Linksys SPA400

Trixbox Integration Guide

Access Point – Connecting You & Your Customers.

Contact : support@voipshop.com.au

Overview:

    The Linksys SPA400 is a 4 Line FXO gateway capable of connecting 4 PSTN lines to your asterisk system to make and receive calls. This guide is a step by step on how to configure Trixbox to utilize the features of the SPA400. Limitations:

    * The voicemail function of the SPA400 cannot be used.
    * You cannot select which line of the SPA400 to use. They are treated as a single group of 1-4 lines. The SPA400 will know which lines are available by the line voltage when plugged in.

Configure the SPA400:

Step 1 – Obtain the IP address if the SPA400

    Option 1(Easiest): You will need to check your DHCP server to see what IP address has been allocated to the SPA400 (Will usually be in the Status area of your Modem/Router).

    Option 2(Harder): If you only have a few devices on your network you can use angry IP scanner (http://www.angryziber.com) which will search your network for devices. You should be able to work out the SPA400 address. Try searching for port 5060 also to help identify.

    Option 3: You can download the SPA9000 setup utility from http://www.linksys.com it will scan the network for SPA400s and show the IP address.

Note the IP Address: _____

Step 2 – Access the SPA400

    In your favourite web browser type the IP address of the SPA400, it should ask for a username and password.
The **default username** is Admin (Note capital A)
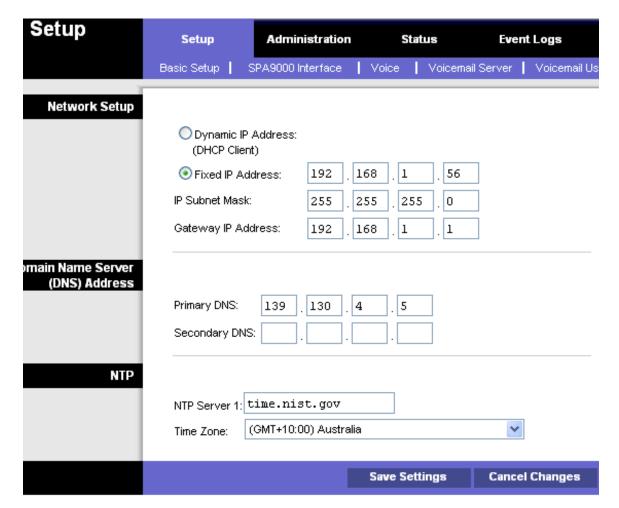The **default password** is *blank*

Step 3 – Set the SPA400 to a Fixed IP address

Asterisk needs to access your SPA400, so it needs to be set to a fixed ip address. To do this: -

Under Setup -> Basic Setup
- Select Fixed IP address and enter a valid fixed IP address for your network.
- Be sure to enter a DNS server, if you do not know enter the Telstra DNS server 139.130.4.5 – You can leave the secondary blank
- Set your time zone.
- Click Save Settings
- Restart System

Sample Config – Use Address Valid For Your Network
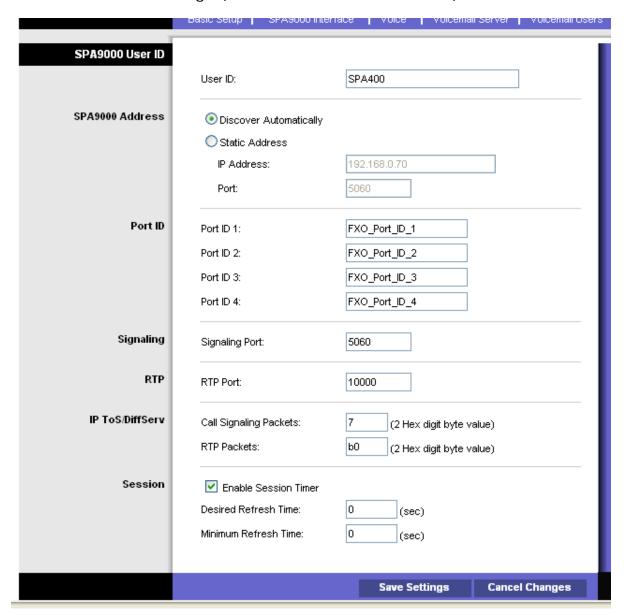Check with the network administrator if unsure.

Note the IP address in the Notes Section.

Step 4 – Setup the SPA400 Voice Configuration.

Open the SPA400 in your web browser using the new IP address.

Select Setup->SPA9000 Interface.
- Enter SPA400 in the User ID:
- Leave SPA9000 on discover automatically
- No other changes should need to be made
- Click Save Settings (You Do Not Need To Restart)

Screenshot of Setup -> SPA9000 Interface

Select Setup -> Voice

For Australia you need to change:-
- Impedance : 220 Ohms + (820 Ohms || 120nF)
- On-Hook speed : 26ms

Setup

| Setup | Administration | Status | Event Logs |

Basic Setup | SPA9000 Interface | Voice | Voicemail Server | Voicemail Us

Voice Coders

Preferred Coder

◉ G.711U   ○ G.711A   ○ G.729

Voice Coders

	Packetization	VAD
G.711U	20ms	OFF
G.711A	20ms	OFF
G.729	30ms	OFF

Voice Setting

Calling Timers

Wait-for-Answer time :   180   sec

Call Limit :   65535   sec

Dialing Parameters

Tone out on: 200   msec

Tone out off: 200   msec

DTMF power: -130   (-400 ~ 30) * 0.1 dB

Answer after :   1   rings

Dial out wait :   400   msec

Dial out battery threshold :   20   volts

Line Settings

Transmit Gain: 0   dB

Receive Gain: 0   dB

Impedance: 220 Ohms + (820 Ohms || 120 nF)

Tip/Ring voltage: 3.5 (default)

Operational loop current Min: 10mA (default)

On-Hook speed: 26ms (Australia)

Ring frequency Min: 10

Ring frequency Max: 100

Ring Validation Time: 256 (default)

Ring Indication Delay: 512 (default)   ms

Ring Timeout (ms):   640 (default)

Ring Threshold (vrms):   13.5 - 16.5 (default)

Ringer Impedance: High (default)

DC current Limiting: Enable (default)

Caller Id Method: UK

○ Battery reversal as disconnect signal

◉ Loop period shut-down as disconnect signal

Step 5 – Configure Trixbox Trunk.

Open your FreePBX interface: http://trixbox.ip/admin/

Select Trunks -> Add SIP trunk

Complete the form with the details below:

Outbound Caller ID: Blank
Never Override CallerID : Unticked
Maximum Channels: (the number of pstn lines plugged into the
                            SPA400)
Dial Rules: Leave Empty
Outbound Dial Prefix: Empty

Trunk Name: SPA400 (Can be anything you wish)
Peer Details:

                        allow=ulaw
                        canreinvite=no
                        context=from-trunk
                        dtmfmode=rfc2833
                        host=**x.x.x.x**
                        insecure=very
                        type=friend
                        user=SPA400

USER Context: Leave Blank
USER Details: Blank (Delete the default information)

Register String:
SPA400@**x.x.x.x**/SPA400

Note : **x.x.x.x** should be where you enter the IP address of the
SPA400

Click Submit Changes.

Step 6 – Configure Outbound Route.

You can now treat the SPA400 like any other trunk. To add an outbound router (eg, dial 9 to dial out the SPA400)

Outbound Routes -> Add Route

Route Name: SPA400PSTN *(this can be anything)*
Route Password: Blank
Emergency Dialing: Unticked
Intra Company Route: Unticked
Dial Patterns: 9|.
Trunk Sequence: SPA400

Click Submit Changes

Step 7 – Configure Inbound Route.

This will setup an inbound route for people who call the PSTN lines plugged into the SPA400.

Setup -> Inbound Routes -> Add Incoming Route

DID Number: SPA400 *(case sensitive)*
Caller ID Number: Blank
Zaptel Channel: Blank

Fax Handling
Leave as is

Select the Destination

Click Submit

Click the Red "Apply Configuration Changes" to reload asterisk

Complete:

You should now be able to make and receive calls via your SPA400.

Email support@voipshop.com.au for further support if required.

Congratulations

Notes:

SPA400 IP Address: _____

SPA400 Username: _____

SPA400 Password: _____

Number of Lines: _____

Installed By: _____

Date: _____