Setting up a Linksys SPA941 VOIP telephone for use as a Mesh VOIP Phone

My special thanks to Tracy Lenocker, WA6ERA, for sharing with me how to use the SPA941 VOIP phone in a Broadband Mesh Network

Phones set up using this procedure are intended to be used with a Static IP address and always put into service with the same mesh router. I store each phone and its associated router together and they always are put into service together.

1. If you are using a used phone do a factory reset.
    a. Apply power to the phone and connect it to a router so that it will initialize to the startup screen on the display.
    b. Press the Setup button to access the phone's options directory.

Setup button

    c. Scroll through the menu until you are at the factory reset option.
    d. Select the factory reset option.

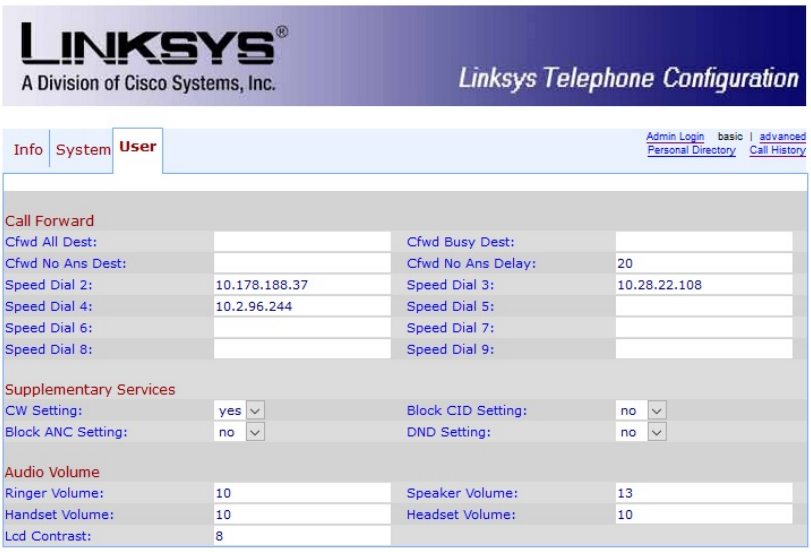
2. With the phone connected to its associated mesh router login to the phone using the IP address assigned to the phone by the router.
    a. To determine the IP address of the phone look at the mesh status and look in the Port Forwarding, DHCP, and Services page under the Setup tab look for the IP address assigned to the phone.
    b. Open an internet browser and type the IP address into the location bar.
        i. The phone's Info Screen should be displayed.
        ii. Login as Admin

3. At the User Basic Info Tab review the settings but make no change.
   a. 

4. Click on the User System Tab
   a. 

   b. Make certain that DHCP is set to yes.
   c. All other items should be left blank but will be filled in automatically later.

5. Click on the User Basic User tab

a. 

b. The speed dial entries will be filled out later when you know the IP addresses of the other phones that will be in the mesh.

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6. Login as a Admin by clicking on Admin Login in the upper right corner of the setup screen.
7. Click on the Admin Info Tab

a. 

b. As in the User Info Tab no changes are made here.

8. Click on the Admin System Tab

a.

b. Set Enable Web Server to Yes
c. Set DHCP to Yes
d. Set Hostname to your call sign and the sequential number of the phone or some other meaningful name

9. Do not make any changes in the Admin SIP tab

a.

10. Click on the Admin Regional Tab

a.
b. Set the local Date (mm/yy) something similar to 01/16
c. Set the local Time (HH/mm) something similar to 09/45
d. You may set Time Zone and Local Offset but these really do not matter for Mesh Network VOIP work.

11. Click on the Admin Phone Tab

a.

b. Set Station Name to whatever you want. I prefer to type the name of the Mesh Node name that will be associated with this phone. In this example this VOIP phone will always be paired with NB7O AP9. I enter this here so that if phones and routers get mixed up I can pair them back here.

c. Set Text Logo to whatever you want. I enter the sequential phone number in the order of their inclusion in my inventory.

d. Set Key Line 1 Short Name to whatever you want. I use the naming convention of my call sign with VOIP and the sequential number of the phone. E.G. for the phone in the example above NB7O-VOPI 2. The phone is labeled with this name and can easily be matched to its router which is labeled as in the Station Name.

12. Click on the Admin Ext 1 Tab

a. 

b. Set the General Line Enable to Yes
c. Set the Proxy and Registrations Make Call Without Reg to Yes
d. Set the Proxy and Registration Ans Call Without Reg to Yes

13. Do not make any changes on Admin Ext 2-4 Tabs

14. Click on the Admin User Tab

a.

b. In Call Forward Speed Dial 2 through 9 enter the IP addresses of any other phones you have in your inventory.

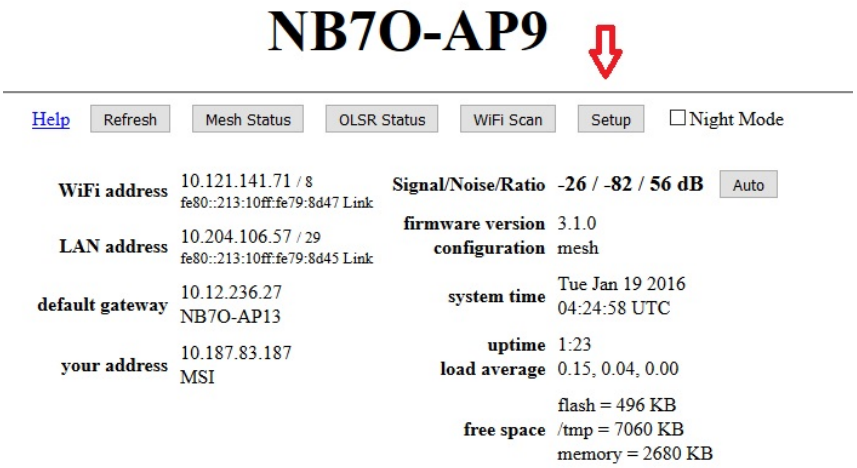
15. Click on the Submit All Changes Button at the bottom of the setup screen.

a.

b. This will cause all of the changes you have made to be stored in the phone.

16. Log into the Mesh Node Router that is associated with this VOIP phone

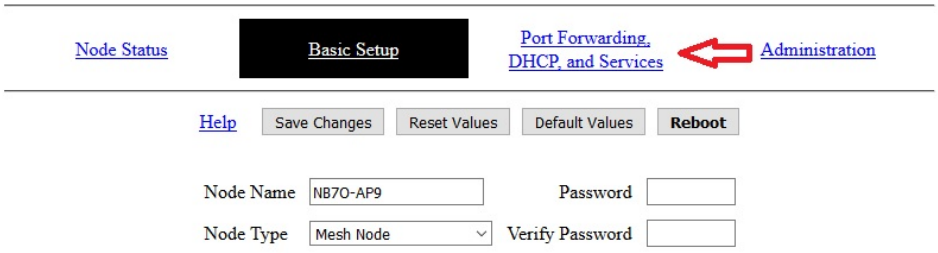
17. Click on the Setup Button in the Mesh Screen



a.

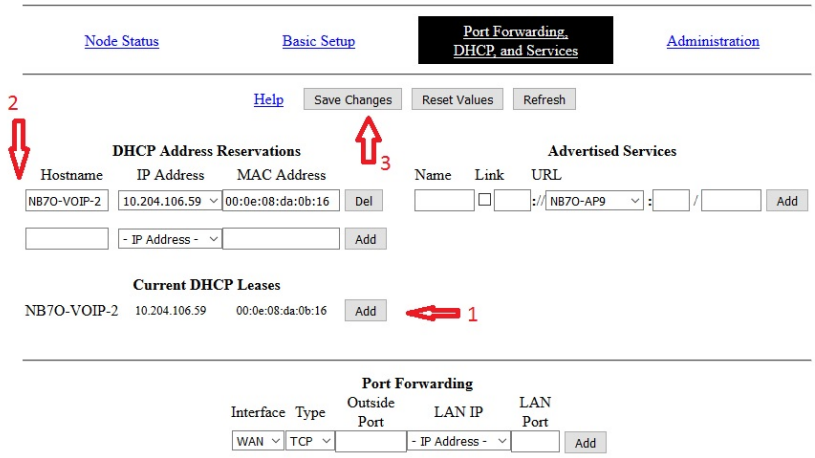
18. Enter the Username and Password for the router that you have previously established

19. Click on the Port Forwarding, DHCP, and Services option at the top of the setup screen



a.
b.

20. Reserve the IP address for the VOIP so that it always is given the same IP address by the router when it is attached to the router and initialized.



a.
b. This step makes certain that the phones always receive the same IP addresses so that dialing can be accomplished.
c. Locate the current IP address assigned to the VOIP (step 1 above)
d. Click the Add button associated with the IP address assigned to the VOIP (step 1 above)
e. Compare the name and address in step 2 above with the information in step 1 above. Make certain the information carried over correctly.
f. Click the Save Changes button in Step 3 above to save the IP reservation for the VOIP
g. Reboot the router after the save changes step completes.
h. Repeat steps 16 to 20 to confirm that the IP reservation was saved.

21. You are done setting up the VOIP and its associated Router

22. To make a call you simply need to enter the speed dial number of the phone you desire to call and then press the soft button under the word Dial in the display; E.G. 2 <Dial>