Vocera Data-Loading Reference

Version 4.4.4

vocera

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⦁⦁ Importing Data

When you enter data through the Administration Console, you use one of the Add dialog boxes to specify all the related information for a single entry. For example, to create a new user, you use the fields and tabs in the Add New User dialog box to provide User Information, Speech Recognition, Group Membership data, and so forth.

If you need to enter a large amount of the same kind of data at a single time, however, it is faster to import it from a specially formatted CSV (comma separated value) file. For example, when you first load the Vocera database, it is often faster to import data for all your users from a single CSV file, rather than to create each user individually in the Administration Console.

Note: The Vocera Server supports CSV files up to 1 MB in size. If a CSV file that you want to import is larger than 1 MB, break it up into multiple files.

A CSV file lets you specify most of the information you can enter when you create an entry in the Administration Console. Each line in a CSV file represents a separate database entry. Within each line, commas separate the values that qualify the entry.

For example, each line in the CSV file you use to import user data represents a single user. Within each line, commas separate the values that you would enter in the fields and tabs of the Add New User dialog box.

About the Templates

The installation program provides templates that you use to create CSV files in the **\vocera\samples** directory of the Vocera server computer. The templates are in Microsoft Excel format. Use these templates to enter the data you want to load, then save them in CSV format.

The following table lists the templates in the **\vocera\samples** directory:

Table 1. Import templates

Type of Data	Template
Sites	sites-template.xls
Groups	groups-template.xls
Users	users-template.xls
Group Members	groupmembers-template.xls
Address Book Entries	addresses-template.xls
Locations	locations-template.xls
Access Points	accesspoints-template.xls
Devices	devices-template.xls

If you are loading all your data from spreadsheets, you must use the spreadsheets in the order shown in the above table. The data in the later spreadsheets has dependencies on the data you load earlier, and it may fail to load if you do not follow this sequence.

When you import Vocera groups, DO NOT import the Forwarding field in the first pass. See **Importing Groups in Multiple Passes** on page 33.

Note: Vocera supports numeric values that begin with zero such as `01234` in name fields. However, Excel strips initial zeros from numeric values without warning. If you want to use numeric values that begin with zero in name fields, do not use Excel to edit your .csv files. Instead, use a different spreadsheet program, such as OpenOffice Calc (http://www.openoffice.org/).

Sites and Templates

You reference site data in the templates in two different ways:

• To assign an entity you are creating to a site, use the **Site** column in the template.

For example, to create a user called Lin Yao and assign her to the San Francisco site, enter **San Francisco** in the **Site** column of **users-template.xls**.

- To qualify a value in a specific spreadsheet column by specifying its site, use a colon to separate the value from the site name (*Value*:*Site name*).

  For example, to specify that the Tech Support group is at the Santa Cruz site, enter **Tech Support:Santa Cruz** in the **Group Name** column of **groupmembers-template.xls**.

The following table lists template fields that support the *Value:Site* syntax:

Table 2. Template fields that support Value:Site syntax

Template	Field(s)	Default Site
groups-template.xls	Forwarding Manager Group Add Group Device Group	the value in the **Site** field
users-template.xls	Conference Group	the value in the **Site** field
groupmembers-template.xls	Group Name	Global
accesspoints-template.xls	Location Name	Global
devices-template.xls	Owning Group	Global

Preparing CSV Files

Each column in a template corresponds to a field in the associated Add/Edit dialog box. Create new rows in the template by supplying appropriate values in the fields under each column. After you finish entering data, replace all empty cells in the spreadsheet with a space to ensure that the cells will be included in the CSV. When you are finished, delete the header row, and save the template as a CSV file.

To prepare a CSV file:

1. Open the appropriate template in Microsoft Excel.

2. Provide information for each entry you want to import on a separate row of the spreadsheet. For example, if you are importing user data, you provide information for each user on a separate row of the **users-template.xls** spreadsheet.

   See **Template Reference** on page 19 for information about the data you should provide.

3. When you finish entering data, follow these steps to replace all empty cells in the spreadsheet with a space.

   Note: If the last column of data in your spreadsheet is empty, Excel produces inconsistent results when you save to CSV. These steps provide a simple workaround and ensure that all empty cells will be included in the CSV.

   a. Select a cell in the header row.

   b. Press Ctrl+A to select the current region.

   c. Choose **Edit > Replace**. The Find And Replace dialog box appears, with the Replace tab selected.

   d. Make sure the **Find What** box is completely empty.

   e. In the **Replace With** box, enter a single space.

   f. Click **Replace All**.

      A message box appears showing how many replacements were made. Click **OK**.

   g. Click **Close** to close the Find And Replace dialog box.

4. Delete the row of column headings—you do not want to load the headings into the Vocera database.

5. Save the spreadsheet as a CSV file:

   a. Choose **File > Save As**. The Save As dialog box appears.

   b. In the **Save As Type** drop-down list, select **CSV (Comma delimited)**.

   c. In the **File Name** box, type the filename.

   d. Click **Save**.

Importing Text into Microsoft Excel

If you use Microsoft Excel to edit data that you exported from Vocera, the program may automatically change some values into Number or Date format. To prevent Excel from changing the format of values, import the data into Excel as text.

Note: To avoid data conversion problems caused by Microsoft Excel, use a different spreadsheet program, such as OpenOffice Calc (http://www.openoffice.org/).

To import text into Microsoft Excel:

1. Change the filename extension of the file you exported from Vocera from .csv to .txt.

2. Start Microsoft Excel.

3. Open the file that you renamed in step 1.

   The Text Import Wizard appears.

4. In the **Original Data Type** box, select "Delimited". Click **Next**.

   Step 2 of the Text Import Wizard appears.

5. In the **Delimiters** box, make sure only "Comma" is checked. Click **Next**.

   Step 3 of the Text Import Wizard appears.

6. In the **Data Preview** box, select all columns. To do this, follow these steps:

   a. Click the column heading for the first column.

   b. Use the horizontal scrollbar to scroll to the last column.

   c. Press and hold the Shift key, and then click the column heading for the last column.

   All columns should now be highlighted in black.

7. In the **Column Data Format** box, select "Text". Click **Finish**.

   The data is imported as text.

Validating and Importing Data

After you have finished preparing the CSV files, use the Import page of the Maintenance section in the Administration Console to load the database. Vocera lets you validate the data in your CSV file before you import it:

• When you validate data, Vocera examines each row in the CSV file to confirm that it is formatted correctly. Vocera reports any errors, provides details to help you correct the errors, and lets you fix the problems before importing.

• When you import data, Vocera loads each row in the CSV file that is formatted correctly. Vocera flags any rows that have errors, reports the type of error, and does not load the data in the problem rows.

Even if you import data without validating it, Vocera will not let you corrupt the database with incorrectly formatted data. However, it is usually more convenient to validate the data before importing it.

To import data from a CSV file:

1. Click **Maintenance** in the navigation bar.

2. Click the **Import** tab to display the Import page.

3. Specify the type of data to load in the **Import Data from a File** section.

4. Click **Browse** and navigate to choose a CSV file to import data from.

5. Do either of the following:

   - Click **Validate** to examine the data for errors without importing it.

   - Click **Import** to load the data immediately.

   Vocera displays a dialog box showing you the progress of your action. When the validation or update is finished, Vocera displays the progress as 100 percent.

6. If necessary, click **Show Errors** to display the Errors dialog box. Vocera provides details to help you correct the error. When you are finished reviewing errors, click **OK** to close the Errors dialog box.

7. Click **OK** to close the Progress dialog box.

See the *Vocera Data-Loading Reference* for complete information about setting up the CSV files and importing data.

Updating Users, Groups, and Devices with CSV Files

When you update Vocera data with data from a CSV file, you must specify key fields to indicate which Vocera database record to update. The following table lists key fields for users, groups, and devices:

Table 3. Key fields for updating records

Data Type	Key Field(s)
User	**User ID**
Group	**Group Name** **Site**
Device	**MAC Address**

You cannot use CSV files to modify key fields—you must edit those fields manually in the Administration Console.

When you use CSV files to update the database, the CSV data must be formatted as described in **About the Templates** on page 9.

You typically export existing user, group, or device data to a CSV file as described in **Exporting Data to a CSV File** in the *Vocera Administration Guide*, edit the CSV file, and then use the update feature to copy data from the CSV file back to the Vocera database. For each row in the CSV file, new field values overwrite corresponding values in the database, blank field values leave the corresponding database values unchanged, and the literal string value ***blank***
in a CSV row erases the corresponding value in the database.

For example, suppose a user profile in the database includes the following data:

User ID	Last Name	First Name	Identifying Phrase	Email Address
jsmith	Smith	John		jsmith@xyz.com

Next, suppose a row in a CSV file contains the following field values:

```
jsmith, , Jack, , *blank*
```

When you upload the CSV file, the value of the User ID field specifies which database record to update, the values of the Last Name and Identifying Phrase fields are not changed, the value of the First Name field is changed from John to Jack, and the value of the Email Address field is erased (empty).

To update user, group, or device data with CSV files:

1. Prepare a CSV file for the data you want to update or delete.

2. Click **Maintenance** in the navigation bar.

3. Click the **Update** tab to display the Update page.

4. In the **Update** box, click either **Users**, **Groups**, or **Devices** to specify the operation you want to perform.

5. Click **Browse** and navigate to select the CSV file you want to use.

6. Do either of the following:

   • Click **Validate** to examine the data in the CSV file for errors without modifying the database.

   • Click **Update/Delete** to update records in the database immediately.

   Vocera displays a dialog box showing you the progress of your action. When the action is finished, Vocera displays the progress as 100%.

7. If necessary, click **Show Errors** to display the Errors dialog box. Vocera provides details to help you correct the error.

   Review any errors, then click **OK** to close the Errors dialog box.

8. Click **OK** to close the Progress dialog box.

Deleting Users or Devices with CSV Files

When you use CSV files to delete users or devices from the database, the only required value in each row of the CSV file is the first value. For users, the first value is the user ID. For devices, the first value is the MAC address.

If other data exists in the row, the first value must be followed by a comma. When you use the delete feature, all data related to the user or device is deleted from the database, not just the data that is specified in the CSV file.

To delete users or devices with CSV files:

1. Prepare a CSV file for the data you want to delete.

2. Click **Maintenance** in the navigation bar.

3. Click the **Update** tab to display the Update page.

4. In the **Delete** box, click either **Users** or **Devices** to specify the operation you want to perform.

5. Click **Browse** and navigate to select the CSV file you want to use.

6. Do either of the following:

   • Click **Validate** to examine the data in the CSV file for errors without modifying the database.

   • Click **Update/Delete** to delete records in the database immediately.

      Vocera displays a dialog box showing you the progress of your action. When the action is finished, Vocera displays the progress as 100%.

7. If necessary, click **Show Errors** to display the Errors dialog box. Vocera provides details to help you correct the error.

   Review any errors, then click **OK** to close the Errors dialog box.

8. Click **OK** to close the Progress dialog box.

Merging Device Data with CSV Files
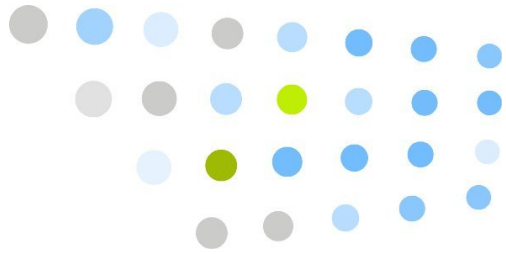
With the **Merge** feature on the **Update** page, you can add new devices and update existing devices from a CSV file in one operation. This is important because Vocera automatically loads any new devices when they connect to the server. Therefore, you can use the autoload feature to get all of your active devices entered into the system, export the device information as described in **Exporting Data to a CSV File** in the *Vocera Administration Guide*, combine the data with data from your previous badge inventory system, and then merge the data back into Vocera. Any new devices are added and existing devices are updated.

For each row in the CSV file, if the MAC address is new, a new device is added to the Vocera database. If the MAC address already exists in the Vocera database, new field values overwrite corresponding values in the database, blank field values leave the corresponding database values unchanged, and the literal string value ***blank*** in a CSV row erases the corresponding value in the database.

Important: You must specify a value in the MAC Address field (the first field in the CSV file) to indicate which Vocera database record to update. Otherwise, the record is skipped.

To merge device data with CSV files:

1. Prepare a CSV file for the data you want to add and update.
2. Click **Maintenance** in the navigation bar.
3. Click the **Update** tab to display the Update page.
4. In the **Merge** box, click **Devices** to specify the operation you want to perform.
5. Click **Browse** and navigate to select the CSV file you want to use.
6. Do either of the following:

    • Click **Validate** to examine the data in the CSV file for errors without modifying the database.

    • Click **Update/Delete** to update records in the database immediately.

    Vocera displays a dialog box showing you the progress of your action. When the action is finished, Vocera displays the progress as 100%.

7. If necessary, click **Show Errors** to display the Errors dialog box. Vocera provides details to help you correct the error.

    Review any errors, then click **OK** to close the Errors dialog box.
8. Click **OK** to close the Progress dialog box.

Template Reference

The following topics provide reference information for every field in the data-loading templates:

- **The Sites Template** on page 21
- **The Groups Template** on page 25
- **The Users Template** on page 35
- **The Group Members Template** on page 43
- **The Address Book Template** on page 45
- **The Locations Template** on page 49
- **The Access Points Template** on page 51
- **The Devices Template** on page 53

:: The Sites Template

The Sites template (`sites-template.xls`) lets you create Vocera sites.

When you add a site, you specify its name and a basic description only. You need to specify the users, groups, locations, address book entries, and devices that are associated with it separately.

Table 4. Site fields

Field	Maximum Length	Description
Site Name	50	Enter the name of the site in the **Site Name** field.
		The name must start with a letter or digit. It must contain only letters, digits, spaces, apostrophes ('), underscores (_), or dashes (-). No other characters are allowed.
		By default, the speech recognition system uses the name you enter to recognize sites. If users refer to a site by something other than the name you enter here, enter that name in the **Alternate Spoken Name** field.
		If you change the name of a site that has a Vocera Telephony Server or Vocera SIP Telephony Gateway associated with it, you must set the value of the VOCERA_SITE environment variable on the telephony server machine to the name of the new site.
Description	100	(Optional) Enter a description of the site in the **Description** field.
Alternate Spoken Site Name	50	(Optional) Use the **Alternate Spoken Site Name** field to enable Vocera to recognize variations of the exact site name.
		For example, if users commonly refer to a site by a nickname or an acronym, enter that variation here.

Field	Maximum Length	Description
Cost Center	100	(Optional) Use the **Cost Center** field to specify a cost center for the site.
Emergency Broadcast Group	n/a	(Optional) Use the **Emergency Broadcast Group** field to specify the name of the group that receives emergency broadcasts for this site. If you set up an emergency broadcast group, a user can initiate an urgent broadcast by clicking the Call button twice. Everyone in the group hears the caller immediately —no speech recognition or Genie interactions are necessary.
		Vocera 3.1 and earlier required you to use a group named "Panic" for emergency broadcasts. You can now designate any group as the recipient of emergency broadcasts.
		If a Panic group exists when you upgrade from version 3.x, Vocera automatically makes it the emergency broadcast group. You can change this default at any time.
		Specify an emergency broadcast group in the Add/ Edit Site dialog box: click the **Select** button to open the Select Group dialog box, then choose a name from the list and click **Finish**.
		Note: This field does not appear in the data-loading template.
Time Zone	n/a	(Optional) Use the **Time Zone** field to specify a time zone for the site. By default, a site's time zone is the Vocera server's time zone.
		Note: This field does not appear in the data-loading template.
Initiate Emergency Broadcast Silently	n/a	Specifies whether to initiate emergency broadcasts at this site silently, without playing a chime first. This option is available only if a group is specified in the **Emergency Broadcast Group** field. By default, it is unchecked.

Field	Maximum Length	Description
Spoken Name Count	n/a	The **Spoken Name Count** field displays the total number of names that can possibly be used in a voice command for this site. It includes the names of users, groups, sites, locations, address book entries, and all possible alternate names, such as spellings of user names and the singular and plural names of groups. **Note:** This field contains a display-only value, and it does not appear in the data-loading template.
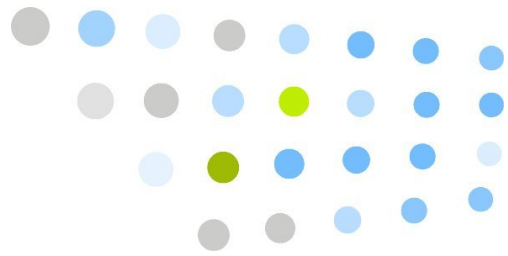
:: The Groups Template

The Groups template (`groups-template.xls`) lets you create Vocera groups.

If you specify a site, it must already exist in the database; the template does not create it. If a row in this data-loading template references a site that does not exist, the row causes a validation error and does not load. Any other rows that successfully validate load properly.

When you reference other groups within a group record, the referenced group does not need to exist in the database as long as it is defined as another record in the import file.

Table 5. Group fields

Field	Maximum Length	Description
Group Name	50	The name must start with a letter or digit. It must contain only letters, digits, spaces, apostrophes ('), underscores (_), or dashes (-). No other characters are allowed.
		By default, the speech recognition system uses the **Group Name** to recognize groups. If users refer to a group by something other than the **Group Name**, provide an **Alternate Spoken Group Name**.
Alternate Spoken Group Name	50	In the **Alternate Spoken Group Name** field, optionally enter a variation of the group name. For example, some people might say "the Sales team" instead of "Sales." If you enter *the Sales team* as an Alternate Spoken Group Name, the Genie will recognize "Call the sales team."

Field	Maximum Length	Description
Member Name-Singular	50	In the **Member Name-Singular** field, enter a name that describes a member of the group. For example, in the group called *Sales*, a group member would be known as a *sales person*. This would allow the Genie to recognize a command such as, "Call a sales person." **Best Practice:** Do not start the singular name of members with the words "a" or "an" because those words are already in the Vocera grammar.
Member Name-Plural	50	In the **Member Name-Plural** field, optionally enter a name that collectively describes the members of the group. For example, in the group called *Sales*, the collection of group members could be called *sales people*. This would allow the Genie to recognize a command such as, "Send a message to all sales people." **Best Practice:** Do not start the plural name of members with the word "all"—for example, *all sales people*—because that will result in redundant syntax in Genie prompts, such as, "I'm recording a message for **all all** sales people."
Vocera Extension	75	Optionally enter a telephone extension number for the group in the **Vocera Extension** field. **Important:** This number is a virtual extension, not an actual desk extension. If the telephony integration option is installed, outside callers who dial the Vocera hunt number can connect to the group by entering the group extension at the Genie prompt, instead of saying the group name.

Field	Maximum Length	Description
Scheduling Options	n/a	Specify either of the following: • Choose **Sequential** if you want one person to be the main contact. The second member in the list is called only if the first person is not available, a third member is called only if the first two are unavailable, and so forth. The order in which names appear in the Group Member Name list on the Members tab of the Add/Edit Group dialog box is important when you choose Sequential scheduling. • Choose **Round Robin** if you want calls to be distributed as evenly as possible among group members. When you choose round robin, Vocera iterates through members in the group until someone accepts the call; however, the person who most recently accepted a group call is tried last. If you provide a value other than **Sequential** or **Round Robin** in the data-loading template, an error will occur when you try to import the file.

Field	Maximum Length	Description
Forwarding	70	Transfers the unanswered call to the number that you enter. This feature requires the telephony integration option. Enter a value to specify a forwarding number, or leave this field blank to specify No Forwarding.

You can also specify the following values:

• To forward to the group pager number, enter **Pager** in the field.

• To forward to a user, group, or Address Book entry, enter the user ID, group name, or Address Book entry enclosed within square brackets, for example, **[abuckley]**, **[Charge Nurse]**, or **[Pharmacy]**.

  Note: Address Book entries are not unique even within a site. If you specify a value in the **Forwarding** field that matches multiple Address Book entries, the system forwards to the first match.

• To specify the site for a user, group, or Address Book entry, use a colon to separate the value from the site name, for example, **[Charge Nurse:Santa Cruz]**.

  If you do not specify a site, the site of the group you are importing is used by default.

If the Forwarding field references a user or Address Book entry that does not exist in the Vocera database, the record will be skipped when you try to import it. To avoid data validation errors, Vocera recommends importing group data in multiple passes. See **Importing Groups in Multiple Passes** on page 33. |

Field	Maximum Length	Description
Site	50	Use the **Site** field to specify the group's home site.
		If your organization has multiple sites connected to the same Vocera server, choose the home site that represents the member's physical location. If the group's membership spans multiple sites, specify **Global**.
		The **Site** field is treated differently if you are importing or updating groups:
		• When *importing* groups, you can leave this field blank to specify the **Global** site.
		• When *updating* groups, the **Site** field is required. You cannot leave the field blank.

Field	Maximum Length	Description
Group Type	n/a	Specify either **Department**, **Subdepartment**, or **Ordinary** (the default). • **Ordinary** – a group whose members are NOT considered members of a parent department. Examples of ordinary groups include administrative groups, groups with dynamic membership, role-based groups, and bed/room groups. • **Department** – a group that corresponds to a department within the organization using the Vocera system. By designating a group as a department, you provide accounting features and speech recognition enhancements that are not available to other Vocera groups. For example, you can differentiate users by specifying their department in voice commands. • **Subdepartment** – a subgroup of a department group. Members of a subdepartment are also considered members of a parent department. A subdepartment should be directly contained within an existing department or another subdepartment. If you provide a value other than **Department**, **Subdepartment**, or **Ordinary** in the data-loading template, an error will occur when you try to import the file. If you specify **Department**, the **PIN for Long Distance Calls** and **Cost Center** fields can also be entered for accounting purposes.
PIN for Long Distance Calls	50	Optionally specify a value in the **PIN for Long Distance Calls** field. A telephony PIN authorizes members of a Vocera department to make phone calls and allows an organization to charge departments for those calls. A PIN template can include digits, special characters, and PIN macros. Use this field only if you are working with a department group.

Field	Maximum Length	Description
Cost Center	100	Optionally specify a value in the **Cost Center** field.
		A Cost Center ID enables Vocera to track system usage by department and potentially allows an organization to charge its departments for relative usage.
		Use this field only if you are working with a department group.
Forward When	n/a	Specify either of the following:
		• **All** forwards every call that comes in to the group, without notifying group members.
		• **Unanswered** forwards only calls that are not answered by any member of the group.
		If you provide a value other than **All** or **Unanswered** in the data-loading template, an error will occur when you try to import the file.
Remove Users on Logout	n/a	Specify either **True** or **False** (the default) to indicate whether membership in the group is temporary.
		If you enter **True**, Vocera automatically removes users from the group when they log out, but leaves the rest of the user profile in the database. Users are *not* added into the group automatically when they log back in.
		Important: Users are only removed from the group when they log out. Keep in mind that users may place badges in the charger or simply leave the site without logging out when their shifts end. To accommodate this behavior, consider setting the following options to log users out automatically:
		• Enable the **Auto Logout When Badge In Charger** setting.
		• Check the **Enable Auto-Logout Period** setting.

Field	Maximum Length	Description
Pager Number	75	Pager number for the group. You can configure Vocera to forward a group's calls to this specified pager.
		If you enter a value for this field, any user can issue the "Send a page" voice command to send a numeric page to this group.
Off-Site Calls	n/a	Specify either **True** or **False** to indicate whether calls to the group can be received by members who are currently at a different site from the caller. If your Vocera system has only one site, this option does not apply.
		If you don't want members of the group to receive calls from people at other sites, specify **False**.
Off-Site Broadcasts	n/a	Specify either **True** or **False** to indicate whether broadcasts to the group can be received by members who are currently at a different site from the person who initiated the broadcast. If your Vocera system has only one site, this option does not apply.
		If you don't want members of the group to receive broadcasts from people at other sites, specify **False**.
Manager Group	101	Specify the group whose members can manage the group you are importing. To qualify a group by specifying its site, use a colon to separate the value from the site name (*GroupName:SiteName*). If you do not specify a site, the site of the group you are importing is used by default, and the group name is limited to 50 characters.
Add Group	101	Specify the group whose members are allowed to add themselves to the group you are importing. To qualify a group by specifying its site, use a colon to separate the value from the site name (*GroupName:SiteName*). If you do not specify a site, the site of the group you are importing is used by default, and the group name is limited to 50 characters.

Field	Maximum Length	Description
Device Group	101	Specify the group whose members manage the Vocera devices used by the group you are importing. To qualify a group by specifying its site, use a colon to separate the value from the site name (*GroupName:SiteName*). If you do not specify a site, the site of the group you are importing is used by default, and the group name is limited to 50 characters.
Permission Only	n/a	Specify either **True** or **False** to indicate whether the group is used to grant or revoke permissions only and should not be callable. If you specify **True**, calling and broadcasting to this group will be disabled.

Importing Groups in Multiple Passes

Because the Forwarding field in the groups template (**groups-template.xls**) allows you to reference other Vocera entities, such as users, Address Book entries, and other groups, it is important to validate group data before you try importing it. If a group record references a user or Address Book entry that does not exist in the Vocera database, the record will be skipped when you try to import it.

Note: When you reference other groups within a group record, the referenced group does not need to exist in the database as long as it is defined as another record in the same import file.

To avoid data validation errors, Vocera recommends importing group data in multiple passes. On the first pass, DO NOT include the Forwarding field in your import data. Once groups are successfully imported, continue importing other Vocera entities, such as users and Address Book entries. After users and Address Book entries have been imported, you can use the Update page of the Administration Console to update groups with the Forwarding data. See **Updating Users, Groups, and Devices with CSV Files**

The Users Template

The Users template (`users-template.xls`) lets you create new users.

If you specify a site, department, or conference group, it must already exist in the database; the template does not create it. If a row in this data-loading template references one of those entities, and that entity does not exist, the row causes a validation error and does not load. Any other rows that successfully validate load properly.

Table 6. User fields

Field	Maximum Length	Description
User ID	50	Enter a **User ID** that is not already assigned to another user on the system, being careful to choose a name that you and the user can easily remember. The user ID is not case-sensitive.
		The User ID must contain only letters, digits, spaces, periods (.), underscores (_), or dashes (-). No other characters are allowed. It must not begin or end with a space.
		Note: You must have System Administrator or Tiered Administrator permissions to change or enter the **User ID**.

Field	Maximum Length	Description
Last Name, First Name	50	Enter the user's **Last Name** and **First Name** in the corresponding fields.
		The name must start with a letter or digit. It must contain only letters, digits, spaces, apostrophes ('), underscores (_), or dashes (-). No other characters are allowed.
		By default, the speech recognition system uses the names you enter to recognize users. If people refer to a user by something other than the name you enter here, provide an Alternate Spoken Name.
Identifying Phrase	100	Optionally specify an **Identifying Phrase** to help Vocera distinguish this user from another whose first and last names are spelled the same.
		For example, if there are two users named Mary Hill on the system, but one is on the third floor and the other is on the first floor, you could enter **Mary Hill on the third floor** as the identifying phrase for one user and **Mary Hill on the first floor** for the other.
Email Address	60	Enter the user's email address to take advantage of these features:
		• Other users can send voice messages from their badges to this user's email inbox. Vocera sends voice messages to an email address as .WAV file attachments. Users can listen to these messages with the Windows Media Player and other players.
		• The Vocera system administrator can send the user an email from the Administration Console with instructions on how to install and configure Vocera Connect.
		• The Vocera system administrator can integrate the user with Vocera Messaging Platform (VMP). If so, enter a unique email address. Otherwise, the VMP Server will not synchronize the user successfully.
		Note: To enable email features, you must also configure the settings on the Email page of the Administration Console.

Field	Maximum Length	Description
Desk Phone or Extension	75	Enables the following features: • Allows users to forward or transfer calls from their Vocera devices to their desk phones. • If no Vocera Extension is specified, allows outside callers to connect to a user's Vocera device by entering the user's desk extension at the Vocera hunt group prompt, instead of saying the user's name. • Allows users to send a page and receive the return phone call from a person they paged on their badges. • If users have appropriate permission and have Vocera Access Anywhere enabled, the Desk Phone or Extension field allows users to be authenticated by Caller ID when they call the Vocera hunt group number.
Cell Phone	75	Allows users to forward calls from a badge to a cell phone. If users have appropriate permission and have Vocera Access Anywhere enabled, the Cell Phone field allows users to be authenticated by Caller ID when they call the Vocera hunt group number.
Home Phone	75	Allows users to forward calls from their badges to their home phones. It also allows users take advantage of the "Call My House" address book entry.

Field	Maximum Length	Description

Alternate Spoken Name 1, Alternate Spoken Name 2, Alternate Spoken Name 3	50	Specify variations of the user's name in the **Alternate Spoken Names** fields.
		
		The name must start with a letter or digit. It must contain only letters, digits, spaces, apostrophes ('), underscores (_), or dashes (-). No other characters are allowed.
		
		• If users refer to a person or place in various ways, enter each variation in a different field.
		
		  For example, enter **Bob Jones** and **Rob Jones** in addition to **Robert Jones**. Similarly, enter a nickname that the person or place is known by, such as **Skip Jones**.
		
		• If people use initials to refer to a user, provide them as a series of letters separated by spaces.
		
		  For example, if users refer to Amardeep Munindar Gill as A.M. Gill, enter **A M Gill**.
		
		• If a name has an unusual or confusing pronunciation, enter a name that is spelled as it is pronounced.
		
		  For example, if the system does not recognize the name *Jodie Dougherty*, you could enter **Jodie Dockerty**.
		
		• If users refer to a person by his or her title, provide the full spelling of the title.
		
		  For example, enter **Father Brown** instead of **Fr. Brown**.
		
		When you import or update Vocera users using a CSV file, the Alternate Spoken Name values are treated as a set. A user's Alternate Spoken Name fields are replaced by any Alternate Spoken Name values in a CSV row. If all three Alternate Spoken Name fields in a CSV row are empty, no changes will be made to those fields when you update the user. To remove all alternate spoken names for a user, enter the literal string value ***blank*** in all three Alternate Spoken Name fields in a CSV row.

Field	Maximum Length	Description
Badge ID	12	Enter the MAC address of the user's badge in the **Badge ID** field as follows: • If the system-wide setting Login/Logout Voice Commands is *enabled*, you do not need to enter the Badge ID, because it will be entered automatically when the user logs in. • If Login/Logout Voice Commands is *disabled*, use the **Info** menu on the badge to find the Badge MAC address, and enter this address in the Badge ID field. The MAC address of a badge is also printed near the bottom of the white label under the battery.
Departments	n/a	When you *import* users through the data-loading template, any value in this field is ignored, because you cannot assign department membership directly. When you *export* users to a **.csv** file, Vocera populates this field for informational purposes. **Note:** In Vocera 3.x, this field allowed you to assign a user to a department group on import.
Conference Group	n/a	Optionally assign the user to a conference group by specifying it here. The template does not create a conference group, it must already exist in the database. If the group does not exist, the row results in a validation error and fails to load. To qualify a conference group by specifying its site, use a colon to separate the value from the site name (*GroupName:SiteName*). If you do not specify a site, the value of the **Site** field is used by default.
Employee ID	50	Optionally use the **Employee ID** field to specify a unique value that identifies a Vocera user. **Note:** You must have System Administrator or Tiered Administrator privileges to change or enter the **Employee ID**.
Pager	75	Allows users with the proper permissions to receive numeric pages on their pagers from other badge users who issue the "Page" voice command.

Field	Maximum Length	Description
Site	50	Use the **Site** field to specify the user's home site. In the Add/Edit User dialog box, click the **Select** button to open the Select Site dialog box, then choose a name from the list and click **Finish**. • If your organization has multiple sites connected to the same Vocera server, choose the home site that represents the user's physical location. • If your organization does not have multiple sites, accept the default **Global** setting. When working in the data-loading template, leave this field blank to accept **Global**.
Cost Center	100	Optionally specify a value in the **Cost Center** field. A cost center ID lets Vocera track system usage by users and potentially allows an organization to charge for relative usage.
PIN for Long Distance Calls	75	Allows an organization to authorize or account for telephone usage and to distribute telephone costs among different users, departments, or sites. A PIN template can include digits, special characters, and PIN macros.

Field	Maximum Length	Description
Vocera Extension	75	Allows a user to route calls made to this virtual extension to go to their Vocera device instead. If the Vocera Extension field is filled in, it is used for • Direct dialing from smartphone keypads • Paging callbacks • Vocera hunt number access If you leave this field blank, smartphone users and outside callers can dial the user's desk phone to be routed to the user's Vocera device. Because the Vocera extension is a virtual phone number, you can put any number in the Vocera Extension field. If a user already has a desk phone number, you can reuse that number for the Vocera Extension field but prepend a digit, such as 8, to make the number unique in the Vocera system. Vocera extensions are not constrained by fixed-length numbers for your PBX. You can also enter DID numbers for Vocera extensions.
Expire Date	10	Enter the last full day that a temporary user account is available. The date string must be specified using the following date format: United States and Canada: mm/dd/yyyy Other locales: dd/mm/yyyy For example, the fourth day of September in the year 2010 is written as 09/04/2010 in mm/dd/yyyy format and 04/09/2010 in dd/mm/yyyy format.

The Group Members Template

The Group Members template (`groupmembers-template.xls`) lets you add users to groups. All the users and the groups must already exist in the database; the template does not create them. If a row in this data-loading template references one of those entities, and that entity does not exist, the row causes a validation error and does not load. Any other rows that successfully validate load properly.

Table 7. Group member fields

Field	Maximum Length	Description
Group Name	50	Enter the name of a group that already exists.
		To qualify a group by specifying its site, use a colon to separate the value from the site name (*GroupName:SiteName*). If you do not specify a site, the Global site is used by default.
Group Member Name	50	Enter the name of a member for this group in either of the following ways:
		• If the member is a user, enter the User ID.
		• If the member is another group, enter the Group Name.

The Address Book Template

The Address Book template (`addresses-template.xls`) lets you create new address book entries.

If you specify a site, it must already exist in the database; the template does not create it. If a row in this data-loading template references a site that does not exist, the row causes a validation error and does not load. Any other rows that successfully validate load properly.

Table 8. User fields

Field	Maximum Length	Description
Last Name or Place Name, First Name	50	Provide a name for the address book entry as follows: • If you are entering contact information for a person, use the **Last Name or Place Name** and **First Name** fields to specify the full name of the individual. • If you are entering contact information for a place, use the **Last Name or Place Name** field to specify the name of the organization or place. The name must start with a letter or digit. It must contain only letters, digits, spaces, apostrophes ('), underscores (_), or dashes (-). No other characters are allowed. By default, the speech recognition system uses the name you enter to recognize address book entries. If users refer to an address book entry by something other than the name you enter here, provide an Alternate Spoken Name.
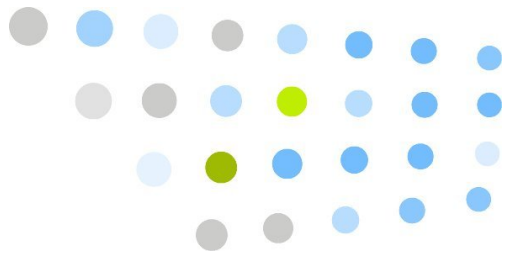
Field	Maximum Length	Description
Identifying Phrase	100	Optionally use the **Identifying Phrase** field to enter a description that distinguishes a person or place from another whose name is spelled the same. For example, if there are two Mary Hills on the system, but one is on the third floor and the other is on the first floor, you might enter `Mary Hill in the Main Cafeteria` as the Identifying Phrase for one user and `Mary Hill in the North Wing Cafeteria` for the other. As a result, when callers ask for Mary Hill, the Genie prompts them, "Do you mean Mary Hill in the Main Cafeteria?" If the caller says "no," the Genie then prompts, "Do you mean Mary Hill in the North Wing Cafeteria?"
Email Address	40	Optionally enter an **Email Address** to allow users to send voice messages as an email attachment. **Note:** You must also configure the settings on the Email page of the Administration Console to enable this feature.
Phone	75	Optionally provide a phone number for the person or place in the **Phone** field.

Field	Maximum Length	Description
Alternate Spoken Name 1, Alternate Spoken Name 2, Alternate Spoken Name 3	50	Optionally use the **Alternate Spoken Names** fields to enter variations of the name in your address book. The name must start with a letter or digit. It must contain only letters, digits, spaces, apostrophes ('), underscores (_), or dashes (-). No other characters are allowed. • If users refer to a person or place in various ways, enter each variation in a different field. For example, enter `Bob Jones` and `Rob Jones` in addition to `Robert Jones`. Similarly, enter a nickname that the person or place is known by, such as `Skip Jones`. • If people use an acronym or initials to refer to an address book entry, provide them as a series of letters separated by spaces. For example, if users refer to Easton Medical Clinic as EMH, enter `E M H`. Similarly, enter `A C Hoyle` for A.C. Hoyle. • If a name has an unusual or confusing pronunciation, enter a name that is spelled as it is pronounced. For example, if the system does not recognize the name *Jodie Dougherty*, you could enter `Jodie Dockerty`. • If users refer to a person by his or her title, provide the full spelling of the title. For example, enter `Father Brown` instead of `Fr. Brown`.
Pager	75	Optionally provide a pager number for the person or place in the **Pager** field. If you enter a value for this field, any user can issue the "Send a page" voice command to send a numeric page to this address book entry; when the recipient returns the call, it is connected directly to the user's badge. To identify this pager as a Vocera Messaging Platform pager number, prefix the number with a "w".

Field	Maximum Length	Description
Site	50	Use the **Site** field to specify the home site for the address book. In the Add/Edit Entry dialog box, click the **Select** button to open the Select Site dialog box, then choose a name from the list and click **Finish** . • If your organization has multiple sites connected to the same Vocera server, choose the home site where users need to access this address book entry. If the entire organization uses this entry, choose **Global** . • If your organization does not have multiple sites, accept the default **Global** setting. When working in the data-loading template, leave this field blank to accept **Global** .

:: The Locations Template

The Locations template (`locations-template.xls`) lets you create Vocera locations that you can assign to your access points.

If you specify a site, it must already exist in the database; the template does not create it. If a row in this data-loading template references a site that does not exist, the row causes a validation error and does not load. Any other rows that successfully validate load properly.

A *location* is the common name of the place where an access point is located. For example, a location may be a name such as **Break Room** or **6 North**.

After you assign location names to access points, you can use the names in voice commands (Find a member of nurses close to the E R), and the Genie responds with location names when appropriate (Art Lacrosse is near the Main Desk). The location names also appear in the Badge Status Monitor, replacing the MAC address of the access point.

Table 9. Location fields

Field	Maximum Length	Description
Location Name	50	Enter a **Location Name**.
		The name must start with a letter or digit. It must contain only letters, digits, spaces, apostrophes ('), underscores (_), or dashes (-). No other characters are allowed.
		By default, the speech recognition system uses the name you enter to recognize locations. If users refer to a location by something other than the name you enter here, enter that name in the Alternate Spoken Location Name field.

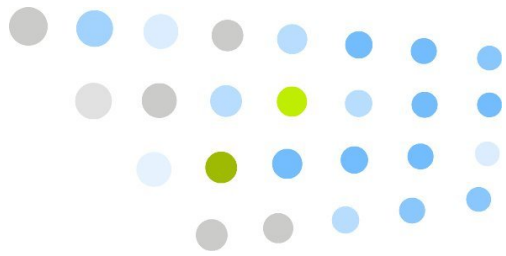| Field	Maximum Length	Description
Alternate Spoken Location Name	50	Enter an **Alternate Spoken Location Name**, if needed.
		By default, the name in the Location Name field is used for voice recognition. When a user says the name of a location (" Locate members of managers closest to the first floor, " for example), the Vocera server software matches the speech with the text in the Location Name field.
		If the location has an unusual name (for example, if a building is named after a person and that person has a name that is not spelled the way it is pronounced), enter the name the way it sounds when it is pronounced out loud, rather than the way it is actually spelled.
		You may also want to enter an alternate spoken location name if the location is commonly called by an unofficial name (if the Administration Building is often called the "Clock Tower Building," for example). The Alternate Spoken Location Name gives the server an additional field to check, increasing the chances that a location name will be understood by the Genie.
Description	100	Optionally enter a **Description** to help you identify the location on the Locations page.
Site	50	Use the **Site** field to specify the physical site of the access point. In the Add/Edit Location dialog box, click the **Select** button to open the Select Site dialog box, then choose a name from the list and click **Finish**.
		• If your organization has multiple sites connected to the same Vocera server, choose the site that represents the access point's physical location.
		• If your organization does not have multiple sites, accept the default **Global** setting. When working in the data-loading template, leave this field blank to accept **Global**.

The Access Points Template

The Access Points template (`accesspoints-template.xls`) lets you associate the name of a Vocera location with each of your access points, by using the MAC address of each access point.

All the locations must already exist in the database; the template does not create them. If a row in this data-loading template references an access point that does not exist, the row causes a validation error and does not load. Any other rows that successfully validate load properly.

Table 10. Access point fields

Field	Maximum Length	Description
Location Name	50	Enter the name of a location that already exists.
		To qualify a location by specifying its site, use a colon to separate the value from the site name (*LocationName:SiteName*). If you do not specify a site, the Global site is used by default.
MAC Address	12	Enter the MAC address (12 hexadecimal characters) of the access point that you want to assign to this location.
		To specify a range of MAC addresses that have the same first 11 characters, enter "0" for the 12th character. The "0" character is treated as a wildcard only in the 12th character of the MAC address.

The Devices Template

The Devices template (`devices-template.xls`) lets you add or update Vocera devices.

If you specify a site, group, or device status, it must already exist in the database; the template does not create it. If a row in this data-loading template references one of those entities, and that entity does not exist, the row causes a validation error and does not load. Any other rows that successfully validate load properly.

Best Practice: If you are using Microsoft Excel to edit .csv files, import the data as text to prevent Excel from changing the cell format to Date or Number. For more information, see **Importing Text into Microsoft Excel** on page 12.

Table 11. Device fields

Field	Maximum Length	Description
MAC Address	12	Media Access Control address (MAC address) is a hardware address that acts like a unique name for the device. The MAC address is 12 characters long. Most MAC addresses for Vocera badges have the following prefix: `0009ef`. ***Adding devices*** • For B3000 and B2000 badges, this field is optional because the MAC address can be derived from the serial number; the last 6 characters of the MAC address and the serial number are identical. • For B1000A badges and Smartphones, this field is required. ***Updating devices*** • The MAC Address field is required for all device types as it is the key field that uniquely identifies devices in the database.
Serial Number	15	Specify the serial number of the device. For B3000 and B2000 badges, the serial number is 12 characters. For B1000A badges, the serial number is 15 characters. For Vocera Smartphones, the serial number is 10 characters.
Label	20	A label that identifies the device. The label must be unique; it cannot be used by another device. The value entered in the Label field should also be the value on the actual label affixed to the front of the device. For example, you can label the device with the abbreviation of the group (for example, RAD for radiology and CICU for cardiac intensive care unit) that owns the device.
Status	20	Specify the device status. The value you specify must match one of the existing device status values.

Field	Maximum Length	Description
Tracking Date	n/a	Specify a date used to track the device, for example, the date it was sent for repair or RMA'ed.
		The date string must be specified using the following date format:
		United States and Canada: mm/dd/yyyy Other locales: dd/mm/yyyy
		For example, the fourth day of September in the year 2010 is written as 09/04/2010 in mm/dd/yyyy format and 04/09/2010 in dd/mm/yyyy format.
Owning Group	101	Specify the group that owns the device. To qualify a group by specifying its site, use a colon to separate the value from the site name (*GroupName:SiteName*). If you do not specify a site, the Global site is used by default, and the group name is limited to 50 characters.
Notes	1000	Enter up to 1000 characters to provide further information about the device status, for example, "Badge stopped working after accidentally being immersed in water" or "Badge sent to IT to repair the battery latch."
Site	50	Specify the device's home site.
		• If your organization has multiple sites connected to the same Vocera server, choose the home site that represents the device's physical location.
		• If your organization does not have multiple sites, leave this field blank to accept **Global**.
Shared?	n/a	Specify TRUE if the device is shared between multiple users. Otherwise, specify FALSE.
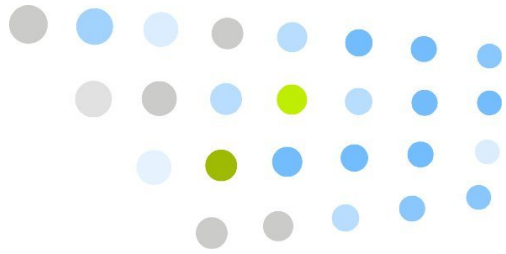
Appendixes

The following topics provide reference information that will help you complete the templates:

- **Entering Spoken Names** on page 59

  Describes rules and best practices for entering values in all name fields in Vocera. Any name that you enter in Vocera has an effect on speech recognition.

- **Entering Phone Numbers** on page 67

  Describes rules for entering phone numbers, extensions, access codes, and macros in various phone number fields.

Entering Spoken Names

As you create users, groups, and other entries in the Administration Console or the User Console, Vocera requires you to provide names. These names are more than just a tag to let you visually identify an entry when you are using one of the consoles—they are words users can speak when placing calls, and they are words that the Genie speaks in interactions with badge users. Because all Vocera names have speech recognition consequences, the exact way you enter them in the console is very important.

The following table lists all the name fields in Vocera:

Table 12. Spoken name fields

Dialog Box	Name Fields
Add/Edit Site	• Site Name • Alternate Spoken Site Name
Add/Edit User	• First Name • Last Name • Alternate Spoken Names • Identifying Phrase
Add/Edit Group	• Group Name • Member Name - Singular • Member Name - Plural • Alternate Spoken Group Name
Add/Edit Location	• Location Name • Alternate Spoken Location Name

Dialog Box	Name Fields
Add/Edit Address Book Entry	• First Name • Last Name • Name • Alternate Spoken Names • Identifying Phrase

The rest of this appendix shows you how to use these name fields to create spoken names that are intuitive and meaningful for users.

Rules for Entering Names

The value in any name field must start with a letter or digit. It must contain only the following characters:

• Any of the 26 English letters, in lower or upper case

• Digits, such as 0, 1, 2, 3, and so forth

• Spaces

• Apostrophes (')

• Underscores (_)

• Dashes (-)

Names and Speech Recognition

The speech recognition system uses the values you enter in name fields to identify *entities* (users, groups, sites, locations, and address book entries). Any name that a user speaks in a badge command must appear in one of the name fields so the speech recognition system can identify it.

Each of these entities has one or more primary name fields (for example, **First Name** and **Last Name** are the primary name fields for a user; **Group Name** is the primary name for a group) as well as one or more **Alternate Spoken Name** fields.

Use the primary name fields to enter the most common name of an entity. This name should be the one that most people use, *not* the "official" name. For example, if everyone calls the user "William Bones" by the name "Billy", you should enter "Billy" in the **First Name** field and "Bones" in the **Last Name** field.

If people often refer to users by something other than their primary names, such as a nickname or a title, you must also provide an alternate spoken name. For example, if people often call the user "Jason Crunch" by the nickname "Captain", you must enter "Captain Crunch" as his first alternate spoken name.

Similarly, if the user Rob Shostak is a doctor, enter his first and last names as usual, then enter "Doctor Shostak" as one alternate spoken name, and "Doctor Rob Shostak" as another alternate spoken name. This practice accommodates peers who call him "Rob Shostak", as well as nurses who typically call him "Doctor Shostak" or "Doctor Rob Shostak".

Because you cannot enter any letters except the 26 English letters in the Administration Console or User Console, you may sometimes have problems with user names. For example, you cannot enter common non-English characters such as ñ and é. If a user's name is "Louis Céline", you need to enter an approximation such as "Celine" in the console. In addition, if he uses the French pronunciation, or if other users refer to him with this pronunciation, you may need to add an alternate spoken name such as "Saline".

In general, however, do not provide alternate spoken names to accommodate a name that appears to have a "non-English" pronunciation, unless testing indicates that the system cannot recognize it. Vocera understands a wide variety of name pronunciations, and unnecessary alternate names increase the size of the database. An exception to this rule is slang or jargon that is often pronounced differently than it is spelled.

Using Numeric Values in Names

Because Vocera supports numeric and mixed alphanumeric values in name fields, you can create address book entries such as "911" or group names such as "Room 299". Vocera supports the full range of common number pronunciations. For example, users can pronounce "Room 299" as either "Room Two Nine Nine", "Room Two Ninety Nine", or as "Room Two Hundred Ninety Nine" without creating alternate spoken names.

Previous versions of Vocera required you to spell any numbers that appeared in name fields. For example, you needed to enter names in the above example as "Nine One One" and "Room Two Nine Nine". These phonetic spellings limit users to a single pronunciation unless you provide alternate spoken names, which can be time consuming to enter and maintain. If you are using spelled numbers in a name field, consider converting them to numeric values for ease of maintenance and improved speech recognition.

Vocera supports the number pronunciations that are appropriate for different locales. For example, if you are using the UK locale, users can pronounce "7007" as "Seven Double Oh Seven", "Seven Double Naught Seven", "Seven Oh Oh Seven", and so forth.

Genie Number Pronunciations

Although Vocera allows *users* to say a full range of number pronunciations, the *Genie* always chooses a single pronunciation when responding to users. If you don't like the Genie's pronunciation, you can record a name for the Genie to use when interacting with users in a voice command.

For example, suppose you have a group whose name is "Room 427". The Genie always pronounces this group as "Room Four Hundred and Twenty Seven", but users may pronounce it as "Room Four Twenty Seven". To change the Genie's pronunciation, use the "Record a Name" command to specify the name as "Room Four Twenty Seven".

Leading Zeros in Names

Because the Administration Console sorts names *alphabetically*, numeric values may sort differently than you expect. For example, a group called **I C U Nurse Bed 10** sorts before a group called **I C U Nurse Bed 2**.

To take advantage of numeric values and also have names sort as users expect, add leading zeros to the numbers so they have the same number of digits. For example, a group called **I C U Nurse Bed 02** sorts before a group called **I C U Nurse Bed 10**.

Users do not have to pronounce these leading zeros to make a call; in fact, because leading zeros are ignored in common number pronunciations, users are not permitted to pronounce them. Consequently, a user sends a message to the **I C U Nurse Bed 02** group by saying "Send a message to Eye See You Nurse Bed Two".

Using Ordinal Numbers in Names

An *ordinal* number specifies the position of an item in a sequence, such as "first", "second", or "third". Although Vocera supports the full range of *number* pronunciations, it does not support common pronunciations of *alphanumeric ordinals* such as "1st", "2nd", or "3rd". For example, if you create groups whose names are "1st Floor" and "2nd Floor", Vocera expects you to pronounce them as "One-st Floor" and "Two-nd Floor".

Some organizations prefer to use alphanumeric ordinals in names because they sort in an expected order when you view them in the Administration Console. If you need to use alphanumeric ordinals, make sure you also create purely alphabetic alternate names to allow natural speech recognition. For example, if you are using "1st Floor" as a group name, create an alternate spoken name spelled as "First Floor" to support proper speech recognition.

Using Abbreviations in Names

Because the values you enter in name fields determine both what a user can say in a voice command and also how the Genie will pronounce names to a user, be careful when you enter abbreviations. Follow these rules to ensure that you enter abbreviations correctly:

• If you want the Genie to pronounce the individual letters in an abbreviation, spell it in capital letters, with a space between the letters, and without periods. For example, enter the abbreviation for the American Federation of State, County and Municipal Employees as "A F S C M E".

If you use one of the supported healthcare acronyms (see **Healthcare Acronyms and Abbreviations** on page 64), you can omit the spaces between the letters.

• If you want the Genie to pronounce an entry as a word, spell it as a word —that is, spell it with conventional capitalization and without unnecessary spaces between the letters. For example, enter the name Bob Ray as "Bob Ray", not as "BOB RAY".

If you follow these rules, the Genie will always say what you intended. If you *do not* follow these rules, you may unintentionally create problems. The third-party software Vocera uses to provide text-to-speech translation may incorrectly interpret a string of capital letters as either an abbreviation or a word, depending on the number of letters in the string.

Using Slang and Jargon in Names

Users often speak slang or jargon for group names and address book entries, and you should accommodate these existing speech patterns, rather than requiring users to learn other names. Because slang and jargon often originate as either acronyms or the clipped form of words, they are often pronounced very differently than they are spelled, and you typically need to enter alternate spoken names to support them.

An *acronym* is an abbreviation that is pronounced as a word. For example, in a hospital, the Medical Intensive Care Unit is often abbreviated as "MICU" and pronounced as "Mick You". To accommodate this usage, Vocera supports several healthcare acronyms as part of the static grammar. See **Healthcare Acronyms and Abbreviations** on page 64.

Similarly, longer words such as "Pediatrics" are often spelled with the clipped form "Peds", but pronounced as "Peeds" (not "Peds", as the spelling implies). To accommodate this usage, enter "Pediatrics" in the **Group Name** field, and enter "Peeds" in the **Alternate Spoken Group Name** field.

The best practice in this situation is to enter the name as users spell it in the **Group Name** field and to enter phonetic variations in the **Alternate Spoken Group Name** field. This practice allows the expected and more readable name to appear in the user interface of the consoles, but still supports the spoken name preferred by users.

Healthcare Acronyms and Abbreviations

The Vocera system supports the following standard acronyms and abbreviations for the healthcare industry as part of the static grammar. You can embed these healthcare acronyms within group names. Spaces in an acronym are optional and can be omitted. For example, you can enter "MICU Charge Nurse" instead of "M I C U Charge Nurse". When one of these acronyms is used in a group name, users can pronounce either the letters in the acronym (for example, "M I C U") or the acronym itself (for example, "Mick You") to call the group.
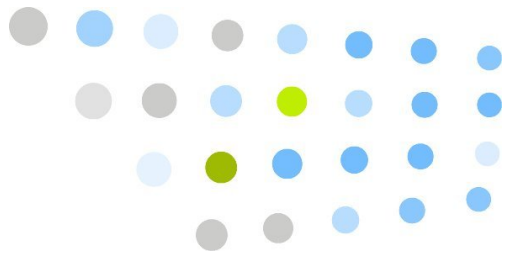
Note: These acronyms and abbreviations should NOT be entered in the **Alternate Spoken Group Name** field. Otherwise, the alternate spoken group names could interfere with the recognition of the acronyms and abbreviations. Also, if you use acronyms or abbreviations in a group name, you should record the proper pronunciation of the group name. The Genie will then use your recorded prompt(s) for more natural sounding speech. For more information, see **Recording a Name for a Group** in the *Vocera Administration Guide*.

Table 13. Healthcare acronyms and abbreviations

Acronym/Abbreviation	Pronunciation
C C U	"C C U"
C M O	"C M O"
C N O	"C N O"

Acronym/Abbreviation	Pronunciation
E D	"E D"
E K G	"E K G"
E N T	"E N T"
E R I	"E R I"
I C U	"I C U"
I V	"I V"
L and D	"El and D"
L V N	"L V N"
M I C U	"Mick You" or "M I C U"
M R I	"M R I"
M U C	"M U C"
N I C U	"Nick You" or "N I C U"
O B G Y N	"O B G Y N"
O R	"O R"
P A C U	"Pack You" or "P A C U"
P I C U	"Pick You" or "P I C U"
P T	"P T"
Pre Op	"Pre Op"
R A D O N C	"Rad Onk" or "R A D O N C"
R T	"R T"
S I C U	"Sick You" or "S I C U"

You can use Vocera Professional Services to customize the list of group name acronyms for your Vocera system. For more information, contact Vocera Professional Services.

⁞ Entering Phone Numbers

Vocera allows you to enter various types of phone numbers. For example, when you add a user to the Vocera system, you can specify the user's desk extension, cell phone number, pager number, and home phone number. Similarly, groups and address book entries also have phone numbers associated with them.

In Vocera, the value of a phone number can contain any of the following characters:

- Digits. Any of the following characters: 0123456789.

- Special dialing characters.

- Special dialing macros.

- PIN template macros.

Vocera ignores any other character that you enter in phone number fields. For example, you can enter **(408) 790-4100**, to make a number more readable, instead of **4087904100**. Vocera ignores the extra spaces, dashes, and parentheses when the number is actually dialed. However, Vocera may add access codes or area codes to numbers before dialing.

Note: Entering a number in a console field does not guarantee that a user will be able to call that number.

About Call Types

You can specify whether a group has permission to make various types of calls, and users acquire calling permissions through group membership. To grant or revoke permissions for specific call types in the Administration Console, use the **Groups** screen > **Add/Edit** page > **Permissions** tab.

Vocera recognizes the following call types:

Table 14. Call types

Call Type	Description
Internal	A number on your side of the PBX. For example, a call to a desk extension or internal pager is an internal call. Vocera dials these numbers without adding any other codes. The Call Internal Numbers permission controls a group's ability to make internal calls.
Outside	A number on the other side of the PBX. For example, a call to a business or residence or service or outside pager is an outside call. There are two types of outside call, toll-free and toll: • By default, a call within the specified local area code is **toll-free**. Therefore, you must grant a group Call Toll-Free Numbers permission to enable members of that group to make local calls. Vocera omits or includes the area code when making a local call, depending on the value of the **Omit Area Code when Dialing Locally** field. Vocera also adds any access codes you need to get an outside line, such as a **9**. • By default, any other call is considered a **toll call**. For example, domestic or international long distance calls are toll calls. The Call Toll Numbers permission controls a group's ability to make toll calls. For domestic long distance calls, Vocera adds any access codes you need to get an outside line, such as a **9**, and any numbers you need to specify a long distance call, such as a **1** or a **0**. The format for an international long distance number depends on the locale of the Vocera server. Typically, you specify the complete dialing sequence, including access codes and country codes, as appropriate, and Vocera dials the string as-is.

You can override Vocera's default handling of internal and outside calls (for example, you can define an outside area code to be toll-free). Use the Telephony section of the Administration Console to customize this behavior.

Phone Number Rules

The following rules define how Vocera interprets a value in a phone number, pager number, or extension field in the Administration Console or the User Console:

- A value that starts with the letter X (for example, X1234) represents an **internal number** (for example, a desk extension or an inside pager number).

- A value that starts with the letter Q (for example, Q901114087904100) represents a number to be interpreted **literally**. Vocera dials such numbers as-is, without adding any access codes or area codes.

- Vocera also interprets a value with 6 or fewer digits as an **internal number**. However, for clarity, it's best to type the letter X before such values to make the meaning explicit. On a Vocera system configured for the UK locale, you must type the letter Q before an outside number of 6 or fewer digits (for example, Q9100 specifies an access code and a short code service number) to make Vocera dial the number as-is.

- A value longer than the maximum length for the locale is also interpreted **literally**. The following table lists the maximum phone number length, including area code, for each supported locale.

Table 15. Maximum phone number length per locale

AU	CA	GB	NZ	US
10 digits	10 digits	11 digits	11 digits	10 digits

- Some locales define a fixed length for telephone numbers. When a phone number field value is of this length, it represents a **local outside number**. For example, a Vocera system configured for the US locale interprets a 7-digit value as an outside number within the local area code. The following table lists the fixed length of local numbers, *not* including area code, defined for each supported locale.

Table 16. Fixed length of local numbers per locale

AU	CA	GB	NZ	US
Not defined	7 digits	Not defined	7 digits	7 digits

- In any other case, the value represents an outside number. Vocera adds access codes and applies **long distance** and **toll call** rules as appropriate. For clarity, it's best to include the area code with any outside number, local as well as long distance.

Vocera uses the same rules to interpret phone numbers spoken through voice commands, with the following additional limitations:

- You cannot use special dialing characters in a voice command.

- You cannot specify an extension of seven or more digits in a voice command.
- You must include the area code when speaking an outside number.

Special Dialing Characters

A *special dialing character* is a non-numeric character that you can enter in a field in the Administration Console or the User Console that requires an access code, phone number, or extension. For example, you can use an asterisk (*****) to simulate pressing the star key on a touch-tone phone, or enter an **x** at the beginning of a number to tell Vocera to treat that number as an extension.

Vocera supports the following special dialing characters:

Table 17. Special dialing characters

Character	Effect
,	When connecting to an analog PBX, pauses for two seconds before dialing the next digit. Use a comma to force Vocera to pause briefly during a dialing sequence. Use multiple commas if you need to pause for more than two seconds.
	For example, suppose your system requires you to dial **9** as the local access code, but it is slow to establish an outside line. If you enter **9 ,** in the Default Local Access Code field, Vocera dials a 9 and then pauses to let the system establish the outside line before continuing with anything following in the dialing sequence.
	Do not use a comma when you are connecting to a digital PBX. The comma character is not recognized by a digital PBX, and it may prevent a connection. However, you can use commas in sequences issued after a connection is made. For example, you can use commas to the right of a semicolon.

Character	Effect
;	Separates the data Vocera uses to connect a call from any data Vocera passes through after the call is established. Characters to the left of the semicolon are used to establish the connection, and characters to the right of the semicolon are passed through after the connection is made.
	For example, you may need to use a sequence of characters such as the following to forward calls to a pager:
	`Q 9, 1 (408) 555-1313 ; %V %D #`
	In this sequence, `Q 9, 1 (408) 555-1313` establishes the connection; the *Q* tells Vocera not to prepend an access code or area code, the *9* gets an outside line, and the remaining characters indicate the phone number to call. The *%V %D #* characters are pass-through values (the *%V* and *%D* are dialing macros, and the # is required by the pager to end the sequence).
	Important: For any dialing string that includes a semicolon (;), the Vocera telephony server automatically appends a # to end the sequence.
&	Simulates pressing the flash key on a touch-tone telephone.
#	Simulates pressing the pound key (also called the hash key) on a touch-tone telephone.
*	Simulates pressing the star key on a touch-tone telephone.
X	Tells Vocera to treat the sequence of digits following this special dialing character as an extension, without prepending either an access code or an area code to them.
	Vocera ignores this character unless it is the first character of the number. This special dialing character is not case-sensitive.
Q	Tells Vocera to dial the sequence of digits following this special dialing character as a literal value, without prepending either an access code or an area code to them.
	Vocera ignores this character unless it is the first character of the number. This special dialing character is not case-sensitive.

Special Dialing Macros

A *dialing macro* represents a dialing sequence. In data entry fields where you cannot enter a specific number—because the number varies with the user who accesses the feature—you can enter a dialing macro. Vocera replaces the macro with the actual number on demand.

Dialing macros are especially useful when editing Company Voicemail Access Codes and Address book entries. For example, the Company Voicemail Access Code field specifies the dialing sequence that Vocera uses to forward an incoming call to company voicemail. As part of the dialing sequence, you typically need to specify a desk phone extension to identify the voice mailbox you want to access. You cannot enter a specific desk extension in this field, because the number will vary depending on which user is forwarding calls. Instead, you use the **%D** macro as part of the dialing sequence. Vocera replaces that macro with the actual desk extension of the user who is forwarding calls.

Vocera supports the following dialing macros, listed in alphabetical order:

Table 18. Dialing macros

Macro	Effect
%C	Inserts the user's cell phone number into a data entry field.
	This macro expands to the value of the **Cell Phone** field of the Phone page in the Add/Edit User dialog box. A user can also enter or change this value in the User Console.
%D	Inserts the user's extension (either the **Desk Phone or Extension**, **Vocera Extension**, or dynamic extension, whichever applies) into a data entry field.
	You can enter or change the value of the **Desk Phone or Extension** field or the **Vocera Extension** field on the Phone page in the Add/Edit User dialog box. A user can also enter or change these values in the User Console.
%H	Inserts the user's home phone number into a data entry field.
	This macro expands to the value of the **Home Phone** field of the Phone page in the Add/Edit User dialog box. A user can also enter or change this value in the User Console.
%V	Inserts the Vocera hunt group or DID number into a data entry field.
	This macro expands to the value in the **Vocera Hunt Group Number** field on the Basic Info page of the Telephony screen.

PIN Template Macros

Each PBX has different rules for adding a PIN to a dialing sequence. Some require the phone number followed by the PIN. Some require the PIN before the phone number. Some require an access code for an outside line, or a feature code to indicate that a number is a PIN. Some require a separator character between the PIN and the number. A telephony PIN template can use macros to specify and format the information in a PIN.

Vocera provides the following macros for specifying a PIN template:

Table 19. PIN template macros

Macro	Effect
%A	Expands to the value of the access code for the phone number being dialed.
%M	Expands to the value of the phone number being dialed.
%N	Expands to the value of the access code for the phone number being dialed, followed by the phone number. The %N macro is the equivalent of the %A macro followed by the %M macro.
%P	Expands to the value in one of the following fields, listed in descending order of precedence: • The **PIN for Long Distance Calls** field in the Phone page of the Add/Edit User dialog box. • The **PIN for Long Distance Calls** field in the Department page of the Add/Edit Group dialog box. • The **PIN for Long Distance Calls** field in the PIN page of the Telephony section.

The %A and %M macros are useful for inserting a PIN into the dialing sequence (for example, between the access code and the number) instead of appending it.

Example PIN Templates

The following table lists some example PIN templates, along with descriptions and the values sent by the Vocera system to the PBX. The results are based on the following assumptions:

• The user belongs to a group that allows toll calls.

• The user's PIN is **1234**.

• The phone number **(213) 555-0945** is a long distance call.

- The long distance access code (if required) is **91**.
- The feature code for a PIN (if required) is ***88**.

Table 20. PIN template examples

PIN template	Result	Description
%N %P	912135550945 1234	Access code, phone number, PIN.
%M %P	2135550945 1234	Phone number, PIN.
%A, %M %P	91, 2135550945,1234	Access code, pause, phone number, PIN.
%P, %A %M	1234, 91 2135550945	PIN, pause, access code, phone number.
%A *88 %P %M	91 *88 1234 2135550945	Access code, feature code, PIN, phone number

How Vocera Builds a Dialing Sequence

When a user issues a voice command to dial a telephone number or forward a badge call to a telephone or to voice mail, Vocera sends the phone system a sequence of digits to dial. In addition to the phone number itself, the sequence may contain the access codes needed to obtain an outside line (such as a **9**), to dial long distance (such as a **9** followed by a **1**), or to access company voicemail.

You do not enter these access codes as part of a phone number. You set up these access codes for your entire organization, and Vocera adds them to phone numbers as necessary before dialing. For example, the following figure shows the flow of events that occur when a badge user places a long distance call to a person who is listed in an address book entry.
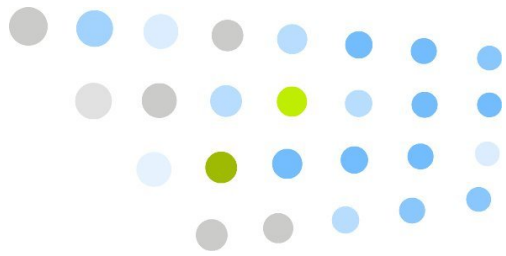
Figure 1. Placing a long distance call
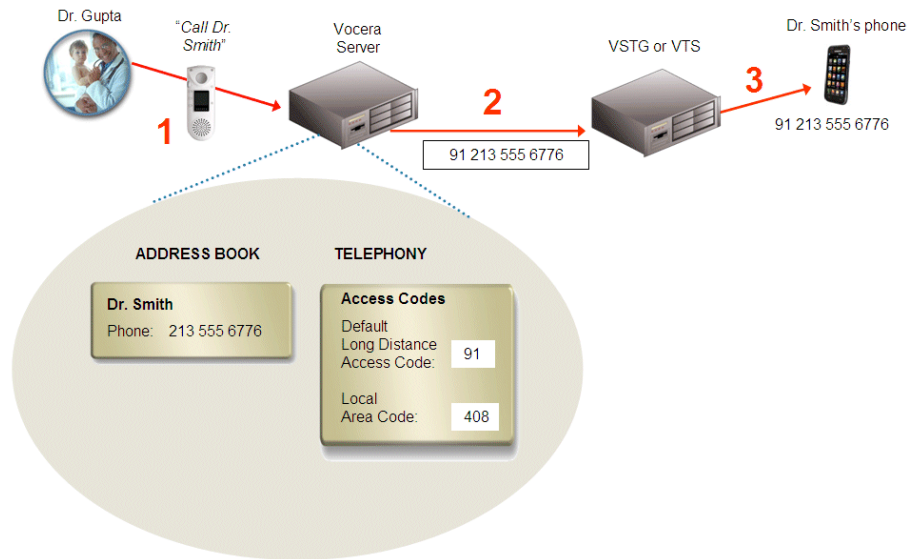
In this situation, the following events occur:

1. Dr. Gupta tells the Genie to call Dr. Smith.

   The Vocera server finds Dr. Smith's telephone number in the address book, then adds long distance access codes to the dial string because Dr. Smith's area code is different from the local area code.

2. The Vocera server tells the Telephony server to dial the number.

3. The Telephony server dials the number.

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