



Customizing Standard Features

This chapter describes customizing the Cisco SPA IP phones and contains the following sections:

- [Configuring Phone Information and Display Settings, page 3-2](#)
- [Configuring Linksys Key System Parameters, page 3-6](#)
- [Enabling Call Features, page 3-7](#)
- [Configuring Voice Mail and Message Waiting Settings, page 3-12](#)
- [Customizing Phone Softkeys, page 3-12](#)
- [Configuring Ring Tones, page 3-18](#)
- [Configuring RSS Newsfeeds \(Cisco SPA525G or Cisco SPA525G2\), page 3-22](#)
- [Configuring Audio Settings, page 3-23](#)
- [Enabling Wireless \(Cisco SPA525G or Cisco SPA525G2 only\), page 3-25](#)
- [Configuring Bluetooth \(Cisco SPA525G or Cisco SPA525G2 only\), page 3-25](#)
- [Enabling SMS Messaging, page 3-28](#)
- [Enabling and Configuring the Phone Web Server, page 3-29](#)
- [Configuring WBPN for Cisco SPA30X, SPA50X, and SPA51X IP Phones, page 3-30](#)
- [Configuring LDAP for the Cisco SPA300 Series and Cisco SPA500 Series IP Phones, page 3-33](#)
- [Configuring BroadSoft Settings \(Cisco SPA300 Series and Cisco SPA500 Series\), page 3-35](#)
- [Configuring XML Services, page 3-39](#)
- [Configuring Music On Hold, page 3-42](#)
- [Configuring Extension Mobility, page 3-43](#)
- [Configuring Video Surveillance \(Cisco SPA525G or Cisco SPA525G2\), page 3-43](#)

Configuring Phone Information and Display Settings

The phone web user interface allows you to customize settings such as the phone name, background photo, logo, and screen saver.

Configuring the Phone Name

Navigate to **Admin Login > advanced > Voice > Phone**.

Under **General**, enter the Station Display Name for the phone. This name displays on the phone LCD GUI in the top right corner.

Customizing the Startup Screen

You can create a text or 128-by-48 pixel by 1-bit deep image logo to display when the IP phone boots up. (Not applicable to Cisco WIP310 or the Cisco SPA501G.) A logo displays during the boot sequence for a short period after the Cisco logo displays.

To configure a custom logo:

Step 1 For the Cisco SPA303 and Cisco SPA5XXG, click **Admin Login > advanced > Voice > Phone**.

For the Cisco SPA525G or Cisco SPA525G2, click **Admin Login > advanced > Voice > User**.

Step 2 To display a text logo, in the Text Logo field enter text as follows:

- Up to two lines of text
- Each line must be less than 32 characters
- Insert a new line character (\n) and escape code (%0a) between the two lines

For example, `Super\n%0aTelecom` displays:

```
Super
Telecom
```

- Use the + character to add spaces for formatting. You can add multiple + characters before and after the text to center it.

Step 3 To display a picture logo:

- a.** In the BMP Picture Download URL field, enter the path, for example:

```
http://192.168.2.244/pictures/image04_128x48.bmp
(you can also use a TFTP server)
```

- b.** Change **Select Logo** to **BMP Picture**.

Step 4 Click **Submit All Changes**. The phone reboots, retrieves the .bmp file, and displays the picture when it next boots.



Note

The phone image file types supported are:

- Cisco SPA303 and Cisco SPA500 Series: Bitmap format, 1 bit-per-pixel color, size 128-by-48 pixels.

- Cisco SPA525G or Cisco SPA525G2: Recommended RGB color space. JPEG image with CMYK color space is not supported. Recommended (minimum) image size is 320-by-240 pixels. Other image sizes are scaled to fit, which can cause distortion. File size should not be larger than 6 mb.

Changing the Display Background (Wallpaper)

You can use a picture to customize the background on your IP phone screen. (Not applicable to Cisco WIP310 or the Cisco SPA501G.)

When the *BMP Picture Download URL* is changed, the phone compares the URL to the previous image URL. (If the URLs are the same, the phone does not perform the download.) If the URLs are different, the phone downloads the new image and displays it (providing the *Select Background Picture* field is set to **BMP Picture**).

The phone does not reboot after you change the background image URL.

Cisco SPA303 and Cisco SPA500 Series

A background image is displayed while the phone is running. To display a logo during the phone boot sequence.

-
- Step 1** Copy the image to a TFTP or HTTP server that is accessible from the phone.
- Step 2** Click **Admin Login > advanced > Voice > Phone**.
- Step 3** Select the background picture in the Select Background Picture menu:
- None—Does not display a background picture.
 - BMP Picture—Displays the **BMP Picture Download URL** picture.
 - Text Logo—Displays the text string in the Text Logo field.
- Step 4** If you selected None, in [Step 3](#), go to [Step 6](#). If you selected **Text Logo** in [Step 3](#), go to Otherwise, enter the URL of the image file you want in **BMP Picture Download URL**. The URL must include the TFTP or HTTP server name (or IP address), directory, and filename, for example:

```
tftp://myserver.mydomain.com/images/downloadablepicture.bmp  
or  
http://myserver.mydomain.com/images/downloadablepicture.bmp
```

If the HTTP Refresh Timer is set in the server response to **BMP Picture Download URL**, the phone downloads the picture from the link and displays it on the IP phone screen. The phone automatically retrieves the picture after the specified number of seconds.

- Step 5** If you selected **Text Logo**, enter a text string in the Text Logo field.
- Step 6** Click **Submit All Changes**.

Cisco SPA525G or Cisco SPA525G2

By using an HTTP server:

-
- Step 1** Copy the image to an HTTP server that is accessible from the phone. (TFTP is not supported.)

- Step 2** Click **Admin Login > advanced > User**.
- Step 3** In the Screen section, Background Picture Type field, select **Download BMP Picture**.
- Step 4** Enter the URL of the .bmp file you want in the *BMP Picture Download URL* field. The URL must include the HTTP server name (or IP address), directory, and filename, for example:
- `http://myserver.mydomain.com/images/downloadablepicture.jpg`
- If the HTTP Refresh Timer is set in the server response to **BMP Picture Download URL**, the phone downloads the picture from the link and displays it on the IP phone screen. The phone automatically retrieves the picture after the specified number of seconds.
- Step 5** Click **Submit All Changes**.

By using a USB device attached to the phone:

- Step 1** On the USB device, make sure the image you want to use meets the size and format requirements (see above), and is located in a folder named “pictures.”
- Step 2** Insert the USB device into the phone and press the **Setup** button.
- Step 3** Choose **User Preferences > Screen Preferences > Wallpaper**.
- Step 4** Images on the USB device should display on the phone screen. Select the image you want and then press **Select**.
- Step 5** Press **Set** and then **Back** to return to the previous screen.

Configuring the Screen Saver

You can configure a screen saver for the Cisco SPA300 Series and Cisco SPA500 Series IP phones. (Not applicable to Cisco WIP310 or the Cisco SPA501G.) When the phone is idle for a specified time, it enters screen saver mode. (Users can set up screen savers directly by using phone **Setup** button.)

Any button press or on/off hook event triggers the phone to return to normal mode. If a user password is set, the user must enter it to exit screen saver mode.

To configure the screen saver:

Cisco SPA303 or Cisco SPA5XXG

- Step 1** Click **Admin Login > advanced > Voice > Phone**.
- Step 2** In the **General** section, in the Screen Saver Enable field, choose **yes** to enable.
- Step 3** In the **Screen Saver Wait** field, enter the number of seconds of idle time to elapse before the screen saver starts.
- Step 4** In the **Screen Saver Icon** field, choose the display type:
- A background picture.
 - The station time in the middle of the IP phone screen.
 - A moving padlock icon. When the phone is locked, the status line displays a scrolling message “Press any key to unlock your phone.”
 - A moving phone icon.

- The station date and time in the middle of the IP phone screen.
- A blank *power save* screen.”

Step 5 Click **Submit All Changes**.

Cisco SPA525G or Cisco SPA525G2:

Step 1 Click **Admin Login > advanced > Voice > User**.

Step 2 Under **Screen**, in the Screen Saver Enable field, choose **yes** to enable.

Step 3 In the **Screen Saver Type** field, choose the display type:

- **Black Background**—Displays a black screen.
- **Gray Background**—Displays a gray screen.
- **Black/Gray Rotation**—The screen incrementally cycles from black to gray.
- **Picture Rotation**—The screen rotates through available pictures on the phone.
- **Digital Frame**—Shows the background picture.

Step 4 In the **Screen Saver Trigger Time** field, enter the number of seconds that the phone remains idle before the screen saver turns on.

Step 5 In the **Screen Saver Refresh Time** field, enter the number of seconds before the screen saver should refresh (if, for example, you chose a rotation of pictures).

Step 6 Click **Submit All Changes**.

Configuring the LCD Contrast

You can configure the LCD contrast on the Cisco SPA300 Series and Cisco SPA500 Series IP phones. (Not applicable to the Cisco WIP310.)

To configure the contrast for the IP phone screen on the phone:

Cisco SPA303 and Cisco SPA5XXG

Step 1 Click **Admin Login > advanced > User**.

Step 2 Under **LCD**, in the LCD Contrast field, enter a number value from 1 to 30. The higher the number, the greater the contrast on the IP phone screen.

Step 3 Click **Submit All Changes**.

Cisco SPA525G or Cisco SPA525G2:

Step 1 Click **Admin Login > advanced > Voice > User**.

Step 2 Under **Screen**, in the **LCD Contrast** field, enter a number value from 1 to 30. The higher the number, the greater the contrast on the IP phone screen.

Step 3 Click **Submit All Changes**.

Configuring Back Light Settings (Cisco SPA525G or Cisco SPA525G2)

To configure the back light settings for the IP phone screen on the phone:

-
- Step 1** Click **Admin Login > advanced > Voice > User**.
- Step 2** Under **Screen** in the Back Light Enable field, choose **yes** to enable the screen back light.
- Step 3** In the **Back Light Timer** field, enter the number of seconds of idle time that can elapse before the back light turns off.
- Step 4** Click **Submit All Changes**.
-

Configuring Linksys Key System Parameters

To configure the phone as part of a Linksys Key System (for use with the Cisco SPA9000 or Cisco UC320):

-
- Step 1** Click **Admin Login > advanced > Voice > SIP**.
- Step 2** Under **Linksys Key System Parameters**, configure the following fields:
- **Linksys Key System**—Enables or disables the Linksys Key System for use with the Cisco SPA9000. Defaults to **yes**. See the *Cisco SPA9000 System Administration Guide* for more details.
 - **Multicast Address**—Used by the Cisco SPA9000 to communicate with Cisco SPA IP phones. Defaults to 224.168.168.168:6061. (The Cisco SPA501G, can be configured by using the IVR. See the “[Using IVR on IP Phones Without Screens](#)” section on page 1-14.)
 - **Key System Auto Discovery**—Enables or disables auto discovery of the call control server (for example, the Cisco SPA9000). Disable this feature for teleworkers or other scenarios where multicast does not work.
 - **Key System IP Address**—IP address of the call control server IP. Enter the IP address for teleworkers or other scenarios where multicast does not work.
 - **Force LAN Codec**—Used with the Cisco SPA9000. Choices are **none**, **G.711u**, or **G.711a**. Defaults to **none**.
 - **Auto Ans GrPage On Active Call**—Used with the Cisco UC320. Allows you to enable or disable “auto answer” of a group page when there is an active call on the phone. When set to **yes** (the default), a group page is automatically answered by the phone even if the user is on an active call. When set to **no**, the page is not automatically answered.
- Step 3** Click **Submit All Changes**.
-

Enabling Call Features

This section describes how to enable and disable call features on the phone.

Enabling Secure Calls

The phone can encrypt calls to protect them from eavesdroppers. The dial pad codes for encrypting calls are:

- *16—Secures all calls.
- *17—Disable the call security the user enabled by dialing *16.
- *18—Secures an individual call when dialed before or during a call. Using this star code is redundant if all outbound calls are already secure by default or from having dialed *16.

Encryption Methods for a Secure Call

SPA IP Phones provide two ways to secure a call:

-
- Step 1** Navigate to **Admin Login > Advanced > Voice > SIP**
- Step 2** Under **SIP Parameters**, configure **SRTP Methods**.
- Options:
- x-sipura**—legacy SRPT method
 - s-descriptor**—compliant with RFC-3711 and RFC-4568
-

To enable x-sipura type of secure call through mini-certification:

-
- Step 1** Obtain the Generate Mini-Cert tool from your service provider.
- Step 2** Navigate to **Admin Login > advanced > Voice > Ext_n**.
- Step 3** Under **Subscriber Information**, enter the **Mini Certificate** and the **SRTP Private Key** that provide secure encryption of RTP streams between two endpoints on an extension.
- Step 4** To enable the secure call service, navigate to **Admin Login > advanced > Voice > Phone**.
- Step 5** Under **Supplementary Services** verify that **Secure Call Serv** is set to **yes**. (This feature can also be configured in the **User** tab under **Supplementary Services**.)
-

Secure Call Indication Tone

This tone is played when a call that has been successfully switched to secure mode. It should be played only for a short while (less than 30 seconds) and at a reduced level (less than -19 dBm), so it does not interfere with the conversation.

To configure the tone, navigate to **Admin Login > advanced > Voice > Regional**. Under **Call Progress Tones**, enter the tone string in the Secure Call Indication Tone field. Defaults to 397@-19,507@-19;15(0/2/0,,2/.1/1,,1/2.1/2). See [Scripting for Cadences, Call Progress Tones, and Ring Tones](#) for syntax information.

Enabling Anonymous Call and Caller ID Blocking Services

To enable Anonymous Call and Caller ID Blocking navigate to **Admin Login > advanced > Voice > User**. Under **Supplementary Services** under the type of call blocking, choose **yes** to enable or **no** to disable:

- **Block ANC Serv**—Blocks anonymous calls.
- **Block CID Serv**—Blocks outbound caller ID.

Enabling ACD Service

Typically used for call centers, Automatic Call Distribution (ACD) handles incoming calls and manages them based on a database of instructions.



Note

The ACD feature applies to both Sylanro and Broadsoft. To Enable Broadsoft ACD, see [Configuring BroadSoft Settings \(Cisco SPA300 Series and Cisco SPA500 Series\)](#) for Broadsoft ACD Support.

To enable ACD:

-
- Step 1** Click **Admin Login > advanced > Voice > User**.
 - Step 2** Under **Supplementary Services** from the ACD Login Serv list, choose **yes** to enable. (Defaults to no [disabled].)
 - Step 3** In the **ACD Ext** field, choose the extension used for handling ACD calls. Select 1-6 (depending on your phone model). Defaults to 1.
 - Step 4** Click **SIP** and set **SIP B Parameter** to **yes**.
 - Step 5** Click **Submit All Changes**.
-

Enabling Call Back Service

Call back forces the phone to repeatedly try a number that received a busy response. The busy number is tried until the call goes through and the target phone rings.

To enable call back service, navigate to **Admin Login > advanced > Voice > Phone**. Under **Supplementary Services** in the Call Back Serv field, choose **yes** to enable.

Enabling Call Park and Call Pickup Services

Call park allows users to put a call on a line and make it available for another user to pick up. Call pickup allows a user to pick up a phone that is ringing at another user phone. Call park and call pickup are available on IP phones when used with a Cisco SPA9000 system.

To enable call park and call pickup, navigate to **Admin Login > advanced > Voice > Phone**. Under **Supplementary Services**, under the type of call feature to enable, choose **yes** to enable or **no** to disable:

- **Call Park Serv**—Enables call parking.
- **Call Pickup Serv**—Enables call pickup.

Enabling Call Transfer and Call Forwarding Services

You can transfer or forward a call when the service is enabled.

Step 1 Click **Admin Login > advanced > Voice > Phone**.

Step 2 Under **Supplementary Services**, under the transfer type you want to enable, choose **yes**:

- **Attn Transfer Serv**—Attended call transfer service. The user answers the call before transferring it.
- **Blind Transfer Serv**—Blind call transfer service. The user transfers the call without speaking to the caller.

You can also enable or disable call forwarding:

- **Cfwd All**—Forwards all calls.
- **Cfwd Busy**—Forwards calls only if the line is busy.
- **Cfwd No Ans**—Forwards calls only if the line is not answered.

Step 3 Click **Submit All Changes**.

Enabling Conferencing

To allow the user to perform call conferencing, navigate to **Admin Login > advanced > Voice > Phone**. Under **Supplementary Services** in the Conference Serv field, choose **yes** to enable.

Enabling Do Not Disturb

You can allow users to turn the Do Not Disturb feature on or off. This feature directs all incoming calls to voice mail or, if voice mail is not configured, plays a message to the caller saying the user is unavailable. On the Cisco SPA300 Series and Cisco SPA500 Series IP phones, users can press the **Ignore** softkey to divert a ringing call to another destination.

To allow users to use Do Not Disturb (enabled by default), navigate to **Admin Login > advanced > Voice > Phone**. Under **Supplementary Services** under DND Serv, choose **yes** to enable. (This feature can also be configured from the **User** tab, under **Supplementary Services**.)

Enabling the Missed Call Shortcut

The IP phones can display a notification that a call has been missed. (Not applicable to Cisco WIP310.) To enable this notification, navigate to **Admin Login > advanced > Voice > User**. Under **Supplementary Services** in the Miss Call Shortcut list, choose **yes** to enable.

Logging Missed Calls

You can disable or enable missed call logging per extension. For example, if you have set up a line to monitor another user line, you can disable missed call logging for the monitored line.

To enable logging, navigate to **Admin Login > advanced > Voice > User**. Under **Supplementary Services** in the Log Missed Calls for Ext <number> field, choose **yes** to enable.

Enabling Paging (Intercom)

The paging, or intercom feature, allows two types of paging, single page and group paging. When paging occurs, the speaker on the paged IP phone is automatically activated unless the handset or headset is being used.

A user can directly contact another user by phone. If the person being paged has configured their phone to automatically accept pages, the phone does not ring; a direct connection between the two phones is automatically established when paging is initiated.

Group Paging lets the user page all the client Cisco SPA IP phones at once, or *page groups* of phones. If the client phone is on an active call while a group page starts, the incoming page is ignored. Group page is one-way; the paged client IP phones can only listen to the call from the originator.

To enable paging, navigate to **Admin Login > advanced > Voice > Phone**. Under **Supplementary Services** in the Paging Serv list, choose **yes** to enable.

To configure a phone to automatically accept pages, navigate to **Admin Login > advanced > Voice > User**. Under **Supplementary Services** in the **Auto Answer Page** list, choose **yes** to enable.

Configuring Paging Groups

You can configure a phone to be a member of a paging group. Users can then direct pages to specific groups of phones.

Limitations:

- A phone can be a listening member of no more than two paging groups.
- No more than five paging groups can be configured on a phone.

To configure a phone as part of a paging group:

-
- Step 1** Click **Admin Login > advanced > Voice > Phone**.
- Step 2** Under **Multiple Paging Group Parameters**, enter the paging commands into the **Group Paging Script** field. The syntax is as follows:

```
pggrp=ip-address:port; [name=xxx; ]num=xxx; [listen={yes|no}]];
```

Where:

- IP address: Multicast IP address of the phone that listens for and receives pages.
- port: Port on which to page; use different ports for each paging group. All phones in the same paging group must use the same port number.
- name (optional): The name of the paging group. In this name, do not use the `pggrp` string because it is reserved. Using it causes the script not to work, as in these examples:

```
pggrp=224.168.168.168:3141;name=ITGPgGrp;num=800;listen=yes;
pggrp=224.168.168.168:3141;name=PgGrp;num=800;listen=yes;
```

- num: The number users will dial to access the paging group; must be unique to the group.
- listen: If the phone being configured is a listening member of the page group. A phone can be a listening member of a maximum of two groups. If no value is entered, the default is to **not listen** as a member of this group.

Step 3 Click **Submit All Changes**.

Paging Group Example

This example sets up four paging groups: *All*, *Sales*, *Support*, and *Engineering*. Users will press 801 to send pages to all phones, 802 to send pages to phones configured as part of the Sales group, 803 to send pages to phones configured as part of the Support group, and 804 to send pages to phones configured as part of the Engineering group.

A phone that is configured with this example is a listening member of the “All” and “Sales” paging groups. That phone will automatically receive pages sent to those two paging groups. For each Sales phone, enter the following in the **Phone > Multiple Paging Groups Parameters > Group Paging Script** field:

```
pggrp=224.123.123.121:43210;name=All; num=801;listen=yes;
pggrp=224.123.123.121:43211;name=Sales;num=802; listen=yes;
pggrp=224.123.123.121:43212;name=Support;num=803;
pggrp=224.123.123.121:43213;name=Engineering;num=804;
```

Enabling Service Announcements

Service Announcements allows a user to send announcement requests to a customer-supplied announcement server. (Not applicable to the Cisco WIP310.)

To configure Service Announcements, navigate to **Admin Login > advanced > Voice > Phone**. Under Supplementary Services, in the **Service Annc Serv** list, choose **yes** to enable.

For more information see [Vertical Service Announcement Codes \(Cisco SPA300 Series and Cisco SPA500 Series\)](#) for detailed configuration.

Configuring Voice Mail and Message Waiting Settings

Configuring Voice Mail

This configures the internal or external phone number or URL for the the voice mail system. If you are using an external voice-mail service, the number must include any digits required to dial out and any required area code.

To configure the phone to connect to voice mail:

-
- Step 1** Click **Admin Login > advanced > Voice > Phone**
 - Step 2** Under **General**, enter the Voice Mail Number.
 - Step 3** (Optional) Enter the Voice Mail Subscribe Interval; the expiration time in seconds, of a subscription to a voice mail server.
 - Step 4** Click **Submit All Changes**. The phone reboots.
-

Configuring Internal Voice Mail for Each Extension (Using a Cisco SPA400)

To configure internal voice mail, navigate to **Admin Login > advanced > Voice > Ext n**. Under **Call Feature Settings**, enter the voice mail line number and phone extension in the Mailbox ID field. For example, 2101 indicates that the Cisco SPA400 voice mail server is configured on the Cisco SPA9000 Line 2, phone extension 101.

You can configure the message waiting indicator (MWI) for separate extensions on the phone. The MWI lights based on the presence of new voicemail messages in the mailbox.

Configuring the Message Waiting Indicator

To enable the indicator at the top of your Cisco SPA300 Series or Cisco SPA500 Series IP phone to light when voice mail is left, or on a Cisco WIP310 display a seeing message waiting notification, navigate to **Admin Login > advanced > Voice > Ext_n**. Under **Call Feature Settings** in the **Message Waiting** list, choose **yes** to enable.

Customizing Phone Softkeys

You can customize the softkeys displayed on the phone. The default softkeys (when the phone is in an idle state) are Redial, Directory, Call Forward, and Do Not Disturb. Other softkeys are available during specific call states (for example, if a call is on hold, the Resume softkey displays).

This feature is not available on the IP phones that are using SPCP.

To program softkeys:

-
- Step 1** Click **Admin Login > advanced > Voice > Phone**.
 - Step 2** Under Programmable Softkey Enable, choose **yes** to enable.

Step 3 Edit the softkeys depending on the call state that you want the softkey to display. Refer to the table for information about softkeys.

In the Programmable Softkeys section, each phone state is displayed and the softkeys that are available to display during that state are listed. Each softkey is separated by a semicolon. Softkeys are shown in the format:

softkeyname | [*position*]

where *softkeyname* is the name of the key and *position* is where the key is displayed on the IP phone screen. Positions are numbered, with position one displayed on the lower left of the IP phone screen, followed by positions two through four. Additional positions (over four) are accessed by pressing the right arrow key on the phone. If no position is given for a softkey, the key will *float* and appears in the first available empty position on the IP phone screen.



Note

On a Cisco SPA525G or Cisco SPA525G2 in the Off Hook state, the **More** softkey is fixed in position 4 and cannot be changed.

The table below lists each softkey and the phone state under which the softkey displays. You can have a maximum of 16 softkeys for each call state field.

Keyword	Key Label	Definition	Available Phone States
acd_login	Login	Logs user in to Automatic Call Distribution (ACD).	Idle
acd_logout	Logout	Logs user out of ACD.	Idle
alpha	Alpha	Enter alphabetic characters in a data entry field.	Off-Hook, Dialing Input
answer	Answer	Answers an incoming call.	Ringing
avail	Avail	Denotes that a user who is logged in to an ACD server has set his status as available.	Idle
barge	Barge	Allows another user to interrupt a shared call.	Shared-Active, Shared-Held
bxfer	BlindXfer/bxfer	Performs a blind call transfer (transfers a call without speaking to the party to whom the call is transferred). Requires that Blind Xfer Serv is enabled.	Connected, Connected
cancel	Cancel	Cancels a call (for example, when conferencing a call and the second party is not answering).	Dialing Input
cfwd	Forward	Forwards all calls to a specified number.	Idle, Off-Hook, Hold, Shared-Active, Shared-Held
clear	Clear	Clears an entire text/number field.	Input
conf	Conf	Initiates a conference call. Requires that Conf Serv is enabled and there are two or more calls that are active or on hold.	Connected, Start-Conf

Keyword	Key Label	Definition	Available Phone States
confLx	Conf Line	Conferences active lines on the phone. Requires that Conf Serv is enabled and there are two or more calls that are active or on hold.	Connected
delchar	delChar	Deletes a character when entering text.	Dialing (input)
dial	Dial	Dials a number.	Dialing (input)
dir	Dir	Provides access to phone directories.	Idle, Connected, Start-Conf, Start-Xfer, Off-Hook (no input), Redial
dnd	DND	Sets Do Not Disturb to prevent calls from ringing the phone.	Idle, Off-Hook (no input), Hold, Shared-Active, Shared-Held
em_login	Login	Logs user in to Extension Mobility.	Idle
em_logout	Logout	Logs user out of Extension Mobility.	Idle
endcall	End Call	Ends a call.	Connected, Off-hook, Progressing, Start-Xfer, Start-Conf, Conferencing, Releasing, Resume
gpickup	GrPickup/grPick	Allows user to answer a call ringing on an extension by discovering the number of the ringing extension.	Idle, Off-Hook (no input)
hold	Hold	Put a call on hold.	Connected, Start-Xfer, Start-Conf, Conferencing
ignore	Ignore	Ignores an incoming call.	Ringing
join	Join	Connects a conference call.	Conferencing
lcr	Call Rtn/lcr	Returns the last missed call.	Idle, Missed-Call, Off-Hook (no input)
left	Left	Moves the cursor to the left.	Dialing Input
miss	Miss	Displays the list of missed calls.	Missed-Call
newcall	New Call	Begins a new call.	Hold, Shared-Active
option	Option	Opens a menu of input options.	Off-Hook (no input), Dialing (input)
park	Park	Puts a call on hold at a designated “park” number.	Connected
phold	PrivHold	Puts a call on hold on an active shared line.	Connected
pickup	Pickup	Allows user to answer a call ringing on another extension by entering the extension number.	Idle, Off-Hook (no input)

Keyword	Key Label	Definition	Available Phone States
redial	Redial	Displays the redial list.	Idle, Connected, Start-Conf, Start-Xfer, Off-Hook (no input), Hold
resume	Resume	Resumes a call that is on hold.	Idle, Hold, Shared-Held
right	Right	Moves the cursor to the right.	Dialing (input)
starcode	Input Star Code/ *code	Displays a list of star codes that can be selected.	Off-Hook, Dialing (input)
toggle	Toggle	Switches between two calls that are active or on hold. (Cisco SPA502)	Connected
unavail	Unavail	Denotes that a user who is logged in to an ACD server has set his status as unavailable.	Idle
unpark	Unpark	Resumes a parked call.	Idle, Off-Hook (no input)
xfer	Transfer/ xfer	Performs a call transfer. Requires that Attn Xfer Serv is enabled and there is at least one connected call and one idle call.	Connected, Start-Xfer
xferLx	Xfer Line/xferLx	Transfers an active line on the phone to a called number. Requires that Attn Xfer Serv is enabled and there are two or more calls that are active or on hold.	Connected

Step 4 Click **Submit All Changes**.

Programmable Softkeys

The Cisco SPA300 Series and Cisco SPA500 Series IP Phones provide sixteen programmable softkeys (fields PSK 1 through PSK 16). These keys can be defined by either a speed dial script or an XML service script.

To configure programmable softkeys:

- Step 1** Click **Admin Login > advanced > Voice > Phone**.
- Step 2** Under Programmable Softkey Enable, choose **yes** to enable.
- Step 3** In the PSK number field, enter the string for the PSK. See the different types of PSKs described in the following section.
- Step 4** Click **Submit All Changes**.

Configuring PSK Fields

PSKs can be configured as speed dials. The speed dials can be extensions or phone numbers (for example, like traditional speed dials, where pressing the speed dial will dial a number).

PSKs can also be configured with speed dials that perform an action defined by a vertical service activation code (also known as a star [*] code). For example, a PSK configured with a speed dial for *67 would put a call on hold. You can also configure PSKs to call XML scripts.

To configure a speed dial PSK, enter the following in the PSK number field:

```
"fnc=sd;ext=extensionname/starcode@$PROXY;[vid=outboundextnum;]nme=name"
```

where *fnc* is the function of the key (speed dial); *extensionname/starcode* is the extension being dialed or the star code action to perform; *vid* is the extension on the calling phone from which the outbound call is sent; and *name* is the name of the speed dial being configured. The *name* field displays on the softkey on the IP phone screen. Cisco recommends a maximum of 8 characters for a Cisco SPA30X or Cisco SPA50X phone and 10 characters for a Cisco SPA525G or Cisco SPA525G2 phone. If more characters are used, the label can be truncated on the IP phone screen.

Softkey Speed Dial Extension Example

This example shows how to configure the Cisco SPA525G or Cisco SPA525G2 phone with softkey that, when pressed, dials the Sales Department extension (200). You want this button to display on the far lower left of the IP phone screen when the phone is idle, when the phone is off hook, or when the phone is connected on a call. You want the outbound call (that is going to the speed dial) to originate from the second extension on the user phone, not the primary extension.

Step 1 Click **Admin Login > advanced > Voice > Phone**.

Step 2 Under Programmable Softkey Enable, choose **yes** to enable.

Step 3 In the Programmable Softkeys section, edit the following:

- PSK1: fnc=sd;ext=200@\$PROXY;vid=2;nme=Sales
- Idle Key List: Edit the field to add psk1|1 to the beginning of the string; for example:


```
psk1|1;em_login;acd_login;acd_logout;avail;unavail;
redial;dir;cfwd;dnd;lcr;pickup;gpickup;unpark;em_logout;
```
- Off Hook Key List: Edit the field to add psk1|1 to the beginning of the string; for example:


```
psk1|1;option;redial;dir;cfwd;dnd;lcr;unpark;pickup;
gpickup;
```
- Connected Key List: Edit the field to add psk1|1 to the string, editing the existing *softkeyname*|1 to PSK1. For example, the original string:


```
hold|1;endcall|2;conf|3;xfer|4;bxfer;confLx;xferLx;park;phold;flash;
```

 becomes:


```
psk1|1;hold|2;endcall|3;conf|4;xfer;bxfer;confLx;xferLx;
park;phold;flash
```

Step 4 Click **Submit All Changes**. The **Sales** speed dial softkey is displayed in the lower left of the IP phone screen when the phone is idle, when the phone is connected on a call, and when the phone is off hook.

Configuring Toggling for PSKs

You can configure PSKs to toggle, or switch between two PSK actions. This is useful when you want a user to be able to switch between two star code actions that have been defined for a PSK. For example, a PSK could be configured to toggle between turning call forwarding on and off using the “call forwarding on” star code (*72) and the “call forwarding off” star code (*73).

To configure this type of PSK, enter the following into the “PSK name” field in the **Voice > Phone** tab in the management interface:

```
fnc=sd;ext=starcode@$PROXY;nme=name;ext2=starcode@PROXY;nme2=name2
```

where *fnc=sd* is the function of the key (speed dial), *starcode* is the star code action to perform, *name* is the name of the first action, *ext2* is the second star code action to perform, and *name2* is the name of the second action to perform. The *name* field displays on the softkey on the IP phone screen. Cisco recommends a maximum of 8 characters for a Cisco SPA30X or Cisco SPA50X phone and 10 characters for a Cisco SPA525G or Cisco SPA525G2 phone. If more characters are used, the label can be truncated on the IP phone screen.

For example, to configure a call forwarding on/off PSK that displays on the far lower left of the IP phone screen when the phone is idle:

-
- Step 1** Click **Admin Login > advanced > Voice > Phone**.
- Step 2** Under **Programmable Softkey Enable**, choose **yes** to enable.
- Step 3** In the Programmable Softkeys section, edit the following:
- PSK1: fnc=sd;ext=*72@\$PROXY;nme=CFOOn;ext2=*73@\$PROXY;nme2=CFOff;
 - Idle Key List: Edit the field to add psk1|1 to the beginning of the string; for example:


```
psk1|1;em_login;acd_login;acd_logout;avail;unavail;
redial;dir;cfwd;dnd;lcr;pickup;gpickup;unpark;em_logout;
```
- Step 4** Click Submit All Changes.
-

Configuring PSKs to Call XML Scripts

To configure an XML script, enter the following in the PSK field:

```
fnc=xml;url=http://scriptURL.xml;nme=scriptname
```

where *fnc* is the function of the key (an XML script), *scriptURL.xml* is the URL where the script is located, and *scriptname* is the name of the script.

The *scriptname* field displays on the softkey on the IP phone screen. Cisco recommends a maximum of 8 characters for a Cisco SPA300 Series or Cisco SPA500 Series phone and 10 characters for a Cisco SPA525G or Cisco SPA525G2 phone. If more characters are used, the label can be truncated on the IP phone screen.

You can use macro variables in XML URLs. The following macro variables are supported:

- User ID—UID1, UID2
- Display name—DISPLAYNAME1, DISPLAYNAME2
- Auth ID—AUTHID1, AUTHID2

- Proxy—PROXY1, PROXY2
- MAC Address—MA
- Product Name—PN
- Product Series Number—PSN
- Serial Number—SERIAL_NUMBER

Step 5 Click **Submit All Changes**.

Physical Hold Button and PSK Linking

You can configure the physical hold button on the phone to perform a star code action that has been configured as a PSK. For example, with some call control systems, putting a call on hold or resuming a held call requires the phone to send a star code to the server. With those systems, the physical hold button on the phone cannot be used to put a call on hold or resume a held call, because a star code is not sent to the server.

You can configure a PSK to perform a call hold/resume action, then configure the physical hold button on the phone to perform that action when pressed. This is done by adding the **holdkey=yes** parameter to the softkey.

For example:

Step 1 Click **Admin Login > advanced > Voice > Phone**.

Step 2 Under **Programmable Softkey Enable**, choose **yes** to enable.

Step 3 In the Programmable Softkeys section, edit the following:

- PSK1: `fnc=sd;ext=*67@$PROXY;nme=hold;ext2=*68@$PROXY;nme2=resume;holdkey=yes`
- Connected Key List: Edit the field to add **psk111** to the string, editing the existing *softkeyname11* to PSK1. For example, the original string:

```
endcall|1;conf|2;xfer|3;bxfer;confLx;xferLx;park;
phold;flash;
```

becomes:

```
psk|1;endcall|2;conf|3;xfer;bxfer;confLx;xferLx;
park;phold;flash
```

Step 4 Click **Submit All Changes**.

Configuring Ring Tones

You can define up to 12 ring tones for a Cisco SPA300 Series or Cisco SPA500 Series IP phone. In addition to these 12 ring tones, 4 user-configurable ring tones can be used in place of some of the default ring tones. See [Appendix A, “Ring Tone \(Cisco SPA300 Series and Cisco SPA500 Series\),”](#) for more information about ring tones.

Cisco WIP310 ring tones are not configurable from the phone web user interface.

You can define:

- The default ring tone for the extension
- Specific ring tones assigned to individual callers in the personal directory. These override the default ring tone.

To configure ring tones:

Step 1 Click **Admin Login > advanced > Voice > Phone** and scroll to the **Ring Tone** section.

Configure the characteristics of each ring tone by using a Ring Tone script. Specify:

- Name (n)—Ring tone name, such as Classic, Simple, or Office
- Waveform (w):
 - (Not supported on the Cisco SPA300 Series or Cisco SPA5XXG.)
 - (Cisco SPA525G or Cisco SPA525G2) 1, 2, 3, 4, file://Pulse1.raw, file://Ring7.raw, file://Warble.raw, w=file://Low.raw, file://Floor.raw, file://Reverb.raw
- Cadence (c)—1, 2, 3, 4, or 5 (Not supported on the Cisco SPA300 Series or Cisco SPA5XXG.)

Step 2 Click **Submit All Changes**.

You can also configure four additional ring tones to replace up to four of the standard default ring tones. The following user-configurable ring tones are available:

GUI Label	Value of the w Parameter
Warble	w=7
Low	w=8
Floor	w=9
Reverb	w=10

To configure/provision these ringtones:

Step 1 Click **Admin Login > advanced > Voice > Phone** and scroll to the **Ring Tone** section.

Step 2 In the Ring Tone section, modify the *n* and *w* parameters in four of the 12 ring fields (Ring1 to Ring12). Set the *n* parameter to the label of the ringtone you want displayed by the GUI. Set the *w* parameter equal to the ringtone parameter *w* value listed in the table above.

For example, to replace the ringtone in Ring1 with the Warble ringtone, change the value of the Ring1 field to `n=warble;w=7;c=1` or configure as follows in the phone's configuration file:

- Cisco SPA300 Series or Cisco SPA5XXG


```
<Ring1 ua="na">n=warble;w=7;c=1</Ring1>
```
- (Cisco SPA525G or Cisco SPA525G2)


```
<Ring1 ua="na">n=warble;w=file://Warble.raw;c=1</Ring1>
```

Step 3 Click **Submit All Changes**.

You can also download one of two available ring tones (user ring tone 1 or 2) by using TFTP:

```
http://phone_ip_addr/ringtone1?[url]
```

The [url] syntax is `tftp://host[:port]/path`.

- The default host is the TFTP host.
- Port is optional. The default port is 69.
- The link is case sensitive.

On the IP phones, user-downloaded ring tones are labeled User 1 and User 2 in the choices for the Default Ring. On the phone ring tone menu, the User 1 and User 2 choices are replaced by the corresponding name of the ring tone. **Not Installed** appears if the user ring tone slots are not used.

For ring tone User 1 and User 2, the cadence is fixed with the on-time equals to the duration of the ring tone file and off-time equals to four seconds. The total ring duration is fixed at 60 seconds. The user ring tone names displayed on the IP phone screen are derived from the ring tone file header file.

The phone does not require rebooting after downloading a ring tone.

To remove the User 1 ring tone from the phone, set the *path* to delete, as follows:

```
http://phone_ip_addr/ringtone1?/delete
```

Configuring On-Demand Ring Tones (Cisco SPA525G or Cisco SPA525G2)

The Cisco SPA525G or Cisco SPA525G2 support on-demand ring tones; ring tones are downloaded from a TFTP server and played when a call comes in. To configure:

Step 1 Click **Admin Login > advanced > Voice > Phone**.

Step 2 Scroll to the **Ring Tone** section.

Step 3 In one or more of the ten ring tone fields, enter the following:

```
n=office;w=[tftp://]host[:port]/path;c=0
```

Specify the URL to download in the `host/port/path` field. If the connection cannot be established, a default ring tone is played.

Step 4 Click **Submit All Changes**.

User-Created MP3 Ring Tones (Cisco SPA525G or Cisco SPA525G2)

A Cisco SPA525G or Cisco SPA525G2 user can create up to two ring tones from an MP3 audio file stored on a USB memory device. For instructions, see the *Cisco Small Business SPA525G and SPA525G2 SIP IP Phones User Guide*, located on Cisco.com.

Creating and Uploading Ring Tones Using the Ring Tone Utility (Cisco SPA300 Series and Cisco SPA500 Series only)

To convert a file for use as a ring tone, use the Ring Tone Utility, available at:

<https://supportforums.cisco.com/docs/DOC-9944>

You must have a .wav file of less than 8 seconds in length saved to your computer. You can also use a sound editor to create the file with the following restrictions:

- 16-bit PCM mono
- 8000 samples per second
- Less than 6000 ms in length

To create a ring tone and upload it to a phone:

- Step 1** Open the Ring Tone Utility.
 - Step 2** Enter the IP address of the phone.
 - Step 3** Click **Browse** and navigate to the directory on your computer where the source .wav file is stored. Select the wav file and click **Open**.
 - Step 4** Click **Load Source File**.
 - Step 5** Enter a name for the ring tone. This name will appear in the display on the phone. You choose the file name later.
 - Step 6** Enter the target. You can have up to two customized ring tones uploaded to the phone.
 - Step 7** (Optional) Click **Preview** to preview the ring tone. Click **Options** to change the start or end positions, or to squeeze or stretch the audio.
 - Step 8** Click **Upload to Phone** to upload the ring tone to the phone. Click **OK** when the success status message appears.
 - Step 9** Close the open Ring Tone Utility windows.
-

To create a ring tone and save it to a file:

- Step 1** Open the Ring Tone Utility.
 - Step 2** Enter the IP address of the user phone or press **Skip** to create the ring tone and save it as a file.
 - Step 3** Click **Browse** and navigate to the directory on your computer where the source wav file is stored. Select the wav file and click **Open**.
 - Step 4** Click **Load**.
 - Step 5** Enter a name for the ring tone. This name will appear in the IP phone screen. You choose the file name later.
 - Step 6** (Optional) Click **Preview** to preview the ring tone. Click **Options** to change the start or end positions, or to squeeze or stretch the audio.
 - Step 7** Click **Save As** to save the file to your computer. Enter the file name and press **Save**.
 - Step 8** Close the open Ring Tone Utility windows.
-

To delete a ring tone from a phone:

- Step 1** Open the Ring Tone Utility.
- Step 2** Enter the IP address of the phone.
- Step 3** Click the **Delete** button next to the ring tone you want to delete.

- Step 4** Click **OK**.
- Step 5** Close the Ring Tone Utility windows.
-

Assigning a Ring Tone to an Extension

To assign a ring tone to an extension:

-
- Step 1** Click **Admin Login > advanced > Voice > Ext Ext <number>** tab.
- Step 2** Under **Call Feature Settings** in the **Default Ring** field, choose from the following:
- No Ring
 - 1 through 12
 - User 1
 - User 2
- Step 3** Click **Submit All Changes**.
-

Configuring RSS Newsfeeds (Cisco SPA525G or Cisco SPA525G2)

The Cisco SPA525G or Cisco SPA525G2 provides the option to view RSS newsfeeds for news in the categories of local, world, finance, sports, and politics. Newsfeeds provided by Yahoo are supported for U.S. customers only.

To configure newsfeeds:

-
- Step 1** Click **Admin Login > advanced > Voice > User**.
- Step 2** Under **Web Information Service Settings**, you can edit the following fields:

Parameter	Description
RSS Feed URLs 1-5	<p>URLs for Local and World news, Finance, Sports, and Politics. Default values are:</p> <ul style="list-style-type: none"> 1—Local News (defaults to URL http://rss.cnn.com/rss/cnn_us.rss) 2—World News (defaults to URL http://newsrss.bbc.co.uk/rss/newsonline_uk_edition/world/rss.xml) 3—Finance News (defaults to URL http://finance.yahoo.com/rss/topstories) 4—Sports News (defaults to URL http://rss.news.yahoo.com/rss/sports) 5—Politics News (defaults to URL http://rss.news.yahoo.com/rss/politics)
Weather Temperature Unit	Choose which unit to display for weather information (Fahrenheit or Celsius).

Step 3 Click **Submit All Changes**. The phone reboots.

Configuring Audio Settings

You can configure default audio settings for the phone. The volume settings can be modified by the user by pressing the volume control button on the phone, then pressing the **Save** soft button. (Not applicable to the Cisco WIP310.)

To configure the audio volume settings:

Step 1 Click **Admin Login > advanced > Voice > User**.

Step 2 In the Audio Volume section, configure a volume level between 1 and 10, with 1 being the lowest level:

Parameter	Description
Ringer Volume	Sets the volume for the ringer.
Speaker Volume	Sets the volume for the full-duplex speakerphone.
Handset Volume	Sets the volume for the handset.
Headset Volume	Sets the volume for the headset.
Bluetooth Volume	Sets the volume for the Bluetooth device (Cisco SPA525G or Cisco SPA525G2 only).
Handset Version	<p>Handset Version—Change the handset version manually.</p> <p>Auto—Phone automatically sets the handset version based on the hardware version and model. (Default)</p> <p>Original—Handset set to Version 2 and below.</p> <p>V3—Handset set to Version 3.</p>

Parameter	Description
Deep Bass	Sets a standard tone or an enhanced bass tone.
Electronic Hookswitch Control	<p>Some headsets enable you to answer and end phone calls by using controls located on the headset. Set this parameter to yes if the user is using a headset with a control function. This feature has been tested with Plantronics base/ headsets (that require adapter APC45):</p> <ul style="list-style-type: none"> • Savi W7xx series (Savi W710, W720, W730, W740, and W745) • CS5xx series (CS 540, CS 510, and CS520) <p>The default setting is no.</p> <p>Note Applies to the Cisco SPA525G or Cisco SPA525G2 and Cisco SPA51X models only.</p>
Speakerphone Enable	Enables or disables the speakerphone. If the parameter is set to yes (the default setting), the speakerphone is enabled. If the parameter is set to no , the speakerphone is disabled, and pressing the Speakerphone button on the phone sends the audio to the phone handset instead of the speaker.
Mute Enable	<p>Allows you to enable or disable the Mute button.</p> <p>The default value is Yes.</p> <p>If the parameter is set to No, the user cannot mute the audio.</p> <p>Note This field is supported in Firmware Release 7.6.2 and later.</p>

Step 3 Click **Submit All Changes**.

Configuring Audio Input Gain (Cisco SPA300 Series and Cisco SPA500 Series)

The value on the handset, headset, or speakerphone parameters default to zero, indicating that the volume is set to a base level. This does not mean that the sound is turned off; it is set to a level the average person can hear in a normal office environment.

To amplify or reduce the sound level, navigate to **Admin Login > advanced > Voice > Phone**. Under Audio Input Gain (dB), choose the item to configure:

- A positive value increases amplification (sound is louder).
- A negative value decreases amplification (sound is quieter).
- Set a value that is loud enough to hear clearly without producing echo (an indication that the input gain is too high).

Enabling Wireless (Cisco SPA525G or Cisco SPA525G2 only)

The Cisco SPA525G or Cisco SPA525G2 provides a Wireless-G interface. If a wired link is connected to the phone, the wireless connection is automatically disabled.

To enable wireless communications, navigate to **Admin Login > advanced > Voice > System**. Under **Wi-Fi Settings**, in the **SPA525-wifi-on** field, choose **yes** to enable or **no** to disable.

Configuring User Access Control

The following parameters can be configured to set the LCD (not WEB GUI) WIFI setting read-only.

```
<SPA525-readonly ua="na">Yes</SPA525-readonly>
```

```
<Phone-UI-user-mode ua="na">Yes</Phone-UI-user-mode>
```

```
<WiFi_User_Access_Mode ua="na">No</WiFi_User_Access_Mode>
```

Configuring Bluetooth (Cisco SPA525G or Cisco SPA525G2 only)

The Cisco SPA525G or Cisco SPA525G2 supports Bluetooth to allow use of the phone with a wireless Bluetooth-enabled headset. The Cisco SPA525G2 also supports Bluetooth communications with a Bluetooth-enabled mobile phone. You can do the following:

- Pair your Bluetooth-enabled mobile phone and Cisco SPA525G2. Your mobile phone is assigned a line button on your Cisco SPA525G2. You can make and receive mobile network calls by using the Cisco SPA525G2.
- Switch audio for in-progress calls between your mobile phone and the Cisco SPA525G2.
- Import your mobile phone address book to your Cisco SPA525G2 personal address book.
- Use your Cisco SPA525G2 as a *handsfree device* for your mobile phone.

For a list of supported Bluetooth headsets, see <https://supportforums.cisco.com/docs/DOC-9926>.

Enabling Bluetooth from the Web Interface

To enable Bluetooth from the phone web user interface:

-
- Step 1** Click **Admin Login > advanced > Voice > System**.
- Step 2** Under **Bluetooth Settings** in the **Enable BT** field, choose **yes** to enable or **no** to disable.
- Step 3** Click **Submit All Changes**.
-

Enabling Bluetooth from the Phone

To enable Bluetooth from the IP phone screen:

-
- Step 1** Press the **Setup** button.

- Step 2** Scroll to **User Preferences** and press **Select**.
 - Step 3** Scroll to **Bluetooth Configuration** and press **Select**.
 - Step 4** With **Bluetooth** selected, press the **Right Arrow** key until a blue check mark appears indicating that the feature is enabled.
 - Step 5** Press **Save**.
-

Pairing a Bluetooth Headset

To enable a Bluetooth headset from the phone web user interface:

- Step 1** Click **Admin Login > advanced > Bluetooth**.
 - Step 2** Under **Bluetooth Device**, choose **On**.
 - Step 3** Under **Bluetooth Device List**, press **Scan for Bluetooth Devices**.
 - Step 4** In the **Bluetooth Device List**, click the name of the Bluetooth headset.
 - Step 5** Enter the PIN for the Bluetooth headset.
 - Step 6** Press **Submit All Changes**.
-

To enable a Bluetooth headset from the IP phone screen:

- Step 1** Enable Bluetooth as described in [“Enabling Bluetooth from the Web Interface.”](#)
- Step 2** Press the **Setup** button.
- Step 3** Scroll to **User Preferences** and press **Select**.
- Step 4** Scroll to **Bluetooth Configuration** and press **Select**.
- Step 5** Scroll to **Bluetooth Mode** and press the **Right Arrow** key to choose one of the following:
 - **Phone**—Configures a Cisco SPA525G2 with a Bluetooth-enabled mobile phone. (The Cisco SPA525G pairs with headsets only; it does not pair with mobile phones.)
 - **Both**—The Cisco SPA525G2 uses a Bluetooth headset or operates with a Bluetooth-enabled mobile phone (see [Pairing Your Cisco SPA525G2 with a Bluetooth-Enabled Mobile Phone](#)). The Cisco SPA525G2 connects to only one device at a time (either a Bluetooth headset or a Bluetooth-enabled mobile phone).

If multiple Bluetooth devices are in range of the Cisco SPA525G2, the order of devices in the **Bluetooth Configuration > Bluetooth Profiles** list is used, and the device with a higher priority is activated first.
- Step 6** Scroll to **Bluetooth Profiles** and press the **Right Arrow** key to enter the profile screen.
- Step 7** Press **Scan** to scan for your headset.



Note

Depending on the network environment (such as the number of Bluetooth devices and noise level), your Bluetooth headset might not appear on the found devices list. Ensure the headset is powered on and has Bluetooth activated, and retry the scan.

- Step 8** In the list of found devices, select your headset and press **Select** to edit the profile.
- Step 9** Scroll to **PIN** and enter the PIN for your Bluetooth headset.
- Step 10** Scroll to **Connect Automatically** and press the **Right Arrow** key to turn to **On**.
- Step 11** Press **Connect**. The profile screen displays and a check mark appears next to the headset if the connection was successful.
-

Pairing Your Cisco SPA525G2 with a Bluetooth-Enabled Mobile Phone

This feature is based on the following standard Bluetooth profiles:

- Phone Book Access Profile 1.0
- Handsfree Profile 1.5
- Handset Profile 1.1

Make sure your mobile phone provides support for one of the above profiles. Cisco provides a reference list of Bluetooth-enabled mobile phones supported with the Cisco SPA525G2. See the Cisco support community at

<http://www.cisco.com/go/smallbizsupport> and consult the latest Cisco SPA525G2 release notes, available at [cisco.com](http://www.cisco.com).

For more detailed instructions, see the *Cisco Small Business Cisco SPA525G or Cisco SPA525G2 IP Phone User Guides*.

To pair your Cisco SPA525G2 with your Bluetooth-enabled mobile phone, you can either initiate pairing from the Cisco SPA525G2, or from your mobile phone.

Initiating Pairing from the Cisco SPA525G2

- Step 1** Enable Bluetooth as described in [Enabling Bluetooth from the Web Interface](#).
- Step 2** Press the **Setup** button.
- Step 3** Scroll to **User Preferences** and press **Select**.
- Step 4** Scroll to **Bluetooth Configuration** and press **Select**.
- Step 5** Scroll to **Bluetooth Mode** and press the **Right Arrow** key to choose one of the following:
- **Handsfree**—Your Cisco SPA525G2 operates as a handsfree device with a Bluetooth-enabled mobile phone.
 - **Both**—Your Cisco SPA525G2 operates with your Bluetooth-enabled mobile phone **or** operate with a Bluetooth headset. The Cisco SPA525G2 connects to only one device at a time (either the Bluetooth headset or the Bluetooth-enabled mobile phone.)
- If multiple Bluetooth devices are in range of the Cisco SPA525G2, the order of devices in the **Bluetooth Configuration > Bluetooth Profiles** list is used, and the device with a higher priority is activated first.
- Step 6** Scroll to **Bluetooth Profiles** and press the **Right Arrow** key to enter the profile screen.
- Step 7** Press **Scan** to scan for your mobile phone.

Depending on the network environment (such as the number of Bluetooth devices and the noise level), your Bluetooth headset might not appear on the found devices list. Ensure the headset is powered on and has Bluetooth activated, and retry the Scan.

- Step 8** In the Select a Bluetooth Device to Pair list, select the mobile phone to which you want to pair and press **Connect**.
-

Initiating Pairing from Your Bluetooth-Enabled Mobile Phone

The procedure varies depending on your phone model. The example in this section uses an Apple iPhone. Before starting, it is helpful to find the MAC address of your Cisco SPA525G2 IP phone. From your IP phone, go to the Setup menu and select **Status**. Select **Product Information**. The MAC address is displayed.

-
- Step 1** On your iPhone, click **Settings**.
- Step 2** Under **General**, choose **Bluetooth**. Ensure Bluetooth is turned on.
- Step 3** In the Bluetooth Window, under Devices, find the MAC address of your Cisco SPA525G2 IP phone.
- Step 4** Select the MAC address of the Cisco SPA525G2.
- Step 5** Enter the PIN (the default is 0000) and press **Connect**.

When paired with your mobile phone, the Cisco SPA525G2 IP phone screen assigns one of your line buttons to the mobile phone. A mobile phone icon with a flashing lightning bolt icon is displayed next to the mobile phone number.

To verify the mobile phone configuration:

-
- Step 1** On the Cisco SPA525G2, press the **Setup** Button.
- Step 2** Scroll to User Preferences and press **Select**.
- Step 3** Scroll to Bluetooth Configuration and press **Select**.
- Step 4** Scroll to Bluetooth Profiles and press the **Right Arrow** key.

The mobile phone appears in the list of Bluetooth devices.

Enabling SMS Messaging

The Cisco SPA IP phones can receive and display text messages by using SIP (RFC-3428). Cisco WIP310 users can send *and* receive text messages.

When this feature is enabled, the IP phone screen displays messages up to 255 characters in length. The message appears on the IP phone screen along with the date and time.

Service providers could use text messages to:

- Send billing information, calling minutes consumed, minutes available.
- Include additional text with a call to facilitate call processing.

Cisco SPA303 and Cisco SPA5XXG

To enable text message receipt on the Cisco SPA303 or Cisco SPA500 Series phones:

-
- Step 1** Click **Admin Login > advanced > Voice > User**.
 - Step 2** Under **Supplementary Services** in the **Text Message** field, choose **yes** to enable.
 - Step 3** (Optional) To enable receipt of text messages from a third party directly without proxy involvement, in the **Text Message from 3rd Party** field, choose **yes** to enable.
 - Step 4** Click **Submit All Changes**.
-

Cisco SPA525G or Cisco SPA525G2

To enable text messaging on Cisco SPA525G or Cisco SPA525G2 phones:

-
- Step 1** Click **Admin Login > advanced > Voice > User**.
 - Step 2** Under **Supplementary Services** in the **Display Text Message on Recv** field, choose **yes** to enable.
 - Step 3** (Optional) To enable receipt of text messages from a third party directly without proxy involvement, in the **Text Message from 3rd Party** field, choose **yes** to enable.
 - Step 4** Click **Submit All Changes**.
-

Cisco WIP310

-
- Step 1** Click **Admin Login > advanced > Phone**.
 - Step 2** Under **SMS Enable**, choose **yes** to enable.
 - Step 3** Click **Submit All Changes**.
-

Enabling and Configuring the Phone Web Server

The web server allows administrators and users to log in to the phone by using a phone web user interface. Administrators and users have different privileges and see different options for the phone based on their role.

Configure the Web Server from the Phone Web Interface

To enable the web server:

-
- Step 1** Click **Admin Login > advanced > System**.
 - Step 2** Under the **System Configuration** section in the **Enable Web Server** field, verify that the parameter is set to **yes** to enable the web administration server. (For the Cisco 301 and Cisco SPA501G, this can be configured by using the IVR. See the [“Using IVR on IP Phones Without Screens”](#) section on page 1-14.)

- Step 3** In the **Web Server Port** field, enter the port to access the web server. The default is port 80.
- Step 4** In the **Enable Web Admin Access** field, you can enable or disable local access to the **Admin Login** of the phone web user interface. Defaults to **yes** (enabled). (For the Cisco SPA301 and Cisco SPA501G, can be configured using the IVR. See the [“Using IVR on IP Phones Without Screens”](#) section on page 1-14.)
- Step 5** In the **Admin Passwd** field, enter a password if you want the system administrator to log in to the phone web user interface with a password. The password prompt appears when an administrator clicks **Admin Login**. The maximum password length is 32 characters.
- Step 6** In the **User Password** field, enter a password if you want users to log in to the phone web user interface with a password. The password prompt appears when users click **User Login**. The maximum password length is 32 characters.
- Step 7** Check whether input is provided in the **User Password** field in the previous step.
If not, enter a password in the user **User Web Password** field if you want users to log in to the phone web user interface with a password and no password for LCD GUI.
The password prompt appears when the users click **User Login**. The maximum password length is 32 characters.
- Step 8** Click **Submit All Changes**.

Configure the Web Server from the Phone Screen Interface

To enable the phone web user interface from the **Phone** tab (does not apply to the Cisco WIP310):

- Step 1** Press menu.
- Step 2** Select **Network** and **Enable Web Server**.
- Step 3** Select the **Edit**.
- Step 4** Press y/n to toggle the selection to **Yes** and enable.
- Step 5** Click **OK > Save**.

Configuring WBPB for Cisco SPA30X, SPA50X, and SPA51X IP Phones

The WBPB device (a dongle device) with a built-in web configuration GUI and windows configuration wizard serves as a wireless access point and enables Wi-Fi capability in the Cisco SPA30X, SPA50X, and SPA51X phones.



Note

The SPA phone version should be 7.5.6 or later and the WBPB version should be 1.0.1k or later.

The windows WBPB wizard uses a special discovery protocol to communicate with the web configuration GUI (instead of the complicated HTTP protocol) so that the SPA phones implement the same interface to configure WBPB.

WBPB has a default IP address, 192.168.1.254. The windows WBPB wizard uses the default IP address to communicate with Web Configuration GUI. (The Discovery Protocol packages carry the default IP address as the source IP.)

Before the phone initializes the WBPB module, it obtains a valid IP address by any one of the following ways:

- DHCP
- Static IP
- Backup IP
- Selecting the WBPB Configuration menu on the phone

The configuration module performs the following:

1. Discover WBPB module
2. Get WBPB configuration
3. Scan Wi-Fi access points
4. Set WBPB configuration
5. Execute WPS procedure on WBPB from the phone
6. Get WBPB status

Configuring the WBPB Device

While pairing the SPA Phone with WBPB, plug the Ethernet cable of WBPB directly into the SPA Phone Ethernet interface. After the SPA phone and WBPB boots up, configure the WBPB device (from the phone screen) by following these steps:

Step 1 Press the **Setup** button to access the SPA phone LCD menu.

Step 2 Scroll to **Wi-Fi Configuration** and press **Select**.

Step 3 Enter the **User ID** and **Password**.



Note

- If the WBPB is new, the default **User ID** and **Password** are both cisco. Otherwise, enter the User ID and Password changed by the user in WBPB webgui.
 - A prompt is displayed on the LCD if the User ID or Password is wrong. After successful login, the users need not re-enter the User ID and Password every time to access the **Wi-Fi Configuration** menu until the phone reboots.
 - If the phone has an IP address and there is no WBPB connected to the IP phone then:
 - A message "No Wi-Fi device found" is displayed.
 - If the phone has no IP address:
 - A message, "Please wait" (the timeout is 15 seconds.) is displayed. The phone stops the DHCP discovery process and assigns a temporary IP address 192.168.1.235 to itself.
 - If the phone fails to connect to the WBPB, ensure that the WBPB device bootsup successfully. Set the IP phone with static ip/netmask/gateway 192.168.1.235/255.255.255.0/192.168.1.1 and then try to connect to the WBPB again.
-

Step 4 Select **Wireless Profile** menu.

Three functions are available:

—**Edit**: To edit the wireless profile.

—**Scan**: WBPB scans for wireless aps and displays the **Wireless Profile List** menu on receiving a response or on expiration of the timeout (15 seconds).

—**Cancel**: Returns to the **Wi-Fi Configuration** menu.

Step 5 Select **SSID** and press softkey **Edit**, to edit the detailed wi-fi settings.



Note

Default SSID is the profile. After submitting the wifi setting it becomes the used SSID.

Three menu options are displayed:

—**Basic Configuration**: Edit SSID and Band

—**Security Mode**: Edit Security Mode

—**Encryption Configuration**: Edit Encryption, Key Format, and Key Value



Note

- Edit the detailed wi-fi settings based on the user's wi-fi environment.
- By selecting the softkey **Submit**, the current configuration stored in the phone is submitted to the WBPB device. The device then reboots, and the phone reboots in 4 seconds.
- **Encryption Configuration** menu is not displayed if encryption is not set for the WBPB device.

Step 6 (Optional) Select **Wi-Fi Configuration > Wireless Profile > Softkey Scan**



Note

The **Wireless Profile List** can be scanned. The user can select one profile, edit the details, and submit the configuration (same as STEP 4.)

Step 7 (Optional) Select **Wi-Fi Configuration > Wi-Fi Protected Setup** to configure WBPB by WPS. (Follow the prompt on the phone LCD to complete wifi setting by WPS.)

Checking the Wireless Status

To check the current wi-fi status of the WBPB device, go to **Wi-Fi Configuration > Wireless Status**.



Note

A prompt "Please waiting ..." is displayed every time the user accesses the **Wireless Status** menu. The phone LCD displays the latest status after several seconds.

Configuring LDAP for the Cisco SPA300 Series and Cisco SPA500 Series IP Phones

The Cisco SPA300 Series and Cisco SPA500 Series IP phones support Lightweight Directory Access Protocol (LDAP) v3. LDAP Corporate Directory Search allows a user to search a specified LDAP directory for a name, phone number, or both. LDAP-based directories, such as Microsoft Active Directory 2003 and OpenLDAP-based databases, are supported. (LDAP is not supported on the Cisco WIP310.)

Users access LDAP from the **Directory** menu on their IP phone. There is a limit of 20 records returned from a LDAP search.

The instructions in this section assume you have the following equipment and services:

- A LDAP server, such as OpenLDAP or Microsoft Active Directory Server 2003
- A Cisco SPA300 Series or Cisco SPA500 Series IP phone running firmware version 6.1.3a or higher

To prepare the LDAP Corporate Directory Search:

-
- Step 1** Click **Admin Login > advanced > System**.
- Step 2** In the **Optional Network Configuration** section, under **Primary DNS**, enter the IP address of the DNS server. (Only required if using Active Directory with authentication set to MD5.)
- Step 3** In the **Optional Network Configuration** section, under **Domain**, enter the LDAP domain. (Only required if using Active Directory with authentication set to MD5.)
- Some sites might not deploy DNS internally and instead use Active Directory 2003. In this case, it is not necessary to enter a Primary DNS address and an LDAP Domain. However, with Active Directory 2003, the authentication method is restricted to Simple.
- Step 4** Click the **Phone** tab.
- Step 5** Under **LDAP**, in the **LDAP Dir Enable** field, choose **yes** to enable LDAP and cause the name defined in **LDAP Corp Dir Name** to appear in the phone directory.
- Step 6** Configure values for the fields in the following table and click **Submit All Changes**.

Parameter	Description
LDAP Corp Dir Name	Enter a free-form text name, such as <i>Corporate Directory</i> .
LDAP Server	Enter a fully qualified domain name or IP address of LDAP server, in the format <code>nnn.nnn.nnn.nnn</code> . Enter the host name of the LDAP server if the MD5 authentication method is used.
LDAP Auth Method	Select the authentication method that the LDAP server requires: None—No authentication is used between the client and the server. Simple—The client sends its fully-qualified domain name and password to the LDAP server. Might create security issues. Digest-MD5—The LDAP server sends authentication options and a token to the client. The client returns an encrypted response that is decrypted and verified by the server.

Parameter	Description
LDAP Client DN	Enter the distinguished name domain components [dc] ; for example: dc=cv2bu, dc=com If using the default Active Directory schema (Name(cn)->Users->Domain), example of the client DN: cn="David Lee", dc=users, dc=cv2bu, dc=com
LDAP Username	Enter the username for a credentialed user on the LDAP server.
LDAP Password	Enter the password for the LDAP username.
LDAP Search Base	Specify a starting point in the directory tree from which to search. Separate domain components [dc] with a comma. For example: dc=cv2bu, dc=com
LDAP Last Name Filter	Define the search for surnames [sn], known as last name in some parts of the world. For example, sn: (sn=*\$VALUE*). This searches for the text string anywhere in the beginning, middle, or at the end of a name. You must enter a value in both the last name and first name fields so that the LDAP corporate directory option displays on the phone. If both fields are empty, the directory does not display.
LDAP First Name Filter	Define the search for the common name [cn]. For example, cn: (cn=*\$VALUE*). This searches for the text string anywhere in the beginning, middle, or at the end of a name. You must enter a value in both the last name and first name fields so that the LDAP corporate directory option displays on the phone. If both fields are empty, the directory does not display.
LDAP Search Item 3	Enter a customized search item. Can be blank if not needed.
LDAP Item 3 Filter	Enter a customized filter for the searched item. Can be blank if not needed.
LDAP Search Item 4	Enter a customized search item. Can be blank if not needed.
LDAP Item 4 Filter	Enter a customized filter for the searched item. Can be blank if not needed.

Parameter	Description
LDAP Display Attrs	<p>Enter the format of LDAP results display on phone where:</p> <ul style="list-style-type: none"> • a—Attribute name • cn—Common name • sn—Surname (last name) • telephoneNumber—Phone number • n—Display name <p>For example, <code>n=Phone</code> causes <code>Phone:</code> to be displayed in front of the phone number of an LDAP query result when the detail soft button is pressed.</p> <p><code>t</code>—type</p> <p>When <code>t=p</code>, <code>t</code> is of type phone number and the retrieved number can be dialed. Only one number can be made dialable. If two numbers are defined as dialable, only the first number is used. For example, <code>a=ipPhone, t=p; a=mobile, t=p;</code></p> <p>This example results in only the <code>ipPhone</code> number being dialable and the mobile number is ignored.</p> <ul style="list-style-type: none"> • p—phone number <p>When <code>p</code> is assigned to a type attribute, example <code>t=p</code>, the the retrieved number is dialable.</p>
LDAP Number Mapping	<p>With the LDAP number mapping you can manipulate the number that was retrieved from the LDAP server. For example, you can append 9 to the number if your dial plan requires a user to enter 9 before dialing. Add the 9 prefix by adding <code>(<:9>xx.>)</code> to the LDAP Number Mapping field. For example, 555 1212 will become 9555 1212. Can be blank if not needed.</p> <p>If you do not manipulate the number in this fashion, a user can use the Edit Dial feature to edit the number before dialing out.</p>

For more information on LDAP, including troubleshooting information, see the *Configuring LDAP Directory Search on SPA SIP IP Phones* Application Note, available from [http://www.cisco.com/web/partners/sell/smb/products/voice_and_conferencing.html#~vc_technical_re](http://www.cisco.com/web/partners/sell/smb/products/voice_and_conferencing.html#~vc_technical_sources) sources (partner log on required).

Configuring BroadSoft Settings (Cisco SPA300 Series and Cisco SPA500 Series)

Configuring BroadSoft Directory

The BroadSoft directory service enables users to search and view their personal, group, or enterprise contacts. This application feature uses BroadSoft's Extended Services Interface (XSI).

To configure the BroadSoft Directory service:

Step 1 Click **Admin Login > advanced > Voice > Phone**.

Step 2 Under **Broadsoft Settings**, configure the following:

- Directory Enable: Set to **yes**.
- XSI Host Server: Enter the name of the server; for example, **xsp.xdp.com**.
- Directory Name: Name of the directory. Displays on the user phone as a directory choice (for example, **John's Personal Directory**).
- Directory Type: Select the type of BroadSoft directory:
 - Enterprise (default): Allows users to search on last name, first name, user or group ID, phone number, extension, department, or email address.
 - Group: Allows users to search on last name, first name, user ID, phone number, extension, department, or email address.
 - Personal: Allows users to search on last name, first name, or telephone number.
- Directory UserID: BroadSoft User ID of the phone user; for example, johndoe@xdp.com.
- Directory Password: Alphanumeric password associated with the User ID.

To improve security, the SPA phone firmware places access restrictions on the host server and directory name entry fields.

Field	Access Restriction
Dir. Name	Admin password required (if set)
Host Server	Admin password required (if set)
Type	None
User ID	None
Password	None

Step 3 Click **Submit All Changes**.

Configuring Personal Address Book

Users can upload a pre-configured personal address book xml file to the phone. While uploading the address book info to the phone provide full entries of the address book. The phone erases the previous personal address book entries and populates the new entries from the address book xml file.

After the phone reports the personal address book or the call history data to provisioning server, users can restore the data back to the phone after factory reset.

Sample Personal address book xml format (for SPA525G phones, SPA300 series and SPA500 series phones use a subset):

```
<flat-profile>
<paddrbook>
<entry>
<name>Abc Test</name>
<homePhone>4081111234</homePhone>
```

```

<workPhone>4082221234</workPhone>
<mobilePhone>4083331234</mobilePhone>
<ringToneID>1</ringToneID>
</entry>
<entry>
<name>Def Test</name>
<homePhone>4081001234</homePhone>
<ringToneID>1</ringToneID>
</entry>
</paddrbook>
</flat-profile>

```

where:

name: name of the contact (max size: 64; input type: Any).

homePhone: home phone number of the contact (max size: 128; input type: Any).

workPhone: work phone number of the contact (max size: 128; input type: Any).



Note

Not for SPA300 Series, SPA50X, and SPA51X phones.

mobilePhone: mobile phone number of the contact (max size: 128; input type: Any)



Note

Not for SPA300 Series, SPA50X, and SPA51X phones.

ringToneID: ring tone for the contact, selection of available ring tones (input type: numeric, 0-12).

For information on backing up the personal address book or call history see the SPA Provisioning Guide.

Synchronization of Do Not Disturb and Call Forward on a Per Line Basis (Applicable to BroadSoft)

Enabling synchronization of Do Not Disturb (DND) and Call Forward (CFWD) allows the phone to synchronize with the call server (for example, the BroadSoft server) so that if Do Not Disturb or Call Forwarding settings are changed on the phone, changes are also made on the server; if changes are made on the server, they are propagated to the phone. You can enable DND/CFWD per extension.

This feature is disabled by default.

Limitations:

- Cisco SPA301 or Cisco SPA501G—The softkey and phone menu settings are not available.
- Cisco SPA509—Lines 9–12 cannot be set by using the SoftKeys or Menu settings.

Configuring Synchronization of DND and CFWD

To enable synchronization:

-
- Step 1** Click **Admin Login > advanced > Voice**.
 - Step 2** Click the **Ext n** tab.
 - Step 3** Under **Call Feature Settings** in the **Feature Key Sync** field, choose **yes** to enable DND/CFWD.

- Step 4** Under **SIP**, enable the relevant event package (Talk Package, Hold Package, and Conference Package).
- Step 5** Click **Submit All Changes**.
-

Configuring Synchronization of DND and CFWD by Using the Configuration File

You can also configure BroadSoft DND and CFWD on a per line basis by modifying your configuration. For example, to configure this feature on line 1, add the following line to the configuration file:

```
<Device_Feature_Sync_1_ ua="na">Yes</Device_Feature_Sync_1_>
```

Broadsoft ACD Support

To support basic Broadsoft Automatic Call Distribution (ACD), enable the relevant **Broadsoft ACD** option. This option is available for each extension under **Call Feature Settings**.

The supported values for this option are **Yes** and **No** (default).

If you set **Broadsoft ACD** to **Yes**, the phone sends a Subscribe message according to the Broadsoft specification.

If you set **Broadsoft ACD** to **No**, the phone may still send out a Subscribe message because another feature is using ACD, but the phone ignores any Notify message from the Broadsoft server related to ACD.

Limitations:

- Cisco SPA301 or Cisco SPA501G—ACD is not supported. The ACD Login and Status keys are not visible.
- Cisco SPA509—Lines 9–12 cannot be used as ACD Agents since the Lines cannot be selected for Login/Logout and Agent status.

Configuring BroadSoft ACD Support

To enable BroadSoft ACD support, navigate to **Admin Login > advanced > Voice > Ext n**. Under **Call Feature Settings**, in the **Broadsoft ACD** list, choose **yes** to enable BroadSoft ACD support.

You can also configure BroadSoft ACD support by adding the following line to your configuration file to configure this feature on line 1:

```
<Broadsoft_ACD_1_ ua="na">Yes</Broadsoft_ACD_1_>
```

Configuring XML Services

The Cisco SPA300 Series and Cisco SPA500 Series IP phones provide support for XML services, such as an XML Directory Service or other XML applications.

The following table shows some Cisco XML objects that are supported:

Cisco XML Object	Supported Phone
CiscoIPPhoneMenu	Cisco SPA5XXG, Cisco SPA30X, Cisco SPA525G or Cisco SPA525G2
CiscoIPPhoneText	
CiscoIPPhoneInput	
CiscoIPPhoneDirectory	
CiscoIPPhoneIconMenu	
CiscoIPPhoneStatus	
CiscoIPPhoneExecute	
CiscoIPPhoneImage	Cisco SPA525G or Cisco SPA525G2
CiscoIPPhoneImageFile	
CiscoIPPhoneGraphicMenu	
CiscoIPPhoneFileMenu	
CiscoIPPhoneStatusFile	
CiscoIPPhoneResponse	
CiscoIPPhoneError	
CiscoIPPhoneGraphicFileMenu	
Init:CallHistory	Cisco SPA5XXG
Key:Headset	
EditDial:n	

For more information on how to use Cisco XML, please refer to [Cisco Unified IP Phone Services Application Development Notes](#).

XML Directory Service

When authentication is required for XML URL, the parameters XML UserName and XML Password are used.

The parameter "XML UserName" in XML URL is replaced by \$XML UserName.

For example:

If the parameter XML UserName is set as "cisco", and the XML Directory Service URL is [http://www.sipurash.com/path?username=\\$XML_User_Name](http://www.sipurash.com/path?username=$XML_User_Name), when the request is sent out, the URL will be <http://www.sipurash.com/path?username=cisco>.

XML Applications

When authentication is required for CGI/Execute URL via Post from external application (Example: Web Application) to the SPA phones, the parameter, "CISCO XML EXE Auth Mode" is used in 3 different scenarios:

- Trusted—No authentication is performed (local user password is set or not). This is the default.
- Local Credential—Authentication based on digest authentication using local user password, if the local user password is set. If not, no authentication.
- Remote Credential—Authentication based on digest authentication using remote username/password as set in XML application on Web Page (to access XML application server).

Macro Variables

You can use macro variables in XML URLs. The following macro variables are supported:

- User ID—UID1, UID2 to UIDn
- Display name—DISPLAYNAME1, DISPLAYNAME2 to DISPLAYNAMEn
- Auth ID—AUTHID1, AUTHID2 to AUTHIDn
- Proxy—PROXY1, PROXY2 to PROXYn
- MAC Address using lower case hex digits—MA
- Product Name—PN
- Product Series Number—PSN
- Serial Number—SERIAL_NUMBER

The following table shows the list of macros supported on the SPA phones:

Macro Name	Macro Expansion
\$	The form \$\$ expands to a single \$ character.
A through P	Replaced by general purpose parameters GPP_A through GPP_P.
SA through SD	Replaced by special purpose parameters GPP_SA through GPP_SD. These parameters hold keys or passwords used in provisioning. Note \$SA through \$SD are recognized as arguments to the optional resync URL qualifier, --key.
MA	MAC address using lower case hex digits (000e08aabbcc).
MAU	MAC address using upper case hex digits (000E08AABBCC).
MAC	MAC address using lower case hex digits with colon to separate hex digit pairs (00:0e:08:aa:bb:cc).
PN	Product Name; for example SPA2102.
PSN	Product Series Number; for example 2102.
SN	Serial Number string; for example 88012BA01234.
CCERT	SSL Client Certificate status, installed or not installed.
IP	IP address of the SPA phone within its local subnet; for example 192.168.1.100.

Macro Name	Macro Expansion
EXTIP	External IP of the SPA, as seen on the internet; for example 66.43.16.52.
SWVER	Software version string; for example 2.0.6(b).
HWVER	Hardware version string; for example 1.88.1.
PRVST	Provisioning State (a numeric string): <ul style="list-style-type: none"> • -1 = explicit resync request • 0 = power-up resync • 1 = periodic resync • 2 = resync failed, retry attempt
UPGST	Upgrade State (a numeric string): <ul style="list-style-type: none"> • 1 = first upgrade attempt • 2 = upgrade failed, retry attempt
UPGERR	Result message (ERR) of previous upgrade attempt; for example http_get failed.
PRVTMR	Seconds since last resync attempt.
UPGTMR	Seconds since last upgrade attempt.
REGTMR1	Seconds since Line 1 lost registration with SIP server.
REGTMR2	Seconds since Line 2 lost registration with SIP server.
UPGCOND	Legacy macro name.
SCHEME	File access scheme (TFTP, HTTP, or HTTPS, obtained after parsing resync or upgrade URL).
METH	Deprecated alias for SCHEME, do not use.
SERV	Request target server host name.
SERVIP	Request target server IP address (following DNS lookup).
PORT	Request target UDP/TCP port.
PATH	Request target file path.
ERR	Result message of resync or upgrade attempt.
UIDn	The contents of the Line n UserID configuration parameter
ISCUST	If unit is customized, value=1, otherwise 0. Note Customization status viewable on Web UI Info page.
INCOMINGNAME	
REMOTENUMBER	
DISPLAYNAME _n	The contents of the Line N Display Name configuration parameter.
AUTHID _n	The contents of the Line N auth ID configuration parameter.

For more information on XML support, see the Cisco Small Business Support community. The URL is given in [Appendix B, “Where to Go From Here.”](#)

To configure the phone to connect to an XML Directory service:

-
- Step 1** Click **Admin Login > advanced > Voice > Phone**.
- Step 2** Enter the following information:
- **XML Directory Service Name:** Name of the XML Directory. Displays on the user phone as a directory choice.
 - **XML Directory Service URL:** URL where the XML Directory is located.
- Step 3** Click **Submit All Changes**.
-

To configure the phone to connect to an XML application:

-
- Step 1** Click **Admin Login > advanced > Voice > Phone**.
- Step 2** Enter the following information:
- **XML Application Service Name:** Name of the XML application. Displays on the user phone as a menu item.
 - **XML Application Service URL:** URL where the XML application is located.
- If you have configured an unused line button to connect to an XML application, the button connects to the URL configured here, unless you enter a different URL when configuring the line button. See the “[•Horizontal first—The same LED flashes with the second incoming call.](#)” section on page 2-4.
- Step 3** Click **Submit All Changes**.
-

Configuring Music On Hold

Your phone can play music on hold if it is part of a system that has a music-on-hold (MOH) server. To configure music on hold:

-
- Step 1** Click **Admin Login > advanced > Voice > Ext_n**.
- Step 2** Under **Call Feature Settings** in the **MOH Server** field, enter the user ID or the URL of the MOH streaming audio server. If you enter a user ID (no server), the current or outbound proxy is contacted. Defaults to blank (no MOH). If used with a Cisco SPA9000, it defaults to *imusic*. For more information, see the *Cisco SPA9000 Administration Guide*.
- Step 3** Click **Submit All Changes**.
-

Configuring Extension Mobility

Extension mobility allows mobile users to access their personalized phone settings, such as the personal extensions, shared lines, and speed dials, from other phones. For example, people who work different shifts or who work at different desks during the week can share an extension, yet have their own personalized settings. EM is supported for BroadSoft and other servers. EM dynamically configures a phone according to the current user.

A Login prompt appears on the IP phone screen when EM is enabled on a phone (for example, a conference room phone). A user can either enter their User ID and Password to access their personal phone settings, or ignore the login and use the phone as a guest. After logging on, users have access to personal directory numbers, services, speed dials, and other properties on the phone. When a user logs out, the phone reverts to a basic profile with limited features enabled.

This feature is not available on the Cisco WIP310.

To configure extension mobility:

-
- Step 1** Click **Admin Login > advanced > Voice > Phone**.
 - Step 2** Under **Extension Mobility**, in the **EM Enable** field, choose **yes** to enable.
 - Step 3** In the **EM User Domain** field, enter the domain for the phone, or the authentication server. For example, @domain.com, which is appended to the user ID (userID@domain.com) for authentication to the HTTP server.
 - Step 4** Click **Submit All Changes**. The phone reboots.
-

You must also configure the Extension Mobility parameters in the profile rule field in the Provisioning tab. See the *Provisioning Parameters for Extension Mobility on Cisco SPA500 Series IP Phones* application note at:

<https://www.myciscocommunity.com/docs/DOC-11277>

For more information on extension mobility and BroadSoft, see <http://www.broadsoft.com>.

Configuring Video Surveillance (Cisco SPA525G or Cisco SPA525G2)

The Cisco SPA525G or Cisco SPA525G2 provides a simple video surveillance solution for a small business office. It works with the Cisco WVC2300 Wireless-G Business Internet Video Camera and the Cisco PVC2300 Business Internet Video Camera to provide simple video monitoring from your IP phone of a location such as a lobby entrance or doorway. Up to four cameras can be monitored from one IP phone.

Camera audio is not supported.

The Cisco SPA525G or Cisco SPA525G2 connects to the videocamera and provides a real-time video stream display from the camera. Storage and manipulation of video and physical camera control are not available from the IP phone.

The IP phone supports the camera display at a rate of two to three frames per second with good video quality. However, video quality can degrade if the camera is processing multiple streaming sessions, there is heavy Wi-Fi network traffic, or the IP phone is performing other processing. To avoid degrading voice audio quality on a call, the frame rate decreases to one frame per second if a codec other than G.711 is used for a call or when the user accesses the video monitoring page during a call.

Configuring the User Name and Account on the Camera

To configure the username and account:

-
- Step 1** Download and install the software release for the camera that provides video monitoring support. For more information, consult the release notes for the camera software.
 - Step 2** Use the phone web user interface to create a user ID and password that are used by the phone to connect to the camera. The IP phone user account that you create should have viewer privileges.
-

Entering Camera Information Into the Cisco SPA525G or Cisco SPA525G2 Configuration Utility

To add camera information:

-
- Step 1** Click **Admin Login > advanced > Voice > User**.
 - Step 2** Under Camera Settings in the **Enable Video VLAN** field, choose **yes** to enable. This option sends the camera traffic to a separate VLAN.
 - Step 3** (Optional) If configuring Virtual LAN (VLAN) support, in the Enable Video VLAN field, choose **yes** to enable. The default Video VLAN ID is 1, the data VLAN. To separate traffic onto another VLAN (for example, a VLAN for video traffic only), enter the ID for that VLAN. (Video VLAN parameters do not apply to Wi-Fi or VPN.)
 - Step 4** Under Camera Profile 1, enter the settings for the first camera. Enter the camera name (for example, **Lobby**). This name is displayed on the IP phone screen to identify the camera.
 - Step 5** In the Access URL field, enter the URL to access the camera, in the following format:

```
rtsp://xxx.xxx.x.xxx/img/jpgvideo.sav
```

 where `xxx.xxx.x.xxx` is the IP address of the camera.
 - Step 6** In the **Access User Name** field, enter the username for the phone that you created by using the camera phone web user interface.
 - Step 7** In the **Access Password** field, enter the password for the phone username that you created by using the camera phone web user interface.
 - Step 8** (Optional) In the **Associated Caller ID** field, enter the phone number of the phone associated with the camera. For example, if the camera is located in the lobby, you can enter the extension of the lobby phone if one is installed there. People monitoring that camera from their phone can press **Call** to dial the number of the phone associated with the camera. For example, someone monitoring the lobby could call the receptionist to identify a visitor.

**Note**

Once the SPA525G establishes call to the call box (SIP based), DTMF can be used to open/close the door. Door can be controlled via GPIO output from camera or another GPIO concentrator. Administrator must provide access URL to the camera or the GPIO concentrator respectively to open the door

- Step 9** (Optional) The receptionist can have the control to open or close the access door with Door Control URL field configured. The mechanism to open/close the access door could be via the call box (SIP based), camera GPIO output, or another GPIO concentrator.
- Step 10** Click **Submit All Changes**.
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Viewing the Video

To view video from the phone:

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- Step 1** Press the **Setup** button.
- Step 2** Scroll to **Video Monitoring** and press **Select**.
- Step 3** Scroll to the camera from which you want to view and press **Monitor** or **Select**.
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Pressing **Call** dials the number associated with the camera (see [Entering Camera Information Into the Cisco SPA525G or Cisco SPA525G2 Configuration Utility](#)).

