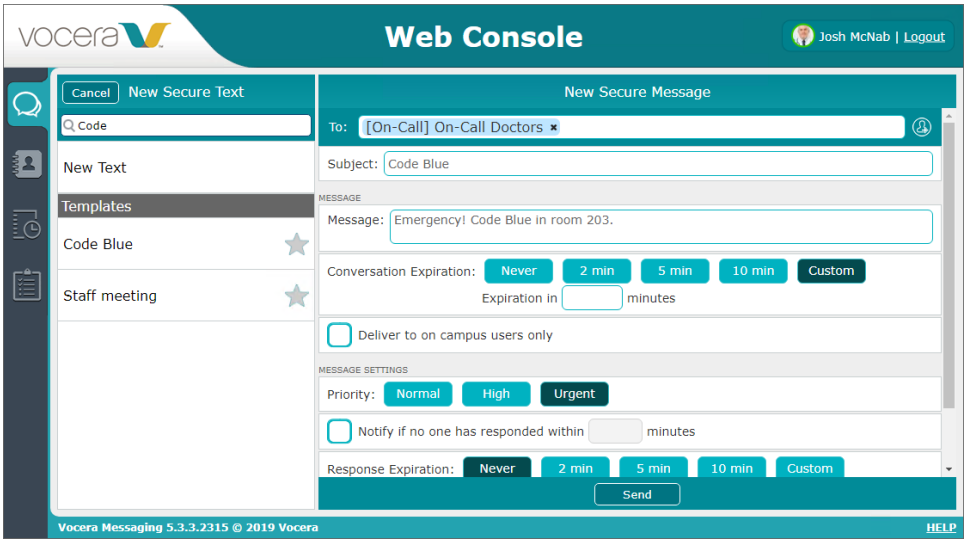
10. In the **Message** field, type or edit the message text. The message template may have provided this text for you.

11. Below the **Message** field, you may have created additional fields in which you can provide information. One or more of these fields may be required. See Creating Messaging Templates on page 142 for more details.

12. To specify an expiration time in minutes for your message, click one of the buttons in the **Conversation Expiration** row:

- **Never**, which indicates that the message never expires (this is the default setting)
- **2 min**
- **5 min**
- **10 min**
- **Custom**

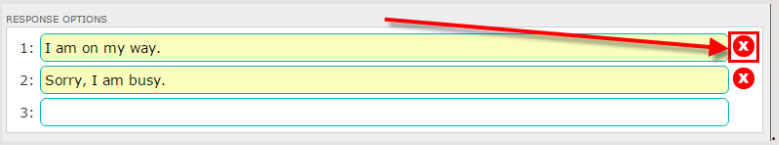
If you click **Custom**, a field appears in which you can specify the number of minutes before the message expires:



Note: Once a message conversation has expired, the message will no longer be delivered to VCS and VMP Web Console users that have not yet received it and will not be retrieved the next time they log in.

13. Select the **Do not deliver to off campus users** checkbox if this message is to be delivered only to users who are on-campus. This ensures that emergency messages are sent only to those people who can immediately respond to them.

14. Configure the following options.

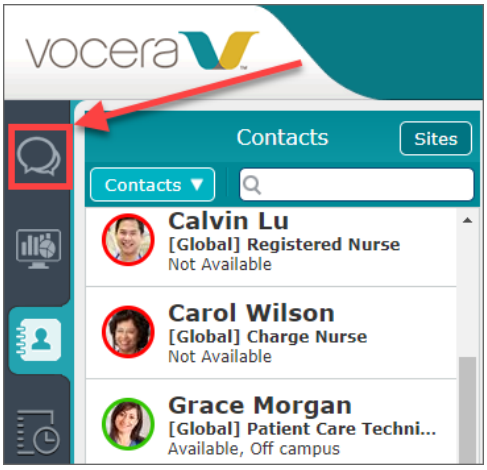
Option	Description
Priority	One of the following: • **Normal** (the default) • **High** • **Urgent** See Sending a Message from the VMP Web Console on page 197 for details on how these priority levels are handled in the VCS app. **Important:** On some devices, messages sent with High or Urgent priority may be spoken out loud to some recipients. Sending confidential patient health information with either of these priorities may violate privacy regulations.
Notify if no one has responded	Select this checkbox if you want to be notified when no one has responded within the number of minutes that you specify in the text field. If no one responds to this message during this time period, the Notify Me icon is displayed in the message link: • If you are logged onto a Vocera badge, the notification is sent as a message on the badge. • If you are logged into a badge and on to the Vocera Collaboration Suite, a tone notification is sent to the badge, and the Notify Me icon is displayed in the message link. • If you are logged into a badge and on to the VMP Web Console, a tone notification is sent to the badge, and the Notify Me icon is displayed in the message link.
Response Expiration	Specify the time period, in minutes, in which responses to this message are allowed. This time period is indicated on the sent message. Select **Custom** to specify a time period.
Response Options	If the communication requires a response, set multiple choice options to help the recipient respond quickly. When you type an option, a new field appears to enable you to type an additional option if necessary. To delete an option that you have created, click the Delete icon: 

15. Click **Send** to send the message, or click **Cancel** to return to the message interface described in Sending a Message from the VMP Web Console on page 197.

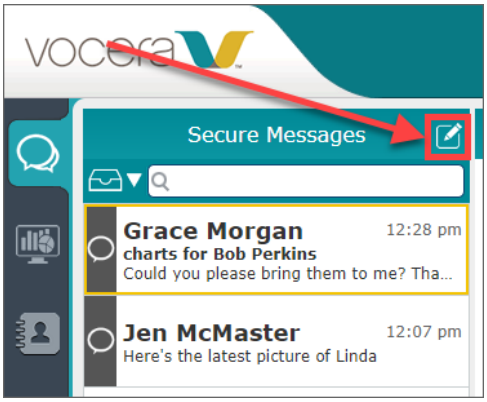
Specifying a Favorite Template

If you use a template frequently, you can set it to be a favorite. Favorite templates appear at the top of the list of templates.

1. Open the VMP Web Console from your Web browser.
2. Select the **Message** tab.

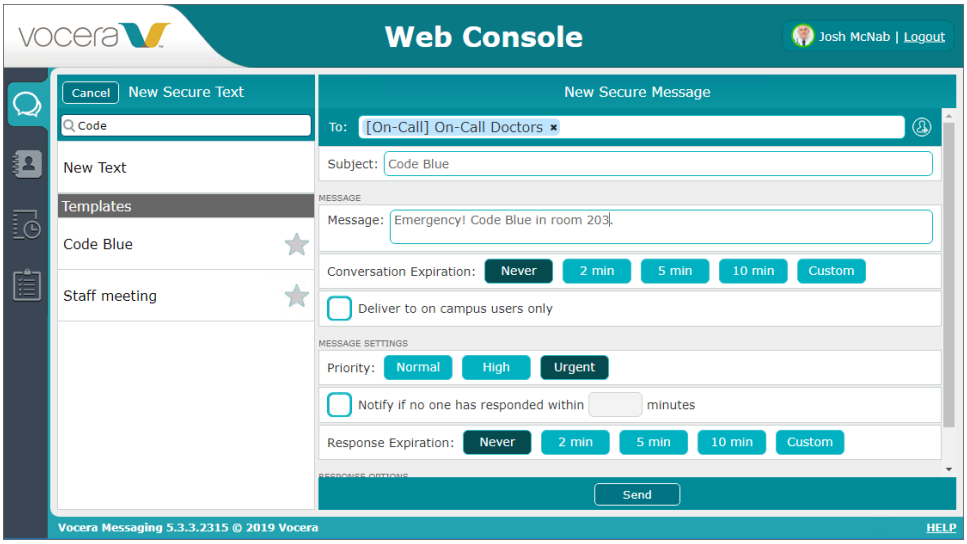


3. Click the **Compose** icon.

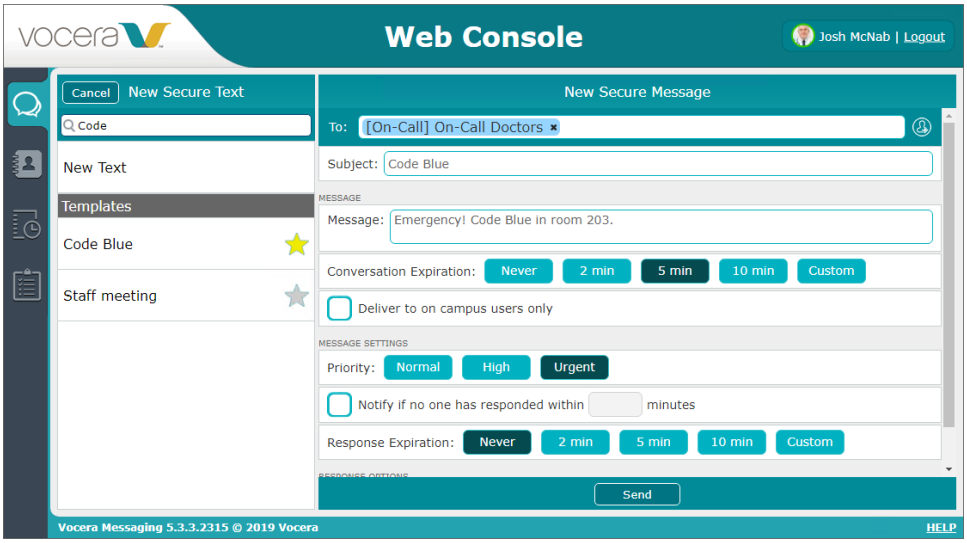


The New Secure Message screen appears.

4. In the list of templates, locate the template that you want to specify as a favorite. If necessary, scroll down in the list until you find it.



5. Click the star next to the template name. The star turns yellow, which indicates that this template is a favorite.



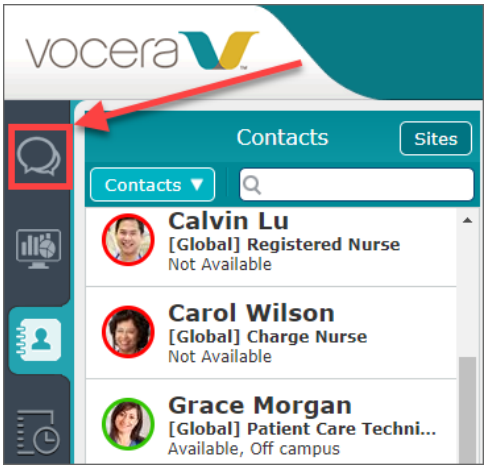
The selected template is moved to the top of the list of templates, along with any other favorite templates that you have previously selected.

To remove a template from the list of favorites, click the star next to the template name again.

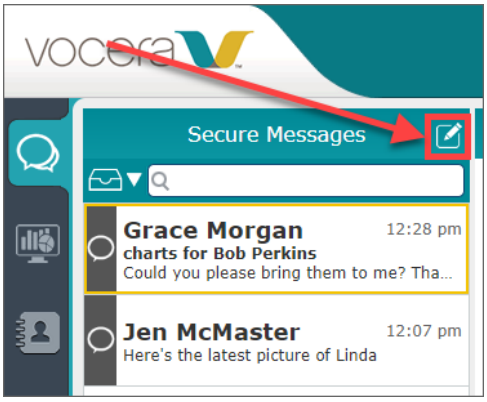
Sending a Message That Requires a Response

You can send a message that requires the recipient to provide a response.

1. Open the VMP Web Console from your Web browser.
2. Select the **Message** tab.



3. Click the **Compose** icon.

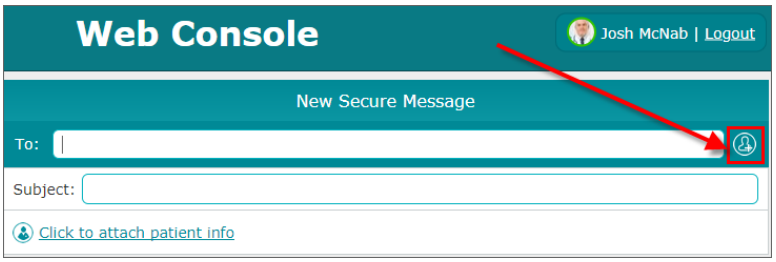


The New Secure Message screen appears.

4. Select **New Text** to create a new message.

You can also create a message using a message template. This enables you to send an emergency message quickly. For information on how to send a message using a template, see Sending a Message Using a Template on page 201.

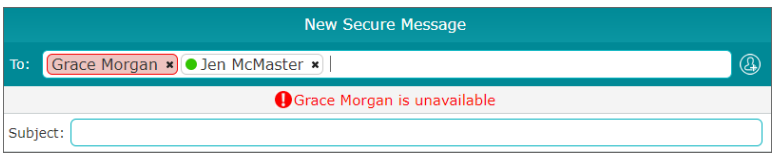
5. To add one or more message recipients, either type the recipient name in the **To:** field, or click the **Add Recipient** icon to select a Distribution List or user to add to the recipient list.



Note: If a recipient is having messages forwarded to another contact, that contact is automatically added to the list of recipients when the message is sent.

When a message recipient is an individual user, the VMP Web Console indicates the user's availability. A green dot next to the user's name indicates that the user is available:

An orange dot next to the user's name indicates that the user is available but is in Do Not Disturb mode. If a user is unavailable, the user's name is highlighted with a red background, and a banner indicates that the user is unavailable:



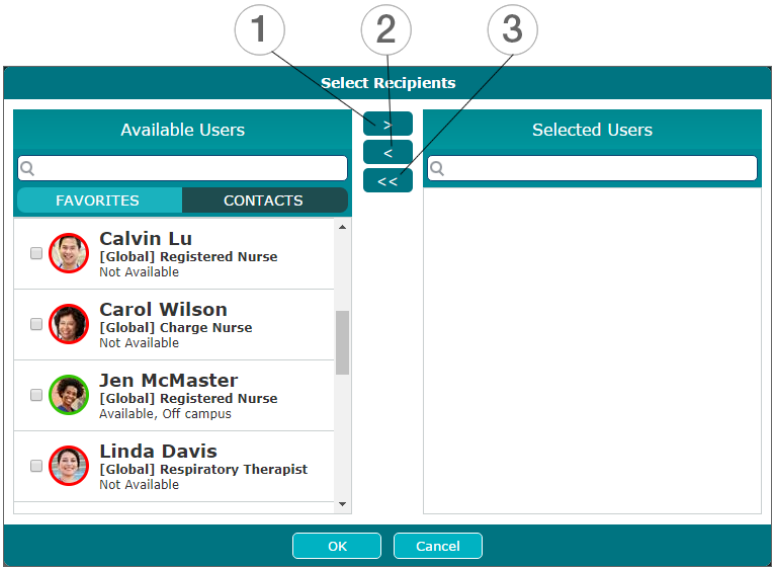
If you are sending a message to multiple users, and one or more users are unavailable, the unavailable users are listed first.

6. If you have clicked the **Add Recipient** icon, the Select Recipients dialog box appears. Select the **Favorites** tab to display favorites only, or select the **Contacts** tab to display all contacts.

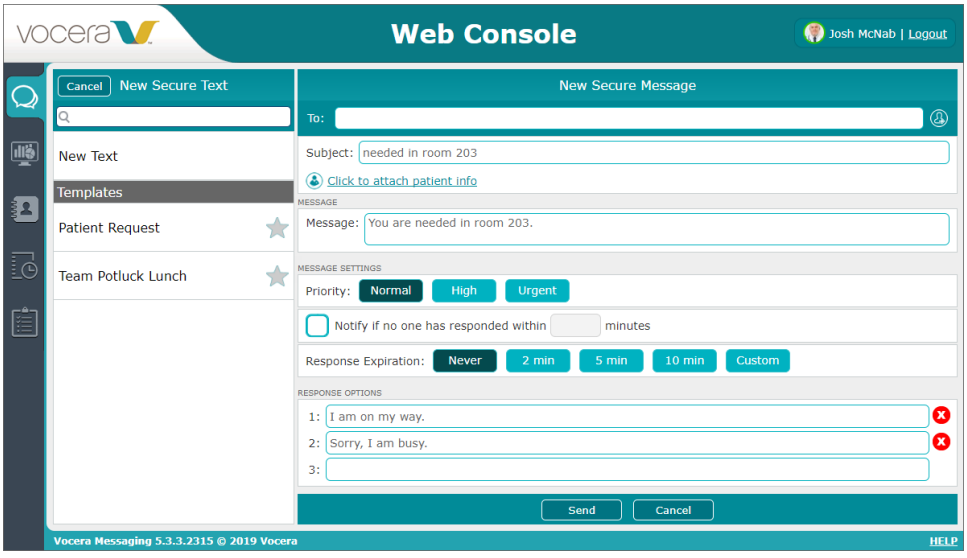
   Note: See Using Web Console Favorites on page 252 for more information on creating favorites.

7. Select the checkboxes of the users and Distribution Lists to include as recipients:

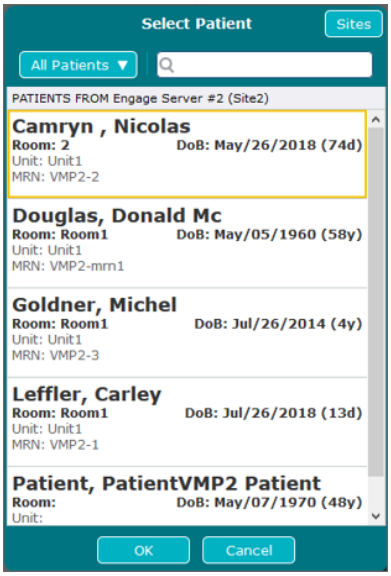
1	Click **>** to add a recipient.
2	Click **<** to remove a recipient.
3	Click **<<** to remove all recipients.



8. Click **Responses** to display the screen for sending a message with a response.



9. In the **Subject** field, type an subject for the message if it is needed.
10. To attach patient information to this message:
    a. Click the **Click to attach patient info** link. The Select Patient dialog box appears:

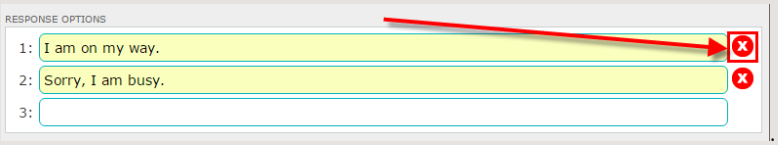


b. Click **My Patients** to view your patient list only, or click **All Patients** to view a list of all available patients.
c. Type text in the search field to limit the patient list to patients whose name matches your search text.
d. Select the patient whose information you want to attach to this message.
e. Click **OK** to close the Select Patient dialog box.

Note: If you have linked to patient information, and you have not specified a subject for your message, the VMP Web Console uses the patient name as the message subject.

11. In the **Message** field, type the text of the message.
12. Configure the following options.

Option	Description
Priority	One of the following: • **Normal** (the default) • **High** • **Urgent** See Sending a Message from the VMP Web Console on page 197 for details on how these priority levels are handled in the VCS app. **Important:** On some devices, messages sent with Urgent priority may be spoken out loud to some recipients. Sending confidential patient health information with either of these priorities may violate privacy regulations.
Notify if no one has responded	Select this checkbox if you want to be notified when no one has responded within the number of minutes that you specify in the text field. If no one responds to this message during this time period, the Notify Me icon is displayed in the message link: • If you are logged onto a Vocera badge, the notification is sent as a message on the badge. • If you are logged into a badge and on to the Vocera Collaboration Suite, a tone notification is sent to the badge, and the Notify Me icon is displayed in the message link. • If you are logged into a badge and on to the VMP Web Console, a tone notification is sent to the badge, and the Notify Me icon is displayed in the message link.

Option	Description
Response Expiration	Specify the time period, in minutes, in which responses to this message are allowed. This time period is indicated on the sent message. Select **Custom** to specify a time period.
Response Options	If the communication requires a response, set multiple choice options to help the recipient respond quickly. When you type an option, a new field appears to enable you to type an additional option if necessary. To delete an option that you have created, click the Delete icon: 

13. Click **Send** to send the message, or click **Cancel** to return to the message interface described in Sending a Message from the VMP Web Console on page 197.

About Mass Notifications

When you create a message that has more than 50 recipients, it is automatically treated as a Mass Notification.

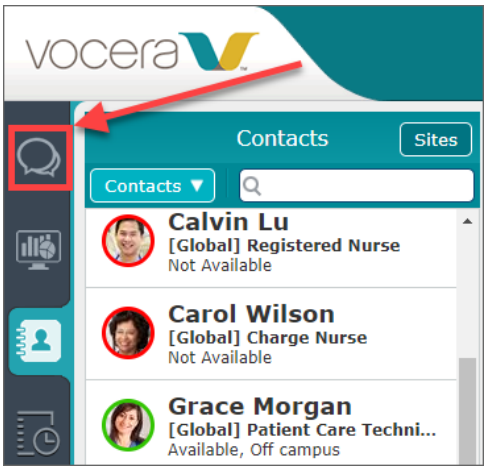
When you receive a Mass Notification, the text **N Participants** is shown as the recipient, where **N** is the number of recipients.

The list of Mass Notification recipients can be displayed in the VMP Web Console, but cannot be displayed on user devices.

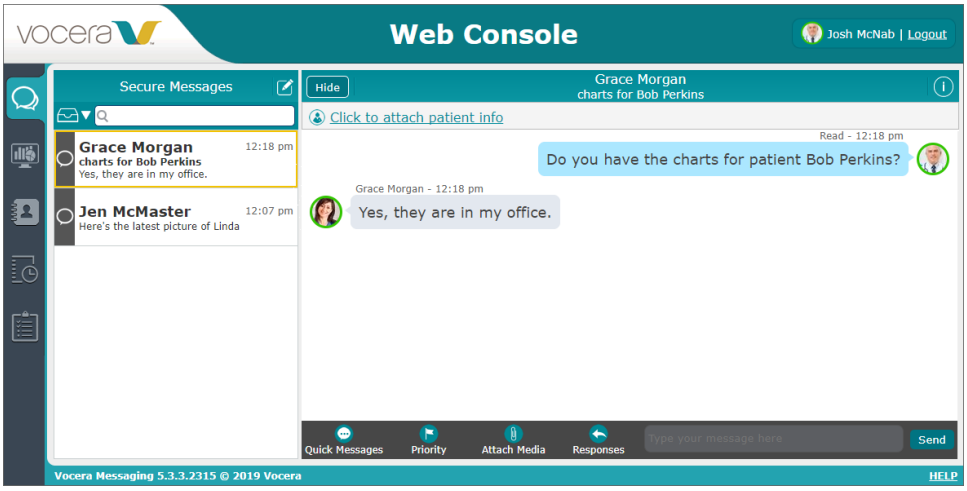
Continuing a Message Conversation

After you have sent or have received a secure message in the VMP Web Console, you can continue a conversation with the recipients or sender of the message.

1. Select the **Message** tab.



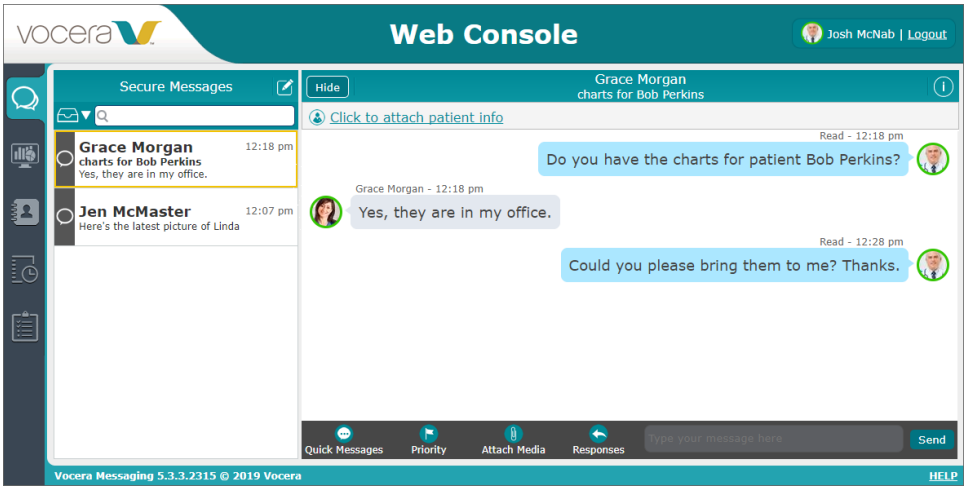
2. From the list of messages in the Secure Messages pane, select the message. The message is displayed in the pane at the right.



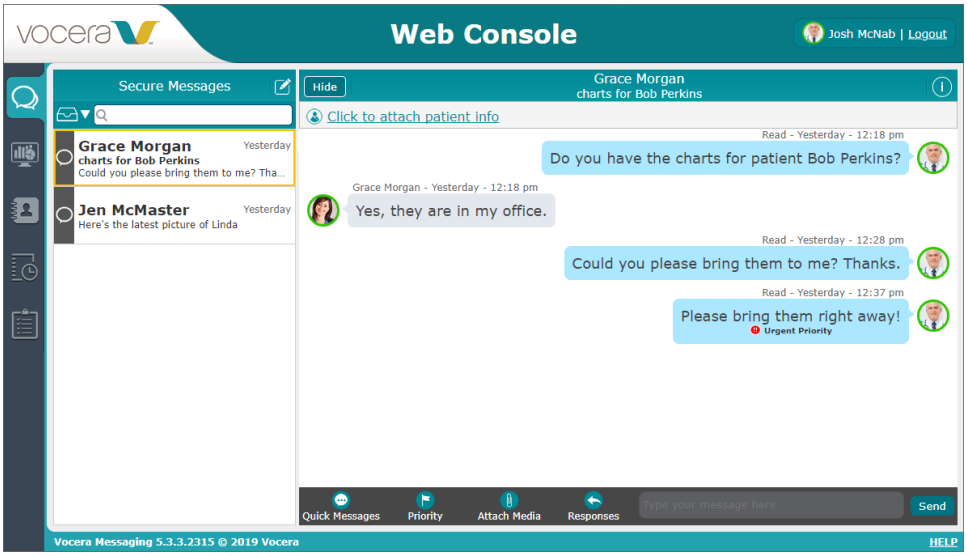
The colored ring around each message participant's photo or initials indicates the participant's availability:

- Green indicates that the participant is available.
- Red indicates that the participant is not available.
- Orange indicates that the participant has set Do Not Disturb.

3. In the text field at the bottom of the pane, type your text message and click **Send**. Your messages and the responses sent to you are displayed.



4. To change the priority of a message, click **Priority** and select the priority to use. If the priority is higher than Normal, the priority is included in the message.

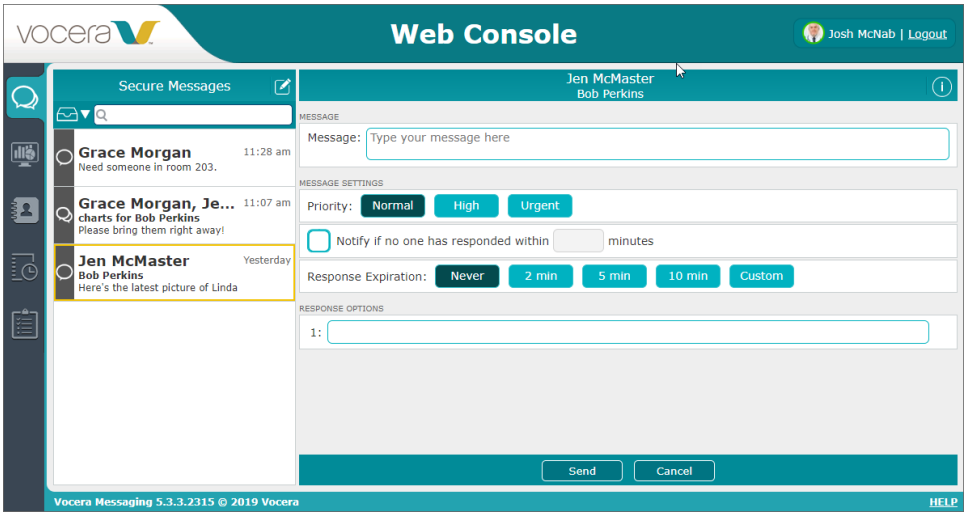


5. To attach media to a conversation, click **Attach Media** and select the attachment to include. A thumbnail of the attachment appears in the conversation.

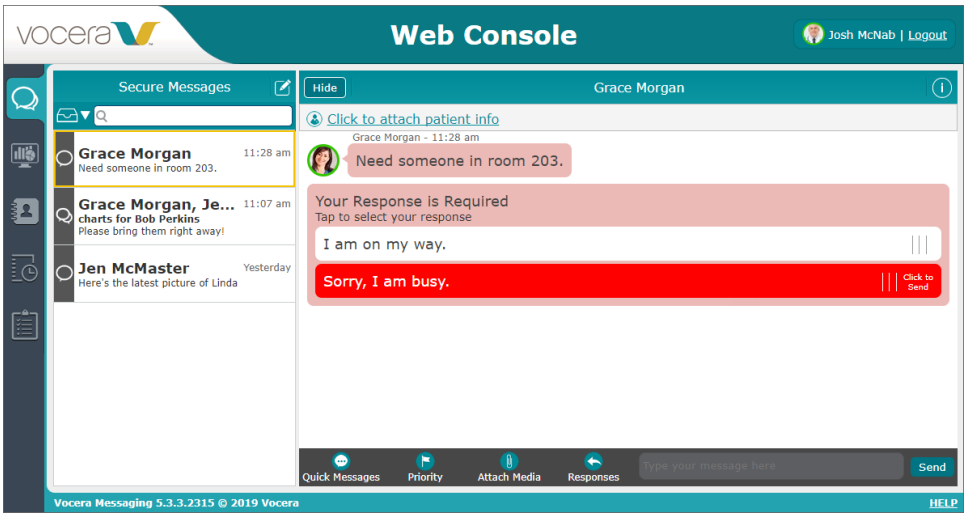
Click the thumbnail to view the attachment in more detail.

Attach Media is not available if you have disabled the **Allow attaching pictures from a file** configuration option in the VMP Administrator.

6. To request a response to a message, click **Responses**. In the Response Request screen, specify the response information, and click **Send**.



7. If you have been requested to supply a response, a list of response options is provided. Hover over an option to select it, and click the option to send the response.



Note: If the sender has specified a time limit for a response, and the time limit has expired, this will be indicated in the conversation:

If you are having more than one conversation, use the pane at the left to switch from one session to another.

To display the current message delivery status, click on any text that you have sent in a conversation.

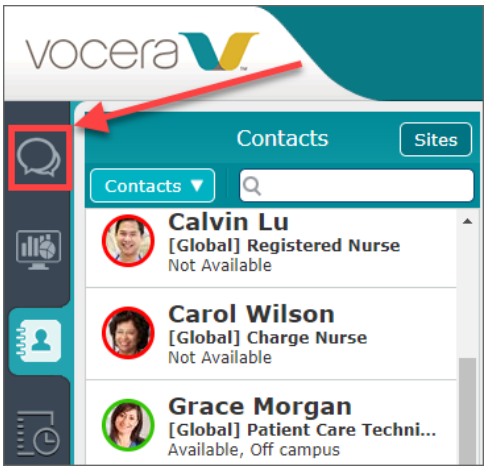
Click on a profile picture to display the contact status information for that person.

If a VST user sends a message, you can see all users who are part of this message, including those VST users who are not part of an organization on the imported VST cloud server and are therefore not in the VMP Server database.

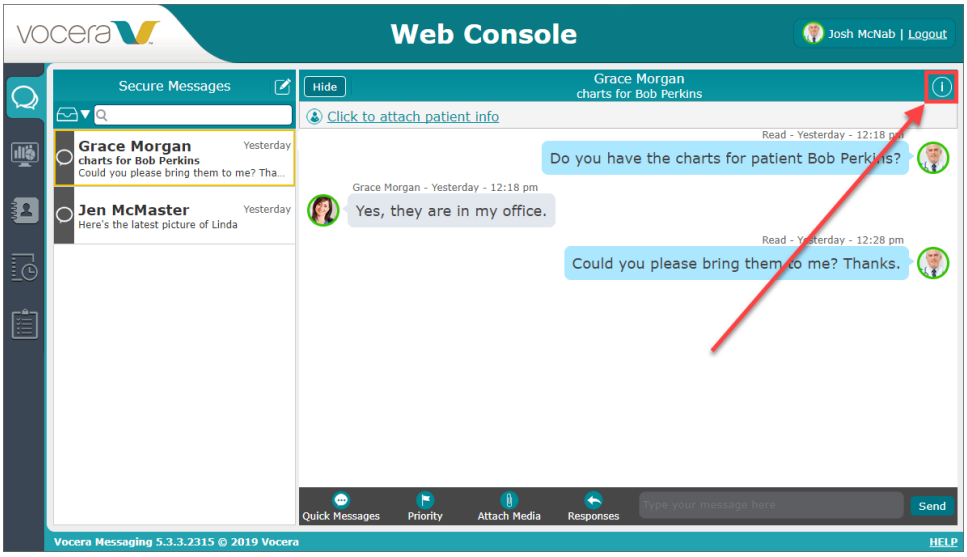
Viewing Participants

You can view a list of the participants in a conversation.

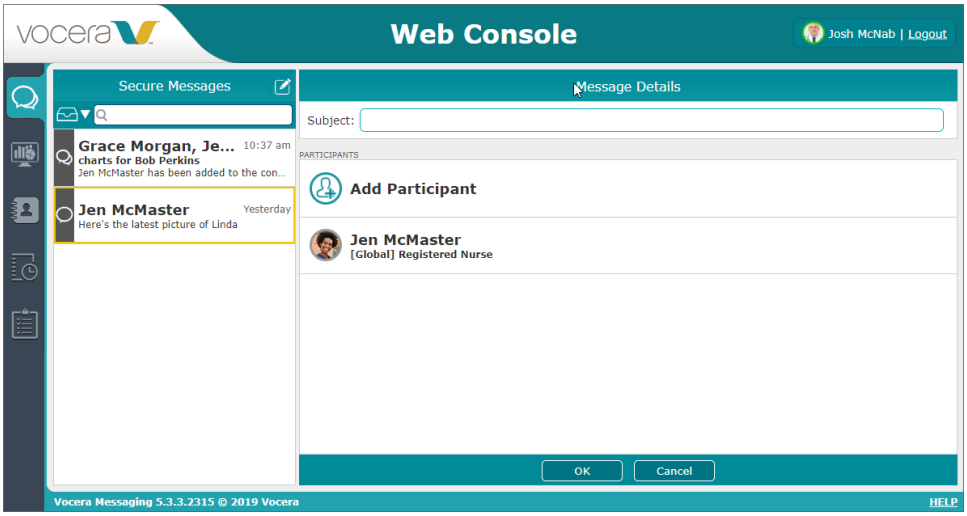
1. Select the **Message** tab.



2. From the list of messages in the Secure Messages pane, select the message for which you want to view the list of participants.
3. Click the Info icon.



The list of participants appears:

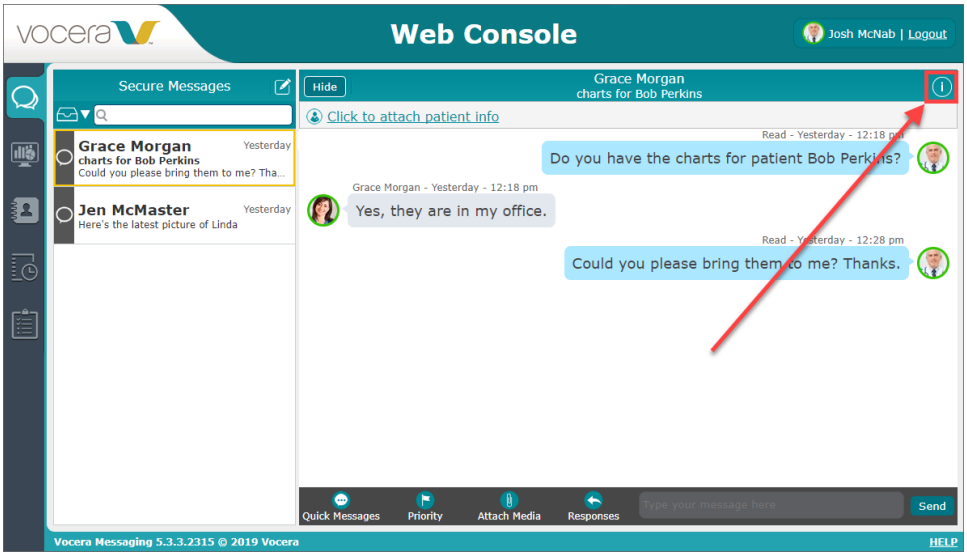


4. Click **OK** to return to the conversation.

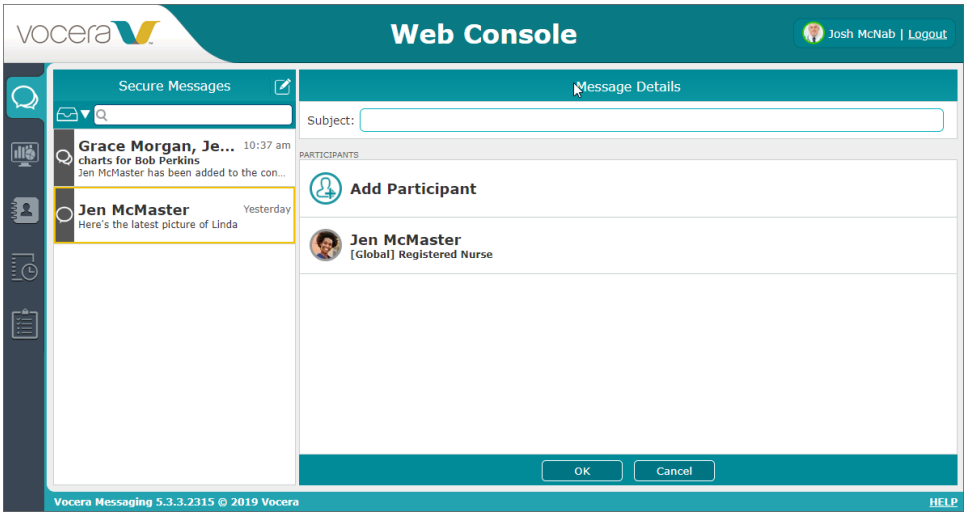
Adding a User to a Message Conversation

You can add additional users to an existing message conversation.

1. Click the Info icon.



The list of participants appears:

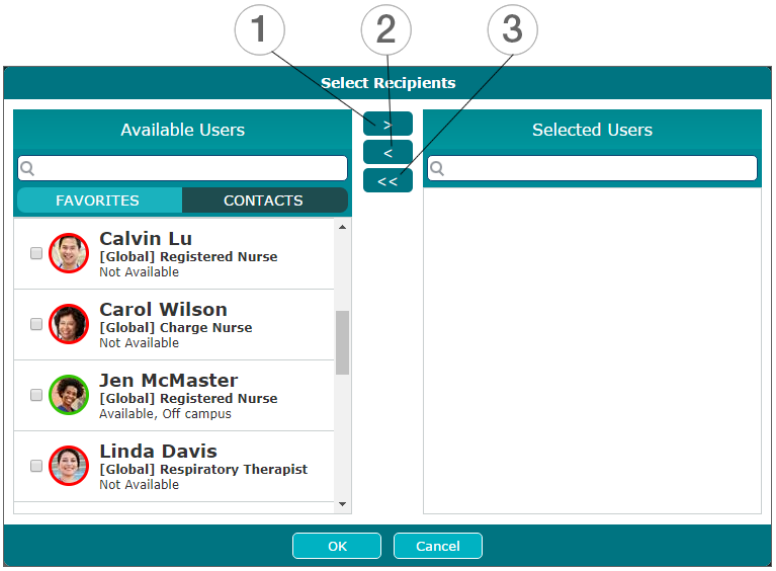


2. Click **Add Participant**. The Select Recipients dialog box appears.
3. Select the **Favorites** tab to display favorites only, or select the **Contacts** tab to display all contacts.

Note: See Using Web Console Favorites on page 252 for more information on creating favorites.

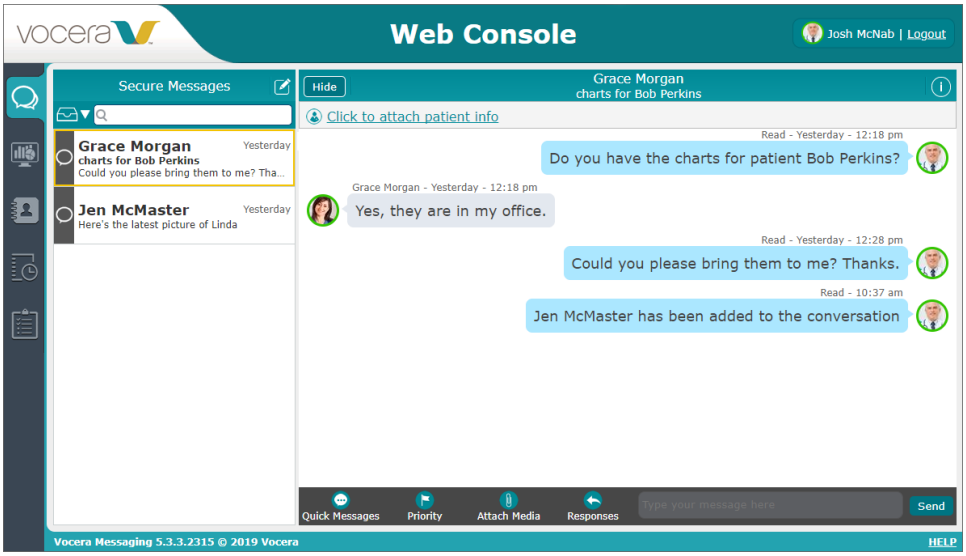
4. Select the checkboxes of the users that you want to add to the conversation:

1	Click **>** to add a user to the conversation.
2	Click **<** to remove a user that you have added to the conversation.
3	Click **<<** to remove all users that you have added. You cannot remove users that you have not just added.



5. Click **OK** to add the selected users to the conversation.

The conversation now indicates that new people have joined.



Note: If a user in a message conversation is having messages forwarded to another user, that user is automatically added to the conversation.

Adding a Quick Message to a Conversation

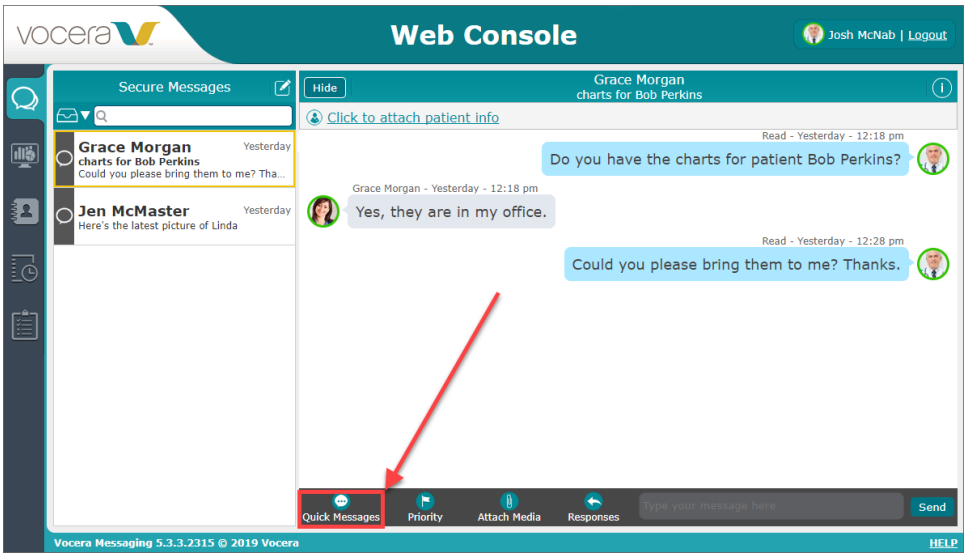
A quick message is a pre-defined message text that you can select and add to your conversation without having to type any text. This enables you to quickly add frequently used or urgent messages to the conversation.

You can use quick messages that have been defined in the VMP Administrator, or you can create them in the VMP Web Console.

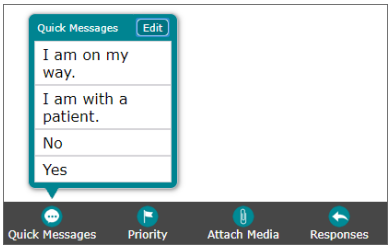
For more information on quick messages, see About Quick Messages on page 162.

For more information on creating quick messages, see Creating a Quick Message on page 220.

1. In a message conversation, click **Quick Messages**.



2. In the list of quick messages that appears, click the quick message that you want to use.



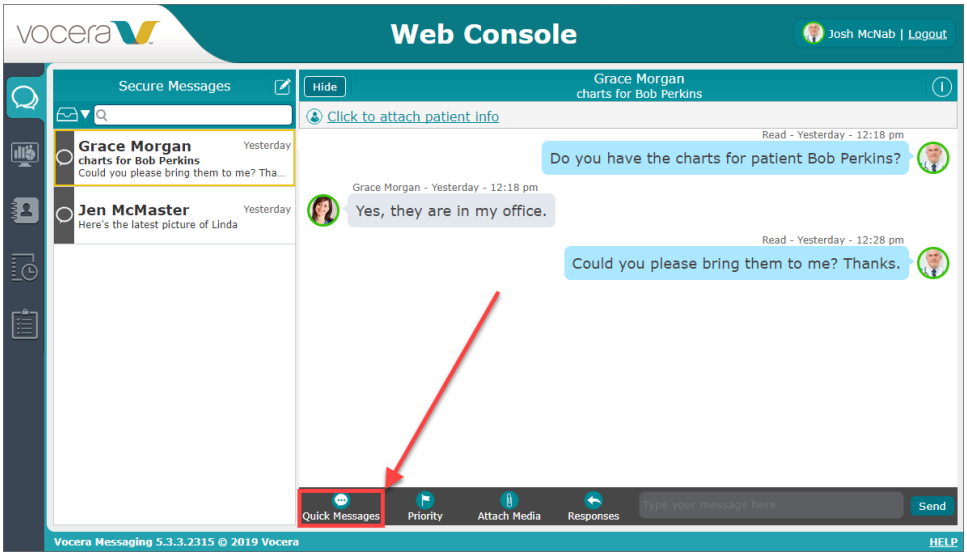
The text of the quick message is copied into the message field.

3. Click **Send** to send the quick message text to your conversation.

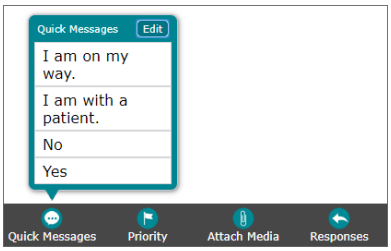
Creating a Quick Message

You can create a quick message for use in message conversations. You can also edit a quick message that you have created.

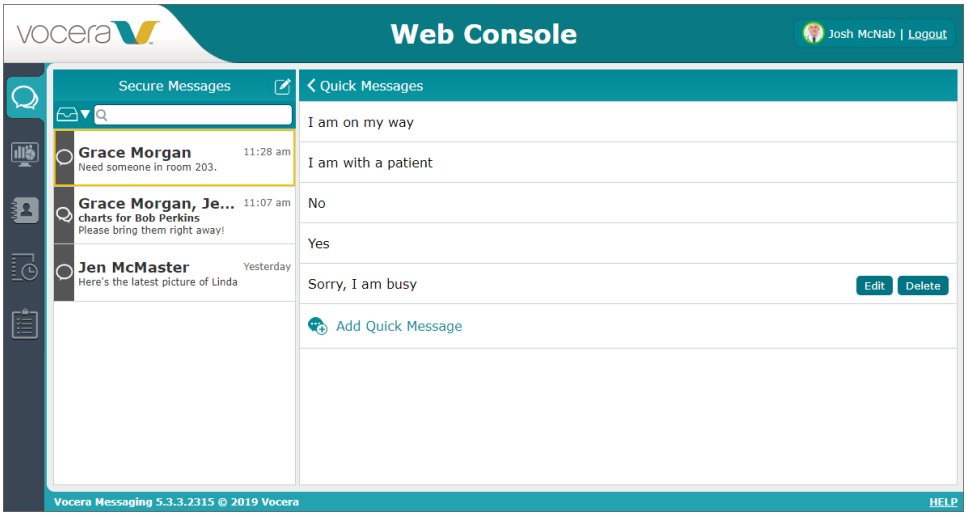
1. In a message conversation, click **Quick Messages**.



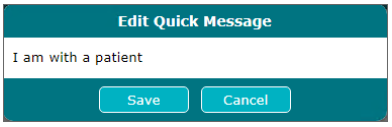
2. In the list of quick messages that appears, click **Edit**.



A list of available quick messages appears.



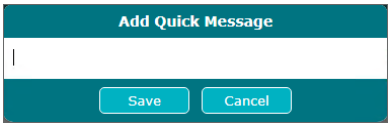
3. To edit a quick message:
   a. Click the **Edit** button next to the message. The Edit Quick Message dialog box appears.



   b. Edit the quick message text as needed.
   c. Click **Save** to save the changed text.

> **Note:** To delete a quick message that you have created, click **Delete** next to the message that you want to delete.

4. To add a quick message:
   a. Click **Add Quick Message**.
   The Add Quick Message dialog box appears.

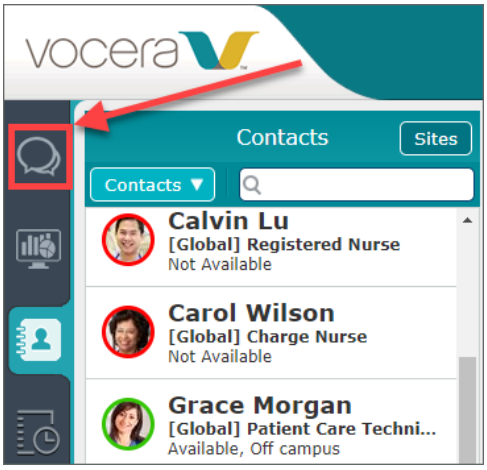


   b. Add the new quick message text.
   c. Click **Save** to save the new quick message.

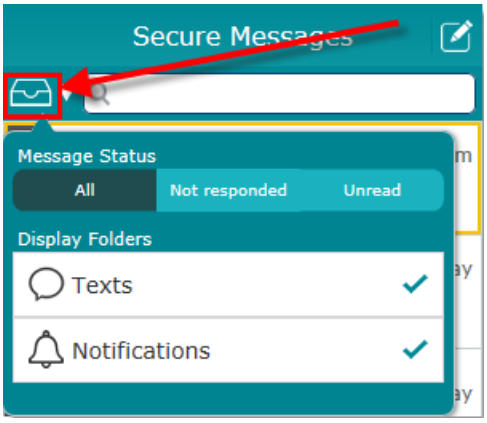
Filtering Message Conversations

You can specify the message conversations that are to be displayed in the Secure Messages screen.

1. Select the **Message** tab.



2. Click the Inbox icon to display the filtering options.

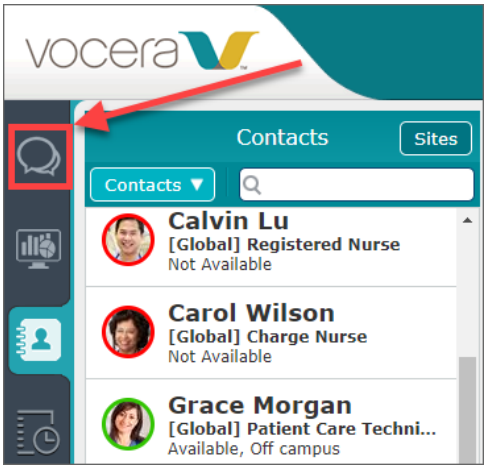


3. In the Message Status section, select whether to display all messages, messages to which you have not responded, or messages that are unread.
4. In the Display Folders section, select **Texts** to display text conversations, and select **Notifications** to display notifications. You can select either or both.
5. Click outside of the filtering options popup menu to hide it. The Secure Messages screen is updated to reflect your selections.

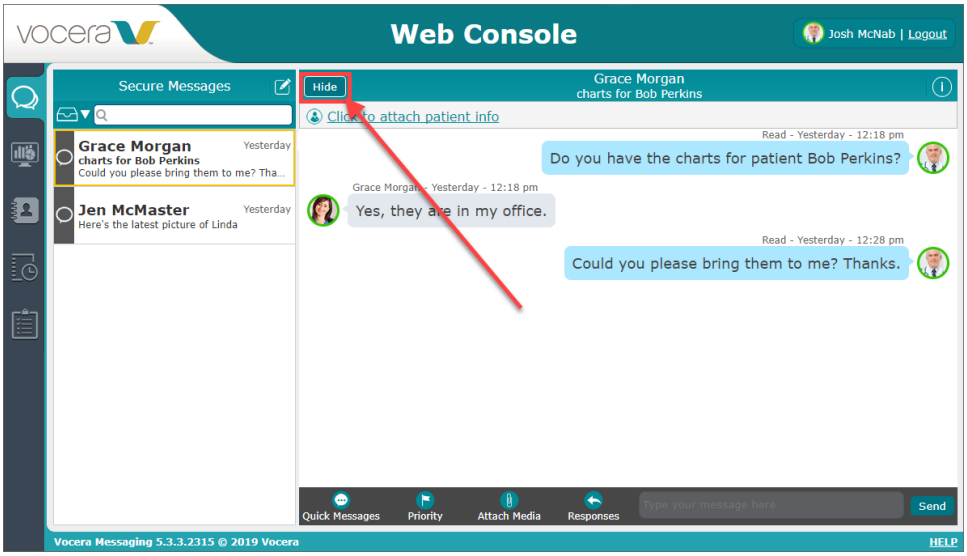
Hiding a Message

If you do not need to save a message, you can hide it.

1. Select the **Message** tab.



2. From the list of messages in the Secure Messages pane, select the message that you want to hide.
3. Click **Hide**.



4. In the Hide Conversation dialog box, click **Yes** to hide the message.

Note: The message reappears if a sender or recipient that has not hidden the message continues the conversation.

Patient Information and Alarms

Your system administrator may have linked your VMP environment to an Engage environment. Two types of Engage environment connections are supported.

- Connections to the Engage Patient Context Adapter, which enable you to add information on a patient to a message conversation.
- Connections from Engage to the VMP SOAP interface, which send alarms sent by patients or care providers to you as notifications.

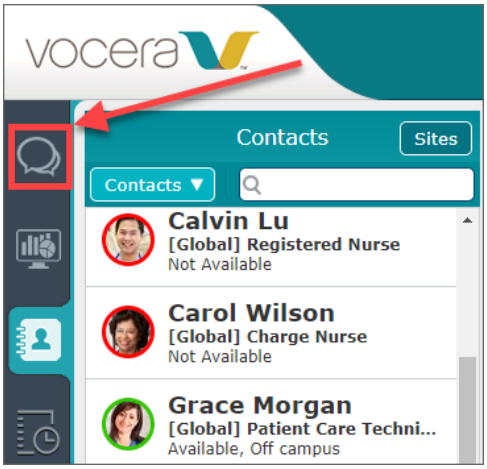
You can respond to an alarm, view patient information, or contact the care team assigned to the patient.

Note: See the Engage product documentation for more details on these adapters.

Adding a Patient to a Message Conversation

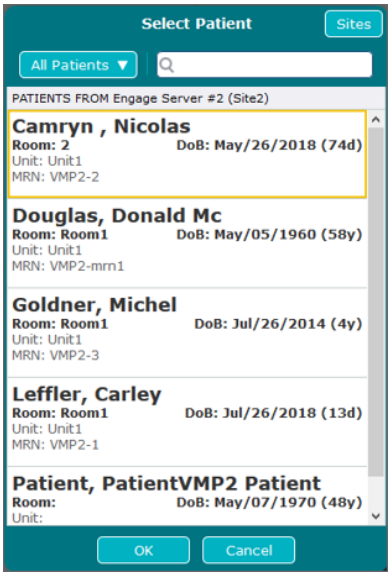
If patient information is available and no patient has been added to your conversation, you can add patient information if you have permission to do so.

1. Select the **Message** tab.



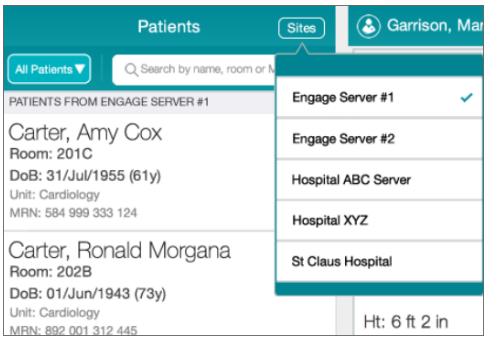
2. From the list of messages in the Secure Messages pane, select the message. The message is displayed in the pane at the right.

3. Click the **Click to attach patient info** link. The Select Patient dialog box appears.



If no patient information is available, this link does not appear.

4. If your facility has more than one patient site:
   a. From the toggle switch at the top left of the screen, select **All Patients**. This displays the **Sites** button, which enables you to select a current patient site.
   b. Click **Sites**. From the popup menu that appears, select the site that you want to display.



5. Select the patient list that you want to display. If your facility supports more than one patient site, select from the following:
   - **My Patients - Current Site**: Display the list of patients assigned to you at the site that you have selected in the previous step.
   - **My Patients - All Sites**: Display the list of patients assigned to you at all sites.
   - **All Patients**: Display the list of all patients at all sites.

If your facility has one patient site only, select from the following:

- **My Patients**: Display the list of patients assigned to you.
- **All Patients**: Display the list of all patients at all sites.

Note: If there are more than 100 patients in the list, not all patients are displayed. Use the search box to search for any patient in the list, including those that are not displayed.

6. Type text in the search field to limit the patient list to patients whose name matches your search text.
7. Select the patient whose information you want to attach to this message.
8. Click **OK** to close the Select Patient dialog box.

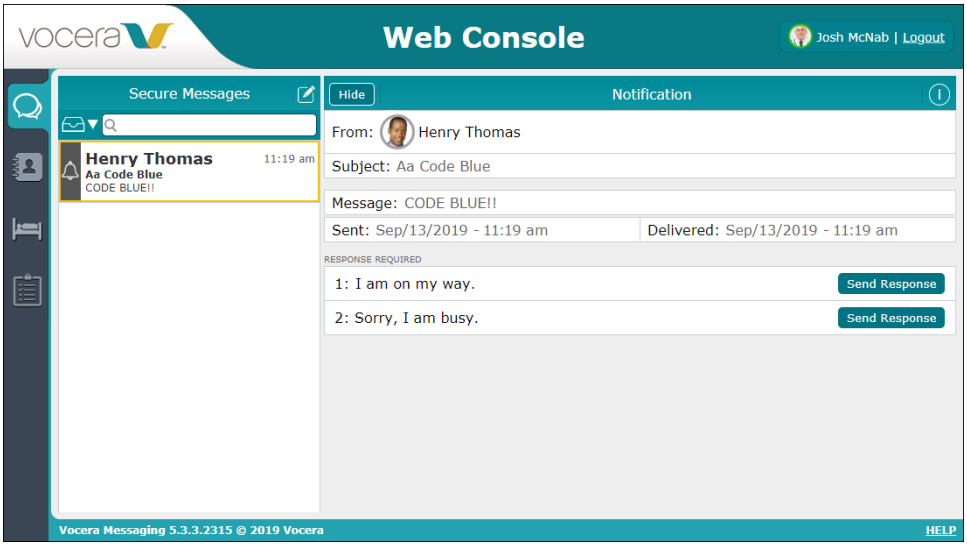
The information for the selected patient is now included in the message conversation.

Note: If you have added patient information to a message conversation and the conversation has no subject, the patient's name is displayed in the Subject field in the Secure Message panel of the **Message** tab. The patient name does not become the subject of the message conversation.

Handling an Alarm

If you have received a notification from the VMP SOAP interface that contains information on alarm generated by or for a patient, you can respond to the alarm, view the information for the patient, and contact the care team assigned to the patient.

1. In the Secure Messages screen, click the notification to view it. If necessary, scroll the screen to view the details of the alarm.



If the alarm has a priority of High or Urgent, an icon appears next to the Subject line.

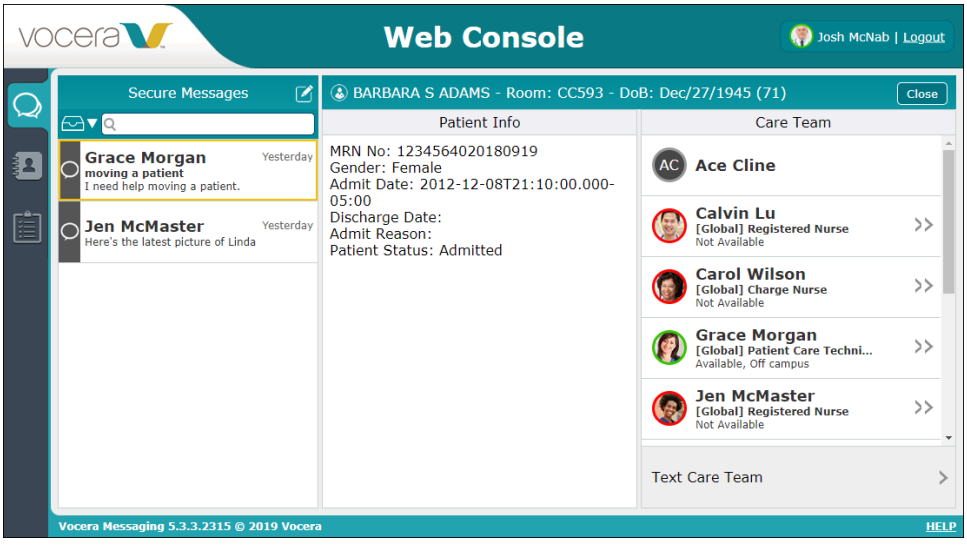
2. In the **Response Required** section of the notification, select one of the responses that have been made available to you.
3. Tap the link for the patient to display patient information and contact the care team. See Viewing Patient Information on page 227 and Contacting the Care Team on page 228 for more details.

Viewing Patient Information

If you have added patient information to a message conversation, or you have received a notification containing patient information, you can view it.

1. In the Secure Messages screen, click the message or the notification containing the patient information.
2. In the link to the patient information, click the **View Details** button.

The patient information screen appears.



This screen contains two panes:

- The Patient Info pane, which contains details on the linked patient.
- The Care Team pane, which contains links to contact information for care team members.

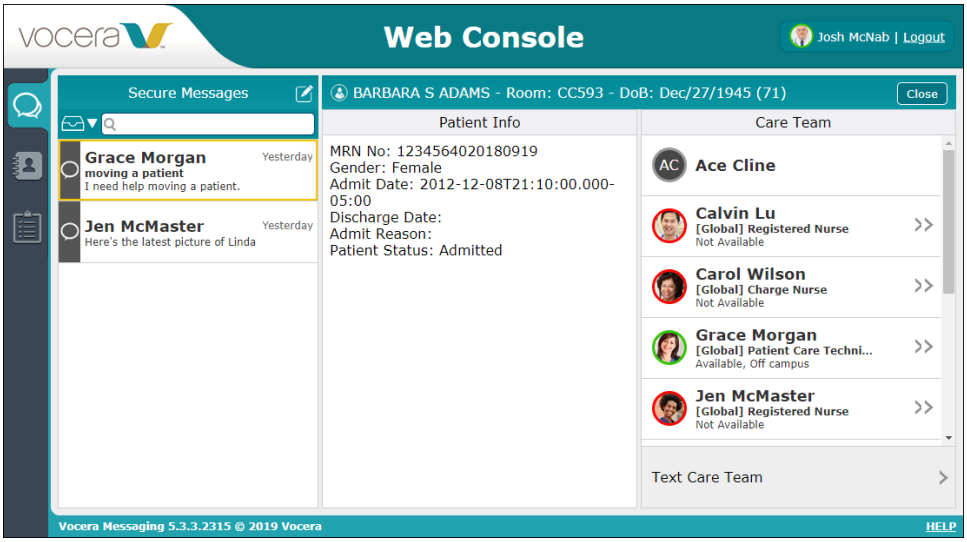
3. Click **Close** to hide the patient information.

Contacting the Care Team

If you have added patient information to a message conversation, or you have received a notification containing patient information, you can view and contact the care team assigned to this patient.

1. In the Secure Messages screen, click the message or the notification containing the patient information.
2. In the link to the patient information, click the **View Details** button.

The patient information screen appears, including the Care Team pane, which displays a list of care team members in a scrollable window.



This list of care team members can contain users from either or both of two sources:

- VMP Web Console or VCS users
- Users obtained from the Engage Patient Context Adapter

Users obtained from the Engage Patient Context Adapter cannot be contacted from VMP Web Console.

3. In the list of care team members, click on any VMP Web Console or VCS user to display contact information for that user. See Using Web Console Contacts on page 250 for more details on this contact information.
4. To send a message to all care team members who are VMP Web Console or VCS users, click the **Text Care Team** link at the bottom of the screen.

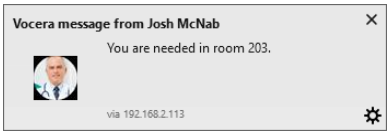
The **Text Care Team** link does not appear if the care team does not include any VMP Web Console or VCS users.

5. Click **Close** to hide the patient information.

System Notifications for New Messages

When you are logged into the VMP Web Console, you will see a system notification whenever you receive a new message if you are using a browser that supports this.

This ensures that you receive notice of new messages when your browser is in the background on your screen or if you are viewing another browser tab.



When you click on the notification, the new message is displayed in the VMP Web Console.

This capability is supported on the following browsers:

- Microsoft Edge
- Mozilla Firefox
- Safari
- Google Chrome (for URLs that start with `https:` or `localhost:` only)

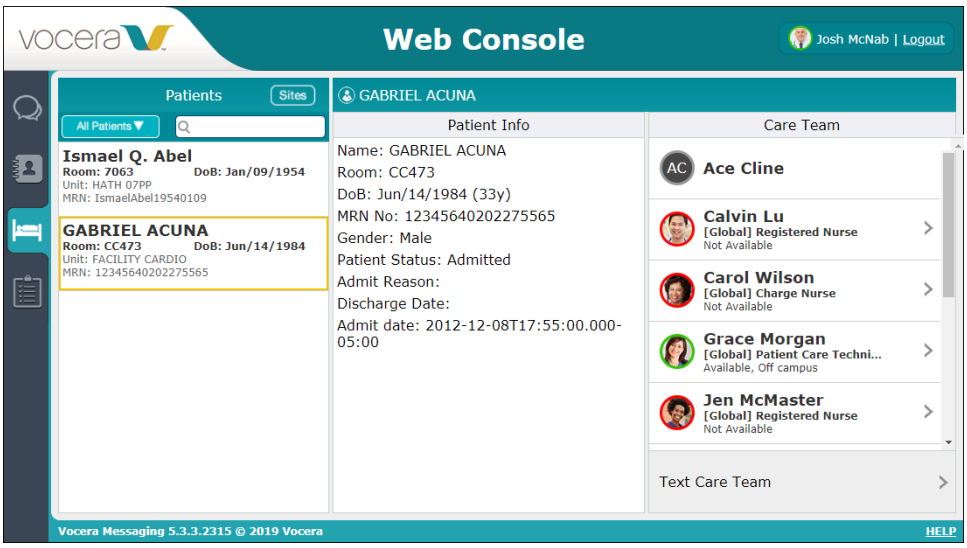
On Google Chrome, you will hear a tone whenever you receive a system notification for a new message.

The Patients View

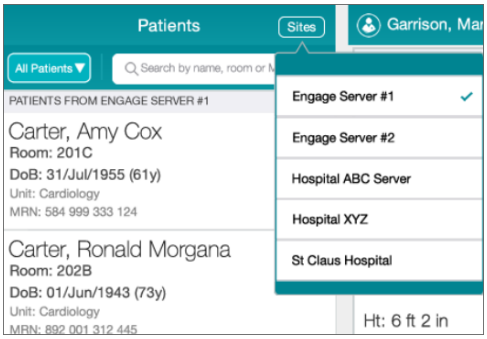
If you have linked your VMP Server to an Engage environment, the Patients view lists all current patients.

1. To access a list of current patients, select the Patients view.

The list of patients appears.



2. If your facility has more than one patient site:
   a. From the toggle switch at the top left of the screen, select **All Patients**. This displays the **Sites** button, which enables you to select a current patient site.
   b. Click **Sites**. From the popup menu that appears, select the site that you want to display.



3. Select the patient list that you want to display. If your facility supports more than one patient site, select from the following:
   - **My Patients - Current Site**: Display the list of patients assigned to you at the site that you have selected in the previous step.
   - **My Patients - All Sites**: Display the list of patients assigned to you at all sites.
   - **All Patients**: Display the list of all patients at all sites.

If your facility has one patient site only, select from the following:
- **My Patients**: Display the list of patients assigned to you.
- **All Patients**: Display the list of all patients at all sites.

Note: If there are more than 100 patients in the list, not all patients are displayed. Use the search box to search for any patient in the list, including those that are not displayed.

4. Select the patient for which you want to display information.
   The patient information consists of two panes:
   - The Patient Info pane, which contains details on the linked patient.
   - The Care Team pane, which contains links to contact information for care team members.
5. In the list of care team members, click on any VMP or VCS user to display contact information for that user. See Using Web Console Contacts on page 250 for more details on this contact information.
6. To send a message to all care team members who are VMP or VCS users, click the **Text Care Team** link at the bottom of the screen.
   The **Text Care Team** link does not appear if the care team does not include any VMP or VCS users.

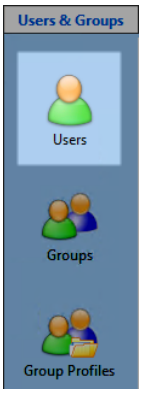
About User Permissions

As an administrator, you can provide user permissions for access to the VMP Web Console, for creating and managing schedules, and for Messages sent by other users.

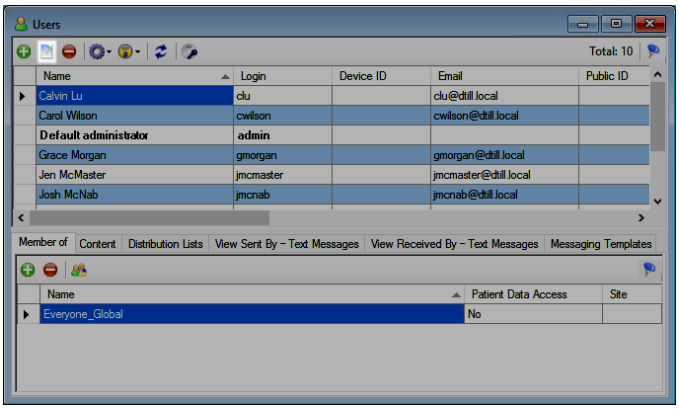
Granting Existing Users Access to the VMP Web Console

You can grant access to any user at any time by editing the user or contact record.

1. Start the VMP Administrator:
   All Programs > VMP Administrator
2. Select **Users & Groups** > **Users**.

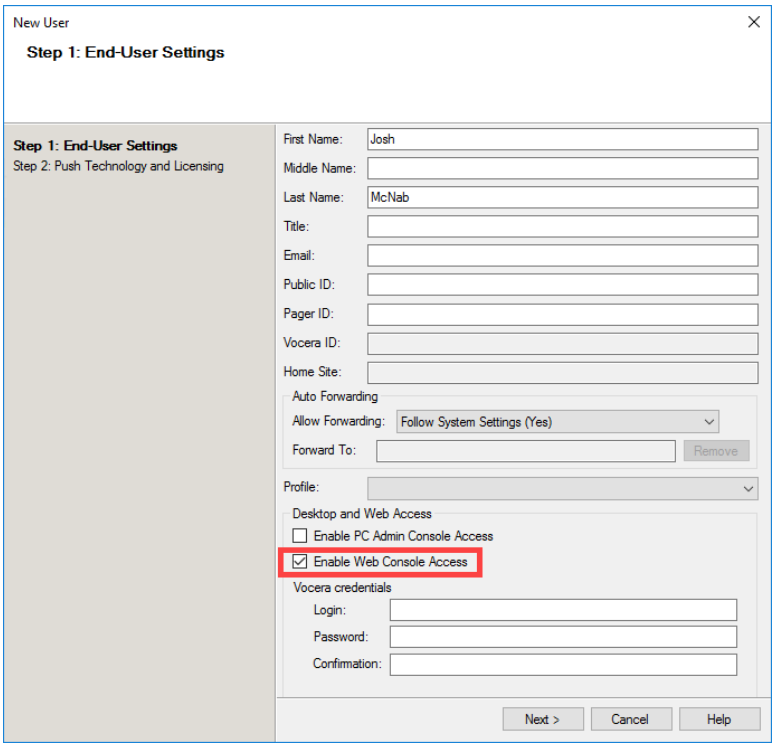


3. Click to highlight the desired user, and click the **Edit** icon.



The End-User Settings window appears.

4. Click to select **Enable Web Console Access**.



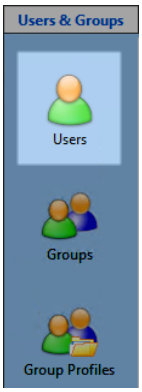
5. Provide the authentication credentials, and click **Next**.
6. Click **Next** and click **Finish** to save the edited account and complete the task.

Note: You can grant VMP Web Console access to multiple users at once when importing users and contacts. See Synchronizing Users and Contacts on page 60 for more details.

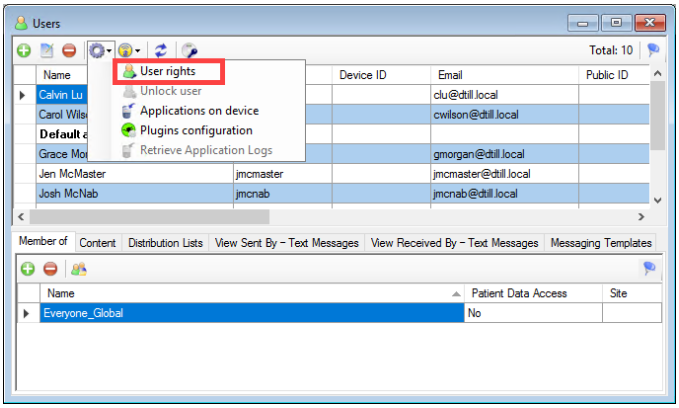
Granting Users Scheduling Permissions

You can grant permissions to enable a user to create and manage schedules in the VMP Web Console. You can also grant permission to a user to view schedules in all on-call distribution lists.

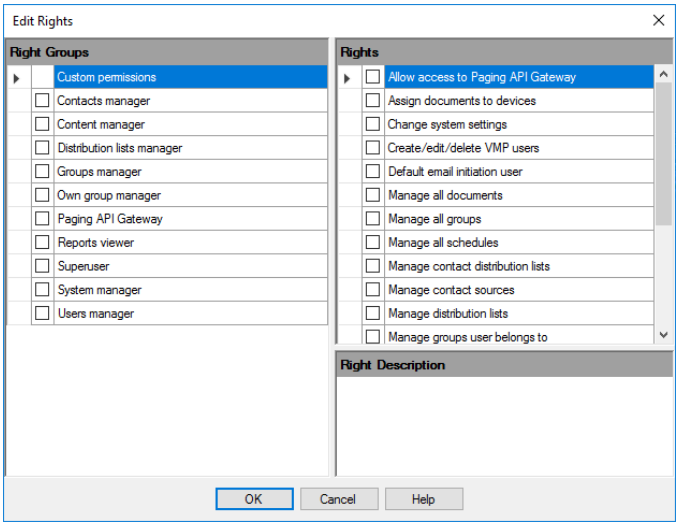
1. Start the VMP Administrator:
   All Programs > VMP Administrator
2. Select **Users & Groups** > **Users**.



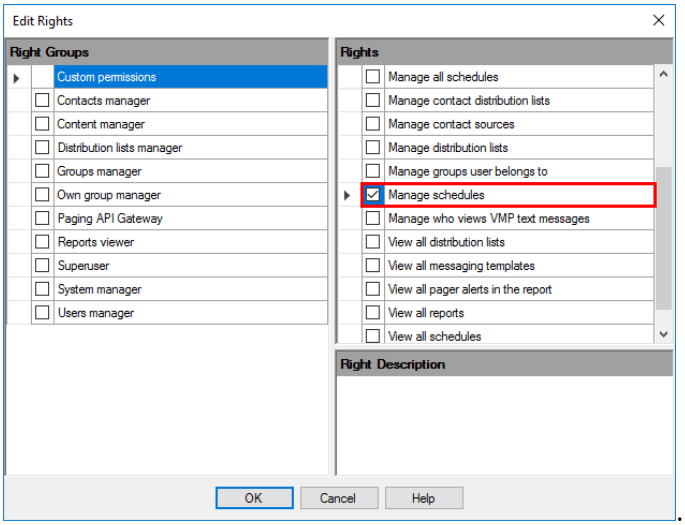
3. In the Users pane, click the name of the user for which user rights are to be edited.
4. In the toolbar, from the **User preferences** dropdown list, select **User rights**.



The Edit Rights dialog box appears.



5. In the **Right Groups** pane, select **Custom permissions**.
6. In the **Edit Rights** dialog box, select the **Manage schedules** checkbox to allow this user to create schedules and to edit the schedules that he or she has created.



Note: If **Manage schedules** has already been selected and cannot be changed, this user has already been granted the right to manage schedules as part of a Right Group. See Editing User Rights on page 123 for more details.

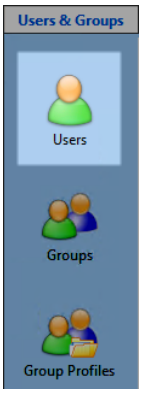
7. In the **Edit Rights** dialog box, select the **Manage all schedules** checkbox to allow this user to edit all schedules that anyone has created.
8. In the **Edit Rights** dialog box, select the **View all schedules** checkbox to allow this user to view all schedules, including those for distribution lists to which the user does not belong.
9. Click **OK** to finish editing user rights.

Note: The default administrator always has permission to access schedules. At least one user must be given permission to manage schedules.

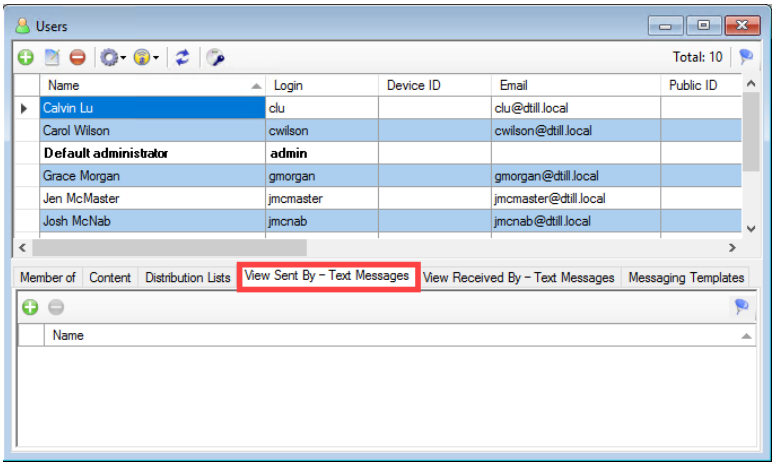
Allowing Users to View Messages

You can give one or more users the ability to view messages sent by or received by other users. This enables access to the Monitor View in the VMP Web Console.

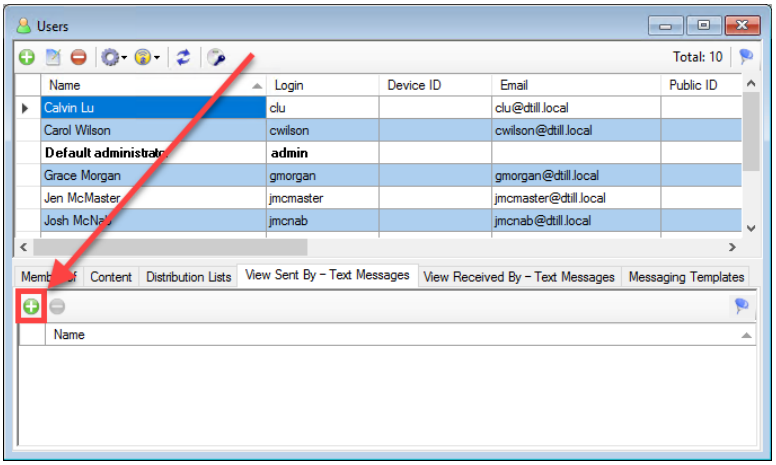
1. Start the VMP Administrator:
   All Programs > VMP Administrator
2. Select **Users & Groups** > **Users**.



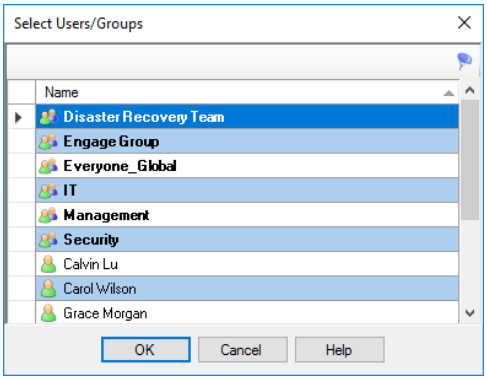
3. Highlight the users to which you want to grant permission to view sent messages, and click the **View Sent By - Text Messages** tab at the bottom of the user list.



4. Click **Add**.



5. Highlight the users and groups whose sent messages can be viewed, and click **OK**.



6. Highlight the users to which you want to grant permission to view received messages, and click the **View Received By - Text Messages** tab at the bottom of the user list.
7. Click **Add**.
8. Highlight the users and groups whose received messages can be viewed, and click **OK**.

On-Call Status and Schedules

You can use the VMP Web Console to specify on-call status and create schedules.

If On-Call Scheduling has been provided with the VMP Server, you can use the **On-Call** view to update your own on-call status or the on-call status of other users.

You can also use the **Schedules** view to create schedules based on On-Call Distribution Lists (DLs). See Creating a Regular or On-Call Distribution List on page 152 for more information about creating On-Call DLs.

Schedules can be copied from existing schedules, can be drafted and remain unpublished, and can be published at any time.

You can view schedules by:

- Day
- Week
- Month
- Shifts

For information on how to grant users the right to change their own status, see Creating a Regular or On-Call Distribution List on page 152.

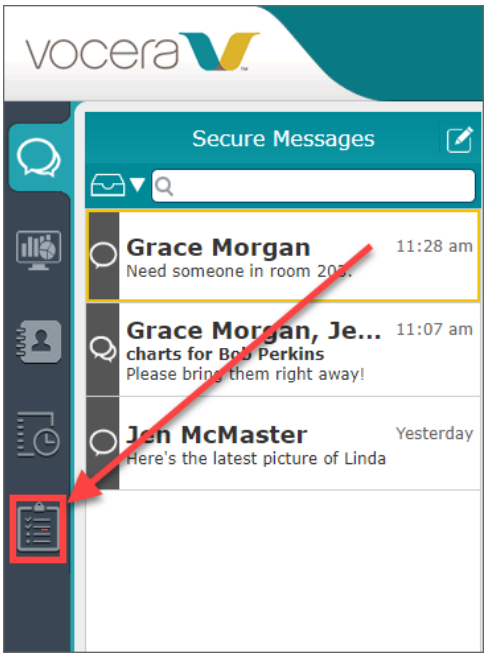
For information on how to grant users the permission to manage schedules, see Granting Users Scheduling Permissions on page 232.

Note: To determine whether On-Call Scheduling has been provided, start the VMP Enterprise Manager, select **Instances**, and click your license key. In the **Modules** pane, check the value of the **On-Call Scheduling** field.

Modifying Your On-Call Status

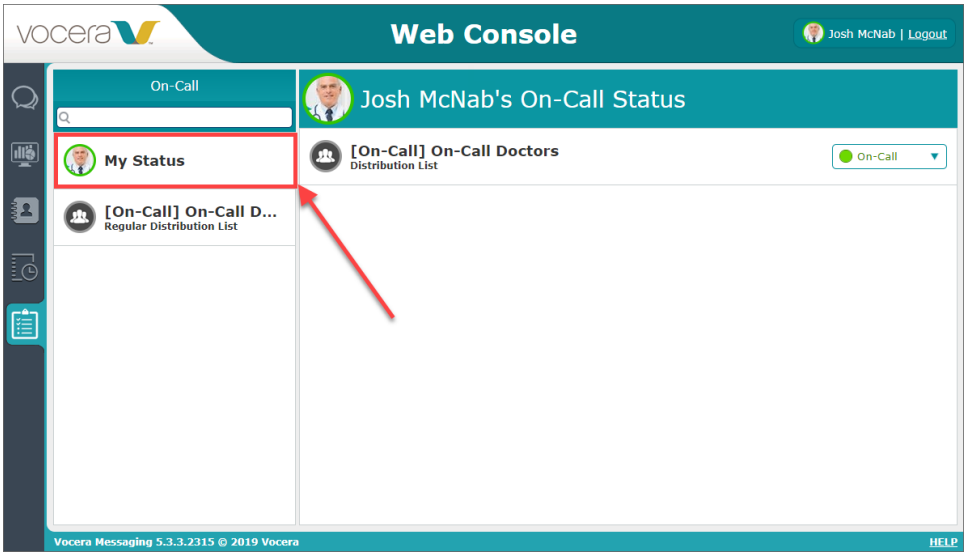
You can change your on-call status in any schedule that includes you.

1. Open the VMP Web Console from your Web browser.
2. Click **On-Call**.

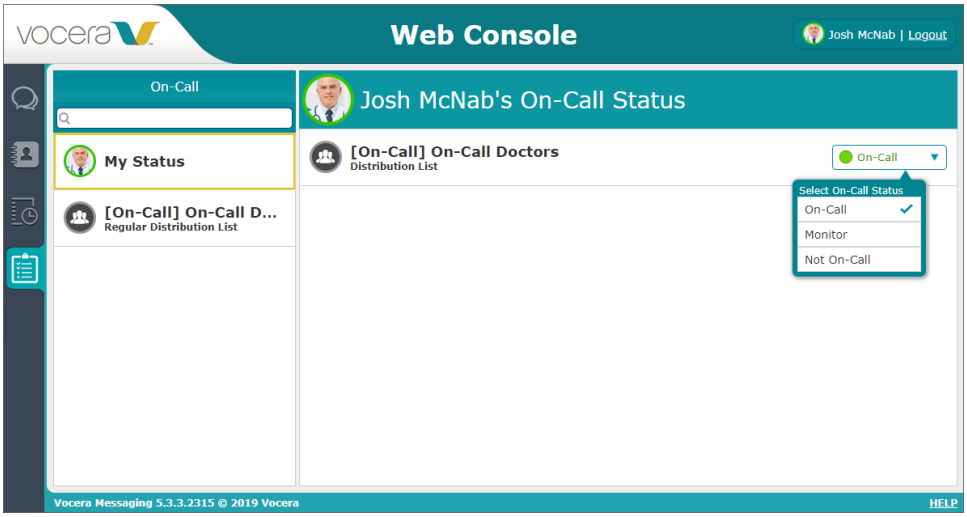


This icon appears only if you have access to On-Call Distribution Lists.

3. In the **On-Call Lists** pane, click **My Status**. A list of the Distribution Lists to which you belong is displayed, along with your on-call status for each.



4. For the Distribution List for which you want to change your on-call status, click your current status. A list of options appears.



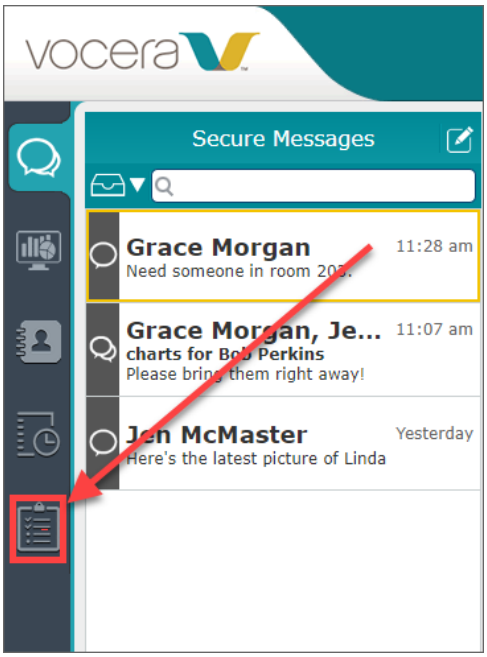
5. Change your status to one of the following:
   - **On-Call** - Receive messages sent to the list.
   - **Monitor** - Receive message sent to the list, but a response is not expected even when a message requires one.
   - **Not On-Call** - Do not receive messages sent to the list.

Tip: Select **Monitor** to receive messages sent to the list without the expectation of a response or action for the message. A shift manager might find it useful to monitor the shift and ensure that messages are handled appropriately.

Modifying Any On-Call Status

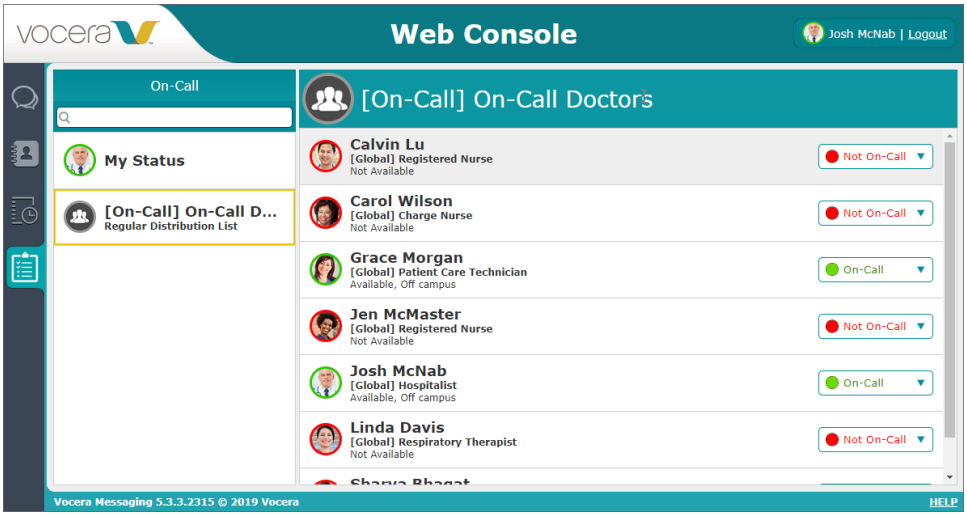
You can modify the on-call status of any user in a Distribution List.

1. Open the VMP Web Console from your Web browser.
2. Click **On-Call**.

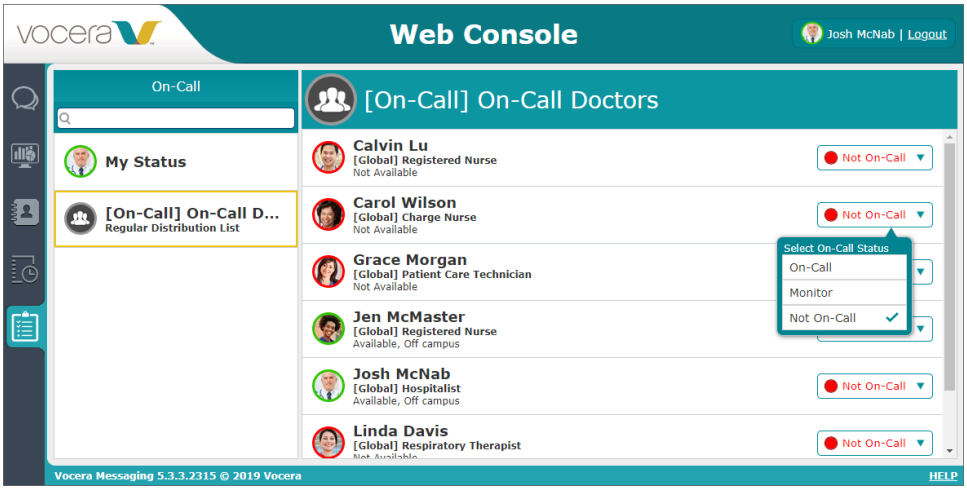


This icon appears only if you have access to On-Call Distribution Lists.

3. In the **On-Call Lists** pane, click the Distribution List that you want to update. A list of users is displayed, along with their on-call status.



4. For the user whose on-call status you want to change, click the user's current status. A list of options appears.



5. Change the user's status to one of the following:
   - **On-Call** - Receive messages sent to the list.
   - **Monitor** - Receive messages sent to the list, but a response is not expected even when a message requires one.
   - **Not On-Call** - Do not receive messages sent to the list.

   Note: At least one user in the Distribution List must have a status of **On-Call** at all times.

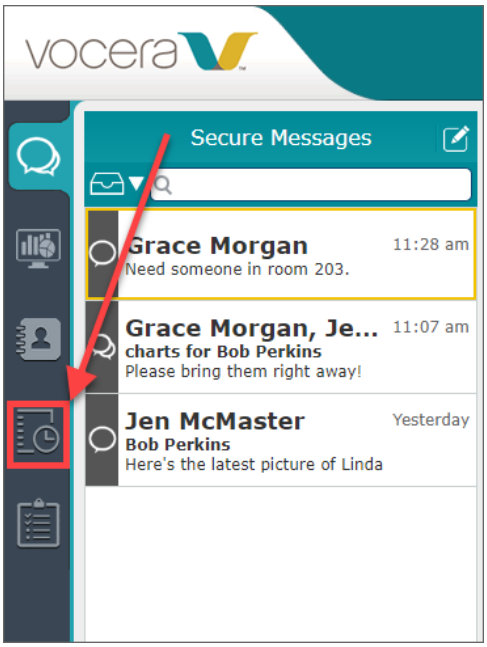
   If you do not want to update a user's on-call status, tap the list name at the top left of the screen to return to the list of users.
6. Repeat the above step until all users have had their on-call status changed as needed.

Creating On-Call Schedules

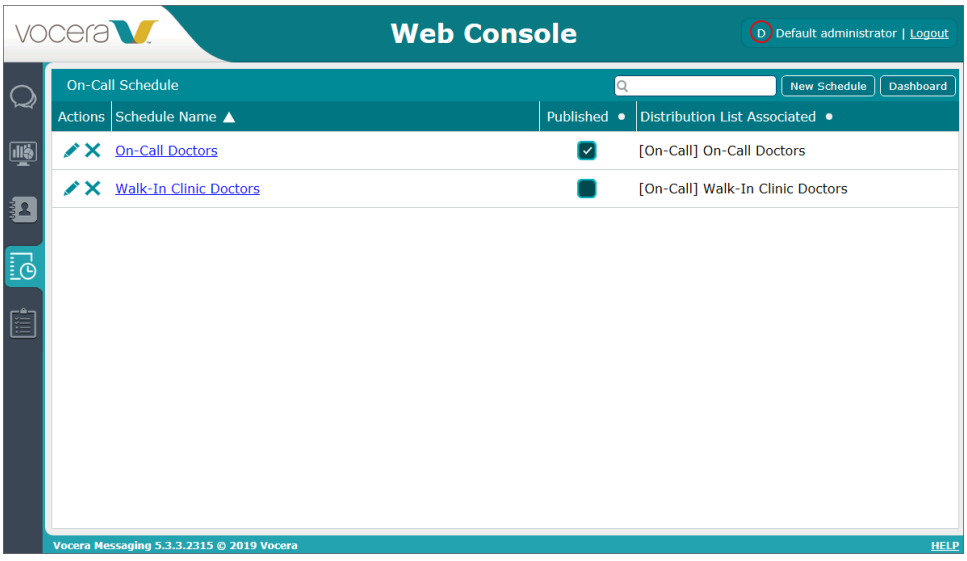
A logged in user can use the VMP Web Console to create an on-call schedule if you have used the VMP Administrator to grant permission to do so.

Note: For details on granting scheduling permissions, see Granting Users Scheduling Permissions on page 232.

1. Open the VMP Web Console in your Web browser.
2. Click **Schedule**.



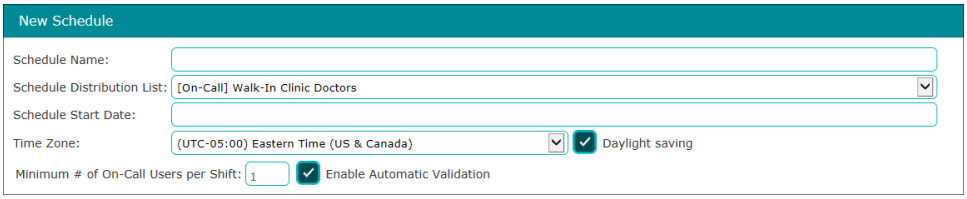
The list of schedules appears.



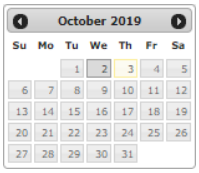
3. Click **New Schedule**.

   Note: If you do not have permission to create on-call schedules, the **New Schedule** button is not available.

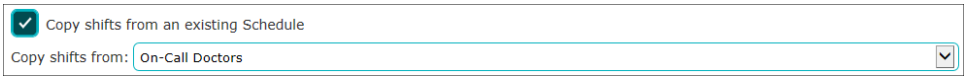
4. Enter a meaningful **Schedule Name**.



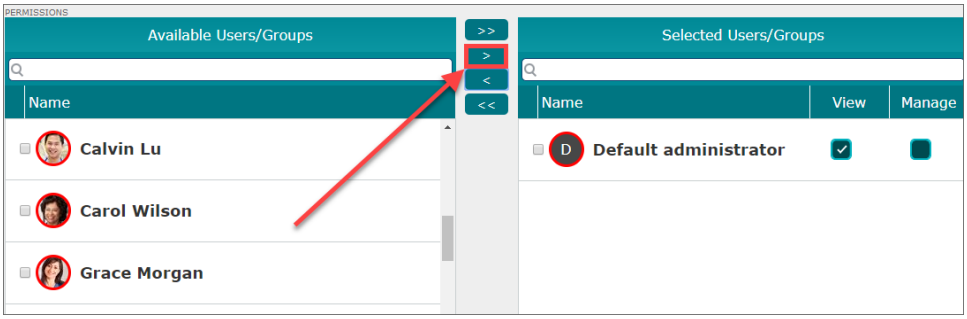
5. Use the **Schedule Distribution List** dropdown list to select the On-Call Distribution List (DL) for the schedule.
6. Click in the **Schedule Start Date** field to open the calendar picker and select the start date.



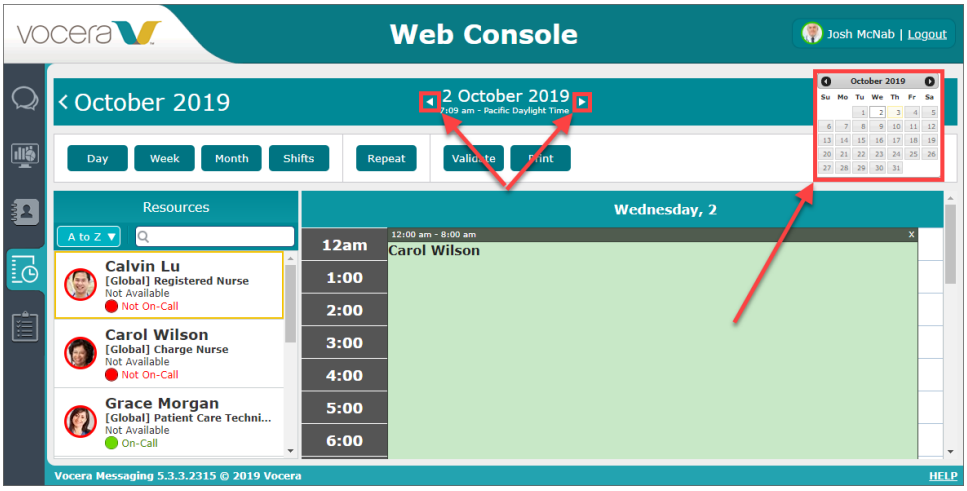
7. If needed, use the **Time Zone** dropdown list to select the appropriate time zone, or select the **Daylight saving** checkbox.
8. In the **Minimum # of On-Call Users per Shift** field, enter the minimum number of users that are to be specified as on-call in each shift.
9. Select the **Enable Automatic Validation** checkbox if the VMP Server is to perform automatic validation of this schedule to ensure that all shifts have enough on-call users.
10. If you want to copy the shifts for the new schedule from an existing schedule, click to activate the **Copy shifts from an existing Schedule** checkbox, and select the schedule from the dropdown list.



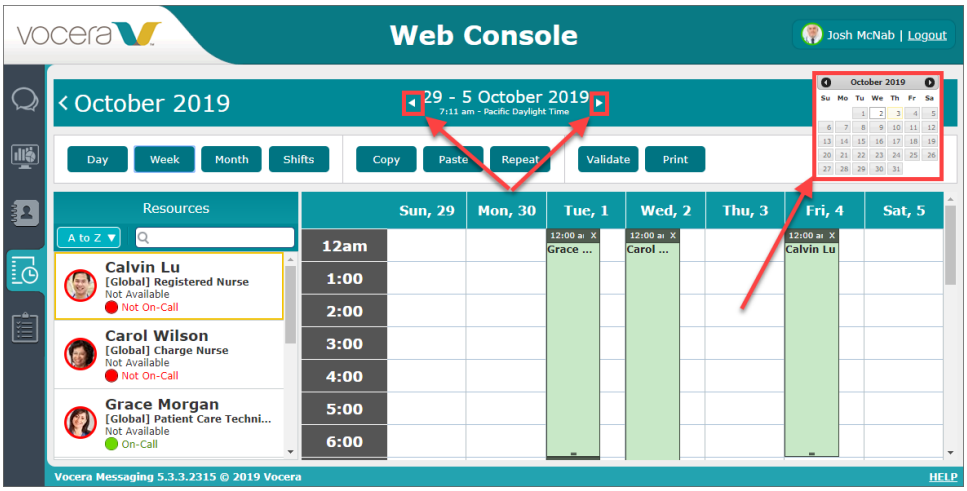
11. Use the Permissions pane to select **Users/Groups** with permission to view or manage the schedule. Click to activate the checkbox next to the desired user or group and click **>** to select.



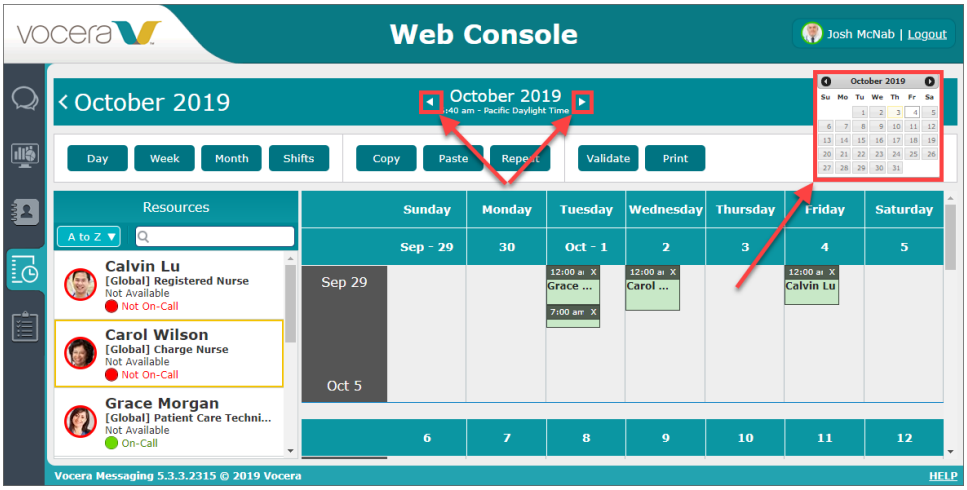
12. Click **OK** to continue.
13. Click the name of the schedule to continue editing it.
14. Select a time period for which to schedule shifts:
    - Select **Day** to schedule shifts for a specific day.
    - Select **Week** to schedule shifts for a specific week.
    - Select **Month** to schedule shifts for a specific month.
15. Use the arrow buttons or the calendar picker to select a date or date range for which to schedule shifts. In the **Day** view, select a date:



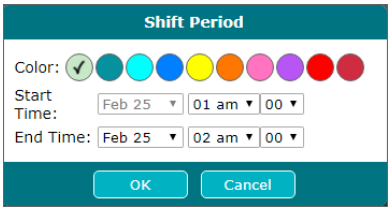
In the **Week** view, select a week:



In the **Month** view, select a month:



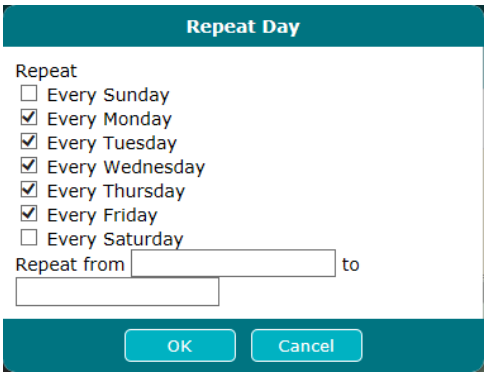
16. To assign a shift to a user:
    a. Drag the user's name to the time slot that is to be the start of the shift. The Shift Period dialog box appears.



b. If you want to use color coding to distinguish between different types of shifts, use the Color option to select the color in which this shift is to be displayed in the schedule. This is useful if you have a number of roles that need to be filled for each shift, as you can use a different color to represent each role.
c. In the **Start Time** dropdown lists, select the date and time of the start of the user's shift.
d. In the **End Time** dropdown lists, select the date and time of the end of the user's shift.
e. Click **OK** to add the shift, or click **Cancel** to cancel.

Tip: To change the times for a user's shift, drag the shift assignment to the desired time slot. Drag the bottom of the shift assignment to increase the number of assigned hours.

17. Repeat the above step to add users to the schedule as appropriate. You can schedule more than one user in any time slot.
18. When you have finished creating the shift assignments, click **Repeat** to copy these assignments to other days of the month:

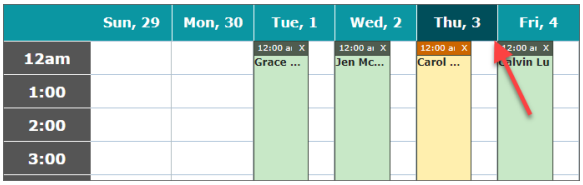


a. Use the checkboxes to specify the days of the week on which these shifts are to be assigned.
b. Click in the **Repeat from** field to specify the start of the date range in which these shifts are to be assigned.
c. Click in the **to** field to specify the end of the date range.
d. Click **OK**.

19. Click **Day**, **Week**, or **Month** to view the shift assignments for a specific day, week, or month. To view the shift assignments for a specific user, click **Shifts** and then click the user's name.

In the **Week** or **Month** view, you can copy shift assignments from one day to another:

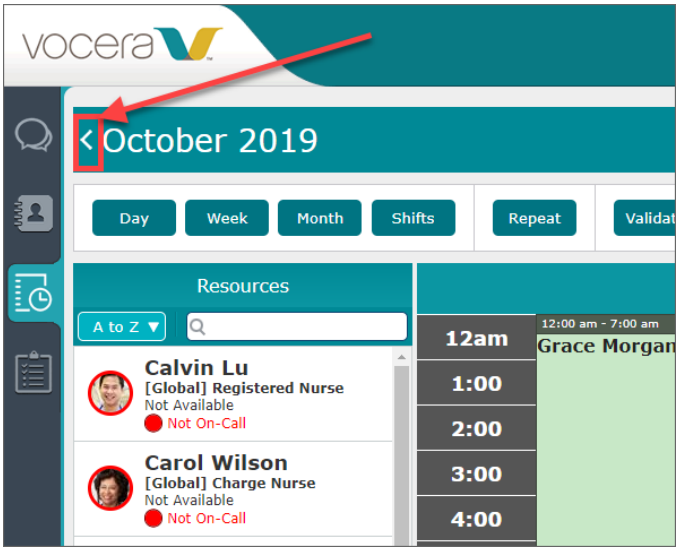
a. Locate the day of the month whose shift assignments you want to copy. Click on the heading for that day of the month to highlight it.



b. Click **Copy**.

c. Locate the day of the month to which you want to copy the shift assignments. click the heading for that day of the month to highlight it.
d. Click **Paste**. The shift assignments are copied to the specified day.

20. To ensure that all shifts have enough on-call users, click **Validate**. This checks all days for which shifts are scheduled, up to the (possibly partial) last day. A pop-up dialog appears that either lists the shifts for which not enough on-call users are defined or indicates that the schedule is valid.
21. When the schedule is complete, click the back arrow to return to the Schedule list.



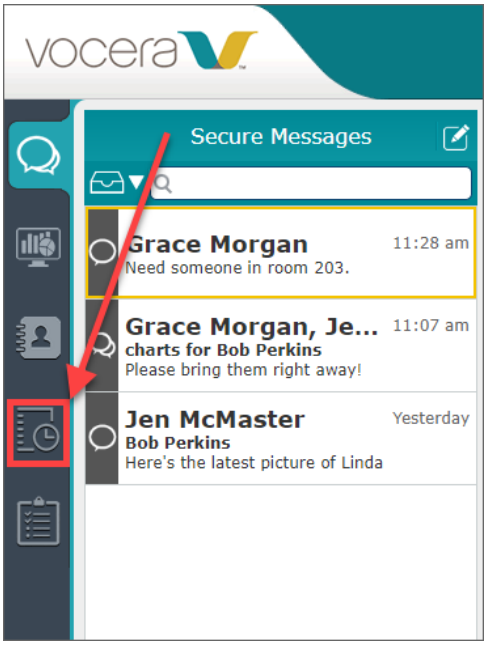
22. Select the **Published** checkbox to publish the schedule.

Viewing On-Call Schedules

A user that is a member of an on-call distribution list can view the on-call schedules that have been created for the list. Other logged-in users can view on-call schedules for a distribution list to which they do not belong if you have granted this permission as administrator.

Note: For details on granting scheduling permissions, see Granting Users Scheduling Permissions on page 232.

1. Open the VMP Web Console in your Web browser.
2. Click **Schedule**.



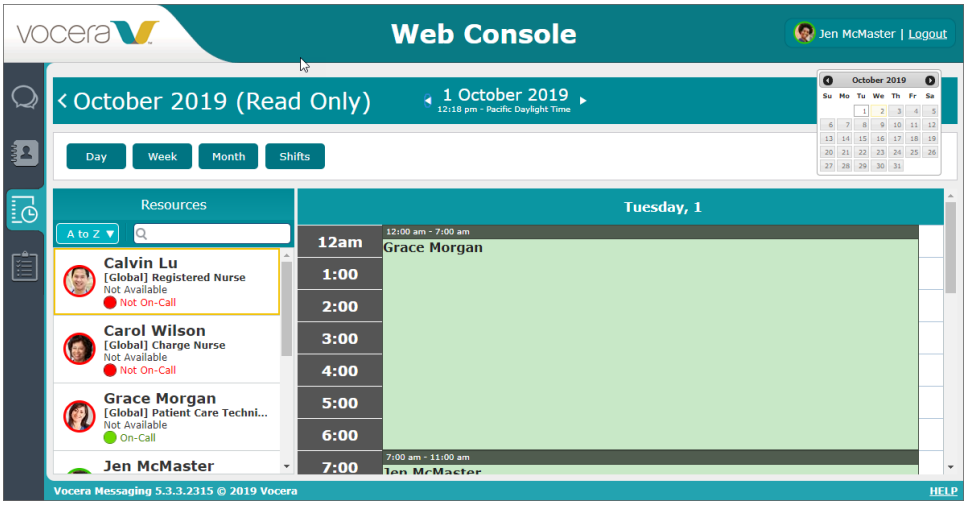
The list of schedules appears.

If no edit icons appear in the Actions column, the schedule is read-only: you can view it, but not edit it.

3. To sort the schedule names, click the triangle icon next to **Schedule Name**.

4. To search for a schedule, type the search text in the field provided.

5. To view a schedule, click its name. The schedule appears.



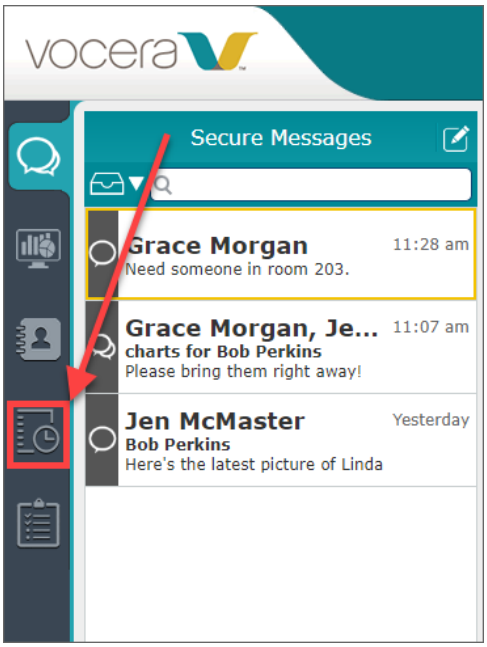
If the schedule is read-only, this information is displayed next to the name of the schedule.

6. Click **Day**, **Week**, or **Month** to view the shift assignments for a specific day, week, or month. To view the shift assignments for a specific user, click **Shifts** and then click the user's name.

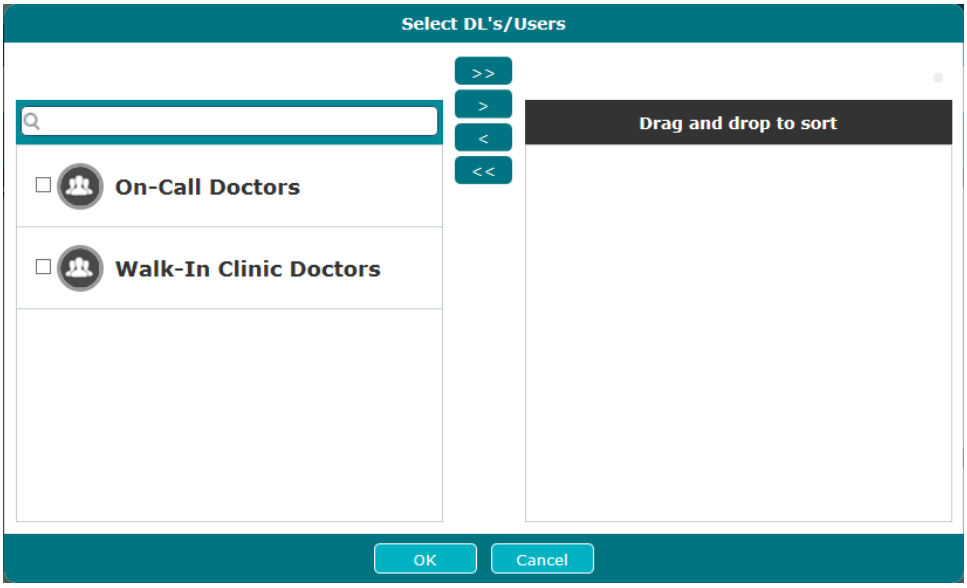
Viewing the Schedule Dashboard

From the VMP Web Console, you can view the Schedule Dashboard, which lists any or all the schedules that you have created and who has been assigned shifts in these schedules for any specific day.

1. Open the VMP Web Console in your Web browser.
2. Click **Schedule**.

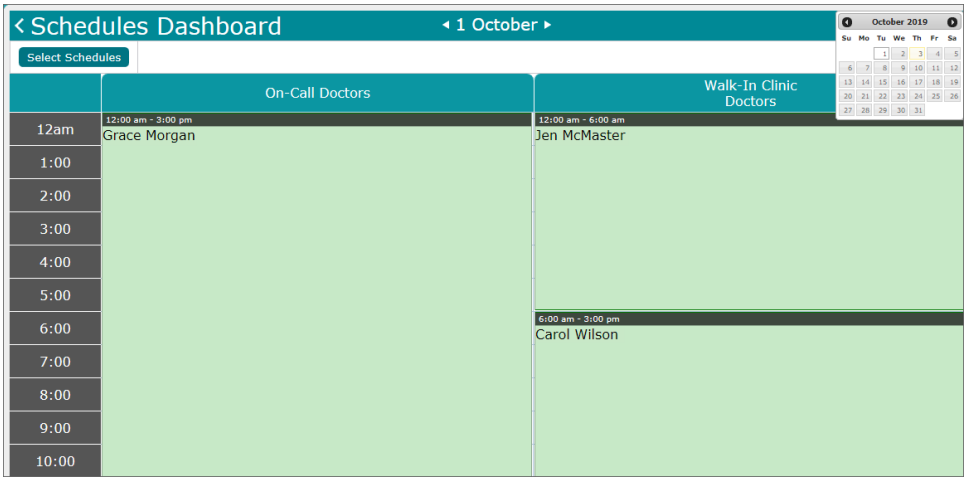


3. Click **Dashboard**.
4. Click **Select Schedules**.
5. To select a schedule, go to the **Available Schedules** pane, select the checkbox next to the schedule, and click **>**. To unselect a schedule, go to the **Selected Schedules** pane, clear the checkbox next to the schedule, and click **<**.

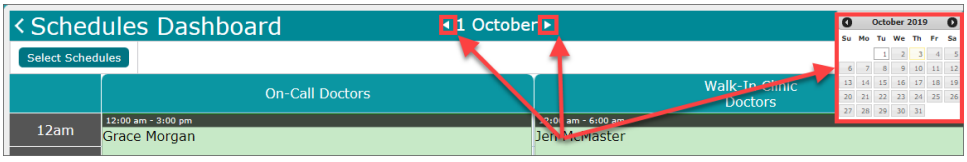


You can select a maximum of 20 schedules.

6. To change the order in which the schedules are to be displayed, drag and drop the schedules in the **Selected Schedules** pane as needed.
7. Click **OK**. The Schedule Dashboard now displays the schedules that you have selected. For each schedule, the shifts assigned for the current date are displayed.



8. To view the shifts for a different date, select the date from the calendar at the top right of the Schedule Dashboard, or use the arrow icons to navigate to the date that you want to display.

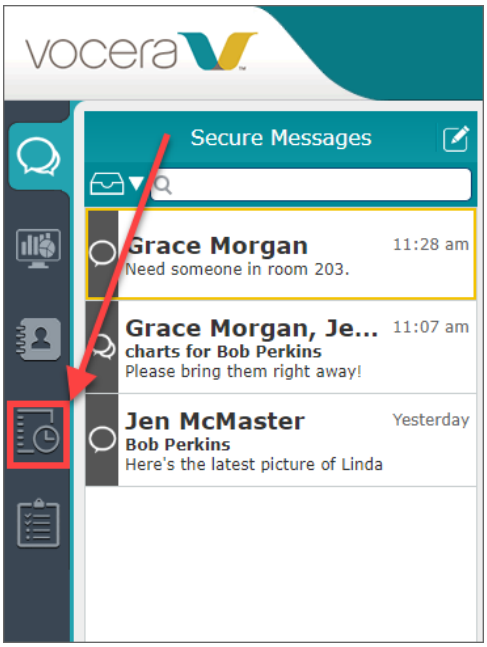


9. Click the Back icon to return to the list of schedules.

Printing a Schedule

You can print a schedule that you are editing. The portion of the schedule that is printed is identical to the portion that you are viewing. For example, if you are viewing the schedule for the current week, the printed schedule is for that week.

1. Open the VMP Web Console in your Web browser.
2. Click **Schedule**.

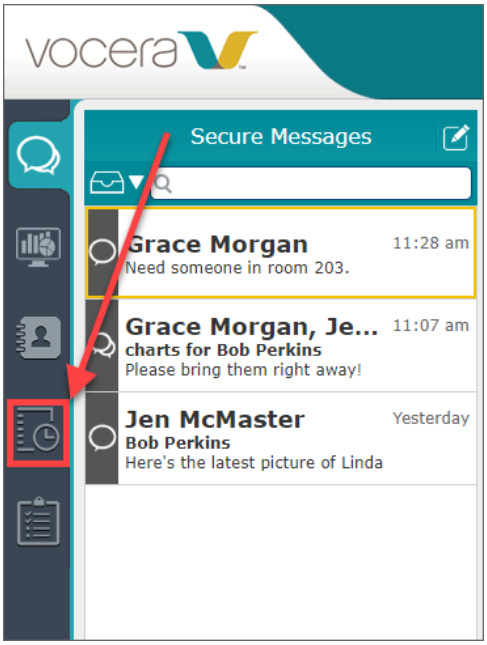


3. Click the name of the schedule to display.
4. Click one of **Day**, **Week**, or **Month** to display the schedule for that time period.
5. Click **Print**. A print window appears that displays the schedule to be printed.
6. In the print window, click **Print**. This displays the Windows print command window. From this window, select the desired printer and options.

Editing a Shift

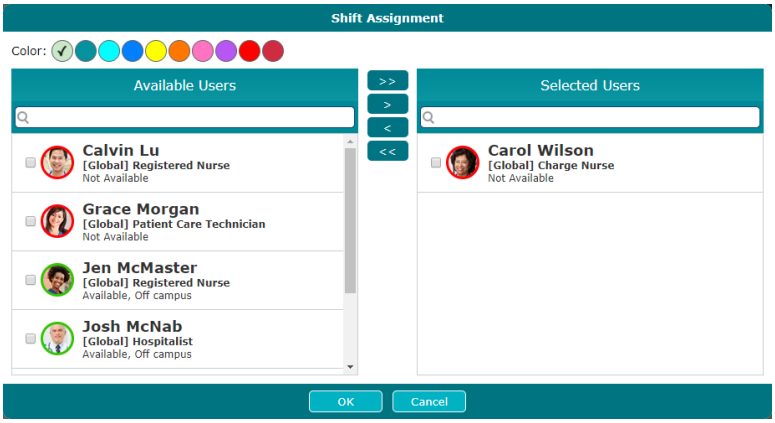
After you have created a schedule, you can edit any shift to add or delete people to it. You can also change the color in which the shift is displayed.

1. Open the VMP Web Console in your Web browser.
2. Click **Schedule**.



The list of schedules appears.

3. Click on a schedule to display it.
4. Double-click the shift that you want to edit. The Shift Assignment dialog box appears.

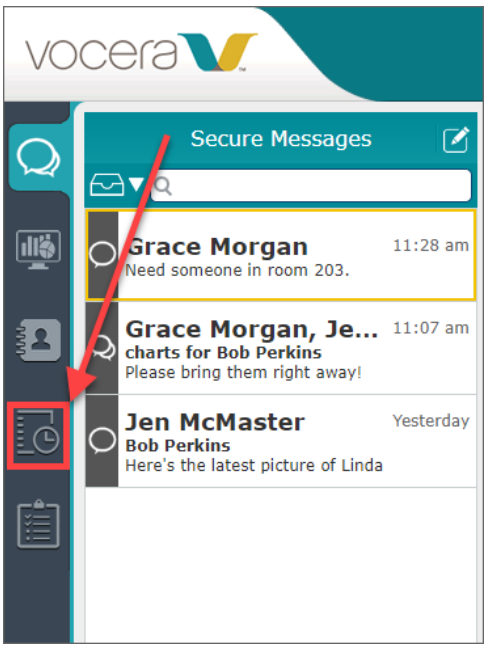


5. To add a person to a shift, in the **Available Users** column, select the checkbox next to the user that you want to add and click **>**.
6. To remove a person from a shift, in the **Selected Users** column, select the checkbox next to the user that you want to delete and click **<**.
7. To change the color in which the shift is displayed in the schedule, select a color from the options available.
8. Click **OK** to save your changes to the shift.

Contacting a Shift Member

After you have created a schedule, you can contact a person who has been assigned to a shift in that schedule.

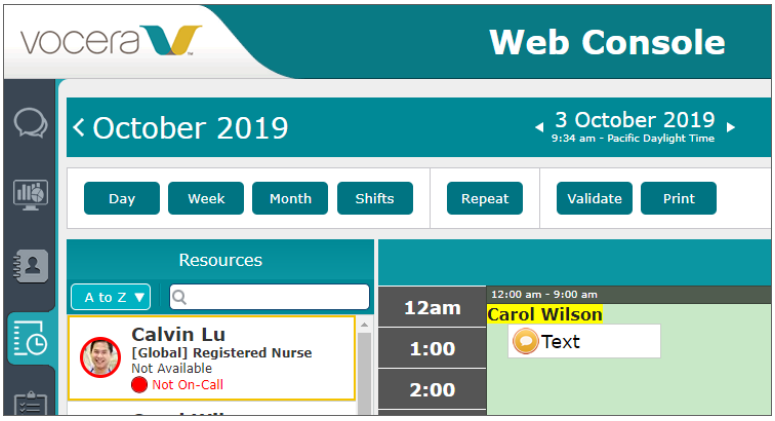
1. Open the VMP Web Console in your Web browser.
2. Click **Schedule**.



The list of schedules appears.

3. Click on a schedule to display it.

4. Click on the name of a person who has a shift in the schedule. A list of contact options appears for that person.



5. Select the contact option that you want to use, and follow the instructions for that option to contact the person.

Web Console Contacts

The Web Console Contacts view shows all contacts the logged in user is allowed to access.

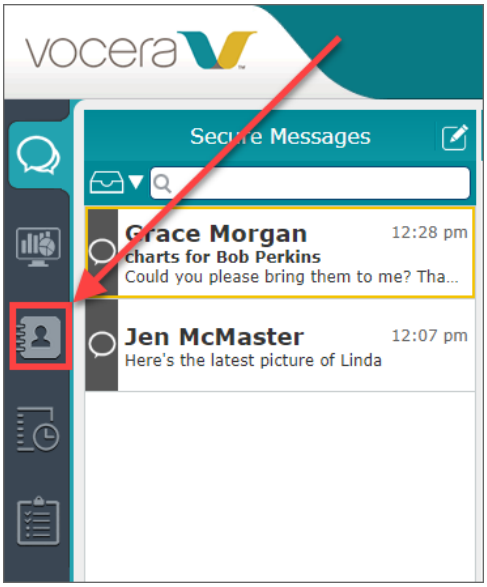
Note: Contact access is defined in the VMP Administrator. For details about defining contacts distribution lists, see Contacts on page 136.

Using Web Console Contacts

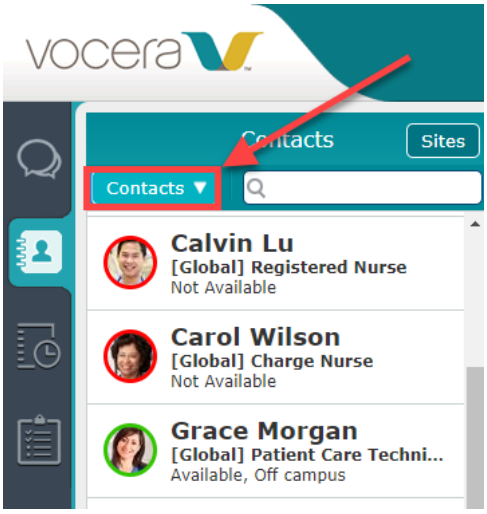
Use the Contacts view to initiate a communication with a contact.

The **Email** option is available only for users, and is available only if the VMP Server administrator has allowed email communication. Only messages can be sent to group contacts.

1. Log on to the VMP Web Console from your Web browser.
2. Click **Contacts** to display the Contacts view.

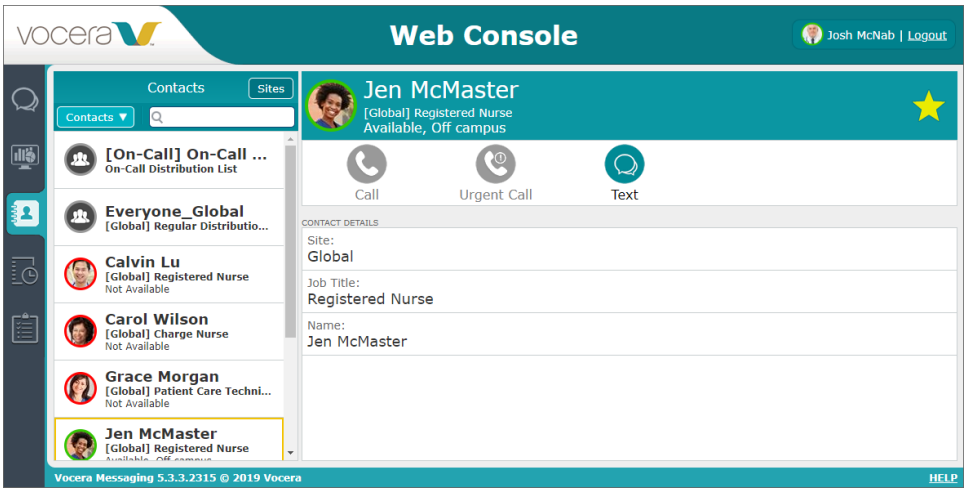


3. Toggle between **Favorites** or **Contacts** at the top of the Contacts pane.

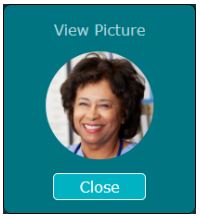


Tip: Start typing the contact name in the search box to quickly find a user, group, or Distribution List. For details on using Favorites, see Using Web Console Favorites on page 252.

Select a contact to display it:



4. If the contact has a photo, click on it to display it in a separate window:



   Click **Close** to close this window.

5. If a contact is a Vocera Voice Group, the group may contain subgroups. Click the subgroup you want to view. When viewing a subgroup, click the Back arrow to return to the parent Voice Group.
6. When you have found the contact, select **Call**, **Urgent Call**, or **Text** to communicate with the contact. If the contact is a Voice Group or Distribution List, you can send a **Broadcast** or **Urgent Broadcast** to all members of the group or Distribution List.

   Note: The **Call**, **Urgent Call**, **Broadcast**, and **Urgent Broadcast** operations are initiated on your client application (VCS client or Vocera badge).

Contact Types and Status

Vocera categorizes contacts as individual users, Voice Groups, and Distribution Lists.

For each user, a colored ring around the user's photo or initials indicates the user's presence and availability:

- Green indicates that the user is available.
- Orange indicates that the user is in Do Not Disturb mode for calls, messages, or both.
- Red indicates that the user is not available.

For all contacts, the site that the contact belongs to is enclosed in square brackets:

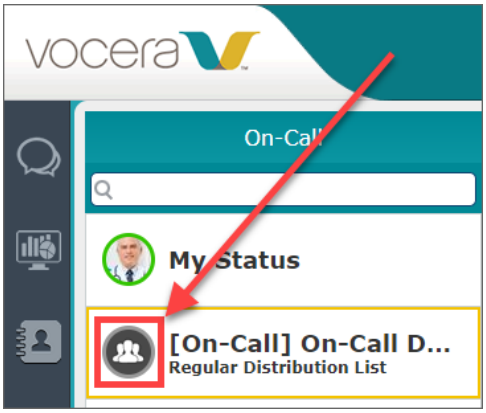
- If Vocera Secure Texting users are included in the list of contacts, the site for each Vocera Secure Texting user is the organization to which that user belongs.
- If you have not created any sites, all contacts other than Vocera Secure Texting users have the site name **[Global]**.

For each user, details on the user's current status are provided below the contact's name, site, and title. These include the following:

- The contact's availability status, corresponding to the colored ring around the user's photo or initials. This is one of **Available**, **Do Not Disturb**, or **Not Available**. For **Do Not Disturb**, the current status indicates whether calls, messages, or both or are not being let through.
- **Messages Forwarding** indicates that messages to this contact are being forwarded to another contact.
- **Off Campus** indicates that the contact is available but is not on the corporate network. An example of this is when the contact is logged into the VMP Web Console.

Vocera Secure Texting users are listed as **Available** and **Off Campus**.

Voice Groups and Distribution Lists are indicated with a multi-person icon.

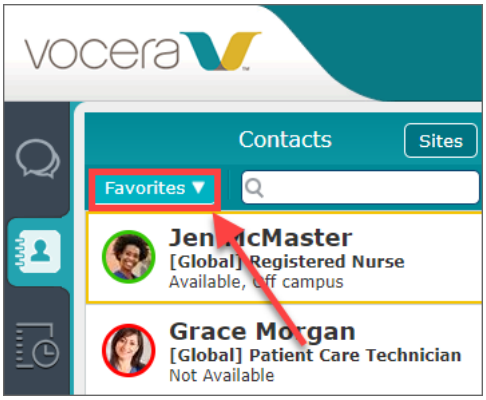


For each user in a Voice Group or a Distribution List, a photo of the user and the availability status are displayed. If the user has no photo, the user's initials are displayed.

Using Web Console Favorites

In the VMP Web Console, you can specify a list of Favorite contacts that you communicate with frequently.

To display the list of Favorites, select **Favorites** at the top of the Contacts pane.

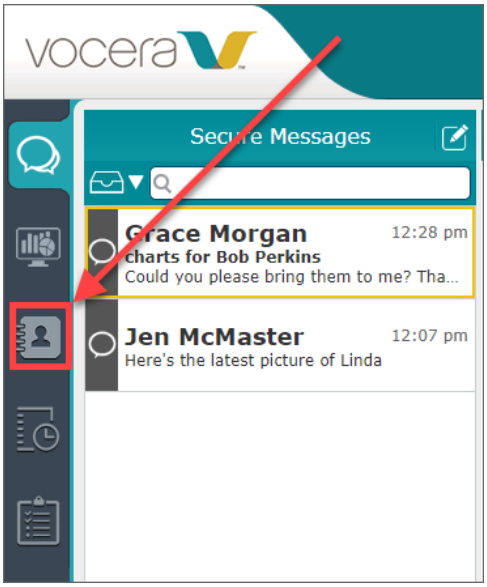


Adding a Favorite

You can add a contact to the list of Favorites.

Note: If a Favorite is a Vocera user, the contact status for the user is displayed in the Favorites list. This lets you quickly determine if the Favorite is logged in to the Vocera system. See Contact Types and Status on page 252 for more information on contact status.

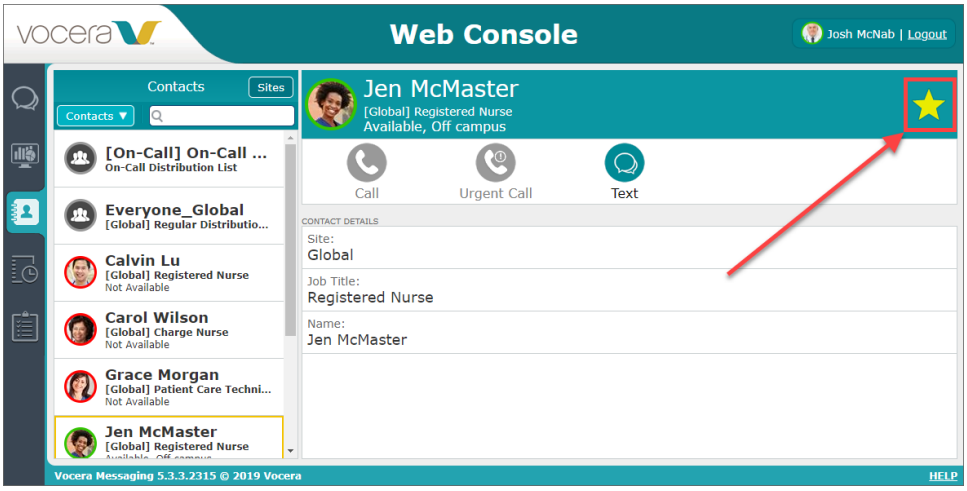
1. Click **Contacts** to display the Contacts view.



2. Select **Contacts** at the top of the Contacts pane to display all contacts.
3. Select a contact from the displayed list.

Tip: Start typing the contact name in the search box to quickly find a user or group.

4. Click the star icon located at the top right of the contact. This changes the star to yellow, which marks this contact as a Favorite. The VMP Web Console adds the contact to the Favorites list.



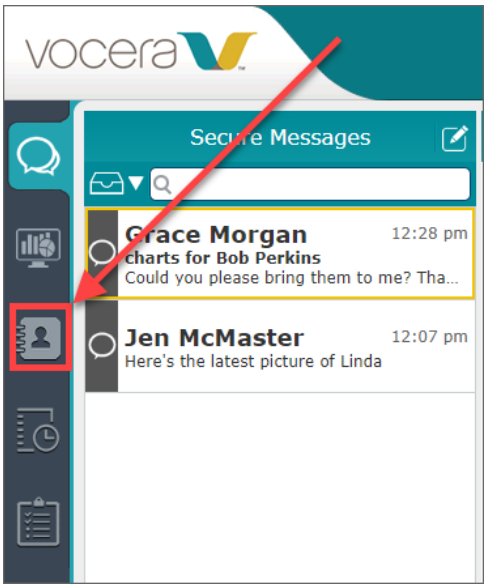
Displaying Contacts in Sites

If contacts have been organized into sites, you can specify which sites are to be displayed in the Contacts list.

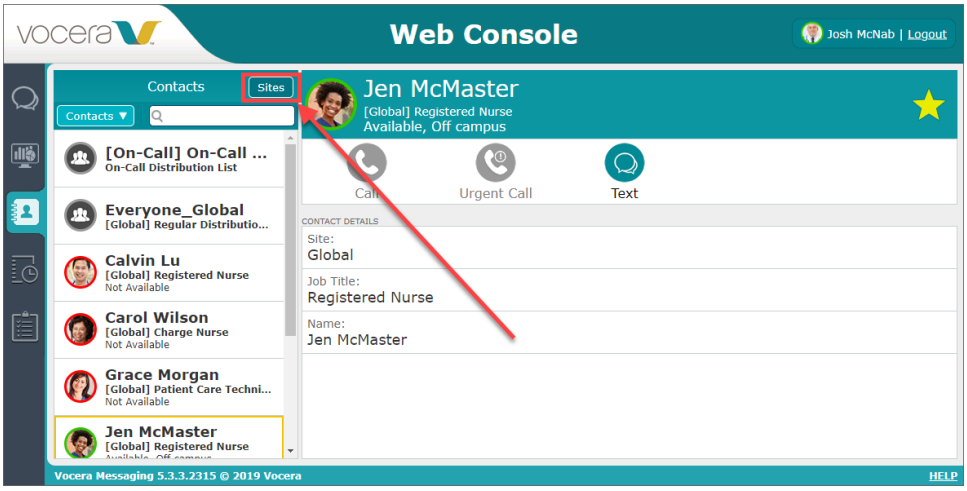
Note: Sites are available if they have been created on the Vocera Voice Server with which the VMP Server has been integrated. See Vocera Voice Server Integration on page 31 for more information on integrating with the Vocera Voice Server.

The sites that you choose to display remain selected if you log out of the VMP Web Console and log back in.

1. Click **Contacts** to display the Contacts view.



2. Click **Sites**.



3. In the list of sites that appears, select or clear the sites to display.

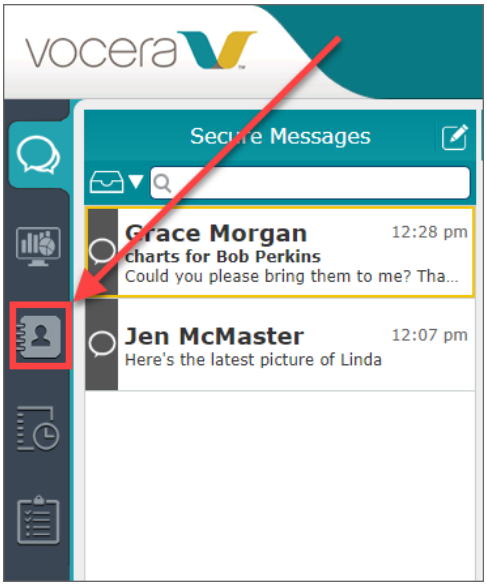
When you have specified the sites that you want to display, and you are typing a text string into the contacts search field, the following matches appear:

- Any contacts (users or groups) whose name matches the text string, and who belong to one of the sites specified here.
- Any favorites whose name matches the text string, whether they belong to one of the sites specified here or not. Favorites are always available to receive messages.

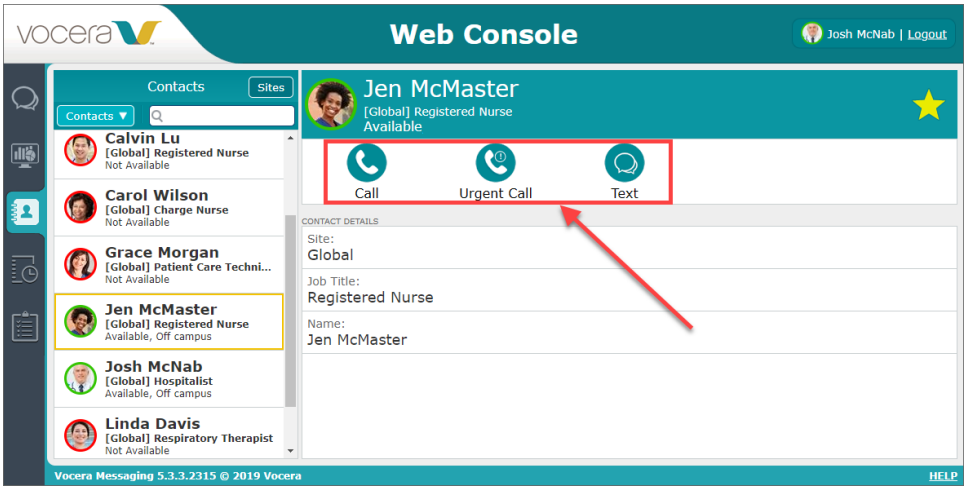
Calling a Contact

If you are logged in to the Vocera Collaboration Suite, you can call a contact from the VMP Web Console.

1. Log on to the VMP Web Console from your Web browser.
2. Click **Contacts** to display the Contacts view.



3. Click the name of the contact to which you want to place a Call. The screen for this contact displays the ways that you can communicate with the contact.

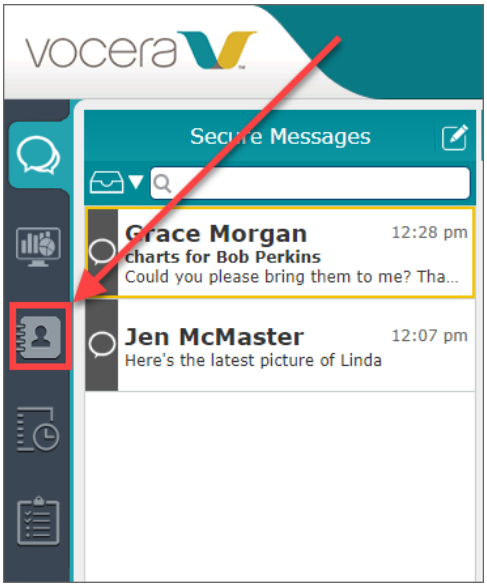


4. Click **Call** to place a call to the contact, or click **Urgent Call** to place an urgent call to the contact. This call behaves exactly as if you had originated it from the device.

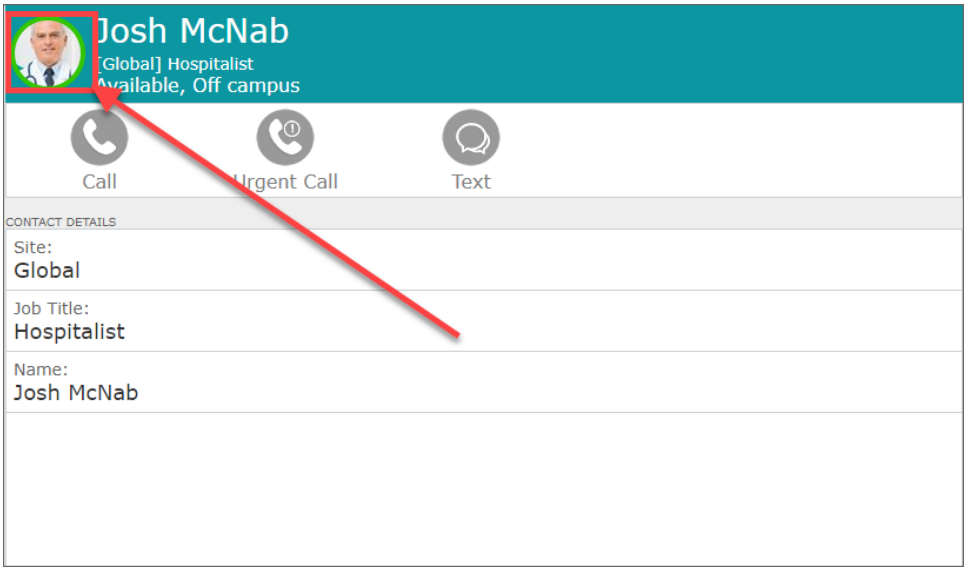
Changing Your Profile Picture

When you are logged in to the VMP Web Console, you can change your profile picture.

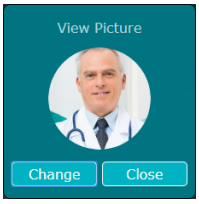
1. Log on to the VMP Web Console from your Web browser.
2. Click **Contacts** to display the Contacts view.



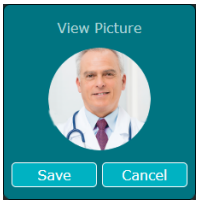
3. Click your name to display your contact page.
4. Click on your profile picture at the top left of the contact page.



5. In the View Picture dialog box that appears, click **Change**.



6. In the file browser window that appears, select the profile picture that you want to use and click **Open**.
7. When the View Picture dialog box reappears, click **Save** to update your profile picture.



System Options

System options control the behavior of the Vocera Messaging Platform.

You can access some options from the VMP Administrator, and others from the VMP Enterprise Manager.

VMP Administrator Configuration Options

You can set configuration options to control the behavior of the VMP Administrator.

These options are organized into categories, and some categories are divided into subcategories. To access these options, start the VMP Administrator and select **Configuration > System Options**.

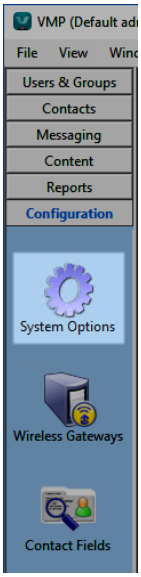


Table 24: System and Networking

Option	Description
Networking	
Vocera Messaging Server Public Host Name / IP	The IP address or fully-qualified domain name (friendly DNS name) that is used to reach VMP when sending email registrations to end-users.
Vocera Messaging Server Internal Host Name / IP	The IP address or fully-qualified domain name (friendly DNS name) that V5000 devices use to reach VMP and the VMP Administrator uses to retrieve the list of users from a Vocera Voice Server group.
Email	
Enable Outgoing Email	Allow outbound email messages to be sent from the VMP Server through SMTP. These include administrative messages and message responses.

Option	Description
Display Name	The name under which outgoing email is to be sent.
Email Address	The email address that outgoing email is to be sent from.
SMTP Server	The SMTP server through which outgoing mail is to be sent.
SMTP Port	The port that the SMTP server uses. The default is 25.
SMTP Authentication	Whether SMTP authentication is required with the SMTP relay host.
Security	
Device validation certificate	The approved certificate for device validation. Devices must have installed the corresponding device certificate to be able to access this server.
Enable smartphone authentication by certificate	Whether to enable device authentication using a certificate. This option is currently not in use.
Enforce SSL for smartphone connections	Enforce that all communications between the VMP Server and VMP smartphone clients are to use SSL. This is required when using iOS clients. Before you can set this option, you must supply an SSL certificate using the **NetworkSecureCertificate** option in the VMP Enterprise Manager.
Enforce server certificate validation on smartphone	Whether the smartphone is to validate the server certificate against the local operating system's keystore. If this option is set to **No**, smartphone clients use an HTTPS connection with VMP regardless of whether the SSL certificate on the VMP Server is trusted or self-signed. If this option is set to **Yes**, the certificate must be trusted to allow an HTTPS connection.
Enforce App PIN	Enforce that access to the client application must require PIN entry. Valid settings are **OFF**, **ON**, and **Shared** (PIN required for shared devices only). This option is set to either **Shared** or **OFF** in the Security Options dialog box during installation - see Installing the VMP Server on page 13 for more details. You can override this setting for any individual user. For more information, see Editing User Information on page 122. If you change the **Enforce App PIN** setting to **ON**, device users will not be able to set a PIN if they registered by email or using a registration key and do not have either a valid VMP Server username and password or a valid Active Directory username and password.
Enforce Smartbadge PIN	Enforce that access to the Vocera Smartbadge must require PIN entry. Valid settings are **Yes** and **No**.
PIN Timeout	If **Enforce App PIN** or **Enforce Smartbadge PIN**has been activated, set the number of seconds that the device can remain idle before the PIN must be re-entered.
Enforce device password for all smartphones	Indicate that the client app is not enabled to run on a device unless a password has been specified for the device. This ensures that sensitive information is kept safe if the device is lost or stolen. Valid settings are **OFF**, **ON**, and **Shared** (device password required for shared devices only).
Minimum Password Length	Enter the number of characters the user must include in the device password. For iPhone users, the device **Passcode Lock** settings must be changed if you want a password longer than 4 numerical digits..
Require at least one letter	Select **Yes** to ensure that the user adds at least one letter to the device password. For iPhone users, you cannot insist on a password with at least one letter. For iPhone users, the device **Passcode Lock** settings must be changed if you want a password to include a letter.
Auto Lock	Set the duration of inactivity, in minutes and seconds, until the device auto-locks. In the following example, the device is set to auto-lock after five minutes and thirty seconds: `5m30`
Enforce Change Password	Select **Yes** to ensure the user changes the device password at a regular frequency.

Option	Description
Password Change frequency	If **Enforce change password** is set to **Yes**, enter the interval, in days, at which the user is required to change the device password.
Unique passwords before reuse permitted	The VMP Server stores a list of the most recently used passwords for a device. A password cannot be reused if it is one of the N most recent passwords used, where N is the value of this option.
Maximum failed attempts before device wipe	Enter the number of times a password can be incorrectly entered before all system sensitive information is wiped from the device.
Accept client log uploads	Indicates whether log files can be uploaded to the server from Vocera Collaboration Suite clients.
User Inactivity	
Time of inactivity for automatic logout	The number of minutes that the browser and VMP can be inactive before automatic logout. This does not affect clients or the VMP Enterprise Manager.
Days of inactivity before user is placed into Warning state	The number of days before a Warning icon is placed on a user account.
Days of inactivity before user is placed into Locked state	The number of days before an inactive user is locked. Locked users cannot access the VMP Administrator. See Unlocking a User on page 126 for more details.
Time of inactivity for auto logout of smartphone client	The number of minutes that a client can be inactive before automatic logout. Users in Dual Mode are logged out of the smartphone client but not the badge.
Device inactivity timeout interval	If a user is offline for more than the number of minutes specified in this option, the user's status is set to "not available". The maximum value for this option is 1440 minutes (24 hours).
VCS logout in dual mode also causes a badge logout	Whether a user in Dual Mode who logs out of the VCS app should also be automatically logged out of the badge.

Table 25: Notifications

Option	Description
Enforce Notification Settings	Whether VCS clients must be forced to accept the vibration and ringtone settings specified in the VMP Administrator. Valid values are: • **ON** - all clients must be forced to accept system settings • **OFF** - any client can configure vibration and ringtone settings • **Shared** - all shared devices must be forced to accept system settings
Secure Messages Priority: Normal	The vibration pattern and ringtone for Normal priority secure messages. Click **Configure** to display the notification specification dialog box.
Secure Messages Priority: High	The vibration pattern and ringtone for High priority secure messages. Click **Configure** to display the notification specification dialog box.
Secure Messages Priority: Urgent	The vibration pattern and ringtone for Urgent priority secure messages. Click **Configure** to display the notification specification dialog box.
Calls	The vibration pattern and ringtone for calls. Click **Configure** to display the notification specification dialog box.
Notify Me	The vibration pattern and ringtone for notifications that are generated when the **Notify Me** checkbox is selected for messages that require a response, and a response is not provided in the specified time. Click **Configure** to display the notification specification dialog box.
Other	The vibration pattern and ringtone for notifications for changes in On-Call status, new or updated Content, missed calls, and voicemails. Click **Configure** to display the notification specification dialog box.

For a more detailed description of notification options, see Specifying Notification Options on page 80.

Table 26: Contacts

Option	Description
Allow User to upload personal image	Whether a user can upload a photo to their Contact entry from a client application.
Allow Email Communication	This setting controls whether client applications can use email as a mode of communication. If this setting is enabled, the client uses the device's default email editor.

Table 27: Secure Messaging

Option	Description
Enable Remind Me Later Option	Enables the Remind Me Later option on the Vocera Collaboration Suite app. When this option is enabled, if a Vocera Collaboration Suite user has not viewed a message, a reminder notification is sent after a specified number of minutes has elapsed. The Remind Me Later option sends a reminder for Urgent and High priority messages. Optionally, VCS can also be configured to send a reminder for Normal priority messages.
Default Subject Line for 3rd Party Integrations	The subject line to use when messages are sent from a third-party WCTP source.
Response waiting interval	The number of seconds to wait for a user response when an SNPP or WTCP message is sent.
Retain Message History in Database	The number of weeks that messages are kept in the Microsoft SQL database.
Deliver message content to SMS users	Determines whether the content of an Alert is delivered to an SMS user. The default is **No**, since SMS channels are non-secure.
Allow Urgent messages	Whether messages can be marked as Urgent.
Include attached images in the report	Whether to include attached images when generating a report
Number of days of inactivity to archive a conversation	The number of days that a conversation is to be inactive before the conversation is archived.
Allow users to forward messages	Whether users can forward messages to another user. Forwarding can also be turned on or off for any specific user.
Forward clinical system messages	Whether to employ user-specified message forwarding settings for messages from clinical systems, including VMI and CWE.  **Note:** Vocera recommends that you disable this setting, as the behavior is inconsistent when clinical system messages are forwarded to badges.
Allow attaching pictures from a file	If enabled, allow VMP Web Console users and users on mobile clients to attach pictures to secure messages by selecting an existing file. Setting this option to **No** disables access to the photo gallery on mobile devices.
Allow attaching pictures from the camera	If enabled, allows users on mobile clients to use the device camera to take pictures to attach to secure messages.

Table 28: Override Notifications

Option	Description
Enable Do Not Disturb Mode on Smartphone Clients	Whether Do Not Disturb is to be allowed in the client application.

Table 29: Content

Option	Description
Minimum document update frequency	For the Content module, the minimum number of minutes between updates of documents in shared folders.
Allow Content sync with Mapped Network Drives	Whether to support synchronization of Content module documents on mapped network drives (not recommended).

Table 30: Web Console

Option	Description
Disclaimer for Web Logon	
Enabled	Whether a disclaimer popup appears when users log in to the VMP Web Console.
Organization Name	The organization name to appear in the disclaimer popup.
Text	The content of the disclaimer popup.
Web Console Date Format	The format in which dates are displayed in the VMP Web Console.
Enabled	Whether HTML, CSS, and JavaScript static files are sent to the browser in compressed format.

Table 31: Integrations

Option	Description
Vocera Voice  **Important:** If any of these values are changed, you must manually restart the VMP Server by restarting the Vocera Data Exchange Service. See Starting and Stopping the VMP Server on page 26 for details on how to do this.	
Enabled	Whether the VMP Server is to interact with a Vocera Voice Server.
IP Addresses	The IP address of the Vocera Voice Server, or comma-separated addresses if the Vocera Voice Server is operating in a clustered environment. This option can be set in the Voice Server dialog box during installation. See Installing the VMP Server on page 13 for more details.
Port	The Vocera Voice Server port number.
Use HTTPS	Whether to use HTTPS for secure communication with the Vocera Voice Server.
VCG IP Addresses	The Vocera Client Gateway IP address, or comma-separated addresses if the Vocera Client Gateway is operating in a clustered environment. These addresses are configured when the Vocera Voice Server is installed and has been synchronized with the VMP Server, and cannot be edited here.
VMI Message Expiry	The number of minutes before VMI (Vocera Messaging Interface) messages sent from the Vocera Voice Server expire.
Enable Enhanced Voice Server NIO Tomcat Feature	Whether to enable support for scaling changes included in the Vocera Voice Server. Ensure that this feature is enabled in the Vocera Voice Server before enabling it in the VMP Server.
Retain call and voice mail history in the database	The number of days to retain calls and voice mail messages from client devices in the server database.
Use VCG for VCS client connection management	When enabled, the VCS client will use the Vocera Client Gateway server for enhanced connection management. This setting is recommended to improve resource management on the clients. Requires Vocera Client Gateway version 5.2.2 or later and VCS version 3.2 or later. See the Vocera Voice Server Telephony Configuration Guide for details on the VCG properties that configure the VCS and VMP interface.

Option	Description
Send user-generated messages to Vocera badges	Specifies whether messages generated from Vocera Collaboration Suite and the VMP Web Console are to be displayed on Vocera badges. All other types of messages are always sent to Vocera badges.
Consider Call Forwarding in User Presence Status	Specifies whether a user is to be considered available if he or she has configured call forwarding on the Vocera Voice Server, even if he or she is not logged into VMP.
Prevent voice enunciation on user-generated messages	Specifies whether to disallow voice enunciation on badges of messages sent from Vocera Collaboration Suite and the VMP Web Console regardless of the priority-based enunciation rules configured on the Vocera Voice Server. This can prevent personal health information being heard. This feature requires Vocera Voice Server 5.3.2 or later.
Allow Accept/Decline for Urgent Calls	Specifies whether to disallow auto-answering of urgent calls. When enabled, the user must accept or decline the call.
Show integration messages on device lock screen	Whether to allow messages sent from systems integrated with VMP to appear on the lock screens of client devices. **Important:** If a message contains confidential patient health information, displaying the message on the lock screen may violate privacy regulations.
Patient Context	
Enabled	Set to **Yes** to enable integration with the Engage Patient Context Adapter. See Engage Integration on page 39 for more details.
Vocera Secure Texting App - Message Exchange	
Enabled	Set to **Yes** to enable messages and images to be exchanged between Vocera Collaboration Suite users and Vocera Secure Texting mobile applications.
User ID	This ID is configured by the VST cloud server to identify the connected Vocera organization.
Shared Key	Authenticates the connection between the VST cloud server and the connected Vocera organization.
Manage VST Contacts	Specifies the server that manages VST contacts. If this field is set to **Voice**, VST contacts are managed on the Vocera Voice Server. If this field is set to **VMP**, VST contacts are managed on the VMP Server in the VSTContacts distribution list.
Email	
Enable Secure Message Initiation	Enables the configuration of a user's email into the **Messaging** feature.
Secure Message Initiation - Incoming Mail	
Protocol	The protocol for the mailbox. This is one of **POP3**, **IMAP4**, or **Exchange Web Services**. Depending on the protocol selected, additional connection parameters must be specified, including **POP3/IMAP/EWS Host** and **POP3/IMAP4/EWS Port**.
Email Scan Interval	The number of seconds between scans for new incoming email.
Initiation Permitted	Who can initiate messages by email. This is one of the following: • **From any email address**: Anyone that can send email can initiate a message. • **From VMP users only**: Only registered VMP users can initiate a message.
EWS Domain	The Exchange Web Services domain. Appears only when **Protocol** is set to **Exchange Web Services**.
Email Username	The username associated with the mailbox that the VMP Server is to monitor.

Option	Description
Email Password	The password for the mailbox username.
Confirm Email Password	The password for the mailbox username (repeated).
POP3/IMAP4/EWS Host	The hostname for the server hosting email account. This must be the domain name, not the URL. For example, use `mail.customer.com`, not `https://mail.customer.com/owa`.
POP3/IMAP4/EWS Port	The port number for email account connections to the host. See Port Requirements on page 11 for the default port requirements for these protocols.
IMAP4/EWS Use Secure Connection	Whether the connection to the email server must be secured. Appears only when **Protocol** is set to either **IMAP4** or **Exchange Web Services**.
IMAP4/EWS Security Port	The port number at which the email server is accepting secure connections. See Port Requirements on page 11 for the default secure port requirements for these protocols. Appears only when **Protocol** is set to either **IMAP4** or **Exchange Web Services**.
IMAP4 Authentication Type	The type of login that the IMAP4 email server supports. Select either **Login** or **Authentication**. Appears only when **Protocol** is set to **IMAP4**.
IMAP4/EWS Mailbox	The mailbox name to access within the specified email account (for example, **Index**). Appears only when **Protocol** is set to either **IMAP4** or **Exchange Web Services**.
Delete Email Once Processed	How often the VMP Server will remove emails from the monitored mailbox. This is one of the following: • **Immediately**: The VMP Server deletes the email immediately after it has been converted to a message. • **Once/Day**: The VMP Server deletes all processed emails that are older than 24 hours. • **Never**: The VMP Server never deletes any email. Select this setting only if email is deleted by another process or person.
WCTP	
PollingID 1	The polling IDs to use when communicating with a WCTP source.
PollingID 2	
PollingID 3	
SMS Aggregation	
Configure SMS aggregator plug-in	Link to the Plugin Configuration window in which you can configure an SMS aggregator service.

Table 32: Scheduling

Option	Description
When does daily validation happen	The time at which schedule validation takes place when it has been specified for on-call schedules. When automatic validation is performed, a report is generated that is emailed to all users that have edit access on the schedule.
Validation look ahead interval	The number of days to look ahead in an on-call schedule when validating. This number can be between 1 and 14.

Table 33: VBI Data Export

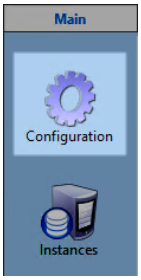
Option	Description
Enable VBI Data Export	Whether or not the Vocera Business Intelligence (VBI) Data Export function is active.

Option	Description
Time of Data Export	The time at which to run the VBI Data Export job.
Location of Data Export	Where to store the VBI Data Export logs. The default is the `<drive>\Vocera \Support\Upload` folder, where `<drive>` is the drive on which VMP is installed.

VMP Enterprise Manager Configuration Options

From the VMP Enterprise Manager, you can set configuration options to control the behavior of the VMP Server.

These options are organized into categories, and some categories are divided into subcategories. To access these options, start the VMP Enterprise Manager and select **Configuration > Configuration**.



Options marked with an asterisk * are visible only when you click **Advanced Options**.

If you have installed a standalone version of the VMP Administrator, the VMP Enterprise Manager displays only a limited subset of these options. The options available in a standalone environment are marked with two asterisks **.

Note: If you are using VMP in a clustered environment, you must update these options on each cluster node on which the VMP Server is installed.

Table 34: VMP Enterprise Manager Configuration Options

Option	Description
Database	
Auth	
Login **	The database account used to query stored permissions and authenticate users. The default is `wicauth`.
Password **	The password for this account.
Confirm Password **	A repetition of the password for this account.
Master	
Login	The account used by the application server and by the VMP Administrator if authenticated successfully. The default is `wicapplication`.
Password	The password for this account.
Confirm Password	A repetition of the password for this account.
Server **	The name or IP address of the VMP database server.
MaxConnections * **	The maximum number of cached connections to the SQL server.

Option	Description
DBUpdateFile * **	The SQL file for the DBUpdate tool. This tool is used by Vocera technical support.
Services	
WDE	
NetworkInterface	The IP address of the network interface to which the server listens for requests. If this is set to `0.0.0.0`, all interfaces are available.
NetworkPort	The HTTP port number for the VMP Server.
NetworkSecurePort	The secure HTTPS port number for the VMP Server.
NetworkSecureCertificate	The SSL certificate to be used with the VMP Server. This is set in the Security Options dialog box during installation. See Installing the VMP Server on page 13 for more details.
NetworkSecureEnforceWebSSL	Enforce the use of SSL when connecting from the VMP Web Console to the VMP Server.
MaxPacketSize *	The data size used by device clients when communicating with the server.
DefaultSliceLimit *	The maximum size of a compressed data chunk in a packet. This enables limiting of memory consumption on the device.
EnableWebServer	Enable the VMP Web Console.
Enable automatic Web login	Enable Active Directory automatic login (supported for Internet Explorer only).
Enable no authentication for Web login	Enable the Open Portal interface.
Do not show VMP instances on Web login page	If multiple instances of the VMP Server are available, do not display them on the VMP Web Console login page.
BISStatusRecordsFlashInterval *	The BIS-B status record expiration interval. This value does not need to be changed.
Apple push protocol version *	This value does not need to be changed.
Apple push idle connection timeout *	This value does not need to be changed.
Connection Limit *	The number of requests that the server can handle simultaneously. Requests over the limit are kept in a connection queue.
Connection Timeout *	The length of time that a connection remains in the connection queue.
Media Stream Connections Limit *	The maximum number of simultaneous media streaming HTTP connections.
Device Push Connections Limit *	The maximum number of simultaneous device push connections.
Web Push Connections Limit *	The maximum number of simultaneous web push connections.

Option	Description
Active Directory Server **	The Active Directory IP address or host name when the VMP Server is integrated with Active Directory. This option can be set in the Active Directory dialog box during installation. See Installing the VMP Server on page 13 for more details. If your Active Directory server is not using port 389, you must specify the port number. For example, for an Active Directory server on `vocera.com` using port 50000, specify `vocera.com:50000`. **Note:** If you have previously imported users from an Active Directory server, you must supply the same server information here. See Importing Users From Active Directory on page 52 for details.
Connect to Active Directory over SSL **	Whether to connect to the Active Directory server using SSL. The default is **False**.
Allow Active Directory user to login (display login/password form) **	Enable the use of Active Directory user names and passwords when logging into the VMP Administrator. Only users that have been granted permission to log into the VMP Administrator can use their Active Directory credentials. The default is **False**.
Enable automatic login using Active Directory authentication **	Select **True** to enable logging into the VMP Web Console using Active Directory credentials. The default is **False**.
Allow current logged domain user to login (display link) **	Select **True** to display an auto-login link. If this link is clicked, the VMP Server attempts to automatically log in using Windows authentication. The default is **False**.
GCMProxy *	This value does not need to be changed.
WCTP *	
Security code *	The security code to allow WCTP polling.
SMTP	
Server	The SMTP server for email notifications. In a clustered environment, this is used to send failover notifications.
Port *	The port number for the SMTP server.
VMP email	The email address that email notifications are sent from.
UseAuthentication *	Whether to use SMTP authentication.
Login *	The login ID for SMTP authentication.
Password *	The password for the SMTP login.
Confirm Password *	A repetition of the password for the SMTP login.
UseSSL *	Whether to use SSL for the SMTP connection.
Network *	
Proxy *	
Enabled *	Whether a proxy is to be enabled on the network. If a proxy is enabled, all outgoing requests go through this proxy.
Host *	The IP address of the proxy.
Username *	The username for the proxy.

Option	Description
Password *	The password for the proxy username.
Confirm Password *	A repetition of the password for the proxy username.
Soap * **	
ConnectionsLimit * **	The maximum number of simultaneous SOAP connections.
Logging	
Limit log messages to VMP Log File	The levels of log messages to be written to the log file.
Limit log messages to Windows Event Log	The levels of log messages to be written to the Windows event log.
Limit EMail notifications	The levels of log messages for which email notifications are to be sent.
Email Address(es) for Notifications	The email addresses to which email notifications are to be sent.
Enable extended communication logging *	Enables logging of the content of HTTP requests, WCTP, and email. **Warning:** This logging information may contain message text, which may cause patient-sensitive information to appear in the log files.
Enable smartphone extended communication logging *	Enables logging of VMP smartphone data exchanges.  **Warning:** This logging information will contain message text.
Enable Badge extended communication logging *	Enables logging of Vocera Badge data exchanges.  **Warning:** This logging information will contain message text.
Enable web console extended communication logging *	Enables logging of VMP Web Console data exchanges.  **Warning:** This logging information will contain message text.
Enable SOAP extended communication logging *	Enables VMP SOAP interface logging.  **Warning:** This logging information will contain message text.
Size of log file in megabytes *	Specifies the maximum size of a log file. When the file reaches this size, a new file is started. If 0 is specified, log file rotation is disabled.
Count of log files *	The number of log files to retain in the system. If this is set to 0, log files are never deleted.