

Setting up the SPA9XX Series Phone to dial local extension

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Related Information

Introduction

This article is one in a series to assist in the setup, troubleshooting, and maintenance of Cisco Small Business products (formerly Linksys Business Series).

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Q. I have trouble with the ability of my SPA9XX to dial local extensions. What settings do I check/configure?

A. You need to check two things if you have a problem when you dial another extension on your SPA9XX phone that is registered on the SPA9000:

1. Check the registration with the IP PBX.
2. Check the dial plan for the SPA9xx Series phone.

Q. How do I check the registration with the IP PBX?

A. In order to check the registration with the IP PBX, follow these instructions:

1. Access the SPA9000 IP PBX web-based setup page. Go to the **Voice** tab and make sure you are under **Admin Login > Advanced**. Click **PBX Status**, and check if the extension number of the phone is present.

The screenshot displays the Linksys Phone Adapter Configuration web interface. At the top, the Linksys logo is visible, along with the text 'A Division of Cisco Systems, Inc.' and 'Linksys Phone Adapter Configuration'. The interface is divided into several tabs: 'Router', 'Voice', 'Regional', 'FXS 1', 'FXS 2', 'Line 1', 'Line 2', 'Line 3', 'Line 4', and 'PBX Status'. The 'Voice' tab is currently selected. Below the tabs, there is a navigation bar with 'Info', 'System', 'SIP', 'Provisioning', 'Regional', 'FXS 1', 'FXS 2', 'Line 1', 'Line 2', 'Line 3', 'Line 4', and 'PBX Status'. The 'PBX Status' link is highlighted. A yellow callout box with an arrow points to the 'PBX Status' link, containing the text 'Check the extension number'. Below the navigation bar, there is a section for 'Product Information' with the following details:

Product Name:	SPA-9000	Serial Number:	
Software Version:	3.2.3(d)	Hardware Version:	
MAC Address:	000000000000	Client Certificate:	
Licenses:	None		

- If the extension number of the phone is not present, you need to reboot your IP phone for it to re-register to the SPA9000. Click Rebooting the SPA941 for instructions.

Q. How do I check the dial plan for the SPA9xx Series phone?

A. In order to check the dial plan for the SPA9xx Series phone, follow these instructions:

- By factory default, the SPA9xx Series phone has a pre-configured dial plan.

```
(9,[3469]11S0|9,<:1408>[2-9]xxxxxx|9,
<:1>[2-9]xxxxxxxxxS0|9,1[2-9]xxxxxxxxxS0|9,
011xx.|9,xx.|[1-8]xx)
```

Note: If this is not the case, you can configure the SPA9000 to automatically assign a dial plan to the phones registered to it.

Examples:

- ◇ This dial plan accepts only US-style 1 + area-code + local-number, with no restrictions on the area code and number:

```
(9,[3469]11S0|9,<:1408>[2-9]xxxxxx|9,
<:1>[2-9]xxxxxxxxxS0|9,
1[2-9]xxxxxxxxxS0|9,011xx.|9,xx.|[1-8]xx)
```

- ◇ This also allows 7-digit US-style dialing, and automatically inserts a 1 + 212 (local area code) in the transmitted number:

```
(9,[3469]11S0|9,
<:1408>[2-9]xxxxxx|9,<:1>[2-9]xxxxxxxxxS0|9,
1[2-9]xxxxxxxxxS0|9,011xx.|9,xx.|[1-8]xx)
```

- ◇ For an office environment, this plan requires a user to dial 8 as a prefix for local calls and 9 as a prefix for long distance. In either case, an "outside line" tone is played after the initial 8 or 9, and neither prefix is transmitted when it initiates the call:

```
(9,[3469]11S0|9,
<:1408>[2-9]xxxxxx|9,
<:1>[2-9]xxxxxxxxxS0|9,
1[2-9]xxxxxxxxxS0|9,011xx.|9,xx.|[1-8]xx)
```

- ◇ This allows only the placement of international calls (011 call), with an arbitrary number of digits past a required 5 digit minimum. This also allows you to call an international call operator (00). In addition, it lengthens the default short interdigit timeout to 4 seconds:

```
(9,[3469]11S0|9,
<:1408>[2-9]xxxxxx|9,
<:1>[2-9]xxxxxxxxxS0|9,1[2-9]xxxxxxxxxS0|9,
011xx.|9,xx.|[1-8]xx)
```

- ◇ This allows only US-style 1 + area-code + local-number, but disallows area codes and local numbers that start with 0 or 1. It also allows 411, 911, and operator calls (0):

```
( 0 | [49]11 | 1 [2-9]xx [2-9]xxxxxx )
```

- ◇ This allows US-style long distance but blocks 9xx area codes:

```
( 1 [2-8]xx [2-9]xxxxxx )
```

- ◇ This allows arbitrary long distance dialing but explicitly blocks the 947 area

code:

```
( 1 [2-8]xx [2-9]xxxxxxx )
```

◇ This implements a Hot Line phone, which automatically calls 1 212 5551234:

```
( S0 <:12125551234> )
```

◇ This provides a Warm Line to a local office operator (1000) after 5 seconds unless a 4 digit extension is dialed by the user:

```
( P5 <:1000> | xxxx )
```

2. Access the SPA9000 IP PBX web-based setup page. Go to the **Voice** tab and make sure you are under **Admin Login > Advanced**.
3. Click the **SIP** tab and put your desired dial plan in the **Phone Dial Plan** field under **PBX Phone Parameters**.

PBX Phone Parameters

Next Auto User ID: Phone Ext Password:

Phone Upgrade Rule:

Phone Dial Plan:

Undo All Changes Submit All Changes

PBX Status

User Login basic | advanced

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4. Click **Submit All Changes**. Your SPA9XX phone gracefully reboots and automatically acquires the new dial plan you created.

Note: In order to know more information about how to craft your own dial plan, click [Explaining Dial Plans](#).

If you want to set the phone system up to not dial 9 to call outside, follow this instruction: From SIP Tab, PBX Parameters, Changed Call Routing Rule: from (<:L1,2,3,4>9xx.) to (<:L1,2,3,4>xx.)

Related Information

- [Technical Support & Documentation – Cisco Systems](#)

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