Avaya IP Office Standard Mode Release 9.0 KSU
Remote Extension Programing for SIP Phones with No VPN
Telquest Tech Support

There are some external conditions which need to be met for this to work.
The KSU MUST have a Static IP Address on the LAN.
The KSU MUST have access to a Static Public IP Address. (usually via a Router)
Ports 5060 UDP, and 49152 through 53246 UDP (can be made smaller) need to be opened to the KSU.

The Remote Location for the SIP phone may need to have some changes made in the router that it is connected to unless it is a Softphone application running on a Iphone.
Turn off SPI (Stateful Packet Inspection)
Turn off any SIP/H323 Helpers, Fixups, Transformations or ALG's. (Application Layer Gateways)

Since there a multitude of routers, making the above changes may not allow the SIP phone to work due to the router itself. I used a Netgear FVS318 and it works OK.

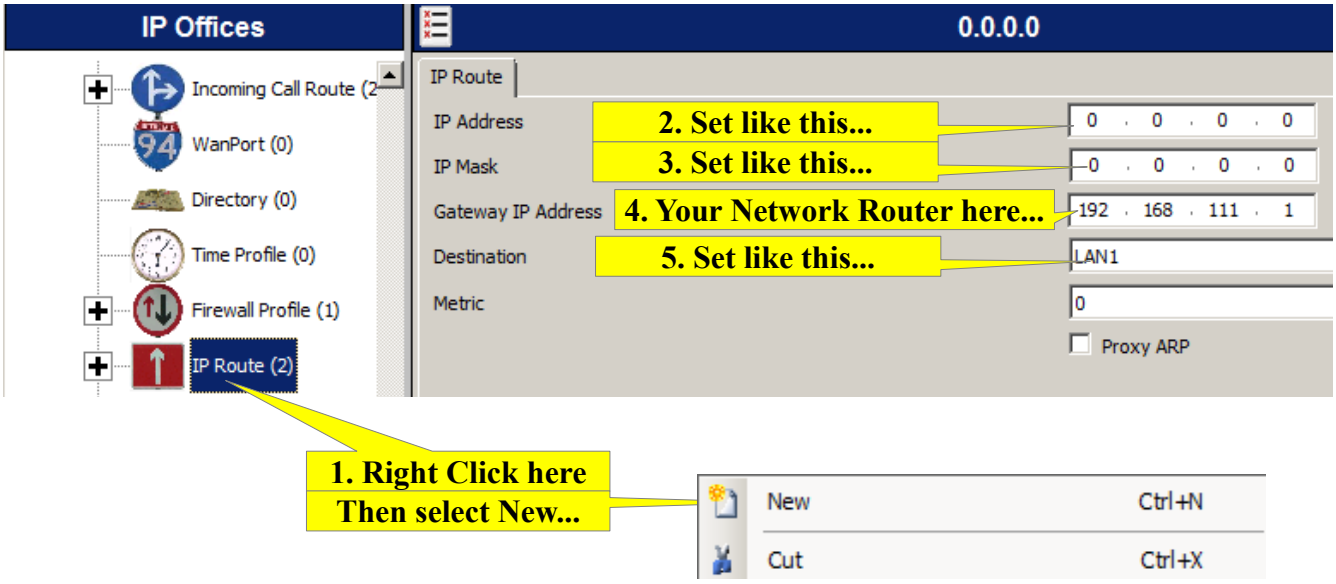
The first thing to do at the KSU is to set it up and test the type of Firewall it is connected to.

This is done by programing the KSU to use the STUN feature and then evaluating the STUN results.

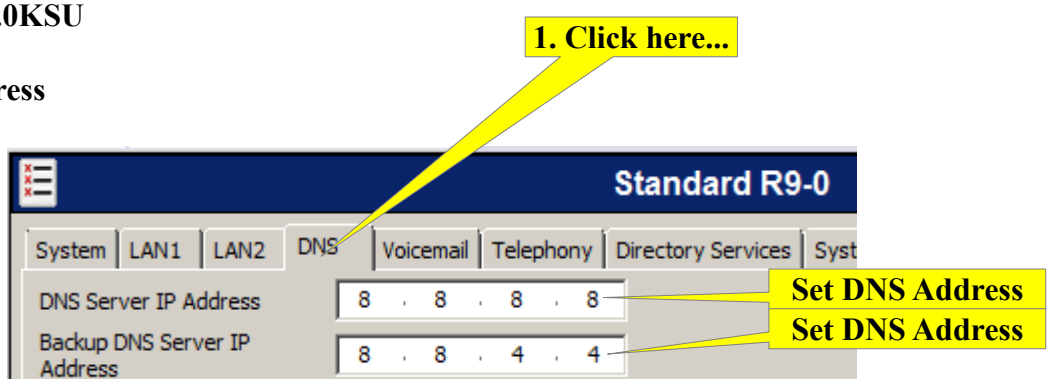
This Help Sheet is not intended to teach you how to program the IP Office.

It assumes that you have enough basic experience and are familiar with the concepts of the system.

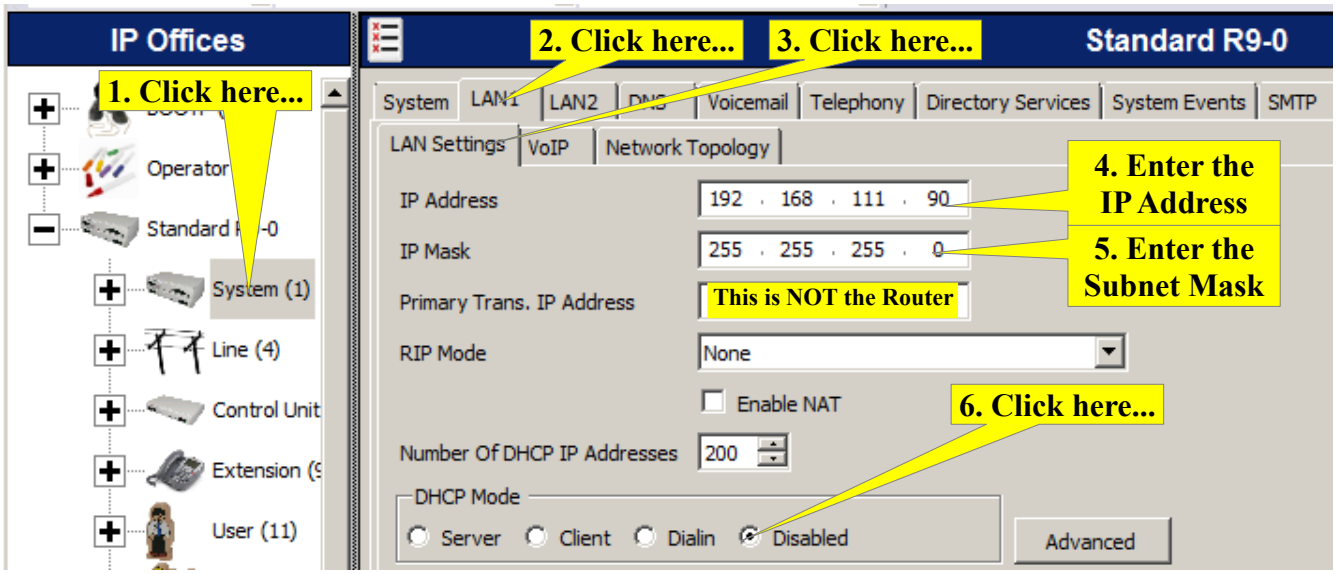
Create a new IP Route.
The IP Route is the IP Address of the Router that the KSU is connected to.



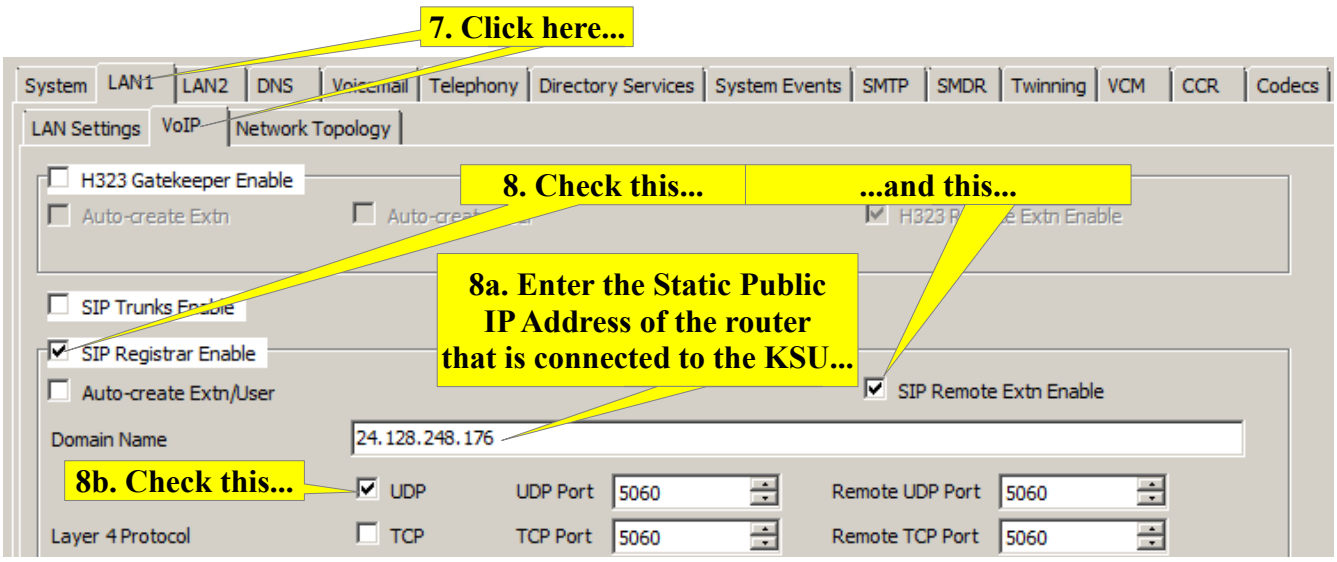
Set a DNS Address



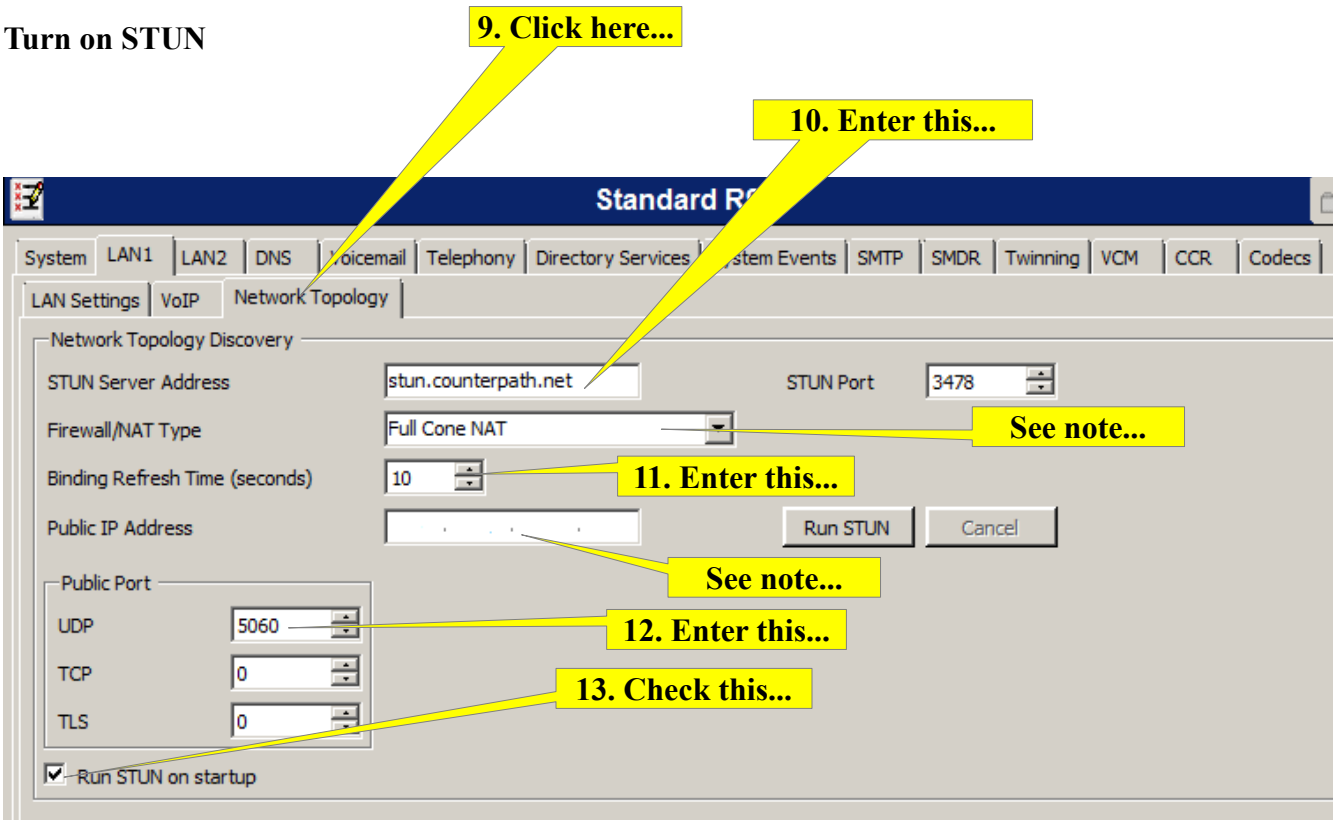
Give the KSU a Static IP Address on the LAN

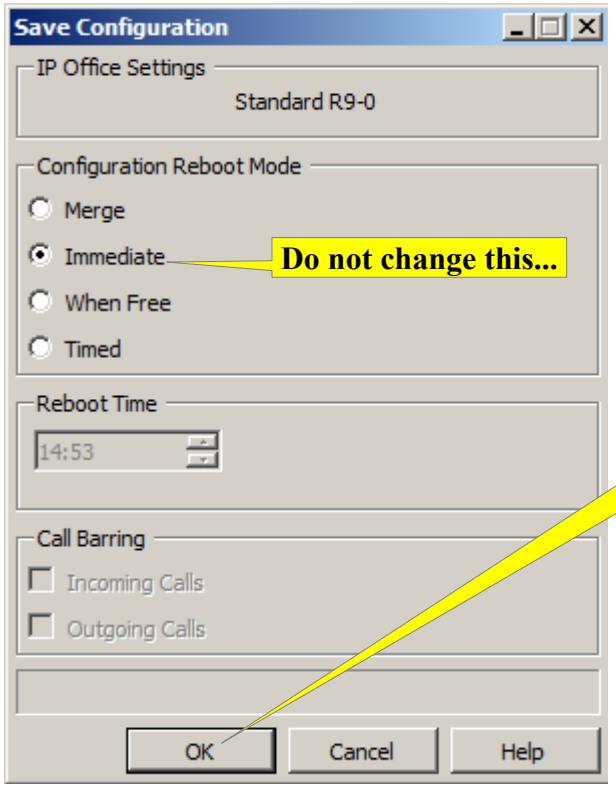


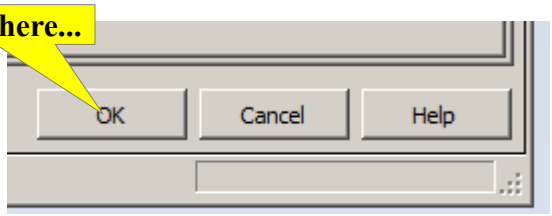
Turn on SIP Registrar



Turn on STUN







Note: The KSU will reboot.
When it comes back on the Firewall and Public IP Address fields should be filled in by the STUN Server action.

Avaya official statement says:

If STUN reports the Firewall/NAT Type as one of the following, the network must be reconfigured if possible since these types are <u>not supported</u> for remote SIP extensions:
Static Port Block
Symmetric NAT
Open Internet

Of course, the above statement has been reported to be 100% incorrect and that those listed above do work.

So, without accurate info, you will need to see what happens.

As seen on Page 3, my Firewall indicates Full Cone Nat and it works OK.

You can click on the Help Button on the bottom of the screen of your Manager program to get a more detailed description of the types of Firewalls detected by STUN.

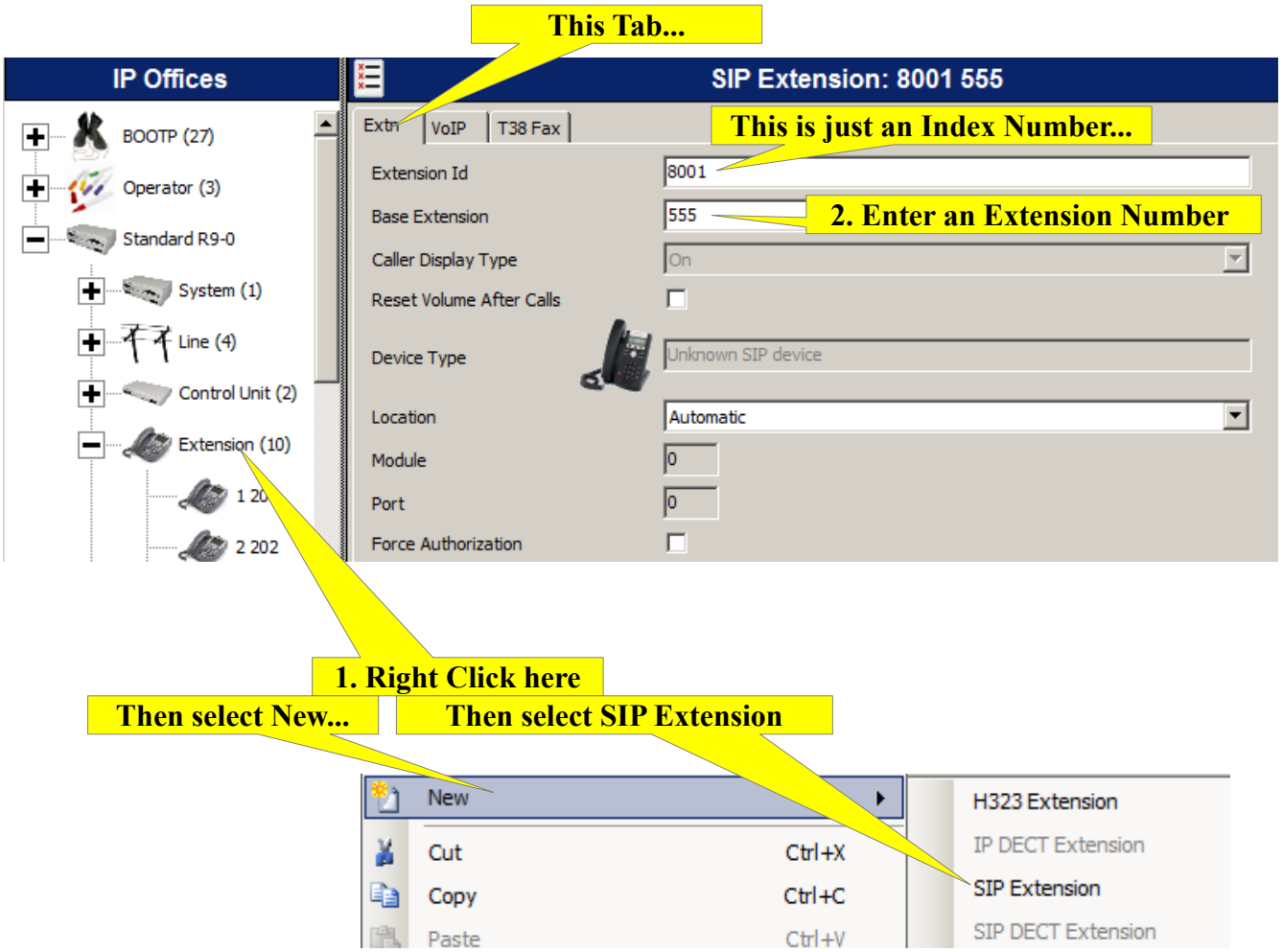
Based on what Avaya says, if your Firewall/NAT Type is Static Port Block, Symmetric NAT or Open Internet the remote 96xx phone will not work and you will need to either replace the router or reconfigure it in some way to allow it to work.
You can continue with the IP Office programming but don't expect the 96xx phone to work.

If the Firewall/NAT Type comes up with something else, I would reason that the remote 96xx phone should work.

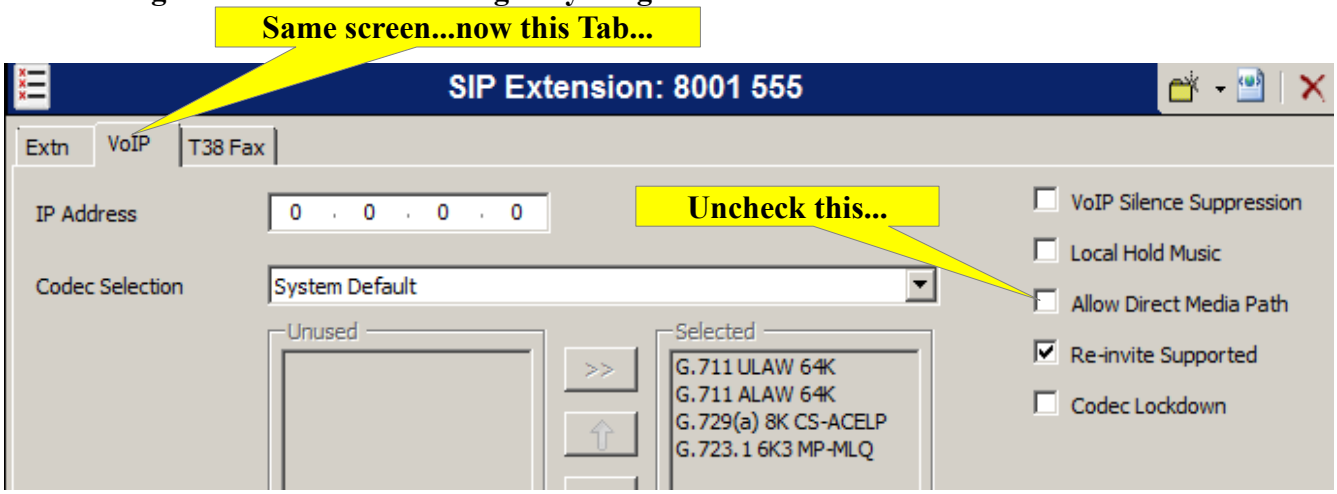
I was only able to test with my router, so I cannot say what will happen if your Firewall/NAT Type results are different than mine. (Full Cone Nat).

I am using a Netgear FVS318 Router.

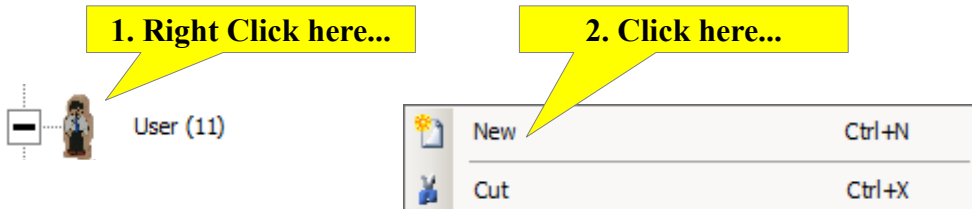
Create a New Extension Number for the Remote Phone

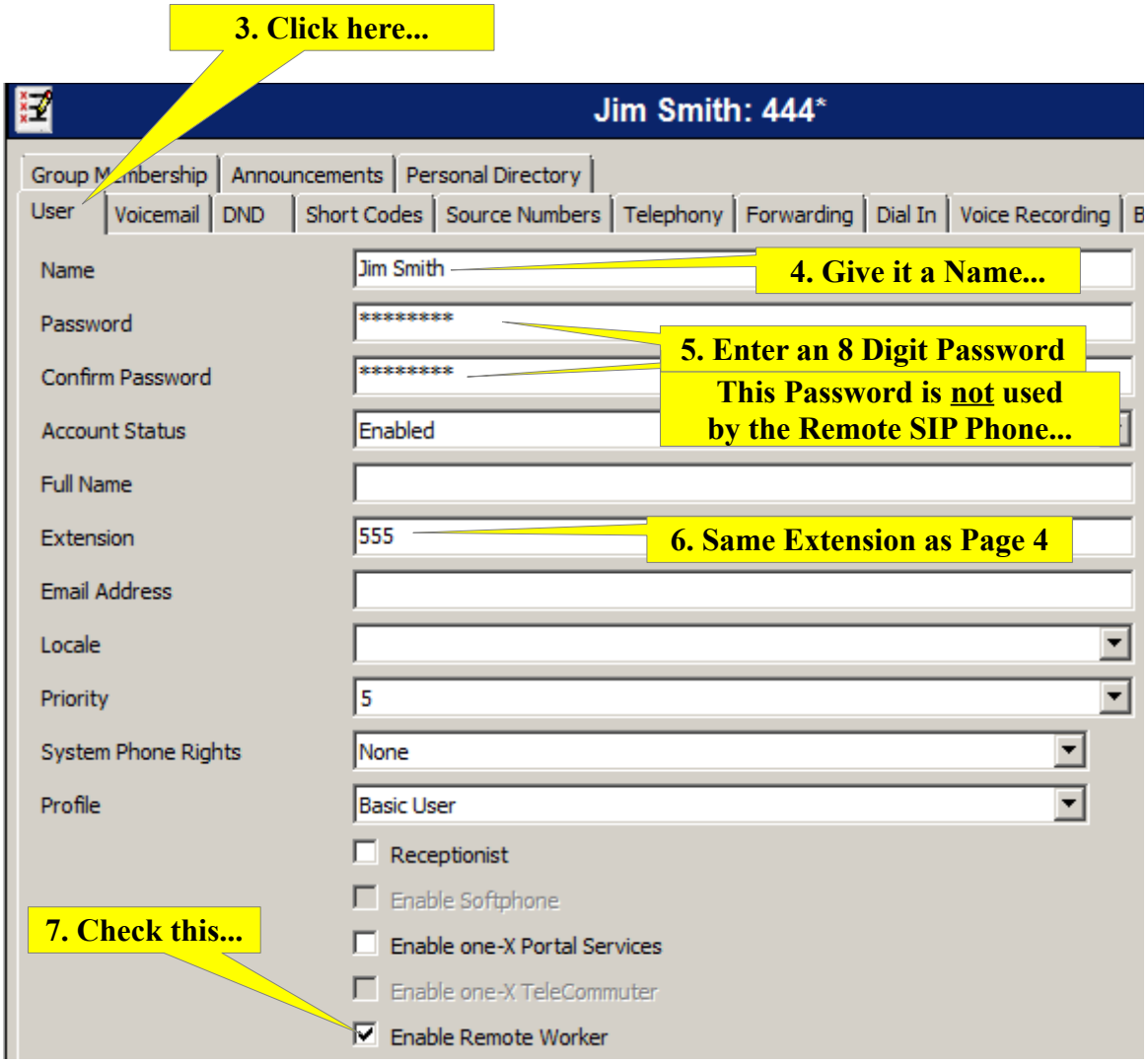


Do not assign an IP Address or change anything other than what is shown.....



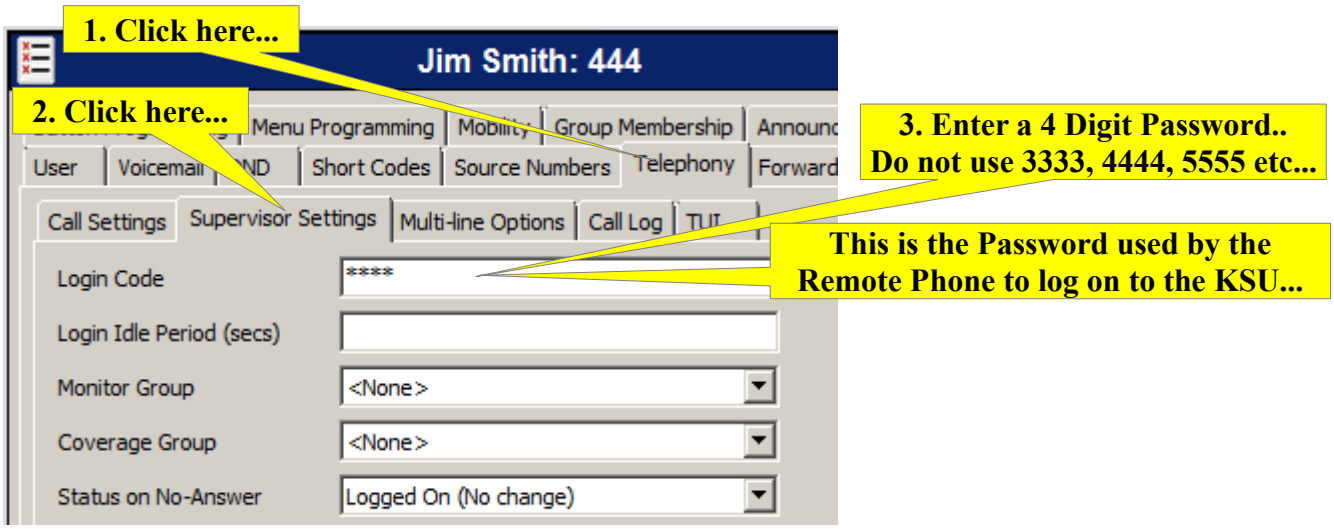
Create a New User for the Remote Phone





Assign a Password for the SIP Phone.

This will be the SIP Password... Make sure it is complex or you may get hacked....



Here are some thoughts and observations.

There are 4 free Remote Worker Licenses in the KSU allowing up to 4 SIP phones.
They are not listed in the License area of the Manager program tool, but they work.
You will however need a "3rd Party IP Endpoints" license for each SIP Phone.

It is better to set up the SIP phone on the same LAN as the KSU initially.
That is, plug it into the same physical network that the KSU is connected to.
Or, if it is an Iphone, connect by WIFI to the same LAN if possible.
This is the best way to test it initially.

When testing on site:
Be sure to enter the LAN IP Address of the KSU into the phone, not the KSU's Public IP Address.
This takes out all the networking issues/troubles that may exist.
If it works OK, then it means that all your KSU programing looks OK.

When testing off site:
Next, you can set up the Iphone on the 4G Network and try it from there.
Be sure to enter the Public IP Address of the KSU into the phone, not the KSU's LAN IP Address.
If it works...Great.
If not... then it is most likely a networking trouble at either the KSU location or the 4G Provider may be blocking SIP.