



Vocera® Messaging Interface and Vocera Administration Interface



The Vocera communications system enables instant, wireless, voice communication that users control with naturally spoken commands from Vocera devices. To expand the capabilities of the platform and maximize alerting, alarming, and system administration capabilities, Vocera offers two application programming interfaces: the Vocera messaging interface (VMI) and the Vocera administration interface (VAI).

⚡ Vocera Messaging Interface

VMI is a C++ programming interface that enables one-way and two-way text messaging between the Vocera communications system and third-party applications, such as nurse call systems, patient monitoring systems, supply management systems, point-of-sale and other store management applications, network management software, industrial alarms and other enterprise applications.

User actions or automated events and alarms in a third-party application trigger messages that are sent directly to the Vocera badge. The badge plays an audible alert to notify the user and immediately displays a text message on the LCD screen. Recipients can either read the message or have the badge convert the text message into a speech message.

VMI provides various ways for Vocera users to respond to messages. Badge users can call back to a user of the third-party application or choose from a list of other preconfigured responses. The Vocera communications system automatically logs all these interactions with the third-party applications.

By combining the Vocera communications system with an application, such as a nurse call system or patient monitoring application, messages can be delivered immediately to the appropriate staff member. Based on the application, staff members are then presented a set of actions that they can take such as accept, reject, call, or escalate.

Key Benefits

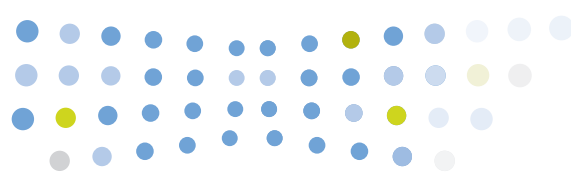
- Improves staff responsiveness with faster targeted message delivery along with the ability to respond back to the message.
- Directs messages to the right person using the database that improves workflow and communications among staff members and customers.
- Leverages investment in existing enterprise messaging applications by extending the reach of those applications directly to a staff member's Vocera badge.

Key Features

- Text messages and alerts are sent from the messaging application directly to the Vocera badge.
- Users receive a notification of a new text message.
- Text messages on the Vocera badge can be read on the LCD screen or played out loud.
- Messages can be escalated to a secondary staff member or a group if the primary staff member is busy.



The AHA has endorsed the Vocera Communications System



VMI Features

The Vocera messaging interface can be used to link the Vocera communications system with third-party applications such as nurse call systems and in-building phone inquiry systems. For example, a message sent from a bedside call system or a "help desk" phone triggers an alert and sends a text message directly to the appropriate Vocera badge user. After a text message is played, the recipient can choose to "call," "escalate," or "skip" the message.

- **Incoming Message Alert**

Text messages can be received while the badge is in use. Audio tones announce the importance of the call, allowing the recipient to prioritize calls and messages. Vocera badges can also receive text messages from Vocera's web-based user console.

- **Read or Play Text Message**

When a text message is received from a third-party application or the Vocera user console, staff members can read the message on the badge display, or press a button on the badge to convert the text message to speech. When a text message is selected to be played, users hear an interactive voice-driven menu allowing them to prioritize, respond to, or escalate the message.

- **Call**

If the recipient selects or says "call," an audio call is placed to the bedside speaker system or in-building telephone system, placing the staff member in direct voice contact with the individual sending the original message.

- **Message Escalation**

If a staff member is busy, the badge user can "escalate" incoming calls to a secondary staff member or group. This allows customer service and patient care to be expedited even when the primary staff member is busy.

- **Priority and Group Text Messaging**

The Vocera communications badge can receive urgent text messages. If the message is marked as a priority message from the sending application, a distinct tone is played on the Vocera badge when the message arrives, alerting the Vocera user of an urgent text message.

With flexible group functionality, text messages can be sent to groups of users or multiple groups. As an example, code calls from a nurse call system can be automatically sent to users associated with a code group. Additionally, point-of-sale systems can automatically send text messages to a designated group to request additional assistance.

- **Urgent Broadcast**

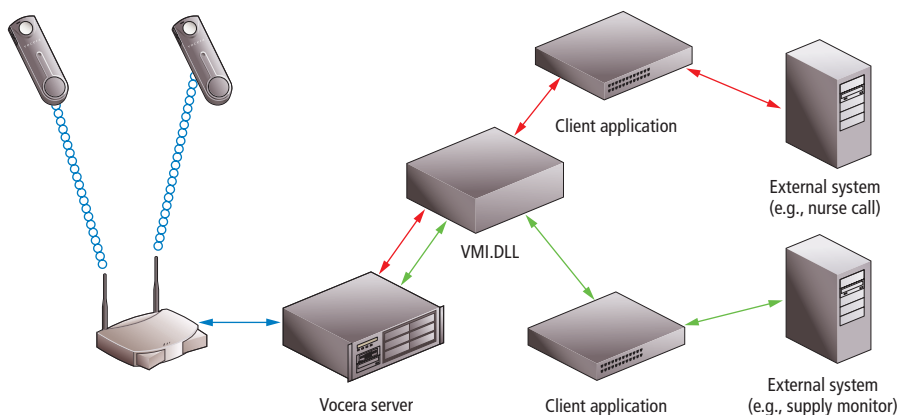
Vocera badges can receive live, urgent audio broadcasts. Urgent broadcasts supersede any other messages, placing normal calls on hold, allowing the recipient to hear the urgent message.

- **Message Review**

All text messages are maintained on the server. If staff members log out and later log in on another badge, they can review new and old text messages and respond accordingly.

- **Audit Trail**

The Vocera server software maintains extensive call activity logs. The software logs when the message was received, if read, and when acknowledged or responded to. If the recipient does nothing, the third-party application can escalate the message to an alternate staff member or group. Audit trails help an organization determine response times and can be used to improve processes.



Return type	Signature and description
int	AddToGroup (char* sLoginID, char* sGroupName) Adds a user to a group.
void	Close (void) Closes a connection to the Vocera server.
int	DeleteMessage (long iMessageID, char* sLoginID) Deletes a message from a badge.
char*	GetVersion (void) Returns information about the VMI version.
int	Message (long iMessageID, char* sLoginID, char* sText, int iRingTone, int iPriority, char* sPhoneNo, char* sResponses, char* WAVFiles) Sends a message to a badge.
int	Open (char* sClientID, char* sVoceraIPAddr, VMIListener* l) Opens a connection to the Vocera server.
int	QueryGroup (char* sGroupName, GroupInfo& gi) Requests information about a Vocera group.
int	QueryUser (char* sLoginID, UserInfo& ui) Requests information about a Vocera user.
int	RemoveFromGroup (char* sLoginID, char* sGroupName) Removes a user from a Vocera group.

VMI Class Hierarchy



❖ Vocera Administration Interface

The Vocera administration interface is a Java API that enables users to control and administer the Vocera system programmatically and perform almost all the administration console and user console functions.

The Vocera administration interface provides advanced access to Vocera system information. It allows system administrators to:

- Update and synchronize the global address book.
- Integrate Vocera with enterprise applications. For example, update Vocera groups dynamically using data from a scheduling application.
- Integrate Vocera with backend databases. For example, populate the Vocera database from your human resources database.
- Add individuals to a group/role such as ED charge nurse based on schedules.
- Send text messages (one-way paging without a confirmation). For integrated two-way paging, refer to the VMI interface.

Key Features

System Queries and Updates

- Query and update system settings
- Create, edit, delete, and query Vocera entities including:
 - Global address book entries
 - Personal address book
 - Users
 - Groups and departments
 - Sites
 - Locations
 - Devices (with Vocera 4.1)
- Update group permissions
- Send a text message
- Obtain the status of a badge
 - User and IP
 - Location
 - DND Status (T/F)
 - Hold Status (T/F)
 - Call state (i.e., inactive, call, conference, off line)

Manage the Vocera Server

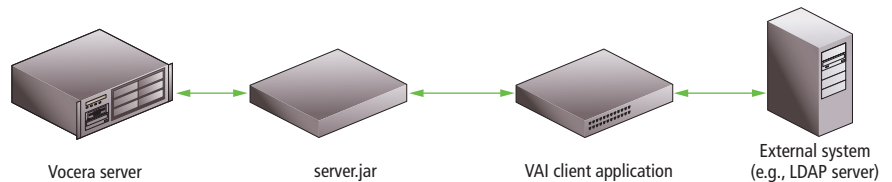
- Start, stop, and restart the Vocera server
- Access the state of the Vocera server (server started, server stopped, etc.)
- Backup, restore, and empty the Vocera database
- Create a customized administration console. For example, enable access to selected features based on user roles.

```

o class java.lang.Object
o class vai.BadgeStatus
o class vai.Entity
  o class vai.Address
  o class vai.Contact
  o class vai.Group
  o class vai.Location
  o class vai.Site
  o class vai.User
o class vai.EntitySet
  o class vai.AddressSet
  o class vai.ContactSet
  o class vai.GroupSet
  o class vai.LocationSet
  o class vai.SiteSet
  o class vai.UserSet
o class vai.LicenseInfo
o class vai.PropertySet
  o class vai.IndexedPropertySet
  o class vai.KeyedPropertySet
o class java.lang.Throwable (implements java.io.Serializable)
  o class java.lang.Exception
  o class vai.VAIException
o class vai.VAI

```

VAI Class Hierarchy





:: Summary

The Vocera messaging interface (VMI) and Vocera administration interface (VAI) allow independent software vendors (ISVs) and customers to integrate the Vocera communications system with third-party applications that have the ability to send one-way and two-way text messages as well as integrate with the Vocera administration capabilities. VMI and VAI integration with the Vocera communications system allows customers to extend the capabilities of their existing systems, such as nurse call systems, patient monitoring systems, supply management systems, point-of-sale and other store management applications, network management software, industrial alarms and other enterprise applications.

:: For More Information

Customers planning to deploy an integrated application must purchase the VMI software. In addition to the VMI and VAI interface, customers can purchase pre-built VMI-certified applications and services from third-party companies such as: AeroScout, Commtech Wireless (division of Amcom Software), Emergin, GlobeStar Systems, MTech, and TeleTracking. For additional information on these applications and new certified applications, visit www.vocera.com.

Customers and ISVs who want to build their own VMI and VAI applications must join the Vocera developer program (VDP). VDP members obtain training and support for the VMI and VAI interfaces. For additional information on the VDP program, visit www.vocera.com or email developers@vocera.com.

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