



## CHAPTER 6

# Interactive Voice Response Functions

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Revised: December 12, 2010, OL-23031-03

## Introduction

The Cisco BTS 10200 Softswitch supports interactive voice response (IVR) functions for the remote activation call forwarding (RACF) and screening list editing (SLE) features. To use the RACF feature, the subscriber dials a specified directory number (DN—assigned by the service provider) and is connected to the appropriate IVR media server. The subscriber then enters a personal ID number (PIN) to access the IVR functions and follows the voice prompts of the IVR server to activate, deactivate, or edit RACF options.

To use the SLE feature, the subscriber dials one of several vertical service code (VSC) numbers (in the form \*xx) and is connected to the appropriate IVR media server. The subscriber follows the voice prompts to edit screening lists.

This section includes IVR information on the following features:

- [RACF, page 6-2](#)
- [Screening-List-Editing Services, page 6-7](#)
- [Two-Level Automatic Recall Activation, page 6-24](#)
- [No Solicitation Announcement, page 6-27](#)
- [Privacy Screening, page 6-40](#)
- [Multi-Lingual Support Feature, page 6-47](#)



### Note

The IVR announcements and prompts presented in this appendix are based on standard audio files provided with the BTS 10200. Service providers can alter such audio files to suit particular service offerings. Therefore, the announcements and prompts presented in this guide might not match exactly those provided with specific implementations.

Furthermore, service providers can create names for services that differ from the names of the services in this document.

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# RACF

RACF permits users to control their call forwarding unconditional (CFU) functions when they are away from the phone. The service provider sets up this function for the subscriber and designates a DN the subscriber should call to access interactive voice response (IVR) functions that control the RACF feature. Once the RACF function is set up, the subscriber can take the following actions from a remote station:

- Activate CFU
- Deactivate CFU
- Change the target DN of CFU

The procedure is similar to making call-forwarding changes at a home or local business phone but requires the additional step of dialing the remote location:

- The subscriber dials a remote-access DN and is prompted to enter the DN of the home or local business phone and then the RACF authorization code (a PIN). The PIN can be shared by a group, or it can be unique to the individual subscriber.
- Once the system validates the subscriber's PIN, it checks the subscriber's current CFU activation status.
  - If the CFU feature is currently inactive (calls are not being forwarded), the user is prompted to enter a DN to which calls should be forwarded.
  - If the CFU feature is currently active (calls are being forwarded), the user is given the option of deactivating CFU or changing the DN to which a call should be forwarded.
- A subscriber with a unique PIN can use the VSC function to change the PIN. (A specific VSC, for example \* 9 8, is assigned and provisioned by the service provider.) The PIN can be changed only from the base phone.

For more information about RACF, see [Chapter 3, “Subscriber Features.”](#)

## Using IVR Functions for RACF

For a detailed description of RACF, see the “[Call Forwarding Features](#)” section in [Chapter 3, “Subscriber Features.”](#)

To use the IVR functions to access the RACF feature, complete the following steps:

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- Step 1** Dial the number supplied by your service provider for RACF service. (See [Figure 6-1.](#))  
The media server plays the following announcement and prompt:
- “Welcome to your remote access to the Call Forwarding feature. Please enter your home telephone number including area code.”
- Step 2** Enter your home phone number.  
The media server plays the following prompt:
- “You entered <number>. If correct, press 1.  
If this is not correct, press 2.”
- The media server plays the following voice prompt:
- “Enter your PIN.”

**Step 3** Enter your PIN.



**Note**

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Initially, you enter the PIN supplied by the service provider. The next time you attempt to access the RACF feature from a remote location, the system prompts you to change the PIN. See the “[RACF PIN Change](#)” section on page 6-5.

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The media server plays the following announcement and prompt:

“You entered: <PIN>.

If correct, press 1.

If this is not correct, press 2.”

**Step 4** If you entered your PIN correctly, press 1.

The media server plays the following prompt:

“Please enter the number where you wish to forward your calls.

**Step 5** Enter the number to which you want calls forwarded.

The media server plays the following voice prompt:

“You entered: <xxx-xxx-xxx>

If correct, press 1.

If this is not correct, press 2.”



**Note**

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If the media server replayed your call-forwarding number incorrectly, enter 2. In this case, the server returns to the voice prompt for entering a call-forwarding number.

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**Step 6** If you entered your call-forwarding number correctly, press 1.

The media server plays the following voice prompt:

“Your calls are currently being forwarded to <xxx-xxx-xxxx>.

To keep forwarding calls to this number, press 1.

To stop forwarding calls to this number, press 2.

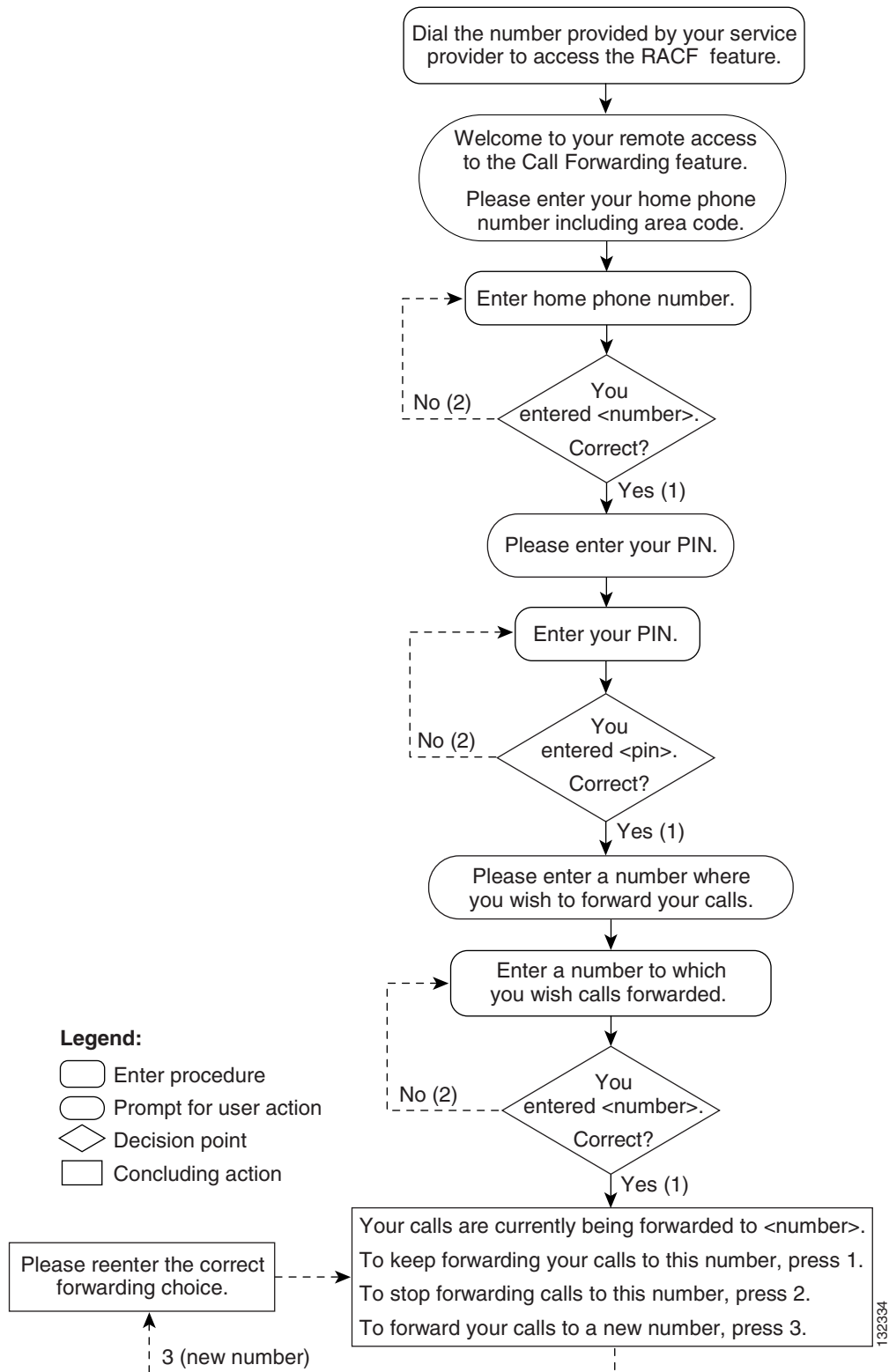
To forward your calls to a new number, press 3.”

**Step 7** Enter the number that corresponds to the option you want to use.

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[Figure 6-1](#) presents a flow chart that shows the sequence of IVR prompts and audio responses that pertain when you are using the RACF feature.

Figure 6-1 Remote Activation of Call Forwarding



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## RACF PIN Change

To use the RACF feature from a remote location (away from home phone) you must change the default PIN originally assigned by the service provider. If you do not change the PIN and then attempt to use the RACF feature, the media server plays an announcement stating that the PIN should be changed and access is denied.

You perform a PIN change from the home (or base) telephone.

### Changing a PIN

To use the IVR announcements and prompts to change a previously established PIN (or the PIN initially supplied by the service provider), complete the following steps from the home (or base) telephone:

- 
- Step 1** To access the IVR system to change the PIN, dial the RACF PIN-change VSC (typically \* 9 8). (See [Figure 6-2](#).)

The media server plays the following voice prompt:

“Please enter your PIN.”

- Step 2** Enter your PIN.

The media server plays the following voice prompt:

“Please reenter your PIN.”

- Step 3** Reenter your PIN.

The media server plays the following voice prompt:

“You entered <xxxx>.

If this is correct, press 1.



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**Note** If you enter the PIN initially supplied by the service provider, you cannot access the RACF feature from a remote location.

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If this is not correct, press 2.”

- Step 4** To change your PIN, press 2.

The media server plays the following voice prompt:

“Please enter your new PIN.”

- Step 5** Enter your new PIN.

The media server plays the following voice prompt:

“Please reenter your new PIN.”

- Step 6** Reenter you new PIN number.

“You entered <xxxx>.

If this is correct, press 1.

If this is not correct, press 2.”



**Note** The system considers a specified number of attempts to confirm the PIN change. If you try to exceed that number, the system denies further access and plays the announcement, “You do not have access to the PIN change feature. Goodbye.”

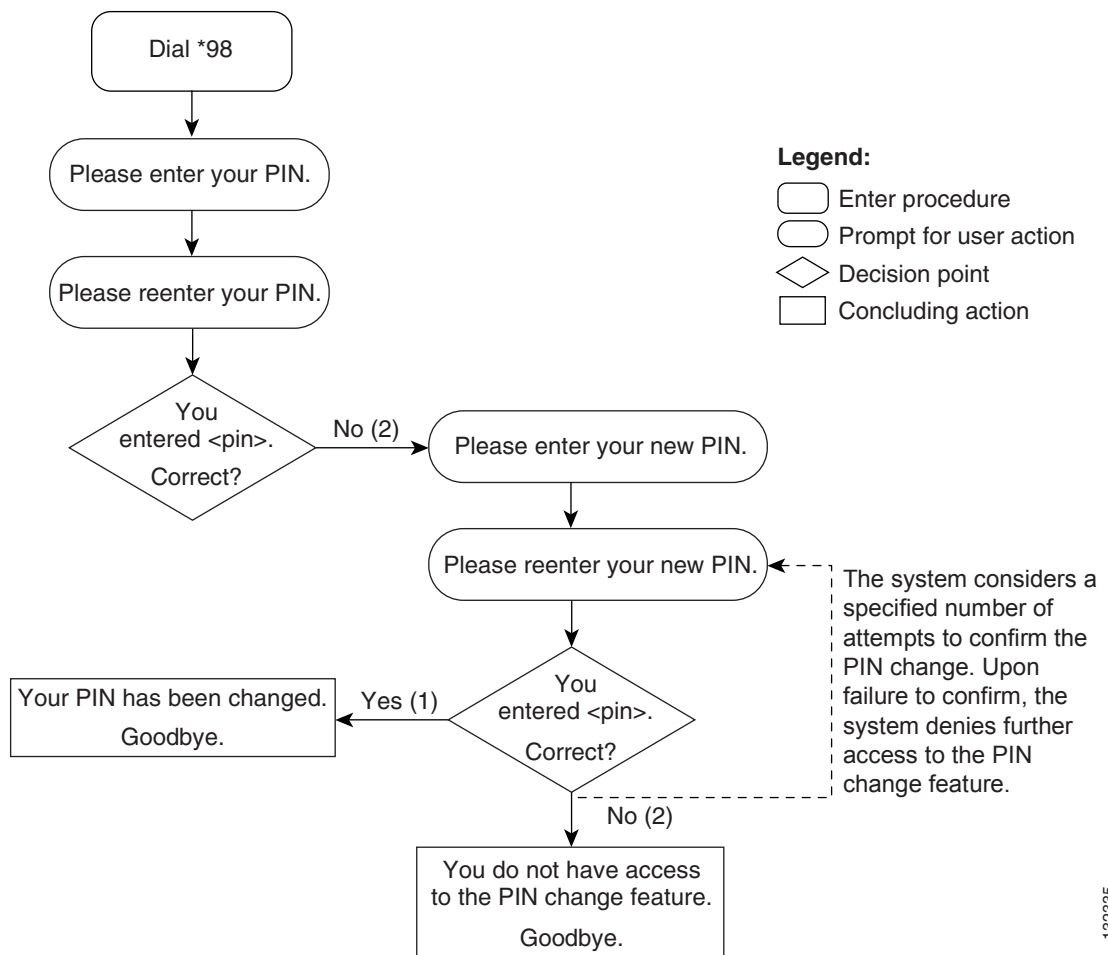
**Step 7** Press 1.

The media server plays the following voice announcement:

“Your PIN has been changed. Goodbye.”

Figure 6-2 presents a flow chart that shows the sequence of IVR prompts and audio responses when you are changing the PIN required to use the RACF feature.

**Figure 6-2 Changing the RACF PIN**



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# Screening-List-Editing Services

This section describes how to use IVR functions from a handset to operate a number of screening-list-editing services. These services include Selective Call Forwarding (SCF), Selective Call Acceptance (SCA), Selective Call Rejection (SCR), and Distinctive Ring/Call Waiting (DR/CW). For a detailed description of these services, see [Chapter 3, “Subscriber Features.”](#)

## Using IVR for Selective Call Forwarding

To use the Selective Call Forwarding service to specify a forward-to number and a list of DN numbers from which calls are to be forwarded, complete the following steps:

**Note**

Starting Release 6.0, the restart-key (\*) and the return-key (#) are no longer supported during IVR digit collection of forward-to numbers (for RACF and SCF feature). This means that the BTS 10200 subscriber is not required to enter the # key to mark the end of digits for the forward-to numbers. The service provider should remove or disable any IVR prompt (voice recordings) that instructs the subscriber to press the # key to complete an entry. Alternatively, if the prompt is still played, the IVR server waits for inter-digit-timer to expire, before it sends the collected digits to BTS 10200.

**Step 1** Initiate SCF service by dialing \* 6 3 or \* 8 3. (See [Figure 6-3.](#))

The system plays the following voice announcement to indicate whether the service is currently on or off:

“Your Selective Call Forwarding service is now off.

There are no entries on your list.

You may interrupt announcements at any time by entering a command key. When you are finished, hang up.

**Note**

If you want to interrupt the announcements, enter the command key immediately after its corresponding option is announced. For example, press the number-sign key (#) immediately after the announcement: “To add an entry, press the number-sign key.”

The system then announces the set of key commands that you can enter to perform the various screening-list-editing operations offered by the SCF service.

To turn this service on, press 3.

To add an entry, press the number-sign key.

To remove one or more entries, press the star key.

To remove all list entries, press 0 8.

To remove all anonymous list entries, press 0 9.

To hear the entries on your list, press 1.

To hear these instructions repeated, press 0.”

**Step 2** Press 3.

The system plays the following voice prompt:

“To turn this service on, you must add an entry to your list.

Please enter the number to which you want your calls forwarded, followed by the number-sign key.”

**Step 3** Enter the number. (See [Figure 6-4](#).)

The system plays the following voice announcement and prompt:

“Your calls will be forwarded to <xxx-xxx-xxxx>.

If this number is correct, press 1.

If this number is not correct, press 0.”

If you enter 0, the system returns you to the initial prompt for entering the forward-to number.

**Step 4** Press 1.

**Step 5** Press # to add a number to the list from which calls will be forwarded.

The system plays the following voice prompt:

“There are no entries on your list.

Enter the number to be added, then press the number-sign key.

To add the last-calling party, press 0 1, followed by the number-sign key.”




---

**Note** If you attempt to enter a number that is already on your list, the system plays the announcement: “The number <number> is already on your list. Please continue. Press 0 for instructions or hang up.”

---

**Step 6** Enter the number.

The system plays the following voice announcement and prompt:

“The number <xxx-xxx-xxxx> has been added to your list.

Please continue. Press 0 for instructions or hang up.”

**Step 7** To add the last-calling party, press 0 1 #. (See [Figure 6-5](#).)

The system plays one of the following voice announcements:

“The number <xxx-xxx-xxxx> has been added to your list.”

or:

“The number you have added is an anonymous entry.”

The system then plays the following prompt:

“Please continue. Press 0 for instructions or hang up.”

**Step 8** Continue or hang up.




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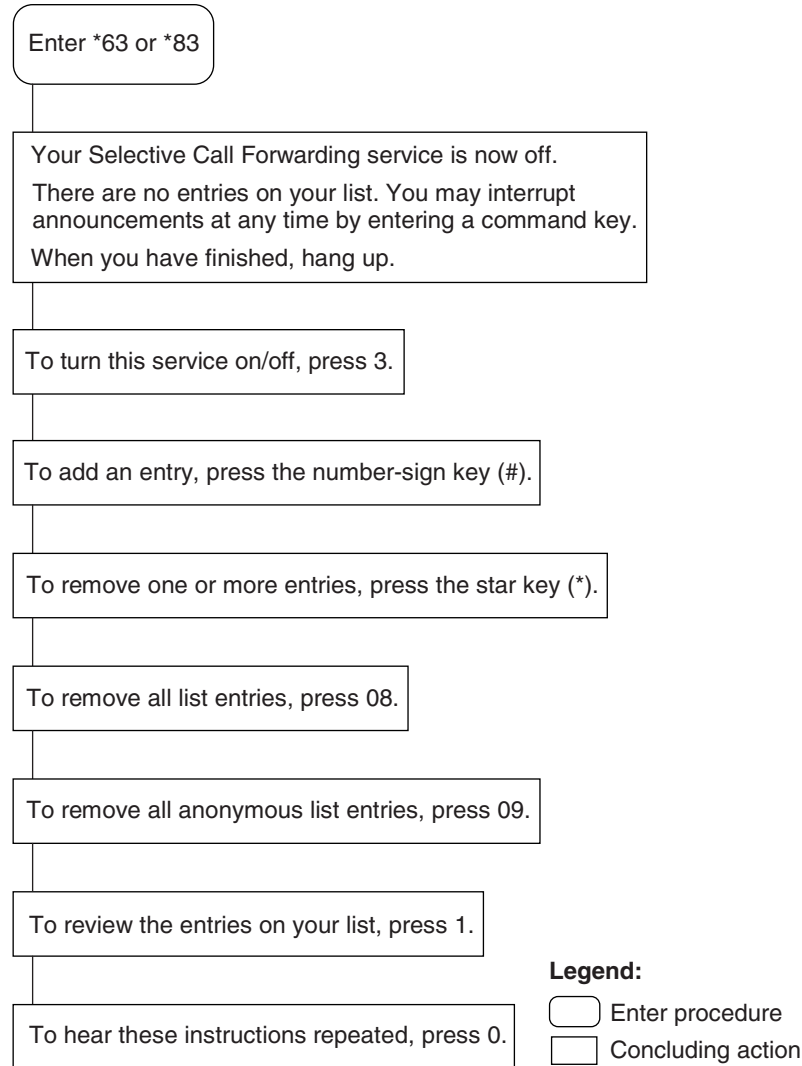
**Note** If you press 0, the system repeats the entire initial announcement of the available options. You can select an option immediately after it is announced.

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Figure 6-3 presents a flow chart that shows the initial announcement and list of command options for implementing and managing the Selective Call Forwarding service.

**Figure 6-3** *Selective Call Forwarding—Initial Announcement and List of Commands*



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Figure 6-4 presents a flow chart that shows the sequence of IVR prompts and audio responses for activating the Selective Call Forwarding service and adding a forward-to number.

**Figure 6-4 Selective Call Forwarding—Adding the Forward-to Number**

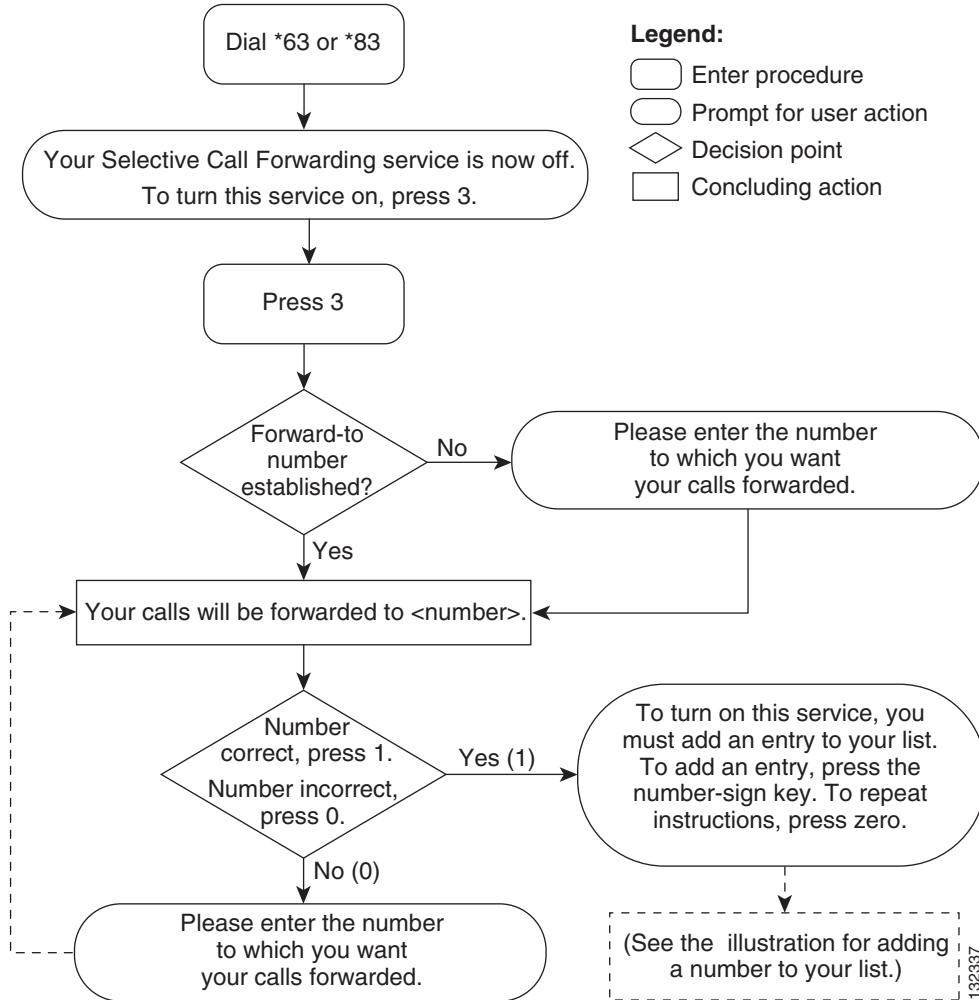


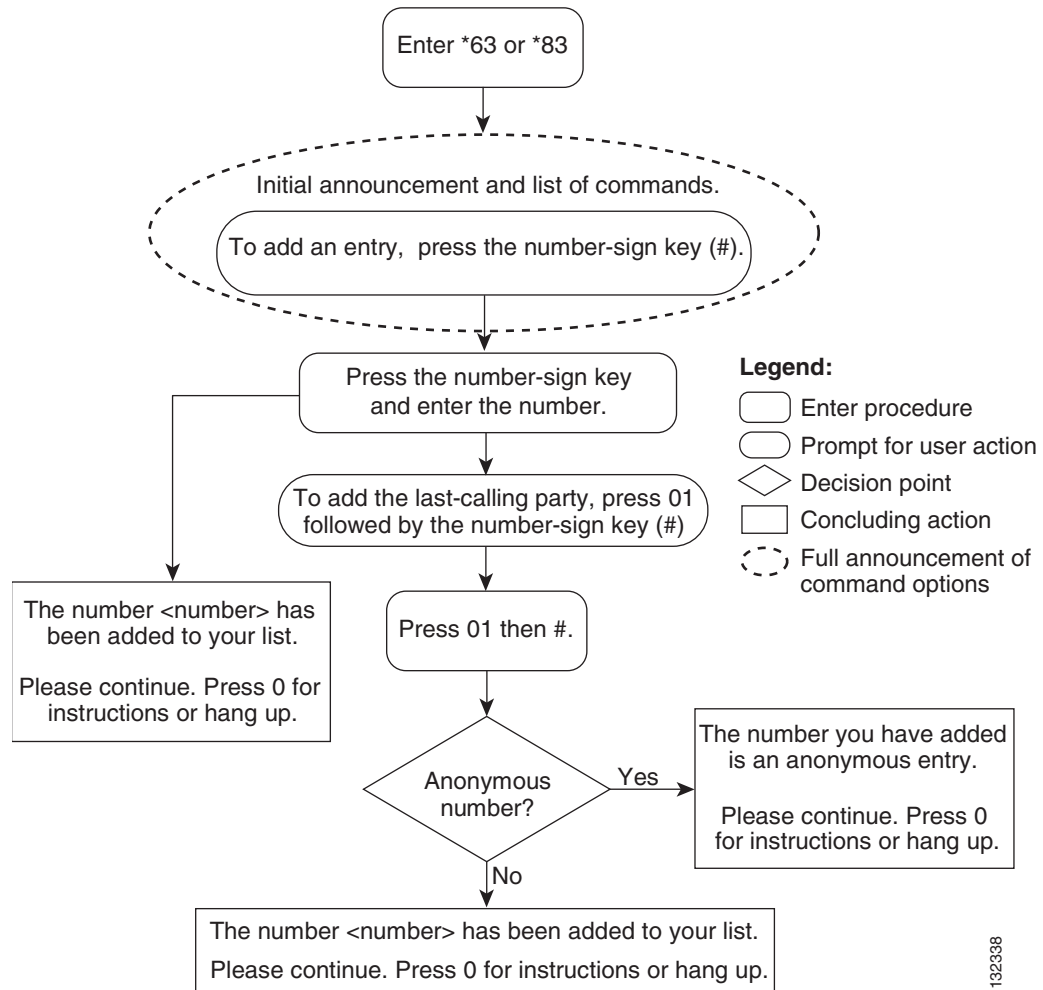
Figure 6-5 presents a flow chart that shows the sequence of IVR prompts and announcements for activating the Selective Call Forwarding service and adding DN from which calls will be forwarded.



**Note**

In the following figures, the elliptical element with a dashed border represents the announcement of the full set of command options. The element contained within ellipse represents the selected key command.

Figure 6-5 Selective Call Forwarding—Adding a Number or Last Calling Party



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## Selective Call Forwarding—Listing and Deleting Entries

To use the Selective Call Forwarding service to list and then delete one or more of the numbers from which calls are to be forwarded, complete the following steps. (See [Figure 6-6](#).)

**Step 1** To hear a voice listing of the entries on your list, press 1.

The system plays the following voice announcement and prompt:

“There are <number> entries on your list.

To delete an entry,  
press 0 7 as soon as you hear it.

You may enter a list-editing command at any time, including 0 for the list of commands.

The first entry on your list is <xxx-xxx-xxxx>.  
Next is <xxx-xxx-xxxx>.

This is the end of your list. Please continue. Press 0 for instructions or hang up.”

- Step 2** Press 0 7 as soon as you hear a number that you want to delete, or press the star key.  
If you press \*, the system plays the following prompt:  
“Enter the number to be deleted then press the star key.  
To delete the last-calling party, press 0 1 followed by the star key.”
- Step 3** Enter the number you want to delete and press \*.  
The system plays the following prompt:  
“The number <xxx-xxx-xxxx> has been deleted from your list. Please continue. Press 0 for instructions or hang up.”  
or:  
“The number to be removed is not on your list. Please continue. Press 0 for instructions or hang up.”
- Step 4** To delete all entries on your list simultaneously, press 0 8. (See [Figure 6-7](#).)  
The system plays the following announcement:  
“There are no more entries on your list.”
- Step 5** To delete all anonymous entries on your list, press 0 9. (See [Figure 6-8](#).)  
The system plays the following announcement:  
“There are no more anonymous entries on your list. Please continue. Press 0 for instructions or hang up.”  
or:  
“We’re sorry, there are no entries on your list. Please continue. Press 0 for instructions or hang up.”
- Step 6** To turn the SCF service off, press 3  
The system plays the following announcement:  
“Your Selective Call Forwarding service is now off.”
-

Figure 6-6 presents a flow chart that shows the sequence of IVR prompts and announcements for using the Selective Call Forwarding service to review the list of DN numbers from which calls are forwarded and to delete DN numbers from the list.

**Figure 6-6** Selective Call Forwarding—Listing and Deleting Entries

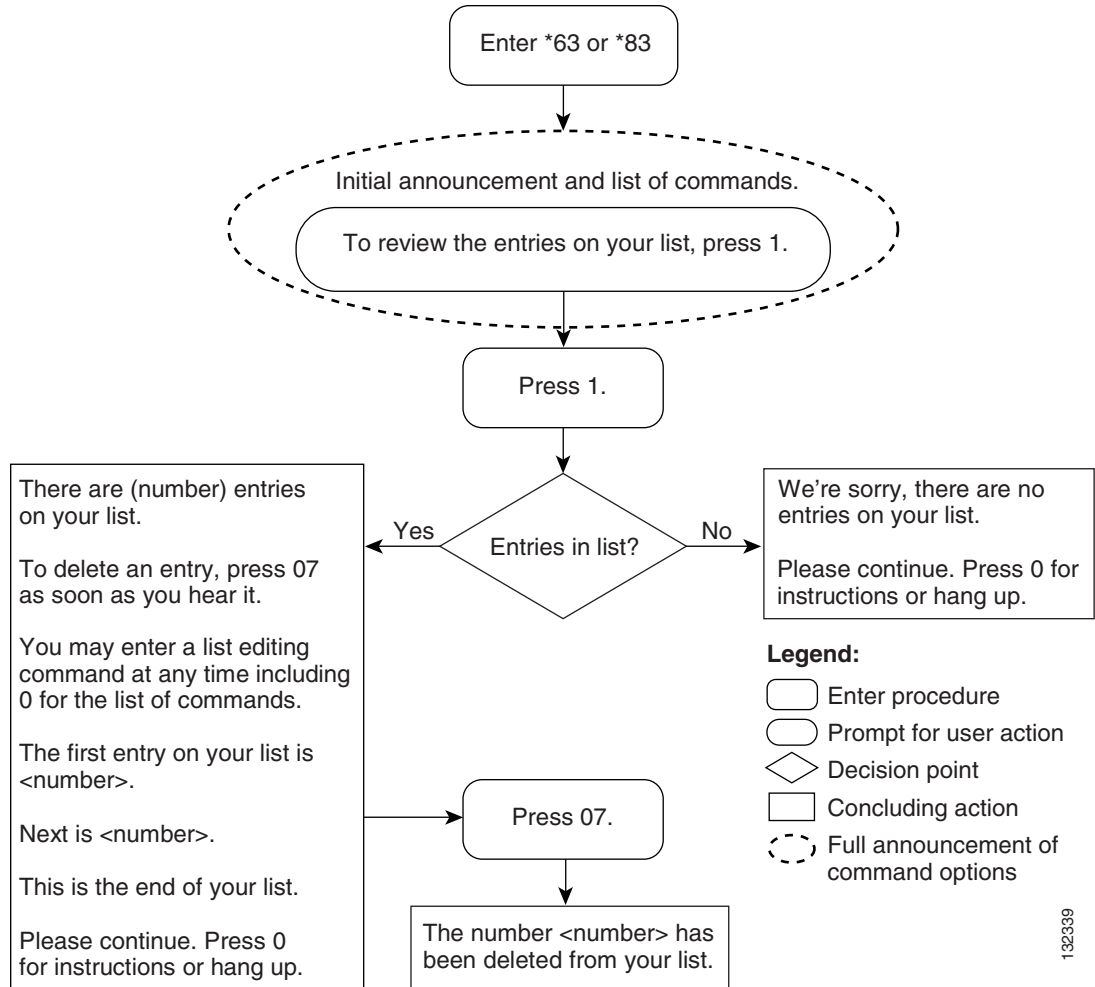
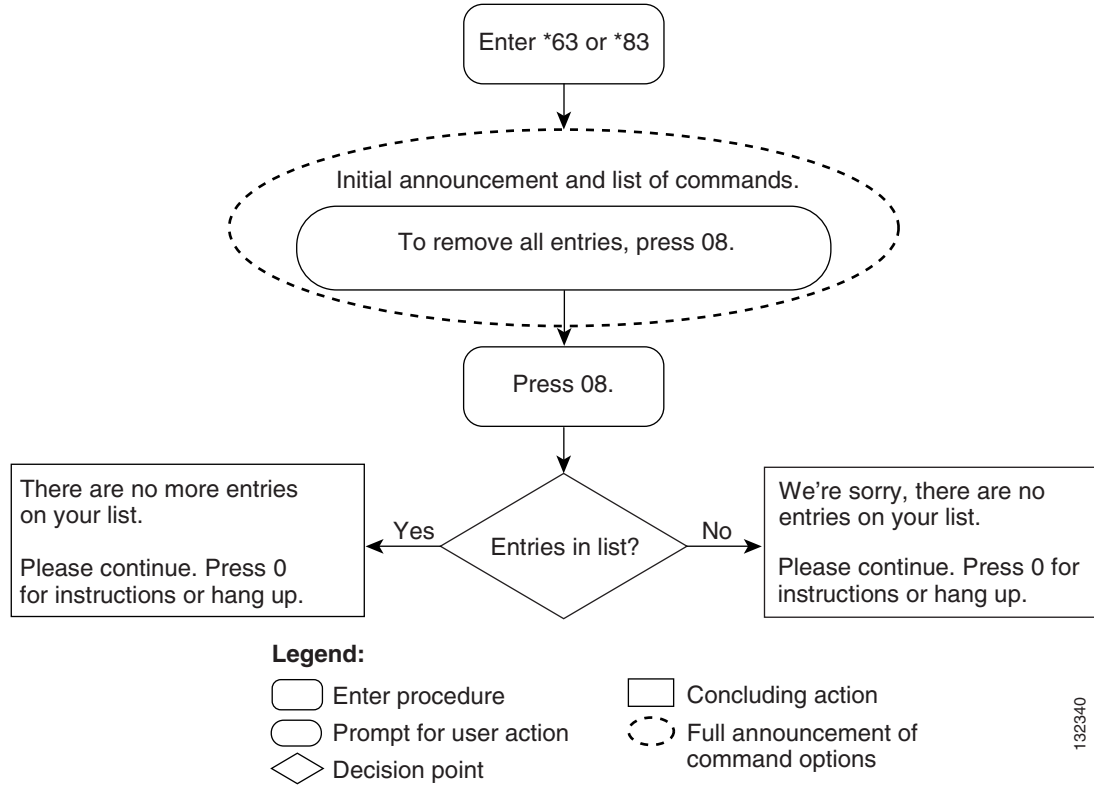


Figure 6-7 presents a flow chart that shows the sequence of IVR prompts and announcements for using the Selective Call Forwarding service to remove DN's from the list from which calls are forwarded.

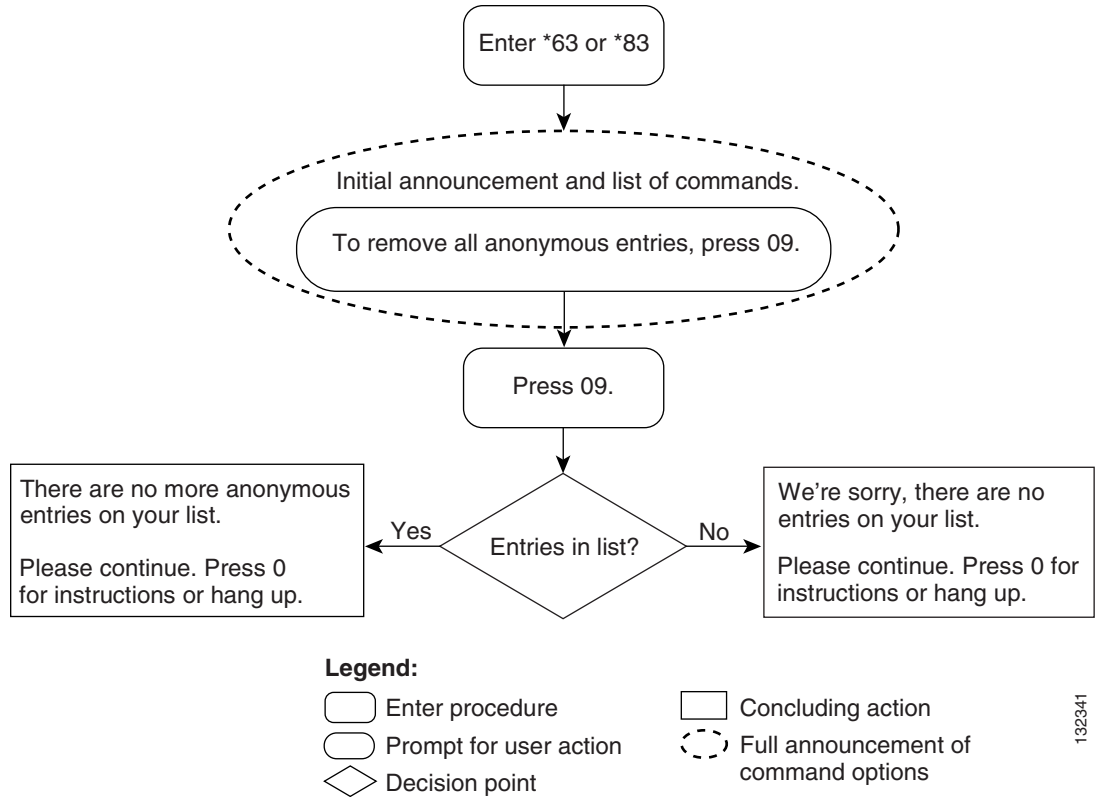
**Figure 6-7 Selective Call Forwarding—Removing All Entries from a List**



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Figure 6-8 presents a flow chart that shows the sequence of IVR prompts and announcements for using the Selective Call Forwarding service to remove anonymous DNs from the list from which calls are forwarded.

**Figure 6-8 Selective Call Forwarding—Removing All Anonymous Entries from a List**



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## Adding a Number in SLE for Centrex Subscribers

The system plays the following voice announcement and prompt:

“Enter the number to be added then press the number-sign key.

To add the last calling party, press zero one, followed by the number-sign key.

To add an extension, press zero two and the extension followed by the number-sign key.

To add an extension starting with pound, press zero four and the extension followed by number-sign key.

To add an extension starting with star, press zero five and the extension followed by number-sign key.”

## Adding an Extension in SLE for Centrex Subscribers

To add an extension in SLE, complete the following steps:

- 
- Step 1** Press 02.
- Step 2** Press the extension *<ext-number>* followed by the number-sign key.
- 

## Adding MVP Extensions in SLE

For adding MVP extension in SLE starting with the pound (#), do the following:

- 
- Step 1** Press 04
- Step 2** Press the extension *<ext-number>* followed by number-sign key.
- 

For adding MVP extension in SLE starting with star (\*), do the following:

- 
- Step 1** Press 05
- Step 2** Press the extension *<ext-number>* followed by number-sign key.
- 

## Deleting Numbers in SLE for Centrex Subscribers

The system plays the following voice announcement and prompt:

“Enter the number to be deleted then press the star (\*).

To delete the last calling party, press zero one, followed by the star (\*).

To delete an extension starting with pound, press zero four and the extension *<ext-number>* followed by star (\*).

To delete an extension starting with star, press zero five and the extension *<ext-number>* followed by star (\*).”

## Deleting MVP Extensions in SLE

To delete MVP extension in SLE starting with the pound,

- 
- Step 1** Press 04.
- Step 2** Press the extension *<ext-number>* followed by star (\*) key.
- 

To delete an extension starting with a star (\*),

- 
- Step 1** Press 05



**Step 2** Press the extension *<ext-number>* followed by star (\*) key.

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## Using IVR for SCA, SCR, and DR/CW Services

The following sections provide generic descriptions of how a subscriber uses IVR functions to operate the Selective Call Acceptance, Selective Call Rejection, and Distinctive Ring/Call Waiting services. After you enter the specific VSC for the service you wish to access, the method for using the available options is identical, regardless of which service you select.

**Note**

The figures in this section are also generic. The flow charts show that the command options for SCA, SCR, and DR/CW operate identically.

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For a detailed description of SCA, SCR, and DR/CW, see [Chapter 3, “Subscriber Features.”](#)

## Activating an IVR Service

To activate an IVR service and add a DN to the service list, complete the following steps:

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**Step 1** Initiate *<service\_name>* by dialing \* *<VSC\_code>*.

The system plays the following voice announcement to indicate whether the service is currently on or off. It then announces the set of key commands that you can enter to perform the various screening-list-editing operations offered by the service.

“Your *<service\_name>* service is now off.

There are no entries on your list.

You may interrupt announcements at any time by entering a command key. When you are finished, hang up.

**Note**

If you interrupt the announcements, enter the command key immediately after its corresponding option is announced. For example, press the number-sign key immediately after the announcement: “To add an entry, press the number-sign key.”

---

To turn this service on, press 3.

To add an entry, press the number-sign key.

To remove one or more entries, press the star key.

To remove all list entries, press 0 8.

To remove all anonymous list entries, press 0 9.

To review the entries on your list, press 1.

To hear these instructions repeated, press 0.”

**Step 2** Press 3.

The system plays the following voice prompt:

“There are no entries on your list. To turn this service on, you must add an entry to your list.

Enter the number to be added, then press the number-sign key (#).”




---

**Note** If the system detects that there is an entry already on your list, the system announces: “Your <service\_name> service is now on. Please continue. Press 0 for instructions or hang up.”

---

**Step 3** Enter the number, and press #.

The system plays the following voice announcement and prompt:

“The number <xxx-xxx-xxxx> has been added to your list.

Please continue. Press 0 for instructions or hang up.”

**Step 4** To add the last-calling party, press 0 1 #.

The system plays one of the following voice announcements and prompt:

“The number <xxx-xxx-xxxx> has been added to your list.”

or:

“The number you have added is an anonymous entry.

Please continue. Press 0 for instructions or hang up.”

**Step 5** Continue or hang up.

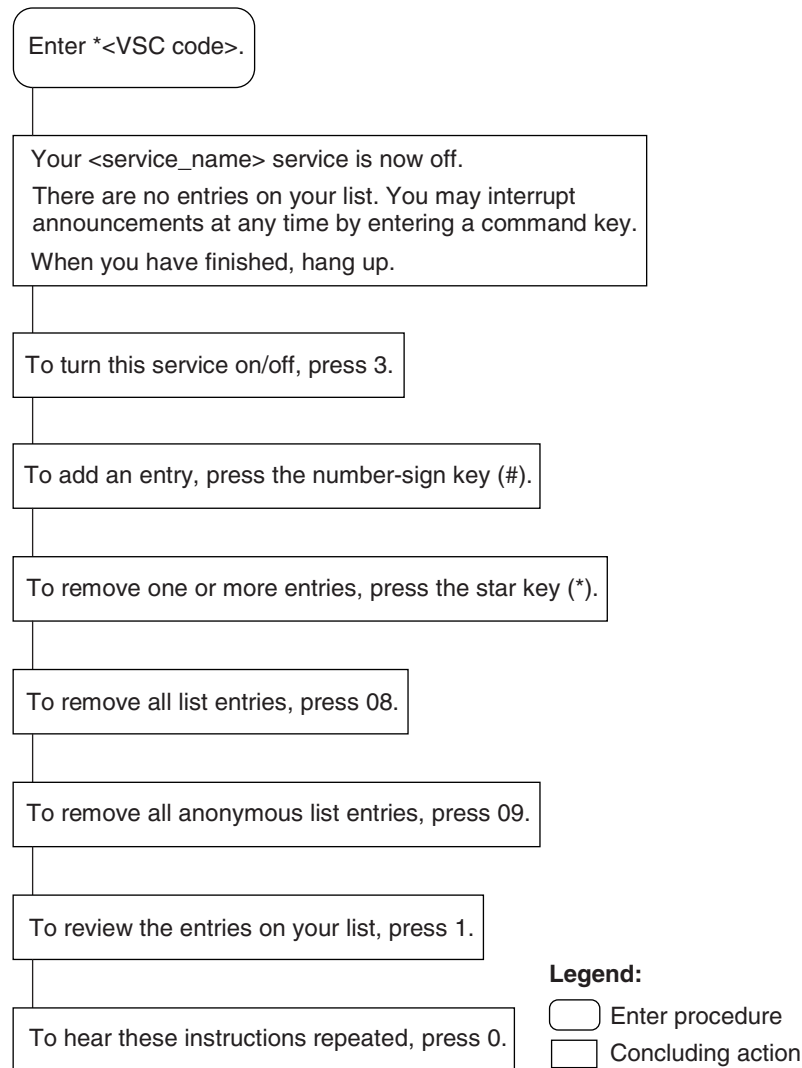



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**Note** When you press 0, the system repeats the entire initial announcement of the available options. You can select an option immediately after it is announced.

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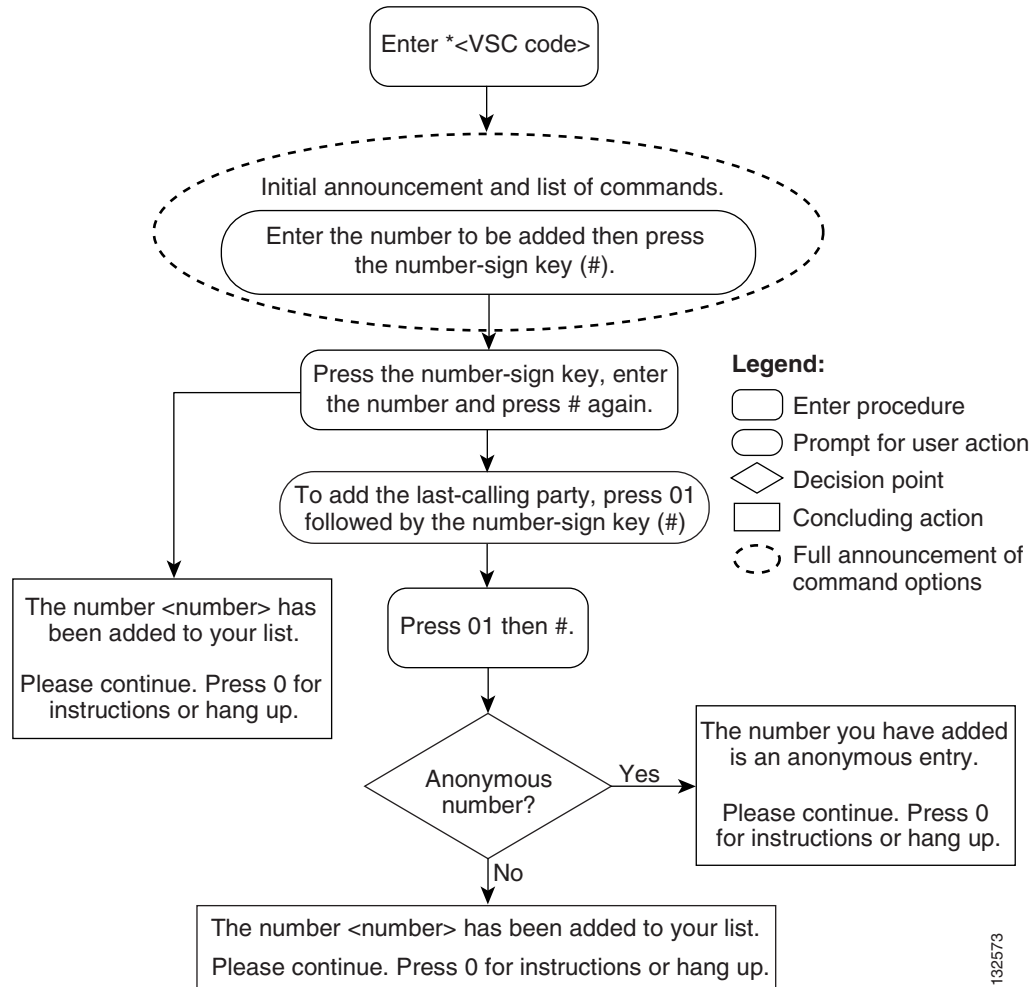
Figure 6-9 presents a flow chart that shows the initial announcement and list of command options for implementing and managing an IVR service.

**Figure 6-9** *IVR Service—Initial Announcement and List of Commands*

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Figure 6-10 presents a flow chart that shows the sequence of IVR prompts and audio responses for activating the IVR service and adding DN to the service list.

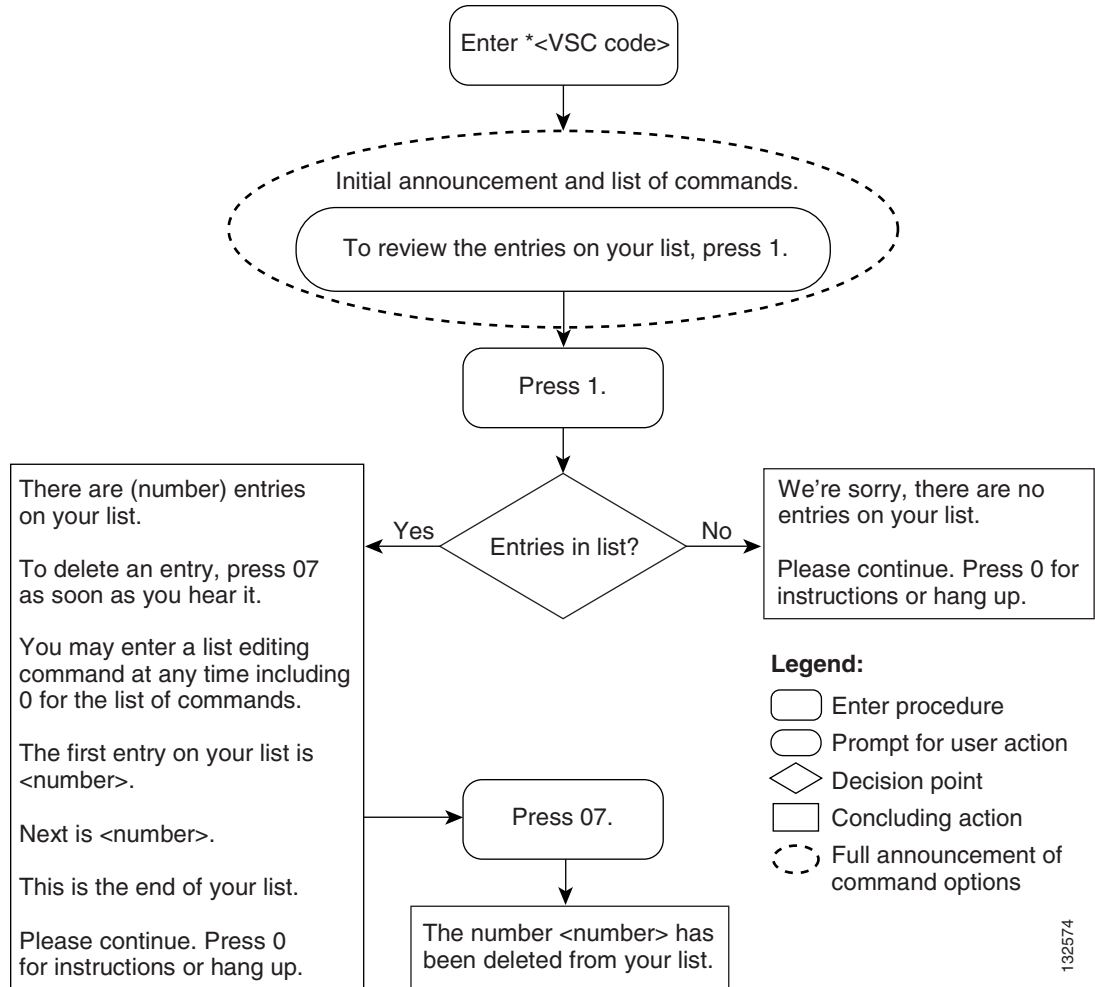
**Figure 6-10** Adding a Number or Last Calling Party



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Figure 6-11 presents a flow chart that shows the sequence of IVR prompts and audio responses for reviewing the list of DN's for a service.

**Figure 6-11 Selective Call Forwarding—Reviewing List Entries**



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## Deleting Numbers from the Service List

To use an IVR service to list and then delete one or more of the numbers from the service list, complete the following steps:

**Step 1** To hear a voice listing of the entries on your list, press 1.

The system plays the following voice announcement and prompt:

“There are <number> entries on your list.

To delete an entry,  
press 0 7 as soon as you hear it.

You may enter a list-editing command at any time, including 0 for the list of commands.

The first entry on your list is <xxx-xxx-xxxx>.

Next <xxx-xxx-xxxx>.

This is the end of your list. Please continue. Press 0 for instructions or hang up.”

**Step 2** Press 0 7 as soon as you hear a number that you want to delete or press the star key.

If you press \*, the system plays the following voice prompt:

“Enter the number to be deleted, then press the star key.

To delete the last-calling party, press 0 1 followed by the star key.”

**Step 3** Enter the number you want to delete and press \*.

The system plays the following voice prompt:

“The number <xxx-xxx-xxxx> has been deleted from your list. Please continue. Press 0 for instructions or hang up.”

or:

“The number to be removed is not on your list. Please continue. Press 0 for instructions or hang up.”

**Step 4** To delete all entries on your list simultaneously, press 0 8.

The system plays the following announcement:

“There are no more entries on your list.”

**Step 5** To delete all anonymous entries on your list, press 0 9.

The system plays the following announcement:

“There are no more anonymous entries on your list. Please continue. Press 0 for instructions or hang up.”

or:

“We’re sorry, there are no entries on your list. Please continue. Press 0 for instructions or hang up.”

**Step 6** To turn the SCA service off, press 3

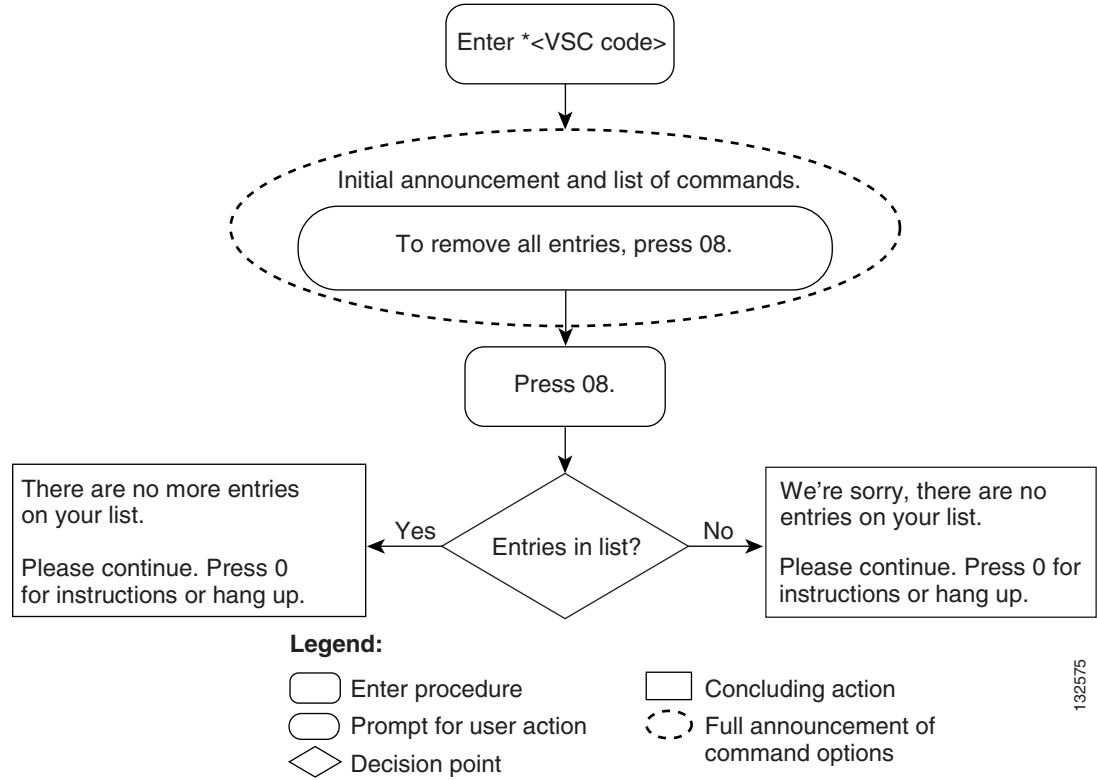
The system plays the following announcement:

“Your <Service\_Name> service is now off.”

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Figure 6-12 presents a flow chart that shows the sequence of IVR prompts and audio responses for removing all DN's from the service list.

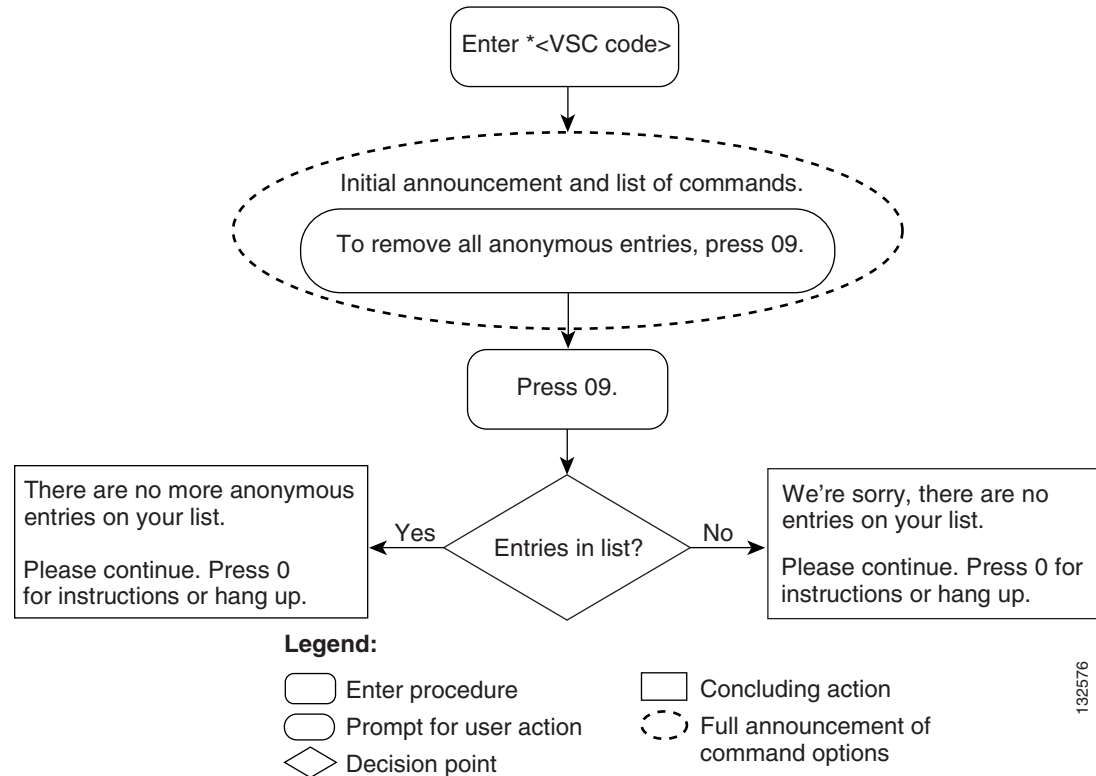
**Figure 6-12 Removing All Entries from a Service List**



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Figure 6-13 presents a flow chart that shows the sequence of IVR prompts and audio responses for removing all anonymous DNs from the service list.

**Figure 6-13** Removing All Anonymous Entries from a Service List



## Two-Level Automatic Recall Activation

Two-Level Automatic Recall (AR) activation is an extension of one-level AR, and requires communication with an IVR server. The IVR server generates the announcement of the calling-party number, provides appropriate voice prompts, and collects the user's response.



### Note

Two-Level AR differs from One-Level AR, which allows the subscriber to place a call to the calling-party number through the use of a VSC, but without involving IVR functions.

To use the IVR functions to access the two-level AR feature, complete the following steps:

- Step 1** As the two-level AR subscriber, do not pick up (go off hook) in response to an incoming call until the phone stops ringing. (See [Figure 6-14](#).)
- Step 2** Lift the handset (go off hook).
- Step 3** Dial \* 6 9.



The system plays one of the following two announcements:

- “The last incoming number was <number>. This call was received on <MM:DD:YYYY> at <HH:MM>. To activate Automatic Recall, dial 1; otherwise, hang up.”
- “The last incoming number was an anonymous number and cannot be announced. To activate Automatic Recall, dial 1; otherwise, hang up.”




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**Note** The subscriber has 7 seconds to dial 1.  
(This is a provisional timer that can be set to a duration from 1 to 10 seconds.)

If the time elapses, the system announces:

“We’re sorry, please hang up now. Consult your written instructions and try again later.”

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**Step 4** Dial 1.

Whether the last incoming call was announced or anonymous, the system determines the status of the calling number and, depending on that status, performs one of the following actions.




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**Note** By default, the Cisco BTS 10200 does not permit AR of an anonymous number. To enable AR of an anonymous number, in the ca-config table, you must provision the TYPE token to ARAC-ACTIVATION-TO-ANONYMOUS-DN and set the value to Y (Yes). Unless enabled, in response to an attempt to use AR for an anonymous caller, the system plays the following announcement:

“We are sorry. The number you are trying to reach is private and cannot be called using the automatic recall feature.”

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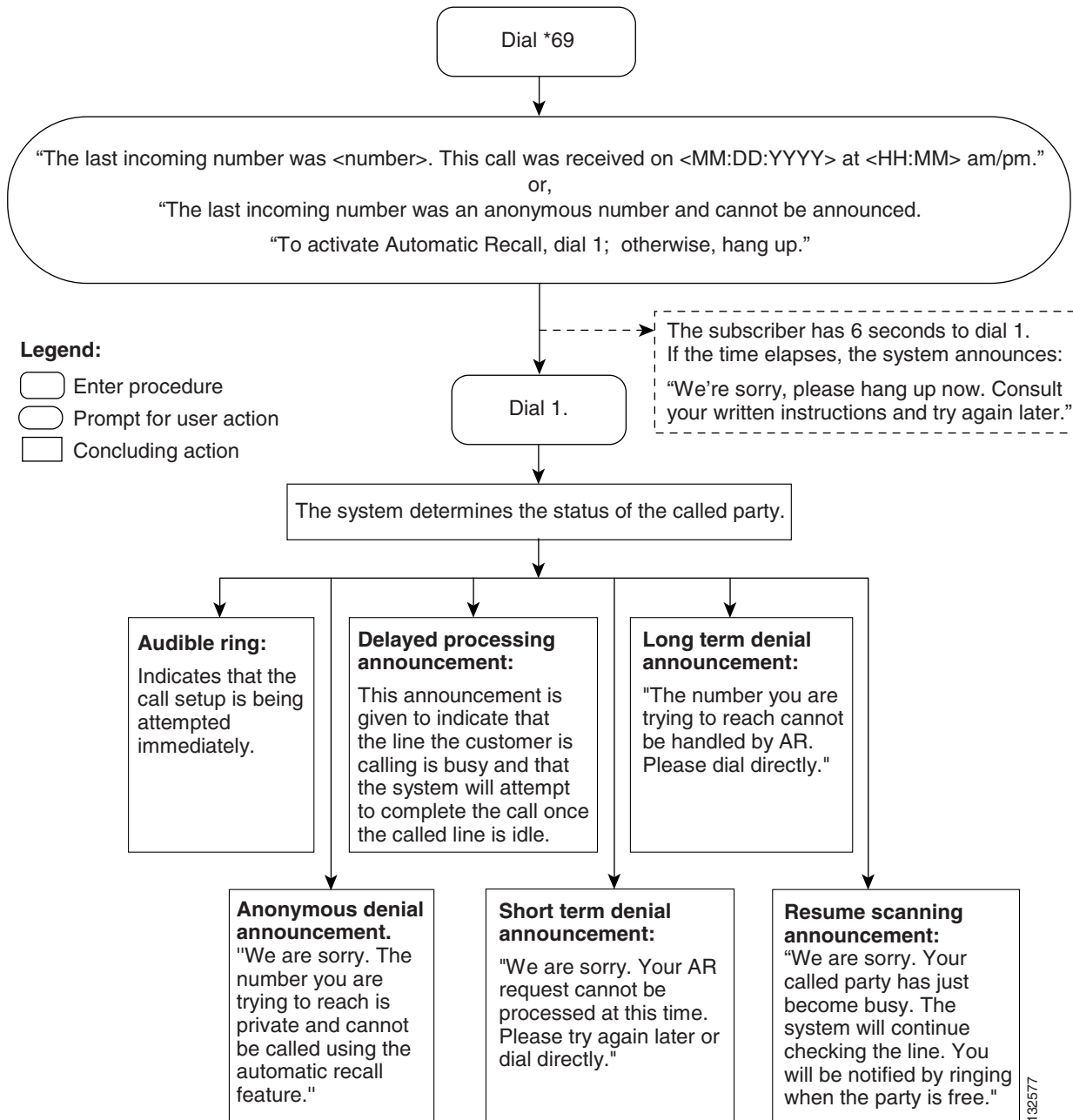
- Audible ring—Indicates that the call setup is being attempted immediately.
- Delayed processing announcement—“The number you are calling is busy. The system will check the line for the next 30 minutes. You will be notified by ringing when the party is free.”
- Short term denial announcement—“We are sorry. Your automatic recall request cannot be processed at this time. Please try again later or dial directly.”
- Long term denial announcement—“The number you are trying to reach cannot be handled by automatic recall. Please dial directly.”
- Resume scanning announcement—“We are sorry. Your called party has just become busy. The system will continue checking the line. You will be notified by ringing when the party is free.”

**Step 5** Respond appropriately to the specific announcement played by the system.

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Figure 6-14 presents a flow chart that shows the sequence of IVR prompts and audio responses when you are using two-level activation of AR.

Figure 6-14 Two-Level Automatic Recall



# No Solicitation Announcement

The No Solicitation Announcement (NSA) service enables a subscriber to announce to those callers whose phone numbers are not added to an NSA-bypass list that the subscriber is not accepting calls. The subscriber can define the time interval during which the no-solicitation announcement is played to every caller whose DN is not on the bypass list.

A caller who receives the no-solicitation announcement can continue the call by pressing a key specified in the announcement (by default, the digit 1) or by waiting on the line.

The feature also enables the subscriber to:

- Activate or deactivate the feature
- Change a PIN, which (if authentication is enabled for the NSA service) is required before the subscriber can change NSA settings
- Create the NSA bypass list
- Alter the schedule during which the NSA is active

Typically, a caller who attempts to contact the NSA subscriber during a time when the service is scheduled and active hears the following announcement:

“You have reached a number that does not accept solicitations. If you are a solicitor, please add this number to your do-not-call list and hang up now. Otherwise, press 1 or stay on the line.”

The subscriber can maintain a bypass list of complete or partial DNs. A call made from a listed DN is accepted. The system does not play the NSA announcement to callers from DNs on the NSA-bypass list.

The subscriber can also turn this feature on or off and can set a time schedule (start and end times) when this feature is active. The billing record indicates whether the solicitor hangs up when the announcement is played.

The feature has two subfeatures, Invocation and Activation:

- Invocation plays a message to callers who are not on the subscriber's no-solicitation bypass list during the time set by the subscriber. The message notifies the caller that the subscriber is not accepting solicitation calls, but the caller can press 1 if the caller wishes to complete the call. If the caller presses 1, the subscriber's phone rings.
- Activation enables the subscriber to manage the no-solicitation bypass list of complete or partial DNs from which calls are accepted. With this subfeature, the subscriber can:
  - Change the PIN (pass code) once (which is required for access to this menu)
  - Establish the schedule when the service is active
  - Turn off the service completely for all incoming calls

**Note**

For detailed procedures for provisioning and managing the NSA feature on the Cisco BTS 10200, see the [“No Solicitation Announcement” provisioning procedure](#) in the *Provisioning Guide*.

## NSA Activation

The NSA activation feature enables a subscriber to manage the following no-solicitation preferences:

- The time schedule when the NSA service is active

- The no-solicitation bypass list of DN's for callers enabled to bypass the no-solicitation announcement
- The PIN (once only)

A caller whose DN is not on the subscriber's no-solicitation bypass list and whose call does not go through to the subscriber can do one of the following:

- Stay on the line or press 1. In response to either of these decisions, the subscriber's phone rings and the caller is connected to the subscriber.
- Hang up. In this case, the subscriber's phone does not ring.
- Press a digit other than 1. In this case, the no-solicitation announcement is replayed to the caller. When a CLI-provisioned threshold of attempts is reached, the subscriber's phone rings and the caller is connected to the subscriber.

**Note**


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To activate the NSA service, the subscriber must enter at least one DN on the NSA bypass list.

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## Creating the NSA Bypass List

The NSA bypass list of DN's can include the following:

- Full DN's—If the full DN of the calling party matches the DN provisioned in this table, the system treats this as a match and allows the incoming call to bypass the NSA announcement.

For example, if the subscriber adds the full DN 214-555-1234 to the NSA bypass list, the caller's number must match that number exactly. If the subscriber enters a number for a seven-digit area, the number is normalized.

- Extensions—For Centrex groups only, if the full extension of the calling party matches the DN provisioned in this table, the system treats this as a match and allows the incoming call to bypass the NSA announcement.

For example, if the Centrex group adds the extension 501 to the NSA bypass list, a caller's extension must match 501 to bypass the no-solicitation announcement.

**Note**


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If the subscriber line is not provisioned as a Centrex line, the system does not allow this option.

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- Partial DN's—The system uses the longest possible match. If the calling number is 2145556789, the system matches as follows:
  - If the bypass list contains 214 (partial DN), 214555 (partial DN), and 2145556789 (full DN), the full DN is matched first.
  - If the bypass list contains 214 (partial DN) and 214555 (partial DN), but no full DN, the partial string 214555 is matched first.

The NSA bypass list can include up to 25 entries.

## Establishing an NSA Schedule

The NSA service allows the service provider or a subscriber to set the time period when the NSA service will be active. Typically, a subscriber sets a start time, stop time, start day, and stop day. For example, a subscriber could make these entries: start time 8:00 a.m. (entered as 0800), stop time 5:00 p.m. (entered as 1700), start day Monday (entered as 1), and stop day Friday (entered as 5). Such settings would make the NSA service active from 8:00 a.m. Monday until 5:00 p.m. Friday.

When the NSA service is inactive, the subscriber's no-solicitation bypass list is preserved. During times when the NSA service is not scheduled, it is considered inactive.

Because it is possible that the Cisco BTS 10200 and a subscriber might not be located in the same time zone, the NSA schedule uses the time zone information present in the point of presence (POP) to which the subscriber belongs. If a time slot is not assigned to a subscriber for a feature, by default, the feature is considered always active. In provisioning the Cisco BTS 10200 feature table, the service provider can control whether a subscriber can set NSA schedules by interactive voice response (IVR) handset provisioning.

**Note**

If the Subscriber Time of Day Schedule (subscriber-tod-schedule) table is not provisioned for a subscriber, the system checks the POP table for that subscriber and looks up the value of a VIRTUAL-NSA-SUBSCRIBER-ID token. If a subscriber-tod-schedule is provisioned for this virtual subscriber, the system uses that schedule. Otherwise, the system treats NSA as always active for that subscriber. For additional information on this feature, see the [“No Solicitation Announcement \(NSA\)” section on page 3-137](#).

## PIN Management

If the service provider enables authentication for the NSA service, the subscriber must enter a PIN to authenticate access to that service. When access is successfully authenticated, the subscriber can change the settings of the NSA service. The PIN can be a number from 1 to 26 digits.

The service provider can disable a PIN check for the NSA service by provisioning the feature-config table. This would enable a subscriber to manage the NSA service without passing PIN authentication.

**Note**

The service provider can enable (or disable) the PIN authentication step by setting the AUTH-ENABLED token to Y (or N) in the Feature Configuration (feature-config) table. The default value is Y.

The service provider provisions a value for PIN in the service-feature-data table. After that, the service provider enables a subscriber to alter the PIN one time. To enable the subscriber to alter the PIN, the service provider provisions the PIN and sets the PINTYPE to NEWPIN. If PINTYPE is not set to NEWPIN, the service provider retains maintenance of the PIN and, therefore, control of the authentication to access and manage the NSA service options.

If the PINTYPE is not NEWPIN and the PIN is not present, the authentication for access to the NSA service fails.

**Caution**

Authentication to access the NSA service should be controlled by a PIN entry. Otherwise, anyone who has access to a subscriber's handset, and knows the VSC code for the NSA service can gain unauthorized access to management of the subscriber's NSA service.

## Managing the NSA Service Options

A NSA service subscriber can perform the following operations using a handset:

- Authenticate access to manage the service
- Change feature status (active/inactive)
- Add or delete a specific entry
- Delete all entries
- Delete all anonymous entries
- Review and delete an entry during review
- Repeat the menu instructions
- Manage the active timeslot

## Initial Authentication and PIN Change

When accessing the NSA service for the first time, the subscriber enters the password (PIN) provided by the service provider and then (if the service provider has set PINTYPE TO NEWPIN), the subscriber is prompted to change the password to one the subscriber chooses. The subscriber can set the PIN only once. Thereafter, the subscriber must contact the service provider to change the PIN.

To authenticate access to the NSA service, complete the following steps:

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**Step 1** Enter \* 9 4.

The system plays the following voice prompt:

“Please enter your password now.”

**Step 2** Enter the password provided by the service provider.

If you enter the password incorrectly, the system plays the following announcement:

“We are sorry, the password you entered is incorrect. Please hang up and try your call later.”

If you enter the password correctly, the system plays the following prompt:

“You must now change your password. Please enter a new password now.”

**Step 3** Enter your new password.

The system plays the following announcement:

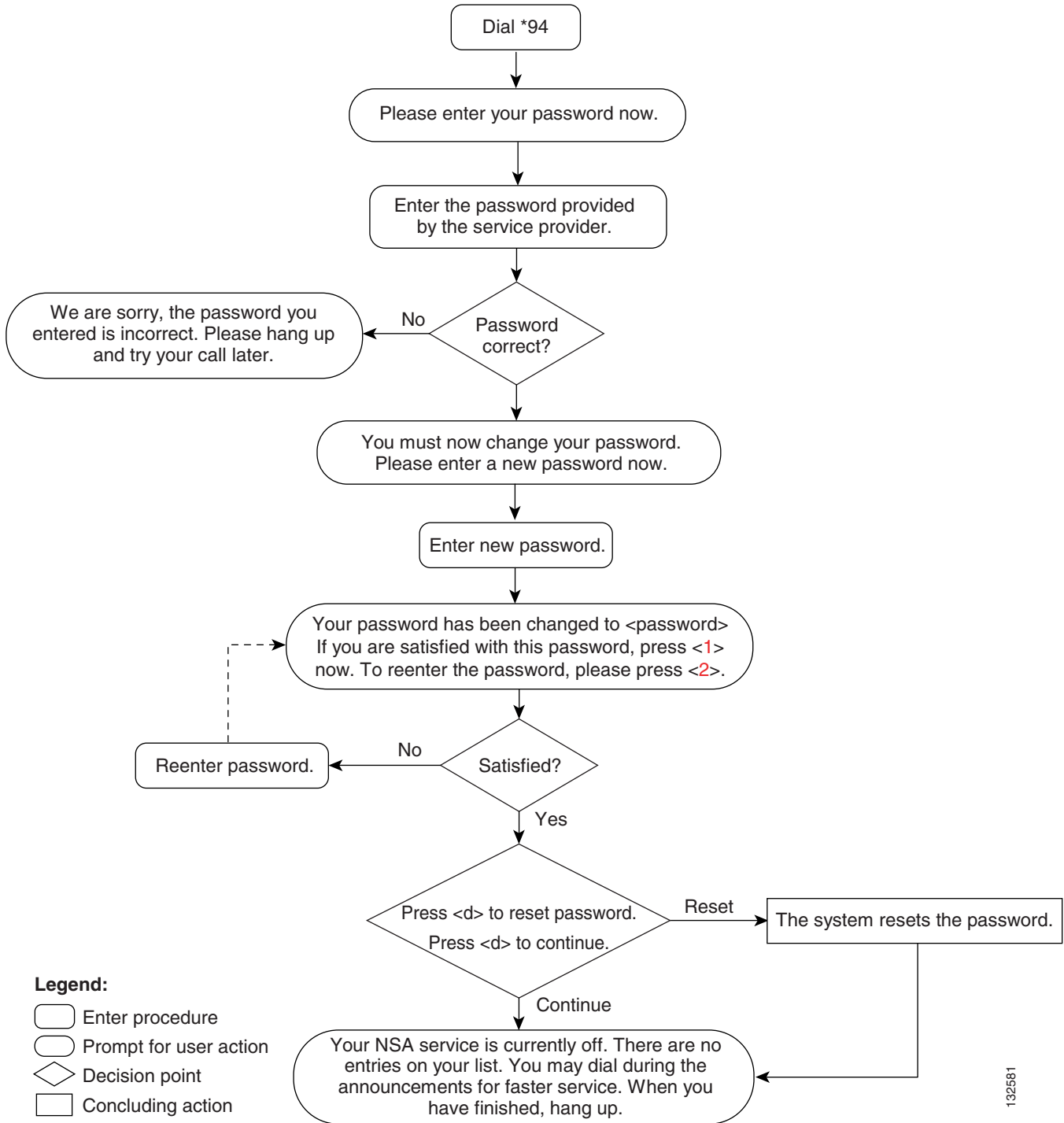
“Your password has been changed to <xxx...>. If you are satisfied with this password, press 1.”

**Step 4** If you are satisfied with your password, press 1.

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Figure 6-15 presents a flow chart that shows the IVR prompts and announcements that are played when PINTYPE is set to NEWPIN and the subscriber is enabled to change the PIN (one time only).

Figure 6-15 No Solicitation Announcement—PIN Change



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## Managing NSA Service Options

After the subscriber either passes the PIN check or accesses the NSA service directly (with authentication disabled), the subscriber can control activation of the service and manage service options.

To access and manage the NSA service, complete the following steps:

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**Step 1** Enter \* 9 4

The system responds in one of two ways:

- If authentication is disabled for the NSA service in the feature-config table, the system plays the NSA service menu.
- If authentication is enabled for the NSA service in the feature-config table, the system plays the PIN authentication prompt.

When the subscriber accesses the NSA service, the system plays the following voice announcement to indicate whether the service is currently on or off. It then announces the set of key commands that one can enter to perform the various operations offered by the service.

“Your NSA service is currently off.

There are no entries on your list.

You may interrupt announcements at any time by entering a command key. When you have finished, hang up.



**Tip**

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If you want to interrupt the announcements, enter the command key immediately after its corresponding option is announced. For example, press the number-sign key (#) immediately after the announcement: “To add an entry, press the number-sign key.”

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To turn this service on, press 3.

To add an entry, press the number-sign key.

To remove one or more entries, press the star key.

To remove all list entries, press 0 8.

To remove all anonymous list entries, press 0 9.

To hear the entries on your list, press 1.

To schedule based on the time-of-day schedule, press 2.

To hear these instructions repeated, press 0.

Please dial now.”

**Step 2** Press the key that corresponds to the operation you wish to perform.

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## Adding DN's to the NSA List

A caller whose DN is on the NSA bypass list does not receive the NSA announcement.

Initially, you must add a number to the NSA bypass list in order to turn the NSA service on. That is, if you want the service to play the NSA announcement to all callers not on your NSA bypass list (during the time when the service is scheduled to be active), you must have at least one DN on your list.



You can enter as many as 25 DNs on the NSA bypass list.

To add the DNs of callers whose calls you want to bypass the NSA announcement, complete the following steps:

---

**Step 1** Enter \* 9 4.

The system plays the following announcement:

“Your No Solicitation Announcement service is currently off. There are no entries on your list.

You may dial during the announcements for faster service. When you are finished, hang up.

To turn this service on, press 3.

To add an entry, press the number-sign key.

To remove one or more entries, press the star key.

To remove all list entries, press 0 8.

To remove all anonymous list entries, press 0 9.

To review the entries on your list, press 1.

To hear these instructions repeated, press 0.

To schedule this service, press 2.”

**Step 2** Press 3.

The system plays the following announcement:

“To turn on this service, you must add an entry to your list. To add an entry, please press the number-sign key. If you wish to hear this announcement repeated, please dial 0.”

**Step 3** Press the number-sign key to add a number to your NSA bypass list.

The system plays the following prompt:

“Dial the number to be added, then press the number-sign key again.

To add the last-calling party, press 0 1, then press the number-sign key again.

To add an extension, press 0 2, dial the number to be added, then press the number-sign key again.



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**Note** If the subscriber line is not provisioned as a Centrex line, the system does not allow this option.

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To add a wildcard (a partial DN), press 0 3, dial the number to be added, then press the number-sign key again. Please dial now.”

**Step 4** Enter the number and press the number-sign key.

When you add a number to the NSA bypass list, the system plays the following announcement:

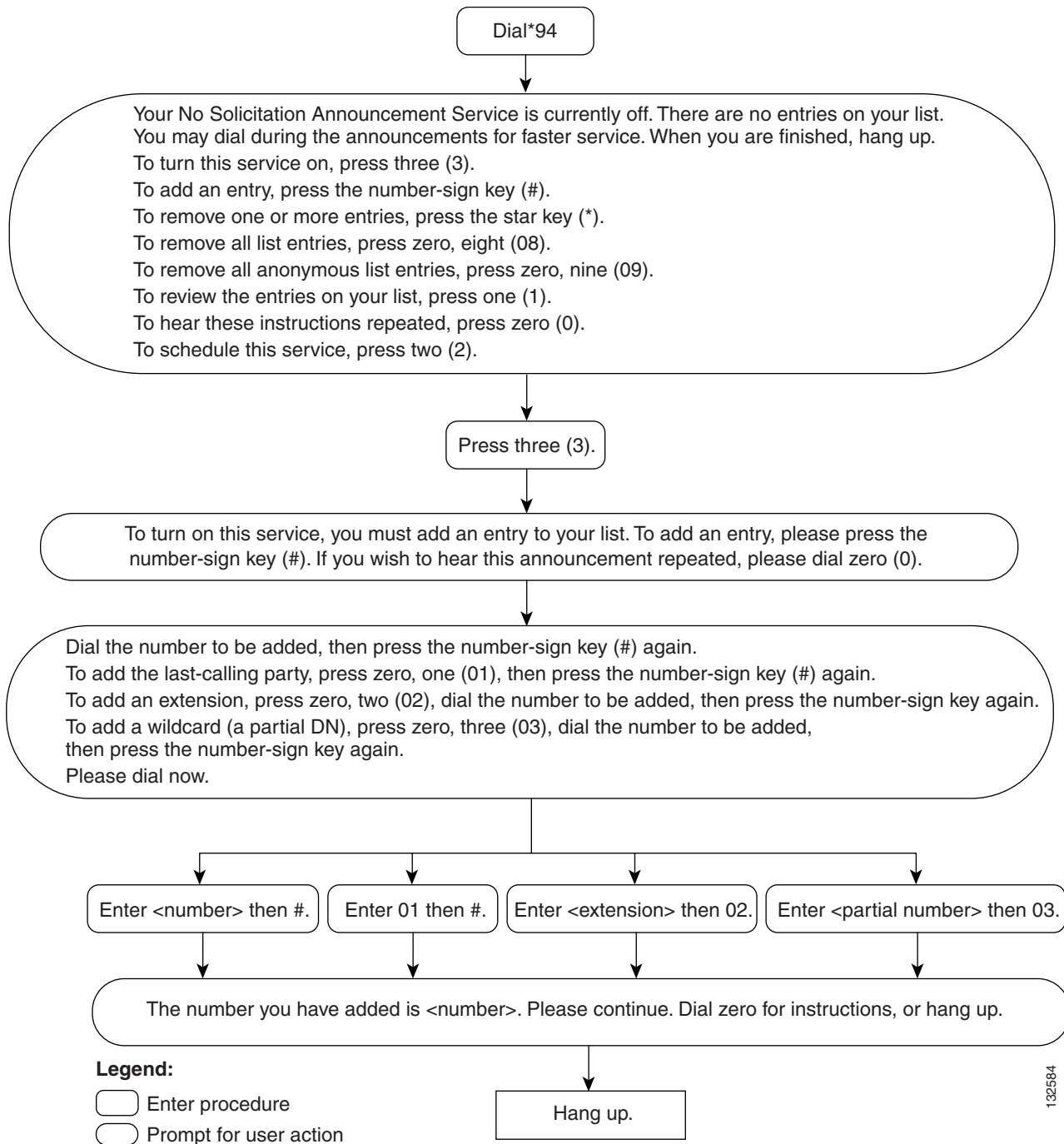
“The number you have added is <number>. Please continue. Dial 0 for instructions, or hang up.”

**Step 5** When you are finished adding numbers to the NSA bypass list, hang up.

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Figure 6-16 presents a flow chart that shows the IVR prompts and announcements that are played when you are adding DN's to an NSA bypass list.

Figure 6-16 No Solicitation Announcement—Adding DN's to the NSA Bypass List



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## Deleting DNs from the NSA Bypass List

To use the No Solicitation Announcement service to delete the DNs of callers who are allowed to bypass the NSA announcement, complete the following steps:

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**Step 1** Dial \* 9 4 to access the NSA service.

If you have previously entered DNs on your NSA bypass list and turned the service on, the system announces the set of key commands that you can enter to perform the various screening-list-editing operations offered by the NSA service.

“Your No Solicitation Announcement service is now on.

You may dial during the announcements for faster service. When you are finished, hang up.

To turn this service off, press 3.

To add an entry, press the number-sign key.

To remove one or more entries, press the star key.

To remove all list entries, press 0 8.

To remove all anonymous list entries, press 0 9.

To review the entries on your list, press 1.

To hear these instructions repeated, press 0.

To schedule this service, press 2.”

**Step 2** Press 1.

The system plays the following announcement and prompt:

“There are <number> entries on your list.

To delete an entry, press 0 7 as soon as you hear it.

You may enter a list-editing command at any time, including 0 for the list of commands.

The first entry on your list is <xxx-xxx-xxx>.

Next <xxx-xxx-xxx>.

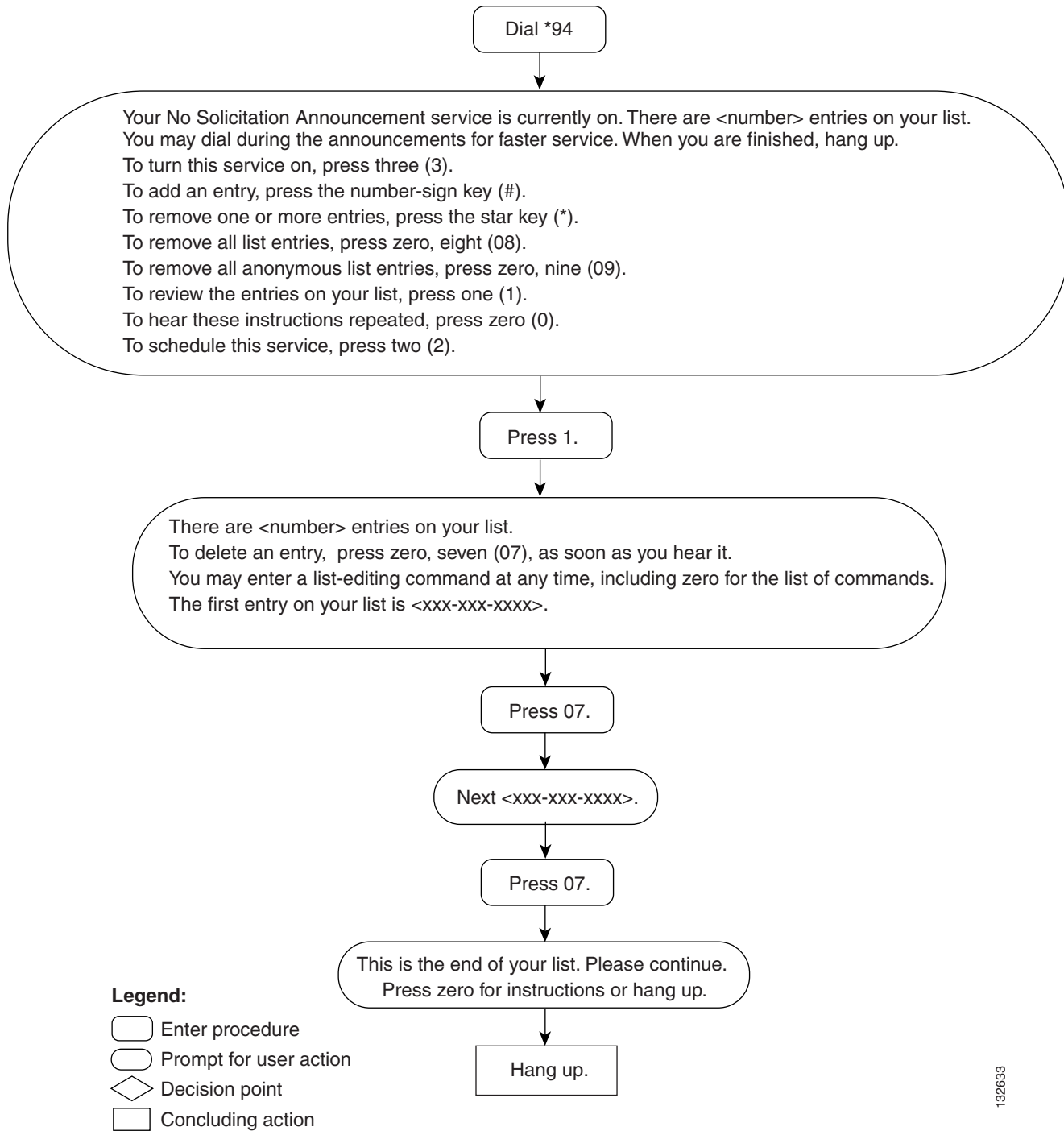
This is the end of your list. Please continue. Press 0 for instructions or hang up.”

**Step 3** Hang up.

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Figure 6-17 presents a flow chart that shows the sequence of prompts and announcements that are played when you are deleting DN's from an NSA bypass list.

Figure 6-17 No Solicitation Announcement—Deleting DN's from the NSA List.



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## Scheduling the NSA Service Time Slot

To schedule the time of day and days of the week during which the No Solicitation Announcement service applies, when activated, complete the following steps:

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**Step 1** Initiate NSA service by dialing \* 9 4.

If you have previously entered DNs on your NSA bypass list and turned the service on, the system announces the set of key commands that you can enter to perform the various screening-list-editing operations offered by the NSA service:

“Your No Solicitation Announcement service is now on.

You may interrupt announcements at any time by entering a command key. When you are finished, hang up.

To turn this service off, press 3.

To add an entry, press the number-sign key.

To remove one or more entries, press the star key.

To remove all list entries, press 0 8.

To remove all anonymous list entries, 0 9.

To review the entries on your list, press 1.

To hear these instructions repeated, press 0.

To schedule this service, press 2.”

**Step 2** Press 2 to schedule the NSA service.

If a schedule for the NSA service was previously set, the system plays the following prompt:

“Your NSA service is scheduled to be on from *<time\_of\_day><day\_of\_week>* to *<time\_of\_day><day\_of\_week>*. If you are satisfied with this schedule, please press one now. To set a different time-of-day schedule, press 2. Please dial now.”

If no schedule was previously set, the system plays the initial prompt for setting the start time:

“Please enter the start time in 24-hour format.”

**Step 3** Enter the start time in 24-hour format (for example, 0700 for 7:00 a.m.).

If you enter the start time incorrectly, the system plays the following prompt:

“That was an invalid time. The time value should be between 0 and 2359. The end time must be later than the start time.”

If you enter the start time correctly, the system plays the following prompt:

“Please enter the start weekday. 0 stands for Sunday, 6 stands for Saturday.”

**Step 4** Enter the value for the start weekday. (For example, 1 for Monday.)

If you enter the weekday incorrectly, the system plays the following announcement:

“That was an invalid day. The day value should be from 0 to 6.”

If you entered the start weekday correctly, the system plays the following prompt:

“Please enter the end time in 24-hour format.” (The end time must be later than the start time.)

**Step 5** Enter the end time in 24-hour format.

If you enter the end time correctly, the system plays the following prompt:

“Please enter the end weekday. 0 stands for Sunday, 6 stands for Saturday.”

**Step 6** Enter the value for the end weekday. (For example, 1 for Monday.)

If you enter the weekday incorrectly, the system plays the following announcement:

“That was an invalid day. The day should be from 0 to 6.”

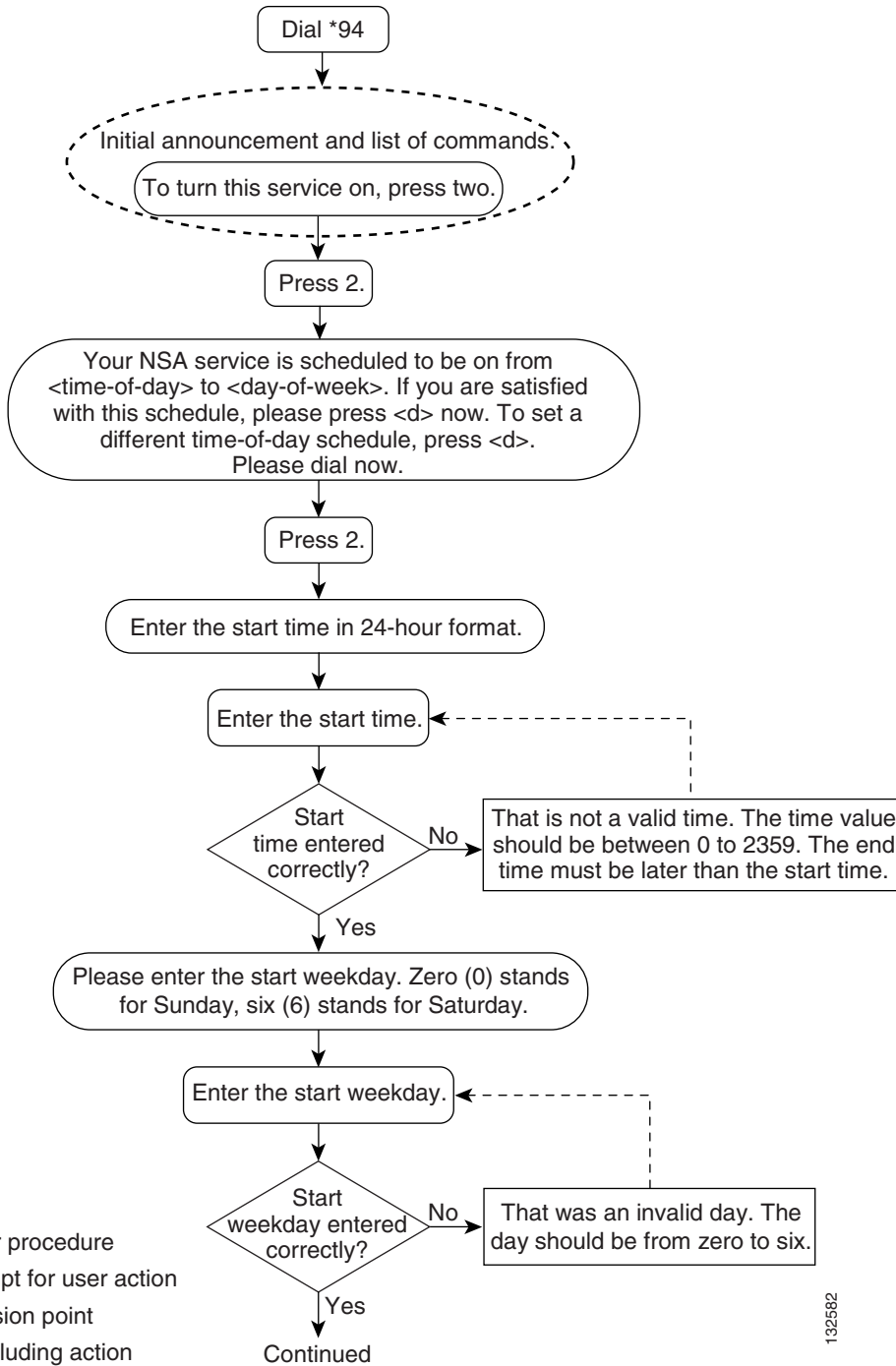
If you enter the end weekday correctly, the system plays the following prompt:

“New schedule is now applicable. Please continue. Dial 0 for instructions, or hang up.”

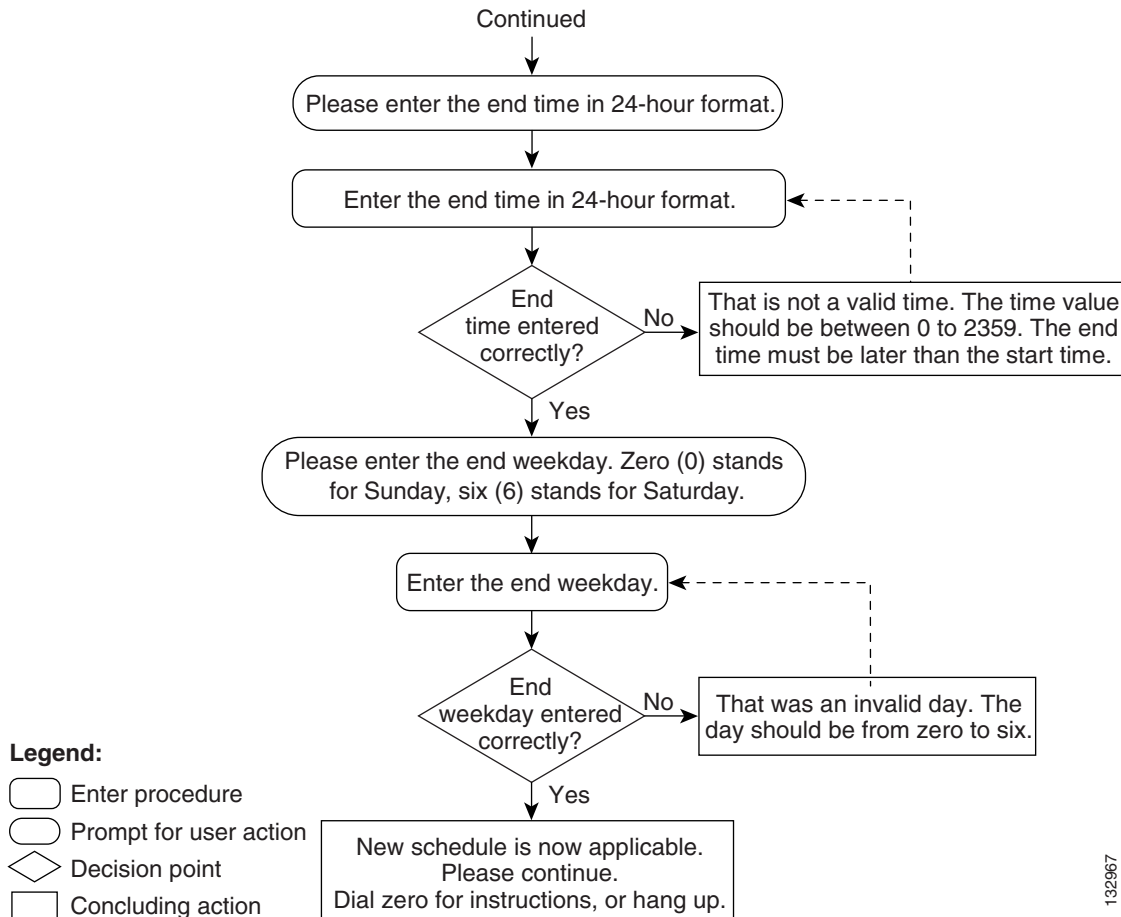
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Figure 6-18 presents a flow chart that shows the IVR prompts and announcements that are played when you are scheduling the service time interval for the No Solicitation Announcement service.

Figure 6-18 No Solicitation Announcement—Scheduling



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## Privacy Screening

The Privacy Screening feature enables a subscriber to accept or reject an anonymous call based on a short message (usually the caller's name) recorded by the caller. When a caller encounters the Privacy Screening message, the feature enables the caller to:

- Record a short message—After listening to the message, the subscriber can accept or reject the incoming call or forward it to voice mail.
- Enter a passcode (PIN)—Entering the correct passcode enables the caller to ring the subscriber and the call becomes a regular call.

This feature operates in conjunction with application and media servers, which comprise the IVR system.

For a detailed description of the Privacy Screening feature, see the [“Privacy Screening \(Calling Identity with Enhanced Screening\)”](#) section on page 3-142.



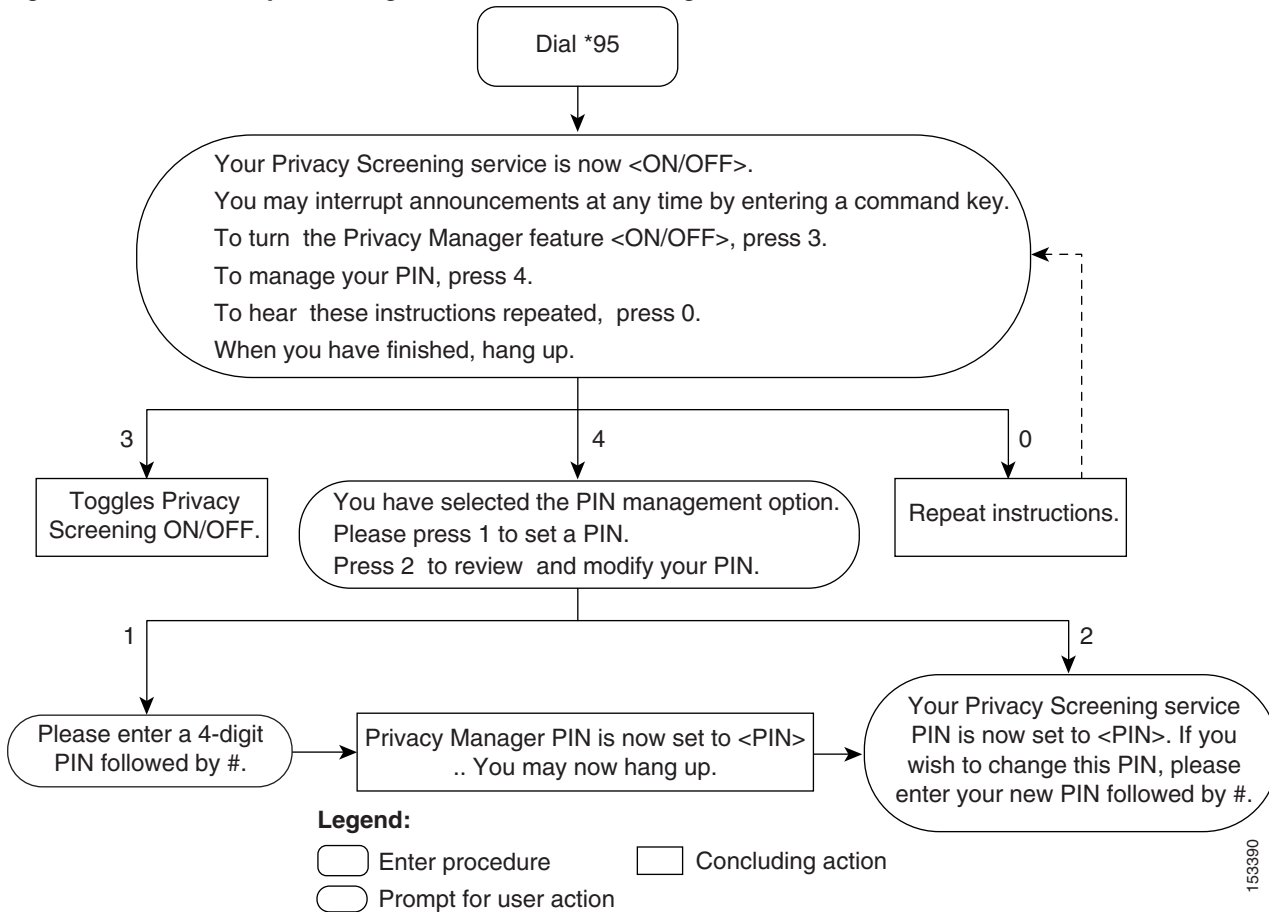
## Subscriber Activation and Management of Privacy Screening

This section describes how a subscriber interacts with the IVR system to activate or deactivate Privacy Screening and to manage PIN authentication.

- 
- Step 1** The subscriber presses \* 9 5.
- The system plays the following announcement:
- “Your Privacy Screening service is now <ON/OFF>. You may interrupt announcements at any time by entering a command key. When you have finished, hang up.
- To turn the Privacy Screening feature <OFF/ON>, press 3.
- To manage your PIN, press 4.
- To hear these instructions repeated, press 0.”
- Pressing 3 toggles the feature ON or OFF.
- Pressing 0 repeats the instructions.
- Step 2** Press 4 to manage the PIN.
- The system plays the following announcement:
- “You have selected the PIN management option.
- Please press 1 to set a PIN or press 2 to review and modify your PIN.”
- If the subscriber presses 1, the system plays the following announcement:
- “Please enter a 4-digit PIN followed by the number sign.”
- If the subscriber presses 2, the system plays the following announcement:
- “Your Privacy Screening service PIN is now set to <PIN>. If you wish to change this PIN, please enter your PIN followed by the number sign.
- Step 3** The subscriber enters 1 or 2 and establishes the desired PIN.
- The system plays the following announcement:
- “Privacy Screening PIN is now set to <PIN>. You may now hang up.”
-

Figure 6-19 presents a flow chart that shows the IVR announcements and prompts that are played when a Privacy Screening subscriber accesses the service to activate, deactivate or manage PIN authentication.

Figure 6-19 Privacy Screening Activation and PIN Change



## Caller Interaction with Privacy Screening

This section describes how an anonymous caller interacts with the IVR system when attempting to place a call to a subscriber who has Privacy Screening activated. The caller is given the option of recording his name or entering a PIN.

### Caller Name Recording

**Step 1** The anonymous caller dials the Privacy Screening subscriber.

The system plays the following announcement:

“The number you are calling does not accept anonymous calls. Please record your name at the tone and then press the number sign key; or, enter the 4-digit PIN.”

**Step 2** In this case, the caller speaks his name.

If the system records the name successfully, the call is placed to the subscriber.

If the system exceeds the maximum number of attempts allowed to record a name successfully, it plays the following announcement:

“Your recording is not clear. Please dial again later.”

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## Caller PIN Entry

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**Step 1** The anonymous caller dials the Privacy Screening subscriber.

The system plays the following announcement:

“The number you are calling does not accept anonymous calls. Please record your name at the tone and then press the number sign key or enter the 4-digit PIN.”

**Step 2** In this case, the caller enters a PIN.

If the PIN is correct, the call is placed to the subscriber.

If the PIN is incorrect, the system plays the following announcement:

“Your PIN is incorrect. Please try again.”

The system permits a configurable number of attempts to enter the correct PIN. When the caller exceeds the permitted number of attempts to enter the PIN, the system plays the following announcement:

You have repeatedly entered an incorrect PIN. You will now be disconnected.

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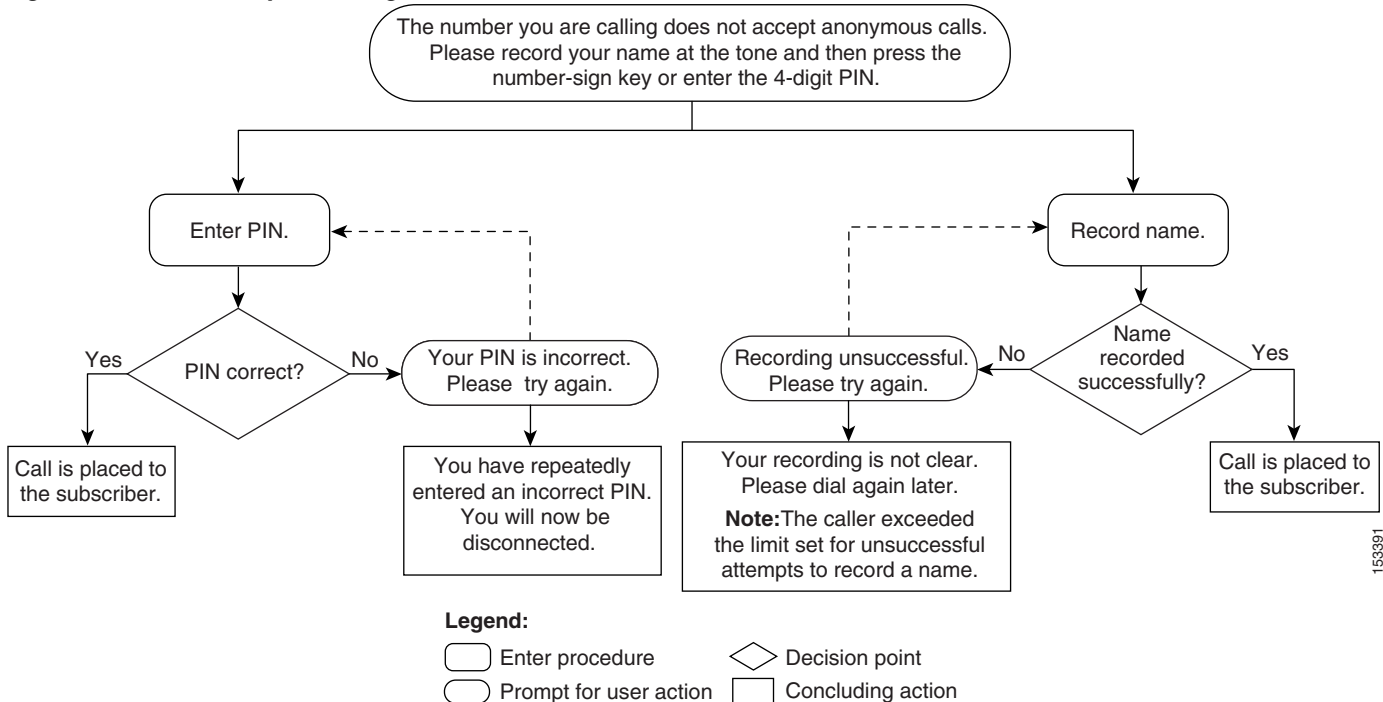
**Note**

If the application server is not reachable, incoming anonymous calls for the subscriber will be terminated on the subscriber.

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Figure 6-20 presents a flow chart that shows the IVR prompts and announcements that are played when a caller attempts to call a subscriber who has Privacy Screening activated.

Figure 6-20 Privacy Screening—Caller Interaction



## Subscriber Interaction with Privacy Screening

This section describes how a subscriber who has Privacy Screening activated interacts with the IVR system when an anonymous caller attempts a call.

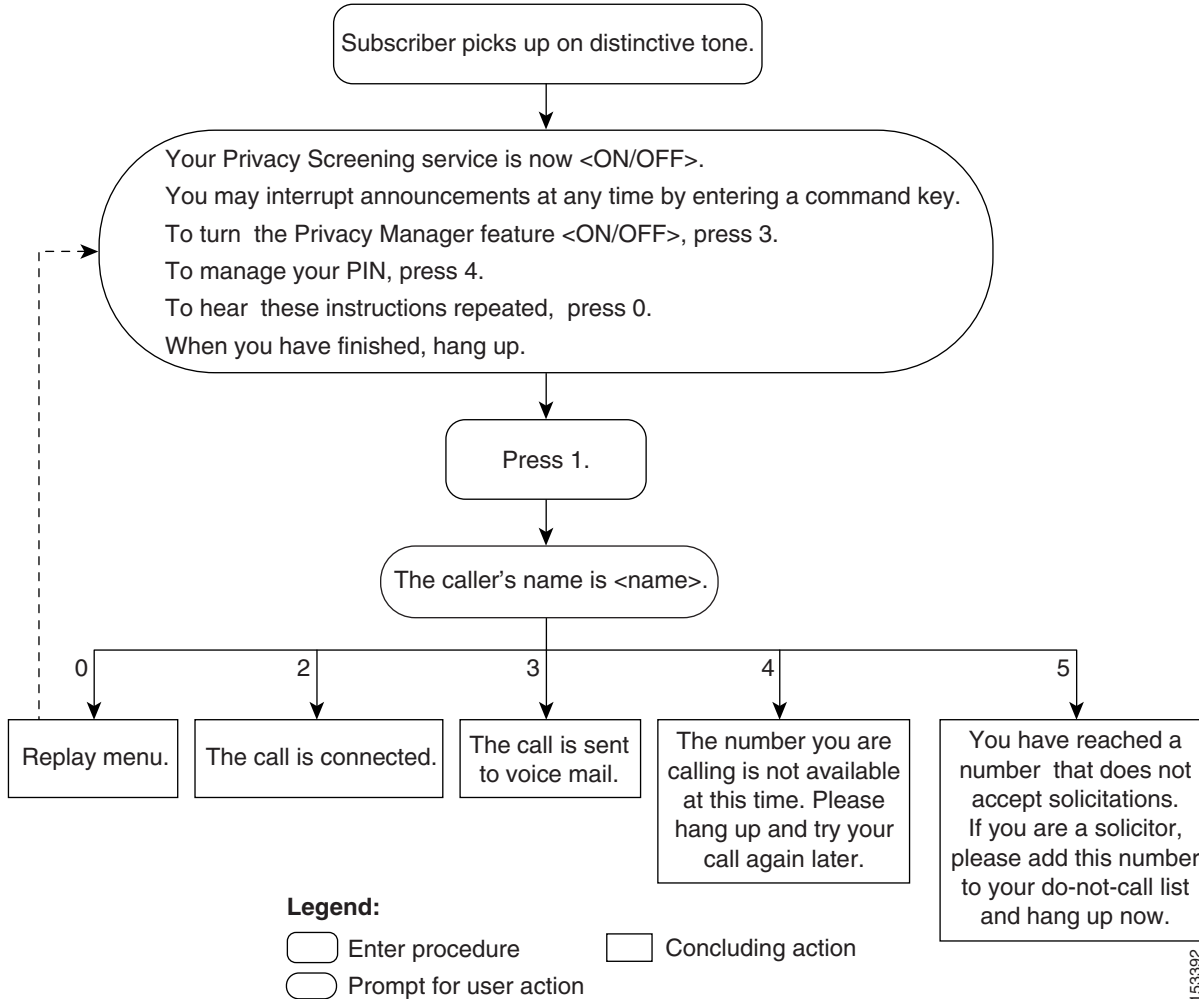
- Step 1** With Privacy Screening activated, the subscriber receives the call with a distinctive tone. When the subscriber picks up the call, the system plays the following announcement:
- “This message is from your Privacy Screening service. You have an incoming call.
  - Press 1 to review the caller’s name.
  - Press 2 to accept the call.
  - Press 3 to forward the call to voice mail if your are subscribed to voice mail.
  - Press 4 to play a ‘not-available’ announcement.
  - Press 5 to play a ‘no-solicitation’ announcement.”
  - Press 0 to replay this menu at any time.
- Step 2** The subscriber can enter one of the desired options or hang up to disconnect the call.

  
**Note**

If the subscriber does not enter an option or if the subscriber presses a number not associated with one of the announced options, the system replays the option menu.

Figure 6-21 presents a flow chart that shows the IVR prompts and announcements that are played when a subscriber picks up the phone upon hearing the Privacy Screening distinctive tone.

**Figure 6-21 Privacy Screening—Subscriber Interaction**



## Privacy Screening Announcements

Table 6-1 lists the Privacy Screening prompts played by the AS.

**Table 6-1 Privacy Screening Announcements**

Announcement Name	Announcement
PSmain_Bye_Ann	Thank you. Good bye.
PSmain-CdP_CgpHangsUp	The calling party has hung up.
PSmain_CdP_RejectCallNotify	The calling party will be notified that you have not accepted the call.
PSmain_CdPOptions_Ann	Press 1 to accept the call, press 2 to reject the call, or press 3 to redirect to voice mail.
PSmain_CdPWelcome_Ann	Hi. You have a call from a number that cannot be identified. The caller name is
PSmain_CgPOption_EnterPinVoice	Welcome to Privacy Screening. Please enter your pin or record your voice at the tone. After recording, press pound.
PSmain_CgPOption_IncorrectEntry	Your entry cannot be accepted. Please try again.
PSmain_CgPOption_IncorrectEntryLast	You have repeatedly entered an incorrect entry. You will now be disconnected.
PSmain_CgPOption_IncorrectPin	Your pin is incorrect. Please try again.
PSmain_CgPOption_IncorrectPinLast	You have repeatedly entered an incorrect pin. You will now be disconnected.
PSmain_Failure_CallCompletionFailure	There is a technical problem, so your call cannot be completed.
PSmain_Failure_TransferCallFailed	Failed to transfer call.
PSmain_Hold_CallBeingConnectedAnn	Please wait while your call is being connected.
PSmain_Hold_CdpHangsUp	The called party has hung up.
PSmain_Hold_CdpRejectCall	The called party has rejected your call.
PSmain_Hold_Music	music
PSmain_Hold_NoAnswerAnn	There is no answer from the called party.
PSmain_Hold_TooManyTries	The called party has failed to accept your call.
PSmain_Record_IncorrectRecording	Recording unsuccessful. Please try again.
PSmain_Record_IncorrectRecordingLast	Your recording is not clear. Please dial again later.
PSmain_Record_Tone	tone

## Privacy Screening Manage Announcements

Table 6-2 lists the Privacy Screening management announcements played by the AS.

**Table 6-2 Privacy Screening Manage Announcements**

Announcement Name	Announcement
PSpin_NewPassword_Enter	Please enter your new password.
PSpin_NewPassword_IncorrectFormat	Entered password format is incorrect. Please try again.
PSpin_NewPassword_NotChanged	Your password has not changed.

**Table 6-2** Privacy Screening Manage Announcements (continued)

Announcement Name	Announcement
PSpin_OldPassword_Enter	Please enter your old password.
PSpin_OldPassword_Incorrect	Your old password is incorrect.
PSpin_Password_ConfirmChange	Please confirm password change by pressing 1, or press 2 not to change password.
PSpin_Password_Enter	Please enter your password.
PSpin_Password_Incorrect	Sorry, your password is incorrect.
PSpin_PhoneNo_Enter	Welcome to Privacy Screening Password and Management. Please enter your phone number and press pound.
PSpin_PhoneNo_Invalid	Invalid telephone number.
PSpin_Pin_Activity	Press 1 to add pin or press 2 to delete pin.
PSpin_Pin_Add	Please enter pin to add.
PSpin_Pin_Added	Pin has been added.
PSpin_Pin_Bye	Thank you goodbye.
PSpin_Pin_ConfirmAdd	Confirm and add by pressing 8, or press 9 not to add pin.
PSpin_Pin_ConfirmDelete	Please confirm and delete by pressing 8 or press 9 not to delete pin.
PSpin_Pin_Delete	Please enter the pin to delete.
PSpin_Pin_Deleted	Pin has been deleted.
PSpin_Pin_Exist	Entered pin already exists.
PSpin_Pin_IncorrectFormat	Entered format is incorrect.
PSpin_Pin_LimitExceeded	Your limit of adding pin has exceeded.
PSpin_Pin_NoPins	There is no more pins to delete.
PSpin_Pin_NotAdded	Pin has not added
PSpin_Pin_NotDeleted	Pin has not deleted
PSpin_Pin_Wrong	The entered pin does not exist
PSpin_Pin_WrongFailure	You have repeatedly entered an incorrect pin. You will now be disconnected
PSpin_SamePassword_Ann	Your new and old password is the same. Please try again
PSpin_SelectOption_Ann	Press 1 to change password, press 2 to change pin, or press * to cancel

## Multi-Lingual Support Feature

This feature adds Multi-Lingual Support (MLS) for Interactive Voice Response (IVR) and announcement services. Using a Vertical Service Code (VSC), subscribers pick which language (English, French, or Spanish) to hear.

To provide IVR and announcement services, MLS works with the following Media Servers (MSs):

- IPUnity—IVR and announcements

- ThinkEngine Networks—IVR and announcements
- IOS Gateway—Announcements

An MS has four audio files for one IVR audio segment/announcement. For example each welcome.wav has three versions:

- eng\_welcome.wav
- fra\_welcome.wav
- spa\_welcome.wav

Using Basic Audio Utility Package (BAU) encoding MLS provides IVR service via a remote MS. If a provisioned language is different from the default, the BTS specifies BAU in the encoding field. BTS adds the language picked by the subscriber in variable audio segments:

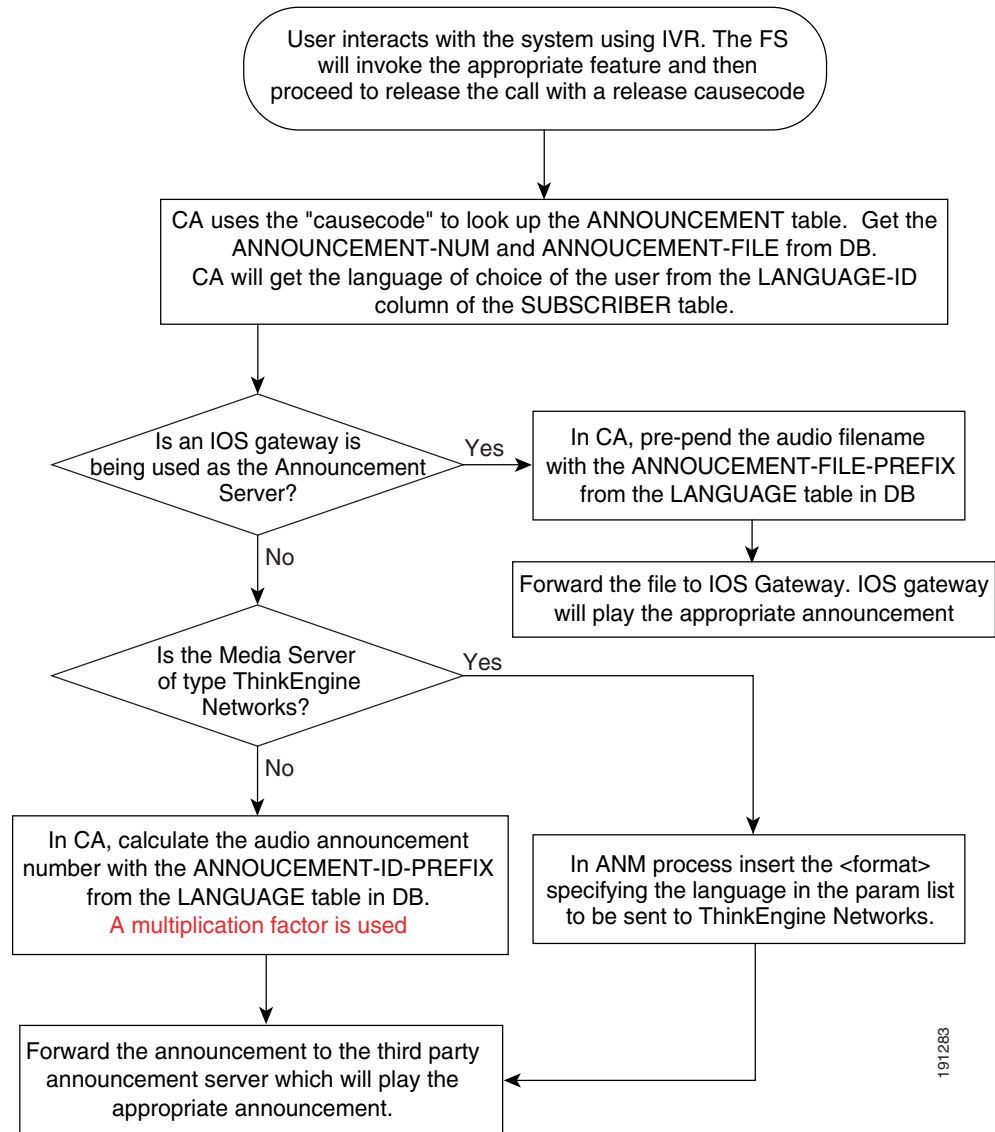
**?lang-<language of choice>**

Using a Media Gateway Control Protocol (MGCP) announcement (ANN) package, MLS provides announcement service via a remote MS. ThinkEngine Networks supports MGCP ANN; IPUnity does not.



Figure 6-22 illustrates the call flow for multi-lingual support.

**Figure 6-22 Multi-Lingual Support Call Flow**



The sections that follow provide additional information about MLS with ThinkEngine Networks, IPUnity, and IOS.

## MLS with ThinkEngine Networks or IPUnity

1. A subscriber activates a feature (Call Forwarding on No Answer (CFNA), Direct Call Pick Up, etc.).
2. BTS terminates the call with a cause code.
3. BTS uses the terminating cause code to get the announcement number on the MS.

- The announcement-number-prefix uses the mls-annc-mult-factor token from the MS Announcement table to create a new announcement number:

announcement-number-prefix \* ml-annc-mult-factor token + announcement id

Without an mls-annc-mult-factor token, BTS uses default 1000. For example:

```
English=1
announcement-number-prefix=110
multiplication factor=100000
new announcement number=100110
```

```
Spanish=2
announcement-number-prefix=110
multiplication factor=100000
new announcement number=200110
```

```
French=3
announcement-number-prefix=110
multiplication factor=100000
new announcement number=300110
```

**Note**

Use the number of announcements on the MS to set the mls-annc-mult-factor. If there are 1500 announcements on the MS, set the factor to 10000 not 1000.

- BTS writes a message in a format specific to the MS type. For example the ThinkEngine Networks format is: `<a/>ann(<format>, <params>)`
  - `<format>`—MS vocabulary set, the syntax is `f(n)` where n starts at 1. Without format the default is `f(1)`. Vocabularies in the MS vocabulary slots match the language number on the BTS; if English = 1, load English vocabulary into MS slot 1.
  - `<params>`—MS actions, syntax is `p1(<list-of-params>, repeat rep(n, p1<list-of-params>, where n=0 repeats forever`

For example the message telling the MS to play announcement 18 in:

```
English=S: A/ann(f(1), rep(1, p1(ps(18))))
Spanish=S: A/ann(f(2), rep(1, p1(ps(18))))
French=S: A/ann(f(3), rep(1, p1(ps(18))))
```

**Note**

ThinkEngine Networks sends the original announcement number in the parameter-list.

## MLS with IOS

- A subscriber activates a feature (Call Forwarding on No Answer (CFNA), Direct Call Pick Up, etc.).
- BTS terminates the call with a cause code.
- BTS matches the terminating cause code with a release cause code on the MS; this release cause code points to an announcement file from the announcement table.

- BTS adds the announcement-file-prefix to the beginning of the announcement filename for IOS gateways:

English file://welcome.wav is encoded to file://eng\_welcome.wav

Spanish file://welcome.wav is encoded to file://spa\_welcome.wav

for French file://welcome.wav is encoded to file://fra\_welcome.wav

## MLS Feature Interactions

There are some special interactions between the following features and MLS.

### Remote Activation of Call Forwarding

Subscribers can pick a language for their Remote Activation of Call Forwarding (RACF) virtual number. After confirming the subscriber base number and Personal Identification Number (PIN), the IVR and announcements play in the selected language. If subscribers do not pick a language, IVR and announcements use default values.

### No Solicitation Announcement

No solicitation announcement (NSA) is a terminating feature. MLS uses the language that the called party picks. For example: Subscriber B (calling party) picks Spanish. Subscriber A (called party) picks French and has NSA.

- Subscriber B calls A.
- Subscriber A's NSA activates.
- Subscriber B hears French.

## MLS Announcements

MLS adds a Spanish and French equivalent for each English announcement. Announcement IDs are the same for all languages.

**Table 6-3**      **New MLS Announcements**

Filename	Description	Suggested Wording
file://welcome.wav	Plays a welcome tone.	Welcome
file://YouAreAbout.wav	Gives more information about the VSC.	You have accessed a menu to change your language of choice. If you know your choice, you may enter it at any time during this message.
file://Press.wav	Press (Atomic Segment)	Press
file://for.wav	For (Atomic Segment)	For
file://english.wav	English	English
file://spanish.wav	Spanish	Spanish

**Table 6-3** *New MLS Announcements (continued)*

<b>Filename</b>	<b>Description</b>	<b>Suggested Wording</b>
file://french.wav	French	French
file://youhaveselected.wav	The first audio segment played in the second IVR stage.	You have selected <var_audio>
file://asyourlanguageofchoice.wav	Provides your language of choice.	As your language of choice
file://toconfirmyourchoice.wav	Confirm choice.	To confirm your choice
file://toexitwithoutsaving.wav	Exit without saving choice.	To exit without saving your choice of language
file://yourlangaugeofchoiceisnow.wav	Confirm language of choice.	Your language of choice is now choice.

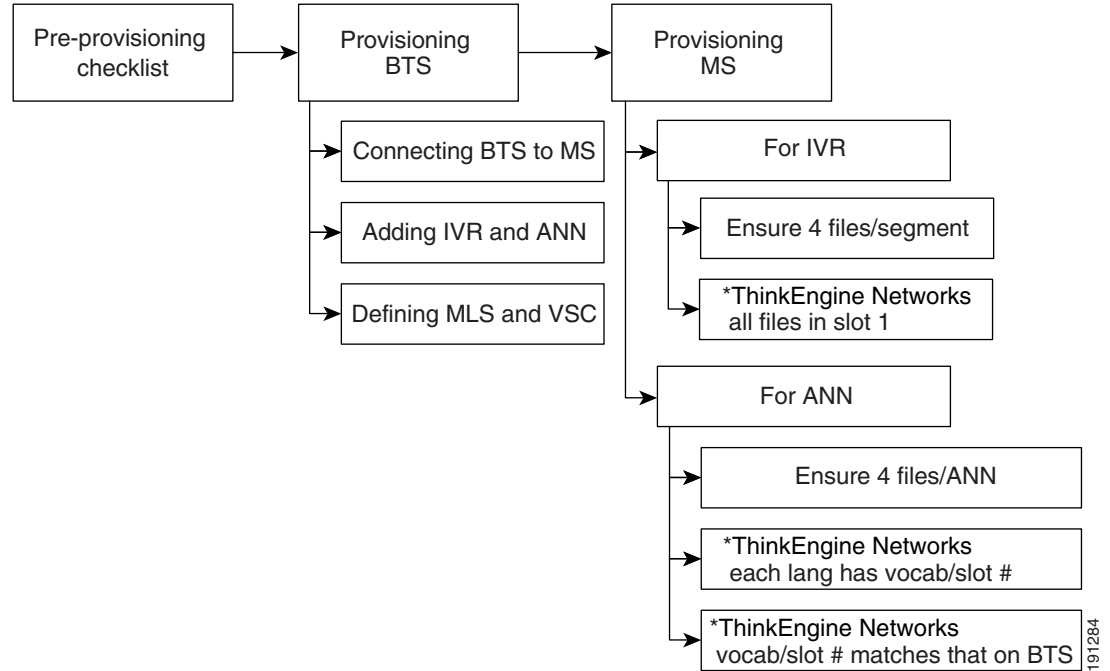
## MLS Provisioning

Before starting the provisioning process, ensure that you have the following information.

- To install on the MS:
  - audio file names
  - audio file locations
- To set up the MS communication parameters:
  - IP addresses
  - voice port ranges
- To configure an IPUnity MS, know the announcement multiplication factor.
- To configure a ThinkEngine Networks MS, know the vocabulary installation order. Vocabularies in an MS vocabulary slots must match the language number on the BTS. If English=1, load English vocabulary into MS slot 1.

Figure 6-23 illustrates the provisioning flow for MLS.

Figure 6-23 Multi-Lingual Support Provisioning Flow



## Provisioning the BTS 10200 for MLS

See the “[Multi-Lingual Support for Interactive Voice Response and Announcements](#)” section in the *Cisco BTS 10200 Softswitch Provisioning Guide*.

## Provisioning the MS for IVR

### IPUnity

Ensure there are 4 audio files for each IVR audio segment, 1 for each language and 1 for default.

### ThinkEngine Networks

Ensure there are 4 audio files for each IVR audio segment, 1 for each language and 1 for default.  
Install all IVR audio files in slot 1.

