

SPA3000 Configuration Example

Document ID: 108722

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Introduction

This document answers a frequently asked question about how to configure the SPA3000. This article is one in a series to assist in the setup, troubleshooting, and maintenance of Cisco Small Business products.

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

Q. How do I configure the SPA3000?

A. Complete these steps in order to configure the SPA3000:

1. Locate the IP address of the PSTN gateway.

You must locate the IP address of the PSTN gateway in order to access the PSTN gateway web-based utility. There are two ways in which you can locate the PSTN gateway IP address:

- ◇ IVR Analog System
- ◇ DHCP Server

IVR Analog System

Complete these steps in order to locate the IP address through the IVR analog system:

- a. Connect your SPA3000 to an ADSL router that runs on DHCP. The ADSL router assigns the SPA3000 and IP address.
- b. Lift the phone handset, and press the asterisk key (*) four times.
- c. When you hear the Configuration voice prompt, press the following key combination:

1-1-0-#

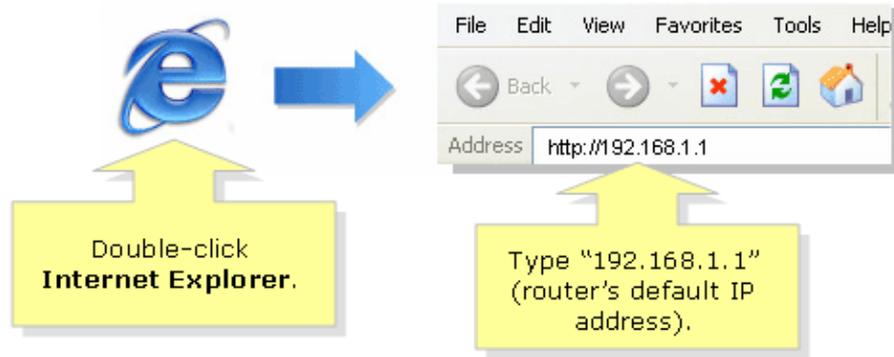
The voice prompt reads the current IP address of the SPA3000.

Note: If the IVR system does not respond, plug in the PSTN line port to a working PSTN line and try again.

DHCP Server

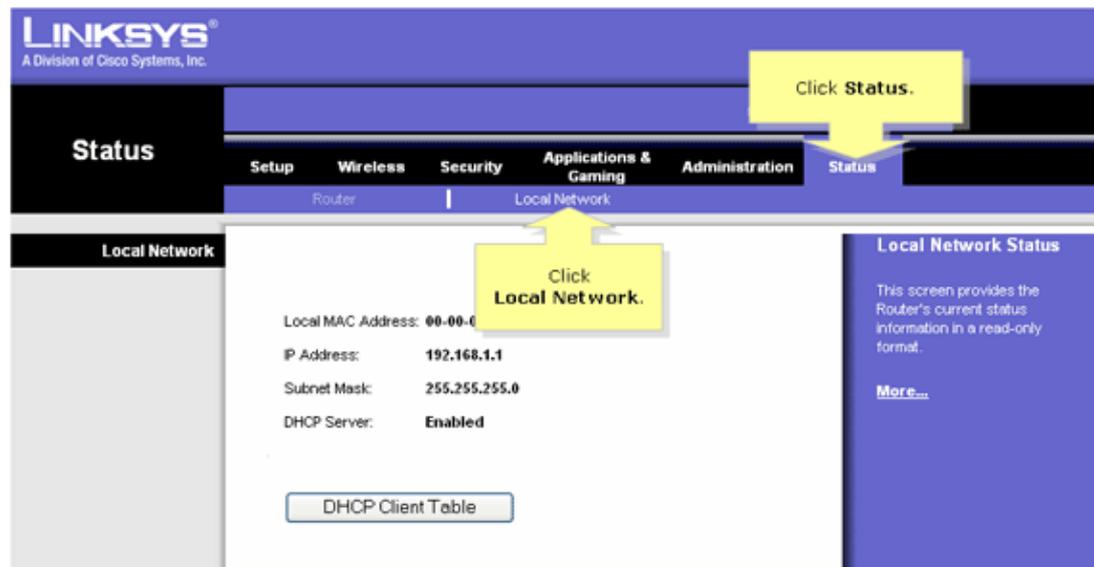
Complete these steps in order to locate the IP address through the DHCP server:

- a. Open a web browser (such as Internet Explorer), and enter the IP address of your router.



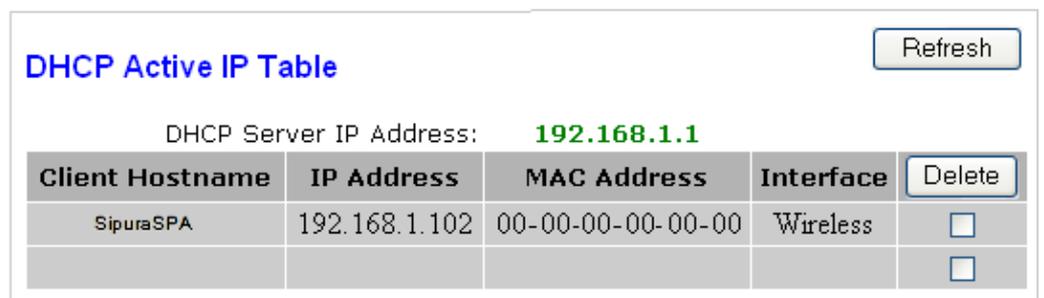
Note: This example uses a Cisco Linksys router. The default IP address of most Linksys routers is 192.168.1.1. If you use a router other than Linksys, consult your product documentation.

The web-based setup page appears.



- b. Click **Status**, and then click **Local Network**.
- c. On the Local Network page, click **DHCP Client Table**.

The DHCP Active IP Table appears. This table shows the SPA IP address.



- d. Enter the SPA IP address into the Address field of your web browser in order to view the configuration pages for the device.
2. **Set user and admin passwords.**

Complete these steps in order to set user and admin passwords:

Note: By default, the administrator password is not set when the device is shipped.

- a. On the configuration page, click the **System** tab, and enter your password in the **User Password** and **Admin Passwd** fields.

The screenshot shows the 'System' configuration page. The 'System Configuration' section has 'Enable Web Server' and 'Enable Web Admin Access' set to 'yes', 'Web Server Port' at '80', 'Admin Passwd' at 'password', and 'User Password' at 'password'. The 'Internet Connection Type' section has 'DHCP' set to 'yes'. The 'Optional Network Configuration' section has 'DNS Server Order' set to 'Manu' and 'DNS Query Mode' set to 'Parallel'. Three yellow callout boxes provide instructions: 'Enter the Primary DNS on this field.' pointing to the Primary DNS field, 'Enter the Secondary DNS on this field.' pointing to the Secondary DNS field, and 'Enter the Primary NTP Server on this field.' pointing to the Primary NTP Server field.

- b. Enter your primary DNS server value in the Primary DNS field, enter your secondary DNS server values in the Secondary DNS field, and enter your primary NTP server value in the Primary NTP field.
- c. Click **Submit All Changes**.
- d. Enter **user** in the Username field, and enter your NodePhone password in the Password field.
- e. To access the administrator functionality, click **Admin Login** located in the top right corner of the page.
- f. Enter **admin** as your user name and your NodePhone password as your password for this section.
- g. When the Line 1 Tab Settings screen appears, click **Line 1** at the top.
- h. Set Line enable to **Yes**, and ensure that NAT Mapping enable and NAT Keep Alive Enable are set to **No**.
- i. Enter **sip.internode.on.net** in the Proxy and Registration fields.
- j. Set Use Outbound Proxy to **Yes**, and enter **sip.internode.on.net** in the Outbound proxy field.
- k. Set Register to **Yes** and Register Expires to **240**.
- l. For subscriber information, enter your name in the Display Name field.
- m. In the User ID field, enter your NodePhone number, and ensure the resulting value is 10 digits long.

Proxy and Registration			
Proxy:	<input type="text"/>	Use Outbound Proxy:	<input type="button" value="no"/>
Outbound Proxy:	<input type="text"/>	Use OB Proxy In Dialog:	<input type="button" value="yes"/>
Register:	<input type="button" value="yes"/>	Make Call Without Reg:	<input type="button" value="no"/>
Register Expires:	<input type="text"/>	Ans Call Without Reg:	<input type="button" value="no"/>
Use DNS SRV:	<input type="button" value="no"/>	DNS SRV Auto Prefix:	<input type="button" value="no"/>
Proxy Fallback Intvl:	<input type="text"/>		
Subscriber Information			
Display Name:	<input type="text"/>	User ID:	<input type="text"/>
Password:	<input type="text"/>	Use Auth ID:	<input type="button" value="no"/>
Auth ID:	<input type="text"/>		
Mini Certificate:	<input type="text"/>		
SRTP Private Key:	<input type="text"/>		

Enter your 10 digit NodePhone number on this field.

- n. In the Password field, enter your NodePhone password.
- o. In the Supplementary Service Subscription area, set the Three Way Call Serv and the Three Way Conf Servall options to **yes**. The remaining values should be set to **no**.

Supplementary Service Subscription			
Call Waiting Serv:	<input type="button" value="no"/>	Block CID Serv:	<input type="button" value="no"/>
Block ANC Serv:	<input type="button" value="no"/>	Dist Ring Serv:	<input type="button" value="no"/>
Cfwd All Serv:	<input type="button" value="no"/>	Cfwd Busy Serv:	<input type="button" value="no"/>
Cfwd No Ans Serv:	<input type="button" value="no"/>	Cfwd Sel Serv:	<input type="button" value="no"/>
Cfwd Last Serv:	<input type="button" value="no"/>	Block Last Serv:	<input type="button" value="no"/>
Accept Last Serv:	<input type="button" value="no"/>	DND Serv:	<input type="button" value="no"/>
CID Serv:	<input type="button" value="no"/>	CWCID Serv:	<input type="button" value="no"/>
Call Return Serv:	<input type="button" value="no"/>	Call Back Serv:	<input type="button" value="no"/>
Three Way Call Serv:	<input type="button" value="yes"/>	Three Way Conf Serv:	<input type="button" value="yes"/>
Attn Transfer Serv:	<input type="button" value="no"/>	Unattn Transfer Serv:	<input type="button" value="no"/>
MWI Serv:	<input type="button" value="no"/>	VMWI Serv:	<input type="button" value="no"/>
Speed Dial Serv:	<input type="button" value="no"/>	Secure Call Serv:	<input type="button" value="no"/>
Referral Serv:	<input type="button" value="no"/>	Feature Dial Serv:	<input type="button" value="no"/>

All options must be set to **no** except for **Three Way Call Serv** and **Three Way Conf Serv**.

- p. Scroll down the Line 1 page, and set the Preferred Audio Codec to **G729a**.
- q. Ensure that Use Pref Codec Only is set to **No**.
- r. Under VoIP Fallback to PSTN, set Auto PSTN Fallback to **Yes**.
- s. In the SPA3000 browser window, enter this value for Dial Plan:

(000S0<:@gw0>|106S0<:@gw0>|183[12]x.|1[38]xxxxxxxxxS0<:@gw0>|13[

VoIP Fallback To PSTN	
Auto PSTN Fallback:	<input type="button" value="yes"/>
Dial Plan	
Dial Plan:	(*xx [3469]11 0 00 [2-9]xxxxxx1xxx[2-9]xxxxxxS0 xxxxxxxxxxxx.)
Enable IP Dialing:	<input type="button" value="no"/>

Enter
 "(000S0<:@gw0>|106S0<:@gw0>|183[12]x.|1[38]xxxxxxxxxS0<:@gw0>|13[1-9]xxxS0<:@gw0>|1[9]xxxxxxxxS0<:@gw0>|0[23478]xxxxxxxxS0|[2-9]xxxxxxxxS0|001xxxx.S5|xxx.<:@gw0>|*xx.|<#,:>x.<:@gw0>)" on this field.

- t. Once you have entered all the required information, click **Submit All Changes**.

The device reboots and returns you to the Configuration page.

3. Change regional tab settings.

- a. On the Configuration page, click the **Regional** tab at the top of the page.
- b. In the Miscellaneous section, set your local time zone.

- c. Choose **220+820||115nF** from the FXS Port Impedance drop-down list.
- d. For the FXS Port Input Gain and FXS Port Output Gain fields, enter **-3**.
- e. Choose **Bellcore(N.Amer,China)** from the Caller ID Method drop-down list.
- f. Click **Submit All Changes** at the bottom of the page in order to save your settings.

4. Enter PSTN line tab settings.

- a. Click the **PSTN Line** tab in order to access the International Control options.
- b. In the International Control area, choose **220+820||120nF** from the FXO Port Impedance drop-down list.

Select
220+820||120nF.

International Control			
FXO Port Impedance:	220+820 120nF	Ring Frequency Min:	10
SPA To PSTN Gain:	0	Ring Frequency Max:	100
PSTN To SPA Gain:	0	Ring Validation Time:	256 ms
Tip/Ring Voltage Adjust:	3.5 V	Ring Indication Delay:	512 ms
Operational Loop Current Min:	10 mA	Ring Timeout:	640 ms
On-Hook Speed:	Less than 0.5 ms	Ring Threshold:	13.5-16.5 Vrms
Current Limiting Enable:	no	Ringer Impedance:	High (Normal)
Line-In-Use Voltage:	30		

- c. Enter **0** in the SPA to PSTN Gain field.

Enter "0" on this field.

International Control			
FXO Port Impedance:	220+820 120nF	Ring Frequency Min:	10
SPA To PSTN Gain:	0	Ring Frequency Max:	100
PSTN To SPA Gain:	0	Ring Validation Time:	256 ms
Tip/Ring Voltage Adjust:	3.5 V	Ring Indication Delay:	512 ms
Operational Loop Current Min:	10 mA	Ring Timeout:	640 ms
On-Hook Speed:	Less than 0.5 ms	Ring Threshold:	13.5-16.5 Vrms
Current Limiting Enable:	no	Ringer Impedance:	High (Normal)
Line-In-Use Voltage:	30		

- d. Enter **3** in the PSTN to SPA Gain field.

Enter "3" on this field.

International Control			
FXO Port Impedance:	220+820 120nF	Ring Frequency Min:	10
SPA To PSTN Gain:	0	Ring Frequency Max:	100
PSTN To SPA Gain:	3	Ring Validation Time:	256 ms
Tip/Ring Voltage Adjust:	3.5 V	Ring Indication Delay:	512 ms
Operational Loop Current Min:	10 mA	Ring Timeout:	640 ms
On-Hook Speed:	Less than 0.5 ms	Ring Threshold:	13.5-16.5 Vrms
Current Limiting Enable:	no	Ringer Impedance:	High (Normal)
Line-In-Use Voltage:	30		

- e. Enter the following value in the Disconnect Tone field:

425@-30,425@-30;10(.375/.375/1+2

PSTN Disconnect Detection	
Detect CPC:	<input type="button" value="yes"/>
Detect PSTN Long Silence:	<input type="button" value="no"/>
PSTN Long Silence Duration:	<input type="text" value="30"/>
PSTN Silence Threshold:	<input type="button" value="medium"/>
Detect Disconnect Tone:	<input type="button" value="yes"/>
Disconnect Tone:	<input type="text" value="425@-30,425@-30;10(.375/.375/1+2)"/>

Enter
425@-30,425@-30;10(.375/.375/1+2)
on this field.

f. Click **Submit All Changes**.

Note: At this point, your NodePhone service should be authenticated and working. You should be able to make phone calls. In the event of a network failure, your SPA3000 should fail over to the standard phone line.

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Updated: Dec 12, 2008

Document ID: 108722
