Vocera Messaging Platform API Guide

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Notice

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The Vocera Messaging Platform API

This section describes the Vocera Messaging Platform (VMP) API. It contains a detailed description of the API's methods, parameters and schemas. The VMP API provides a mechanism to submit and track the status of alerts.

Concepts

The API provides details on two Status Change update modes.

- **Polling Mode** - The calling application needs to send a paging alert and scan the delivery status by the user's request or according to a time interval.
- **Callback Mode** - The calling application needs to receive delivery notifications in near real-time mode.

These two modes are compatible and can be used together.

Entry Points

This URL hosts WSDL for a VMP API.

```
http://vmp_ip/wic.asmx?WSDL
```

Replace `vmp_ip` with the IP address of your VMP Server.

To send a SOAP request to the VMP Server, use the following URL:

```
http://vmp_ip/wic.asmx
```

As before, replace `vmp_ip` with the IP address of your VMP Server.

Methods

The VMP API includes this list of methods.

- Paging_SendAlert on page 4
- Paging_GetAlertStatus on page 5
- Paging_ResendAlert on page 5
- Paging_DeleteAlert on page 6
- Paging_DeleteAlertAll on page 7
- WebComposeAlert_UserExists on page 7

Paging_SendAlert

Alerts are identified by an external system ID. This ID is used in the callback notification calls and in the `GetAlertStatus` methods.

If a user is not found in the VMP Server, the return array contains the appropriate `PagingAlertUserStatusInfo` with `ERROR` status and `User unknown` detail text.

Table 1: Paging_SendAlert method parameters

Parameter	Type	Description
Guid	String	A reference to the VMP instance served by the VMP Paging gateway. The default is MAIN.
User	String	The user login (configured in VMP Administrator).
Password	String	The user password (configured in VMP Administrator).
Message	PagingAlert	The alert message with all options.
Responses	PagingAlertResponse[]	The array of responses.
Users	PagingAlertUserRef[]	The array of recipients. Supported references are Pager ID and Vocera ID.
DLS	String[]	The array of distribution list ids.
CallbackInfo	PagingAlertStatusCallbackInfo	The status notification callback descriptor. The VMP Server supports a callback failover mechanism. It is implemented as a callback notification queue. Status change notifications will be kept in the queue for 24 hours. If the VMP gateway cannot successfully submit a notification during the 24 hour period, the notification is discarded. Gateway clients can use the `Paging_GetAlert` status call to poll the alert status and update their database.

Return type: `WWI.WIC.WWS. PagingAlertUserStatusInfo[]`

Paging_GetAlertStatus

Alerts are identified by an external system ID. This ID is used in the callback notification calls and in the `GetAlertStatus` methods.

If a user is not found in the VMP Server, the return array contains the appropriate `PagingAlertUserStatusInfo` with `ERROR` status and `User unknown` detail text.

Table 2: Paging_GetAlertStatus method parameters

Parameter	Type	Description
Guid	String	A reference to the VMP instance served by the VMP Paging gateway. The default is MAIN.
User	String	The user login (configured in VMP Administrator).
Password	String	The user password (configured in VMP Administrator).
AlertExternalD	String	The shared alert ID submitted in `Paging_SendAlert`.

Return type: `WWI.WIC.WWS. PagingAlertUserStatusInfo[]`

Paging_ResendAlert

This method resends the alert referenced by `AlertExternalID`. The initial alert is deleted from the VMP database.

Table 3: Paging_ResendAlert method parameters

Parameter	Type	Description
Guid	String	A reference to the VMP instance served by the VMP Paging gateway. The default is MAIN.
User	String	The user login (configured in VMP Administrator).
Password	String	The user password (configured in VMP Administrator).
AlertExternalID	String	The shared alert ID submitted in `Paging_SendAlert`.
Message	PagingAlert	The alert message with all options.
Responses	PagingAlertResponse[]	The array of responses.
ResendToCurrent RecipientsOnly	Boolean	This flag indicates whether VMP should repeat the process of VMP user identification using the shared ids in the original paging alert. If `ResendToCurrent RecipientsOnly` is false, messages are sent to the same users as the original message.
CallbackInfo	PagingAlertStatusCallbackInfo	The status notification callback descriptor. The VMP Server supports a callback failover mechanism. It is implemented as a callback notification queue. Status change notifications will be kept in the queue for 24 hours. If the VMP gateway cannot successfully submit a notification during the 24 hour period, the notification is discarded. Gateway clients can use the `Paging_GetAlert` status call to poll the alert status and update their internal database.

Return type: `WWI.WIC.WWS. PagingAlertUserStatusInfo[]`

Paging_DeleteAlert

This method deletes a paging alert from the recipients referenced by the Users parameter.

The method returns the alert status for all users to whom this alert was initially sent. For users for which the alert is being deleted, the status flag is `CANCELED`.

Table 4: Paging_DeleteAlert method parameters

Parameter	Type	Description
Guid	String	A reference to the VMP instance served by the VMP Paging gateway. The default is MAIN.
User	String	The user login (configured in VMP Administrator).
Password	String	The user password (configured in VMP Administrator).
AlertExternalID	String	The shared alert ID submitted in `Paging_SendAlert`.
Users	PagingAlertUserRef[]	The array of recipients for which the alert should be deleted.

Return type: `WWI.WIC.WWS. PagingAlertUserStatusInfo[]`

Paging_DeleteAlertAll

This method deletes the paging alert from all users to which it was initially sent.

The method returns the alert status for all users to which this alert was initially sent. The status flag is `CANCELED` for all users.

Table 5: Paging_DeleteAlertAll method parameters

Parameter	Type	Description
Guid	String	A reference to the VMP instance served by the VMP Paging gateway. The default is MAIN.
User	String	The user login (configured in VMP Administrator).
Password	String	The user password (configured in VMP Administrator).
AlertExternalID	String	The shared alert ID submitted in `Paging_SendAlert`.

Return type: `WWI.WIC.WWS. PagingAlertUserStatusInfo[]`

WebComposeAlert_UserExists

This method checks if a user with a specified email, pager ID or device ID exists on the VMP Server and can be used as a recipient in the compose alert URL.

Table 6: WebComposeAlert_UserExists method parameters

Parameter	Type	Description
Sid	String	A reference to the VMP instance served by the VMP Paging gateway. The default is MAIN.
User	String	The user login (configured in VMP Administrator).
Password	String	The user password (configured in VMP Administrator).
Id	String	The user email address/pager ID/ device ID.

Return type: `Boolean`

Data Classes

The VMP API includes this list of data classes.

- PagingAlert
- PagingAlertUserRef
- PagingAlertResponse
- PagingAlertStatusCallbackInfo
- QueryResult
- PagingAlertUserStatusInfo

PagingAlert

This is a list of PagingAlert fields.

Field	Type	Description
Subject	String[60]	The alert subject.

Field	Type	Description
Body	String [3000]	The alert message.
ExternalID	String[64]	The ID of the submitted alert.
OverridePersonalSettings	Boolean	• True: sound and led notification settings defined on the server are used. • False: sound and led notification settings defined in user's device profile are used.
Severity	Integer	• 0: urgent if OverridePersonal Settings is True, high otherwise • 1: normal • 2: normal
Callback phone	String[24]	Callback phone number.

PagingAlertUserRef

This is a list of PagingAlertUserRef fields.

Field	Type	Description
PagerID	String[64]	The user's pager ID.
VoceraID	String[64]	The user's Vocera ID.

PagingAlertResponse

The VMP user can be referenced by any of the fields known to the system that initiates the alert. One of the fields can be used to reference the user.

Table 7: PagingAlertResponse fields

Field	Type	Description
ExternalID	String[64]	The ID of the response.
Body	String[256]	The text of the response.

PagingAlertStatusCallbackInfo

This lists the PagingAlertStatusCallbackInfo fields.

Field	Type	Description
Protocol	PagingAlertStatusCallbackProtocol	• EMAIL • HTTP • WCTP
Format	PagingAlertStatusCallbackFormat	If the WIC_GENERIC format is used, the VMP gateway returns the `PagingAlertUserStatusInfo` object. The XSD schema may be found in this document. A WIC_GENERIC compatible callback should respond with the `QueryResult` class. The XSD is also provided in document below.
Address	String[256]	The callback address (according to protocol), with one of the following possible values: • EMAIL – an email address • HTTP – a URL • WCTP – a WCTP address

Field	Type	Description
Options	PagingAlertStatusCallbackOptions	Custom callback options. Reserved for future use.

QueryResult

This lists the QueryResult fields.

Field	Type	Description
Success	Boolean	True if the request completed successfully.
ErrorDetails	String	Contains an error description if the status is not true.

PagingAlertUserStatusInfo

This lists the PagingAlertUserStatusInfo fields.

Field	Type	Description
UserSharedID	String	Response user reference.
ResponseExternalID	String	Response ID.
Status	PagingAlertStatus	• ERROR • QUEUED • SENT • FAILED • DELIVERED_TO_DEVICE • OPENED • RESPONDED • EXPIRED • CANCELED
StatusDetails	String	The text description of the status.
StatusChangeDatetime	DateTime	The time when the status was changed to its current status. The time is provided in the GMT time zone.

PagingAlertUserRef XSD

This is XML for the PagingAlertUserRef XSD.

```
<?xml version="1.0" encoding="utf-8"?>
            <xs:schema elementFormDefault="qualified"
            xmlns:xs="http://www.w3.org/2001/XMLSchema">
            <xs:element name="PagingAlertUserRef"
            nillable="true" type="PagingAlertUserRef" />
            <xs:complexType
 name="PagingAlertUserRef">
            <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1"
            name="PagerID" type="xs:string" />
            <xs:element minOccurs="0" maxOccurs="1"
            name="VoceraID" type="xs:string" />
            </xs:sequence>
            </xs:complexType>
            </xs:schema>
```

PagingAlertUserStatusInfo XSD

The following XSD may be used to automatically generate a class that can be used for VMP gateway request de-serialization.

```
  <?xml version="1.0" encoding="utf-8"?>
        <xs:schema elementFormDefault="qualified"
```

```
                  xmlns:xs="http://www.w3.org/2001/XMLSchema">
      <xs:element name="PagingAlertUserStatusInfo"
                  nillable="true"
                  type="PagingAlertUserStatusInfo" />
      <xs:complexType name="PagingAlertUserStatusInfo">
        <xs:sequence>
          <xs:element minOccurs="0"
                      maxOccurs="1"
                      name="AlertExternalID"
                      type="xs:string" />
          <xs:element minOccurs="0"
                      maxOccurs="1"
                      name="User"
                      type="PagingAlertUserRef" />
          <xs:element minOccurs="0"
                      maxOccurs="1"
                      name="ResponseExternalID"
                      type="xs:string" />
          <xs:element minOccurs="1"
                      maxOccurs="1"
                      name="Status"
                      type="PagingAlertStatus"/>
          <xs:element minOccurs="0"
                      maxOccurs="1"
                      name="StatusDetails"
                      type="xs:string"/>
          <xs:element minOccurs="1"
                      maxOccurs="1"
                      name="StatusChangeTime"
                      type="xs:dateTime" />
          <xs:element minOccurs="0"
                      maxOccurs="1"
                      name="ResponseComment"
                      type="xs:string" />
          <xs:element minOccurs="0"
                      maxOccurs="1"
                      name="TextResponse"
                      type="xs:string" />
        </xs:sequence>
      </xs:complexType>
      <xs:complexType name="PagingAlertUserRef">
        <xs:sequence>
          <xs:element minOccurs="0"
                      maxOccurs="1"
                      name="PagerID"
                      type="xs:string" />
          <xs:element minOccurs="0"
                      maxOccurs="1"
                      name="VoceraID"
                      type="xs:string" />
        </xs:sequence>
      </xs:complexType>
    <xs:simpleType name="PagingAlertStatus">
      <xs:restriction base="xs:string">
        <xs:enumeration value="ERROR" />
       <xs:enumeration value="QUEUED" />
       <xs:enumeration value="SENT" />
       <xs:enumeration value="FAILED" />
       <xs:enumeration value="DELIVERED_TO_DEVICE" />
       <xs:enumeration value="OPENED" />
       <xs:enumeration value="RESPONDED" />
       <xs:enumeration value="EXPIRED" />
       <xs:enumeration value="CANCELED" />
     </xs:restriction>
   </xs:simpleType>
 </xs:schema>
```

QueryResult XSD

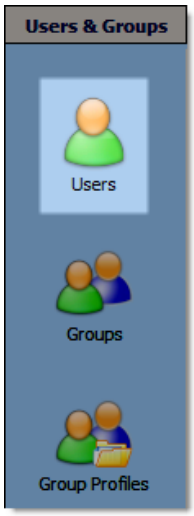
The following XSD may be used to automatically generate a class that can be used in the callback.

```
<?xml version="1.0"
            encoding="utf-8"?>
      <xs:schema elementFormDefault="qualified"
                 xmlns:xs="http://www.w3.org/2001/XMLSchema">
       <xs:element name="QueryResult"
                   nillable="true"
                   type="QueryResult" />
       <xs:complexType name="QueryResult">
       <xs:sequence>
         <xs:element minOccurs="1"
                     maxOccurs="1"
                     name="Success"
                     type="xs:boolean"/>
         <xs:element minOccurs="0"
                     maxOccurs="1"
                     name="ErrorDetails"
                     type="xs:string"=/>
       </xs:sequence>
       </xs:complexType>
      </xs:schema>
```

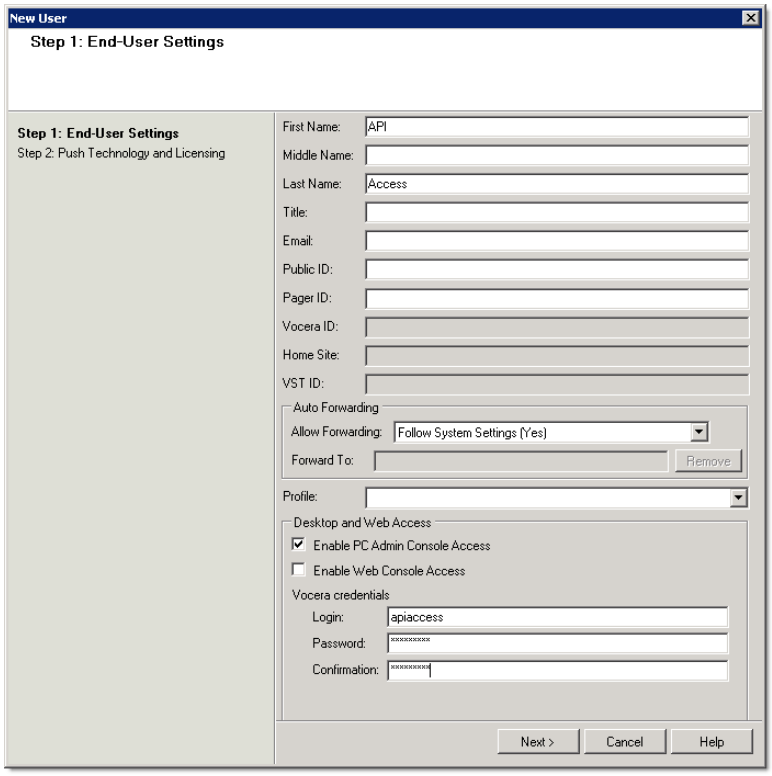
Configuring API Access for a Third-Party System

If you want a third-party system to be able to access VMP, you must create a VMP user and configure it for API access.

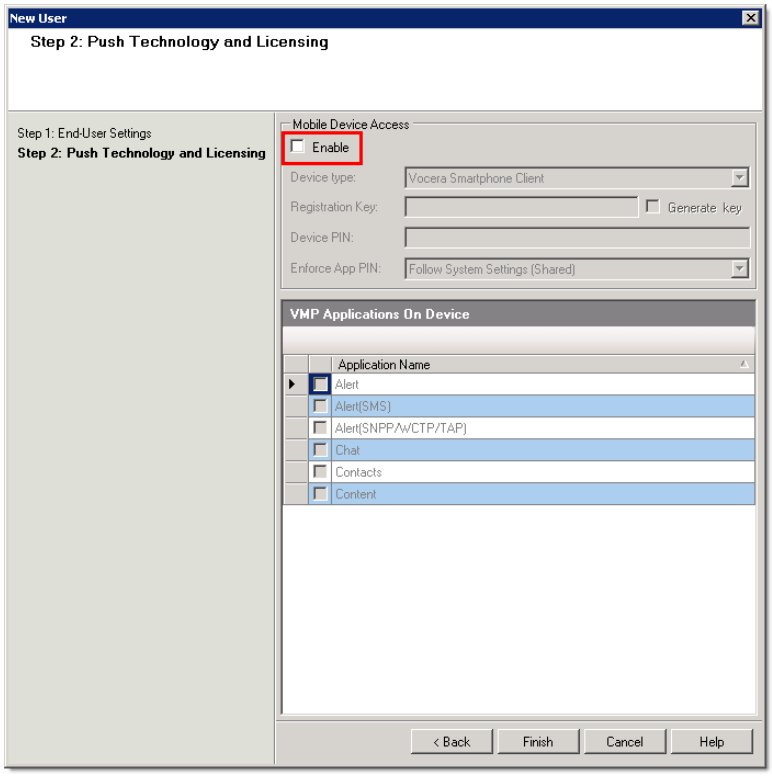
1. Start the VMP Administrator application:
   All Programs > VMP > VMP Administrator
2. Type **admin** (or your administrative credentials) in the VMP Login dialog, and click OK.
3. From the VMP Administrator, select Users & Groups > Users .



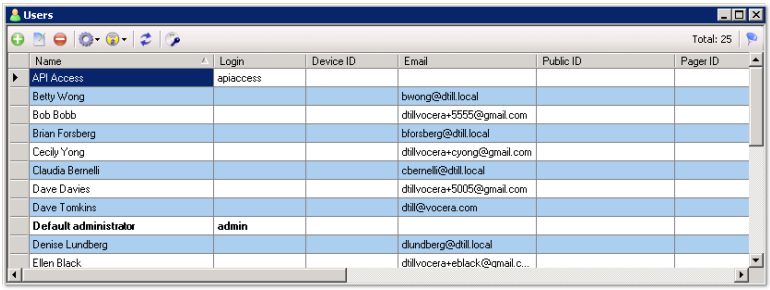
4. In the toolbar in the Users pane, click Add . The End-User Settings window appears.



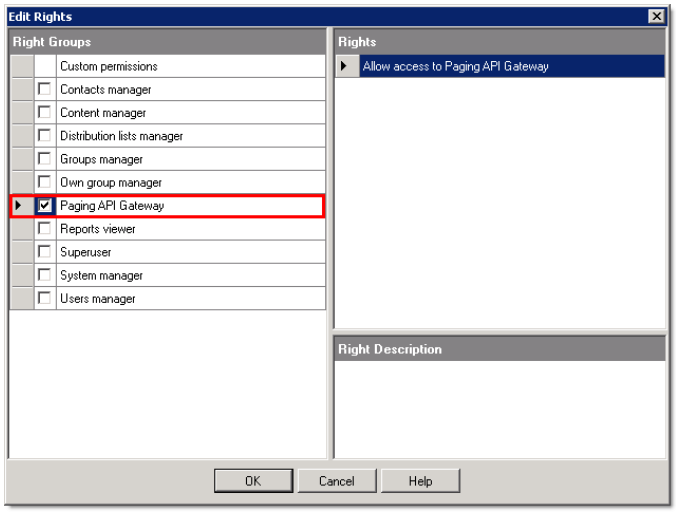
5. In the First Name and Last Name fields, type a first name and last name. The actual names aren't important.
6. Select the Enable PC Admin Console Access checkbox.
7. In the Vocera credentials section, in the Login and Password fields, specify a login name and password. This is the information that the third-party system needs to know to be able to connect to the VMP Server.
8. In the Confirmation field, retype the password that you specified in the Password field.
9. Click Next. The Push Technology and Licensing screen appears.
10. In the Mobile Device Access section, clear the Enable checkbox.



11. Click Finish.
12. In the Users pane, ensure that the user that you have just created is highlighted.



13. In the toolbar, from the User preferences dropdown list, select User rights. The Edit Rights dialog box appears.
14. In the Right Groups pane, select Paging API Gateway.

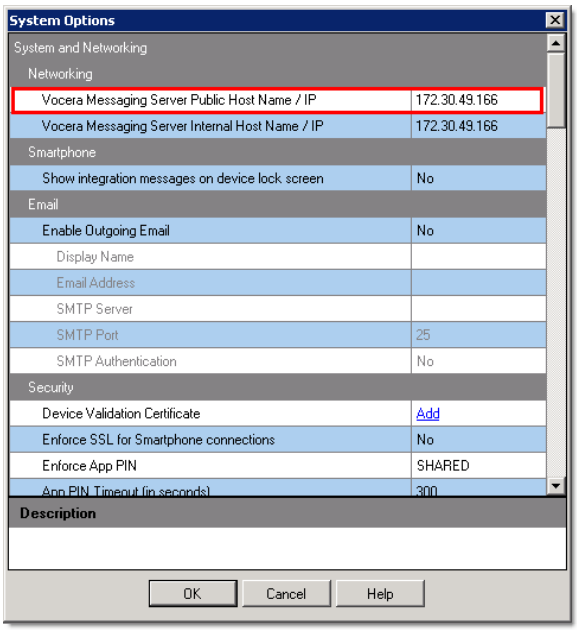


Click OK. The paging API user is now set up and is ready for the third-party system to use.

Note: To access the VMP Server, the third-party system needs the following information:

- The login name and password of the VMP user that you have just created.
- The public hostname or IP address of the VMP Server.

To locate the public hostname or IP address of the VMP Server, select Configuration > System Options. In the System Options window that appears, the public hostname or IP address is displayed in the Vocera Messaging Server Public Host Name / IP field.



The VCS and VMP Web Console API

This URL interface enables third-party device applications running on the same device as the Vocera Collaboration Suite to perform specified tasks within it. This interface also enables applications running on web browsers to perform tasks within the VMP Web Console.

The URL API Interface

The URL format to access the API interface depends on the application that you are accessing.

- Vocera Collaboration Suite: *voceracs://invoke?parameter1=value1&parameter2=value2...*
- VMP Web Console: *http://server/Invoke.aspx?parameter1=value1&parameter2=value2...* (replace *server* with the IP address or domain name of the VMP Web Console)

The parameters that can be provided with this URL are listed in the table below. Some parameters, as noted, can be supplied to the Vocera Collaboration Suite only.

Table 8: The URL API Interface

Parameter	Description	Supported Values
commMode	The Vocera Collaboration Suite application command to be performed.	• Call - Places a normal Vocera call. • UrgentCall - Places an urgent Vocera call. • Alert - Displays the New Alert screen. The recipient specified in recipientKey is specified as the recipient of the Alert. • Chat - Displays a Chat session. If this parameter is not specified, the recipient's Contacts screen is displayed.
recipientKey	The ID of the recipient. This could be an email address, a phone number, or a Vocera ID, depending on the value of the searchScope parameter.	No values provided
searchScope	The contact or user field that should be searched when trying to find the recipient. The search criterion is specified by the recipientKey parameter.	• email - Search for an email address. • voceraID - Search for a Vocera ID as defined on the VMP Server. • adID - Search for an Active Directory user account name. • userPublicID - Search for a Public ID as defined for a user on the VMP Server. • dlPublicID - Search for a Public ID as defined for a Distribution List on the VMP Server.

Parameter	Description	Supported Values
phoneNumber	The phone number to use to place a SIP call through Vocera. If recipientKey and phoneNumber are both supplied, and commMode is Call or UrgentCall, the application uses recipientKey to try to find the recipient. If the recipient is not found using recipientKey, phoneNumber is used to place the call.	No values provided
callBackURL	The URL to bring the user back to the calling application. If callBackURL is specified, a Return icon is added to the Menu screen in place of the Help icon. Tap this icon to invoke the URL specified in callBackURL. The default name associated with this icon is Return. If the callBackLabel parameter is specified, its value becomes the name associated with the icon. This parameter is available for the Vocera Collaboration Suite only.	No values provided
callBackLabel	If callBackURL has been specified, the callBackLabel parameter specifies the name associated with the Return icon. This parameter is available for the Vocera Collaboration Suite only.	No values provided

Here is an example of a URL that can be sent using this interface:

```
voceracs://invoke?
commMode=Call&recipientKey=ggoodman@vocera.com&searchScope=email
```

This searches for the email address ggoodman@vocera.com on the Vocera Collaboration Suite application. If this email address is found, a Call is placed to the user with this email address.