Avaya IP Office Standard Mode Release 8.1 KSU
Remote Extension Programing for 96xx Type 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 1719 UDP, 1800 TCP, 49152 through 53246 UDP (can be made smaller) need to be opened to the KSU. Port 80 needs to be open too, but just until the phone boots up. Then it can be closed.

The Remote Location for the 96xx phone may need to have some changes made in the router that it is connected to.
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 96xx 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.

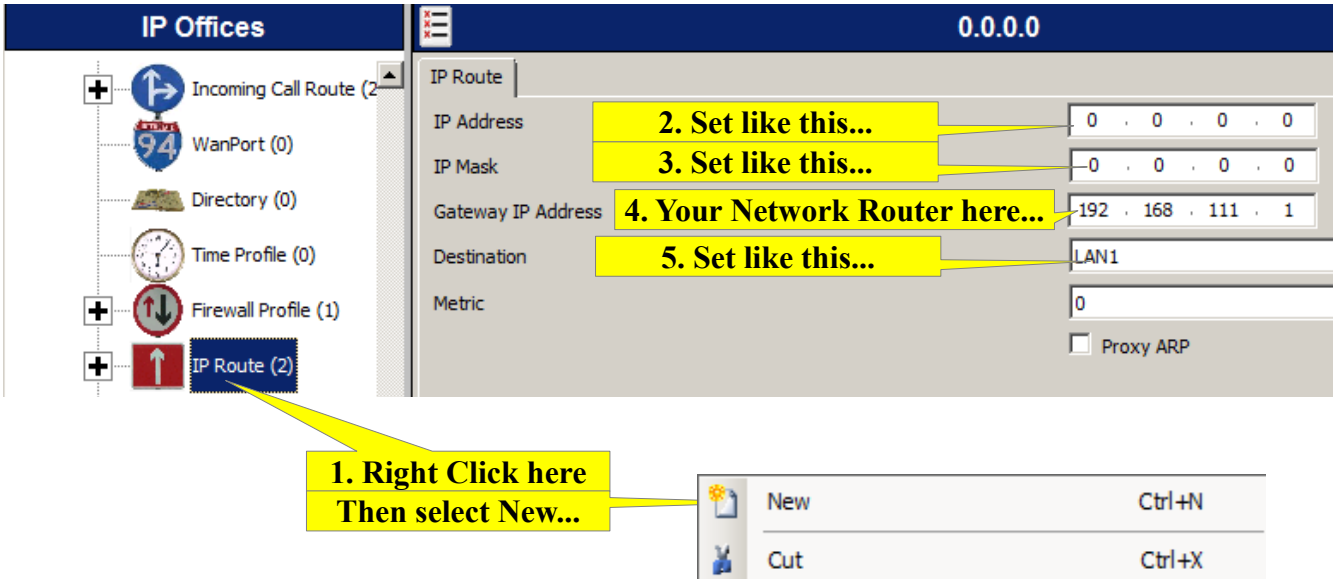
This is done by programing the KSU to use the STUN feature and then evaluating the STUN results.

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

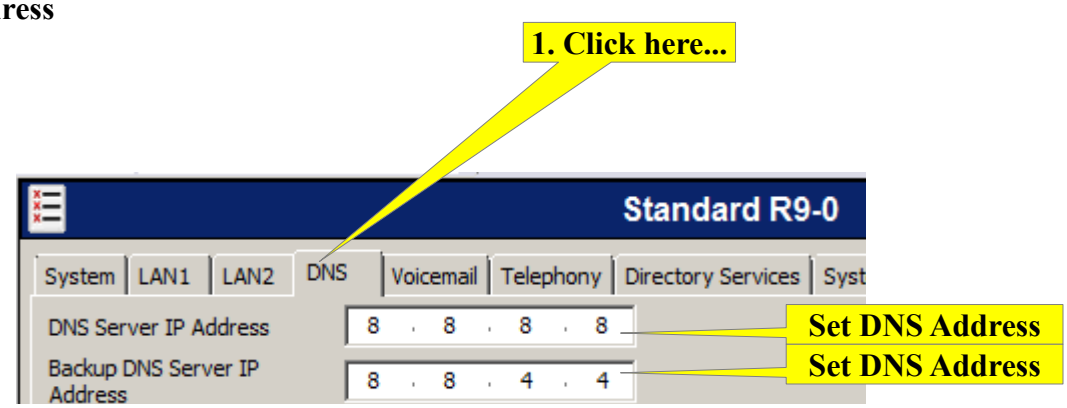
It assumes that you have enough basic experience and are familiar with the concepts of the system.

Special Note: It has been reported that you **cannot** use more than 1 IP phone at a remote location.

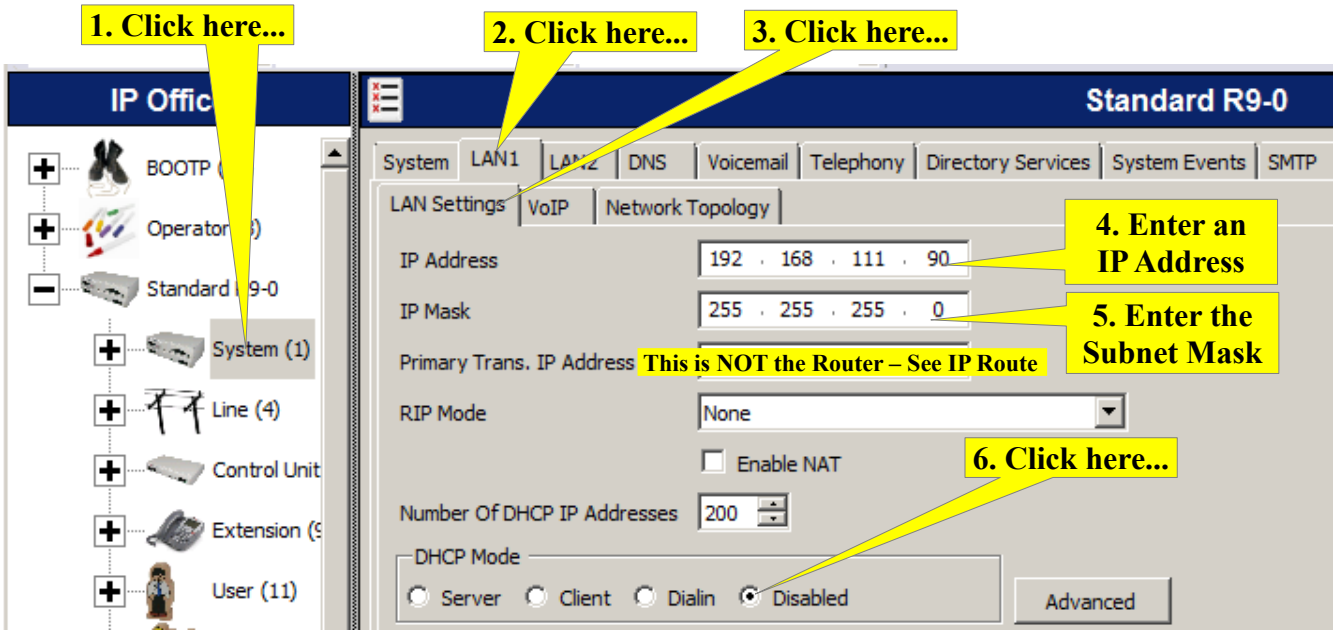
Create a new IP Route.
The IP Route is the IP Address of the Router that the KSU is connected to.



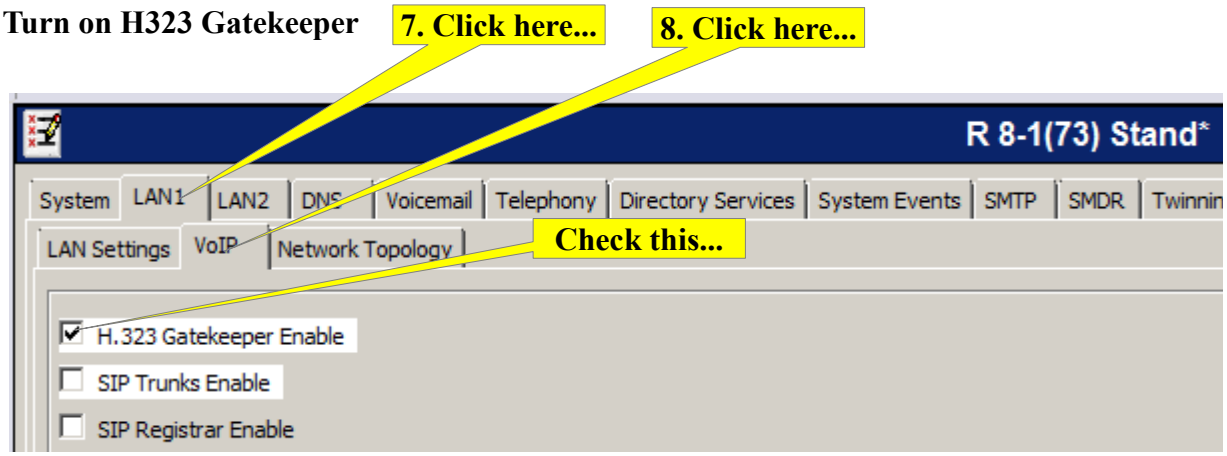
Set a DNS Address



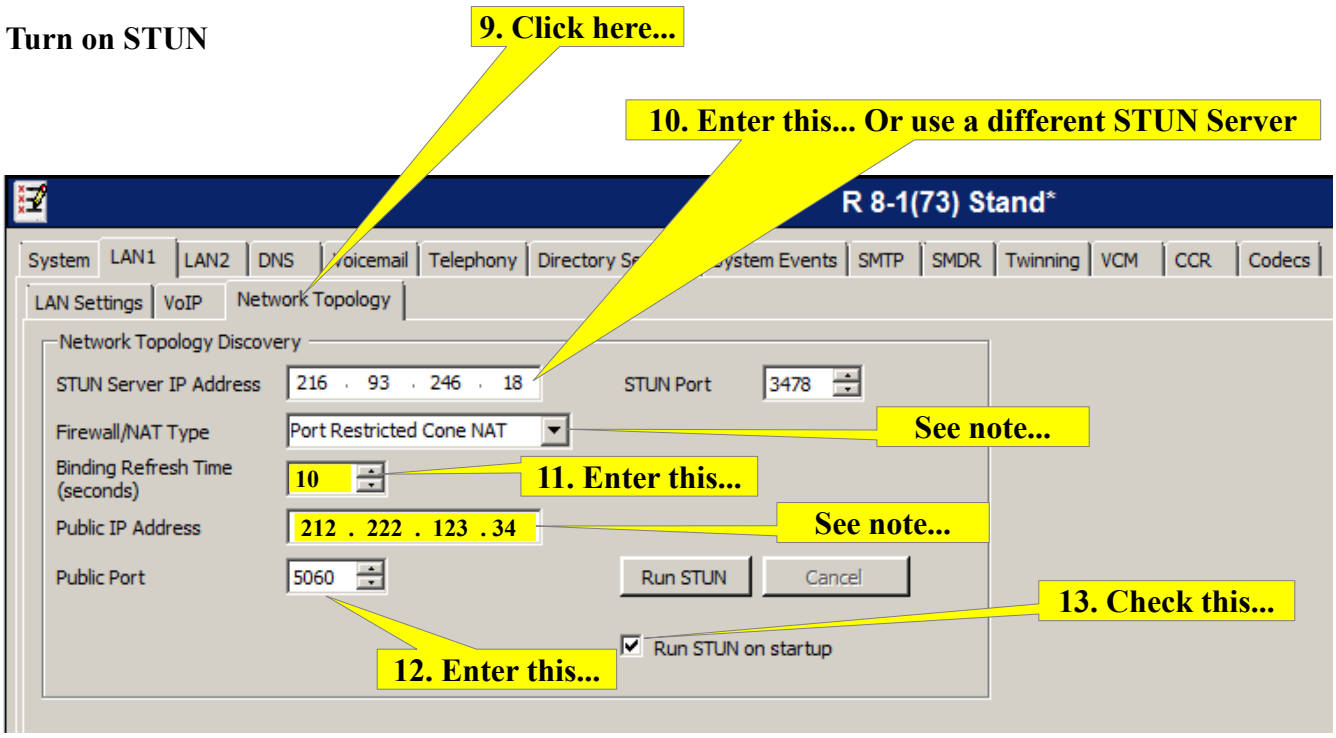
Give the KSU a Static IP Address on the LAN

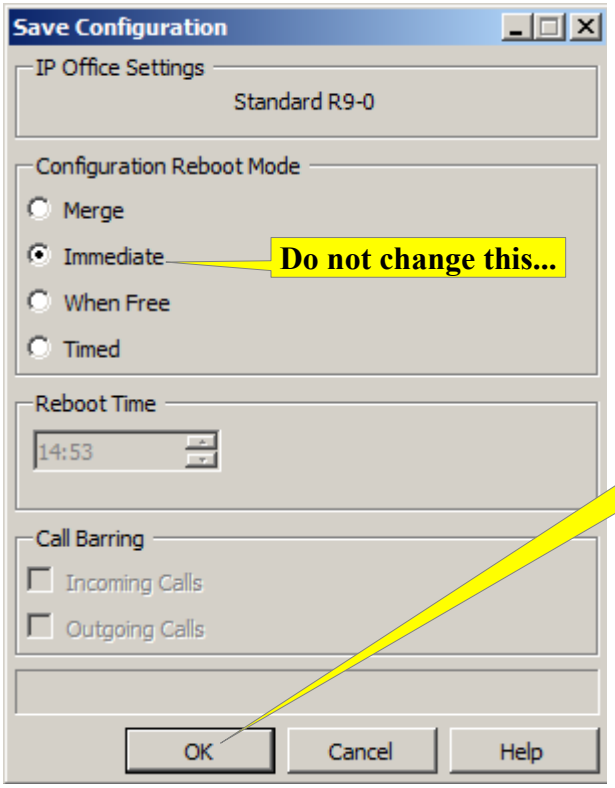


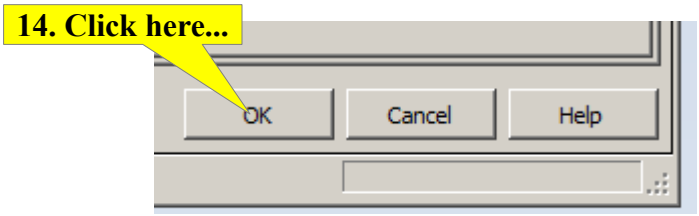
Turn on H323 Gatekeeper

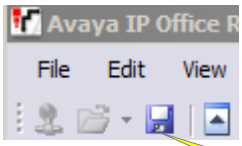


Turn on STUN









15. Click here...

16. Click here...

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 H.323 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.

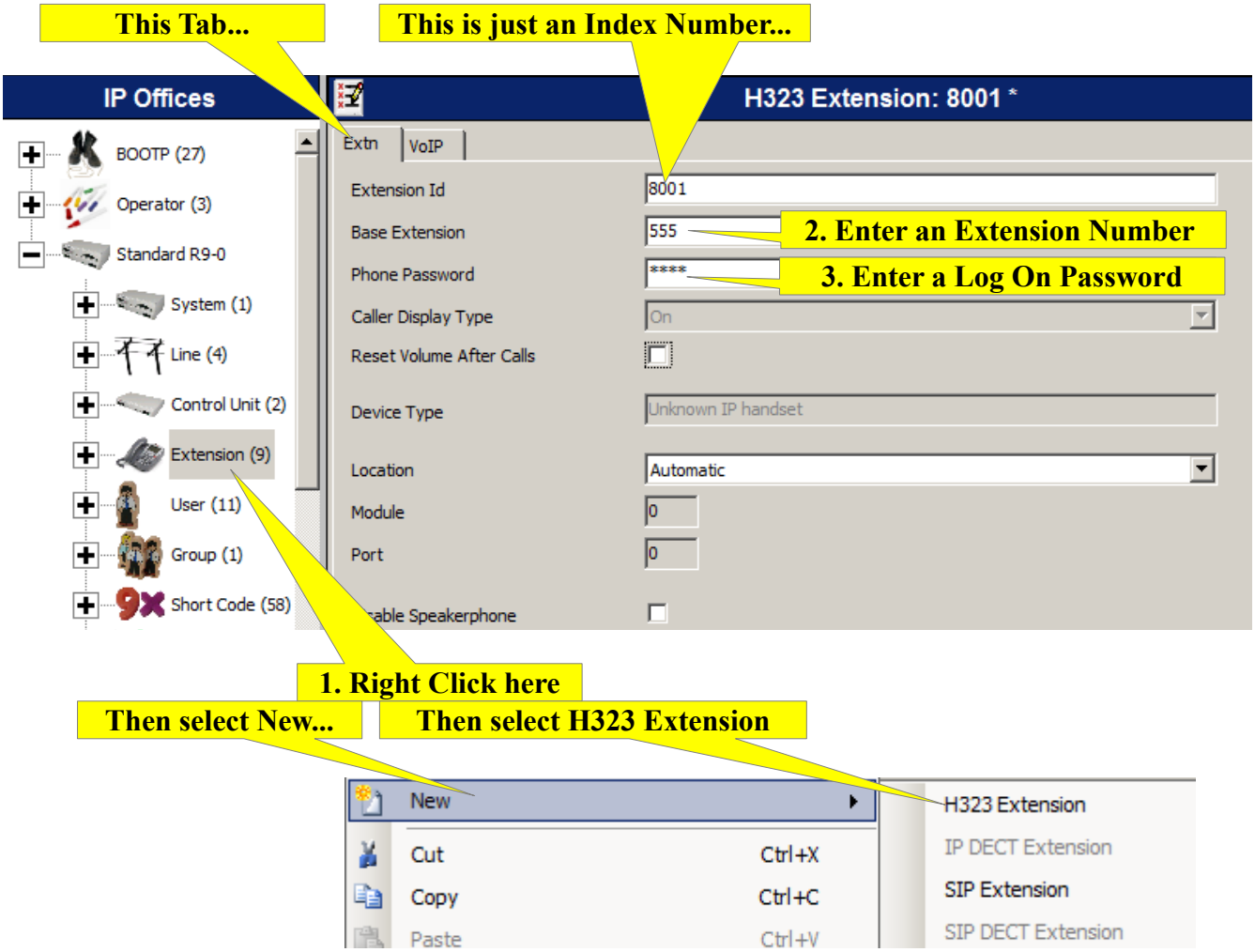
Based on what Avaya says, if your Firewall/NAT Type is Static Port Block, Symmetric NAT or Open Internet the remote 96xx phone will not work and you will need to either replace the router or reconfigure it in some way to allow it to work.
You can continue with the IP Office programming but don't expect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



Note:
The Log On Password is what you enter via the keypad when the phone first comes on and prompts you.

It is not the Login Code used by the phone to Register to the KSU. (Step 3, Page 7)

To make things easy and less confusing , just use the same 4 Digit Password here and on Page 7.

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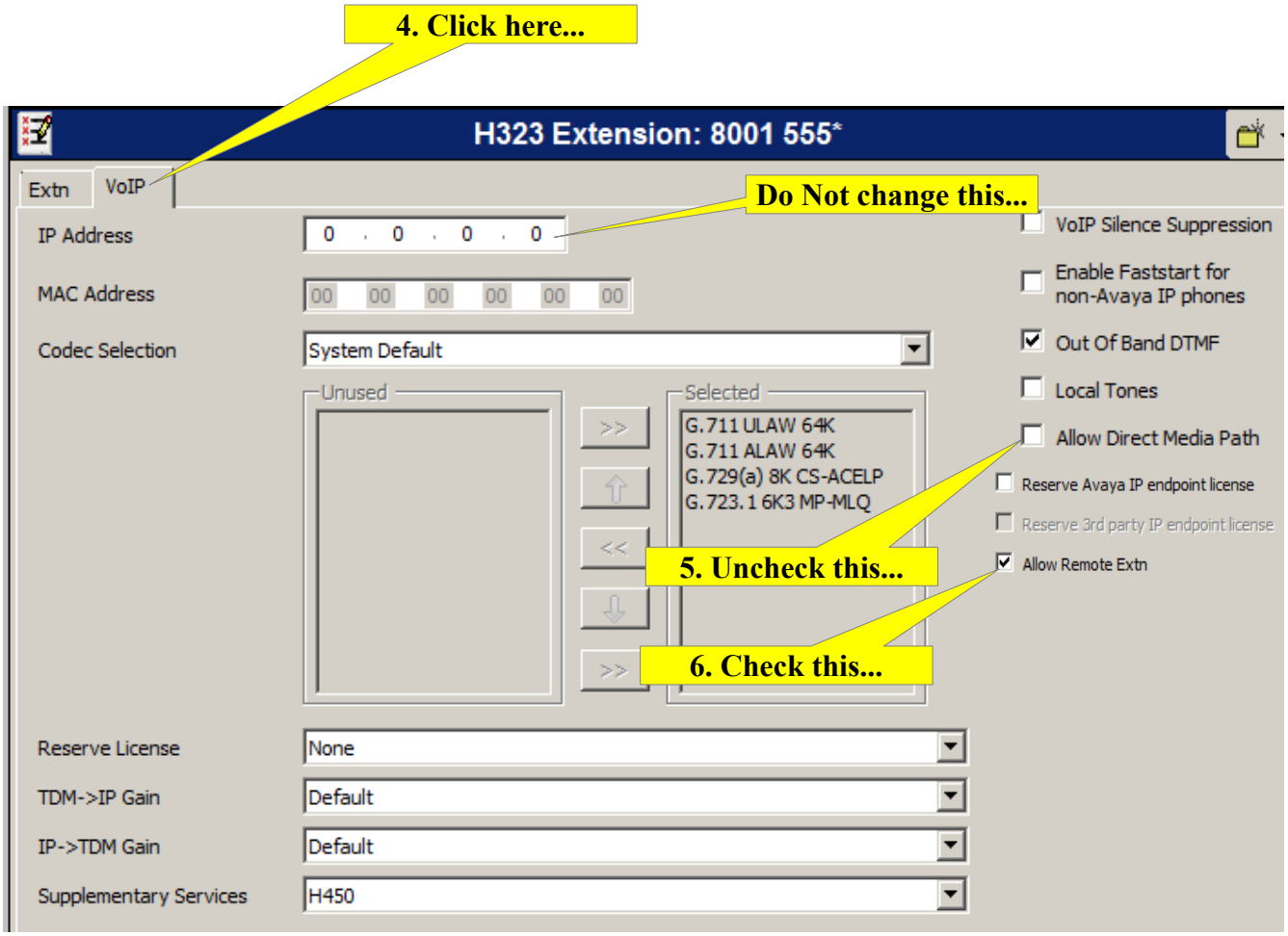
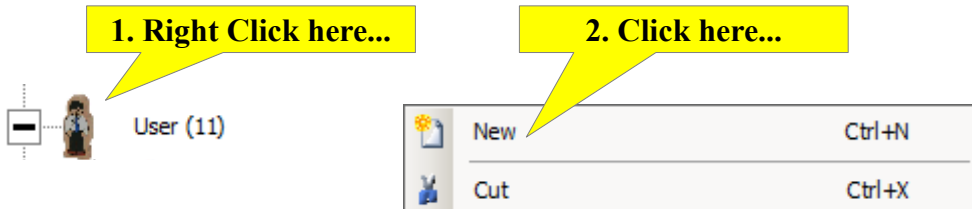
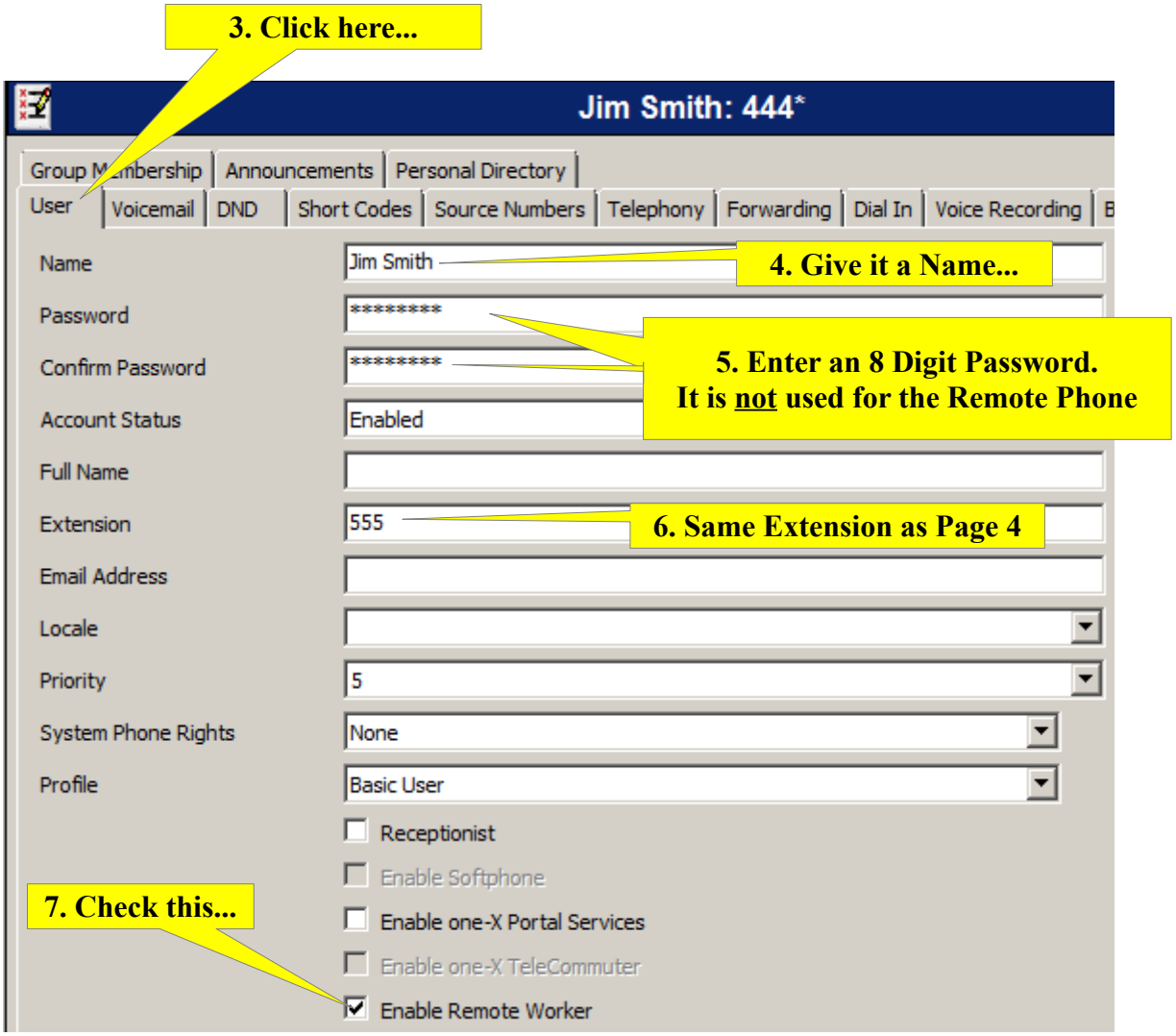
We are still on the same screen here...



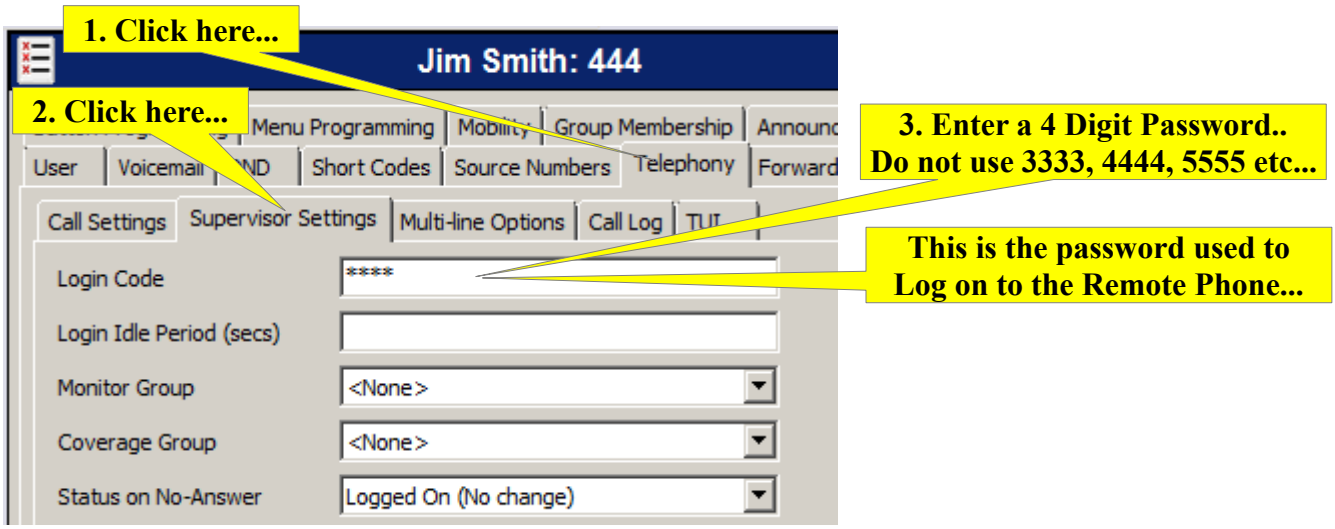
Create a New User for the Remote Phone

Note: Step 5... Is not required, but put a password in anyway to stop the alarm notice...
This password is used by user applications such as SoftConsole and TAPI.

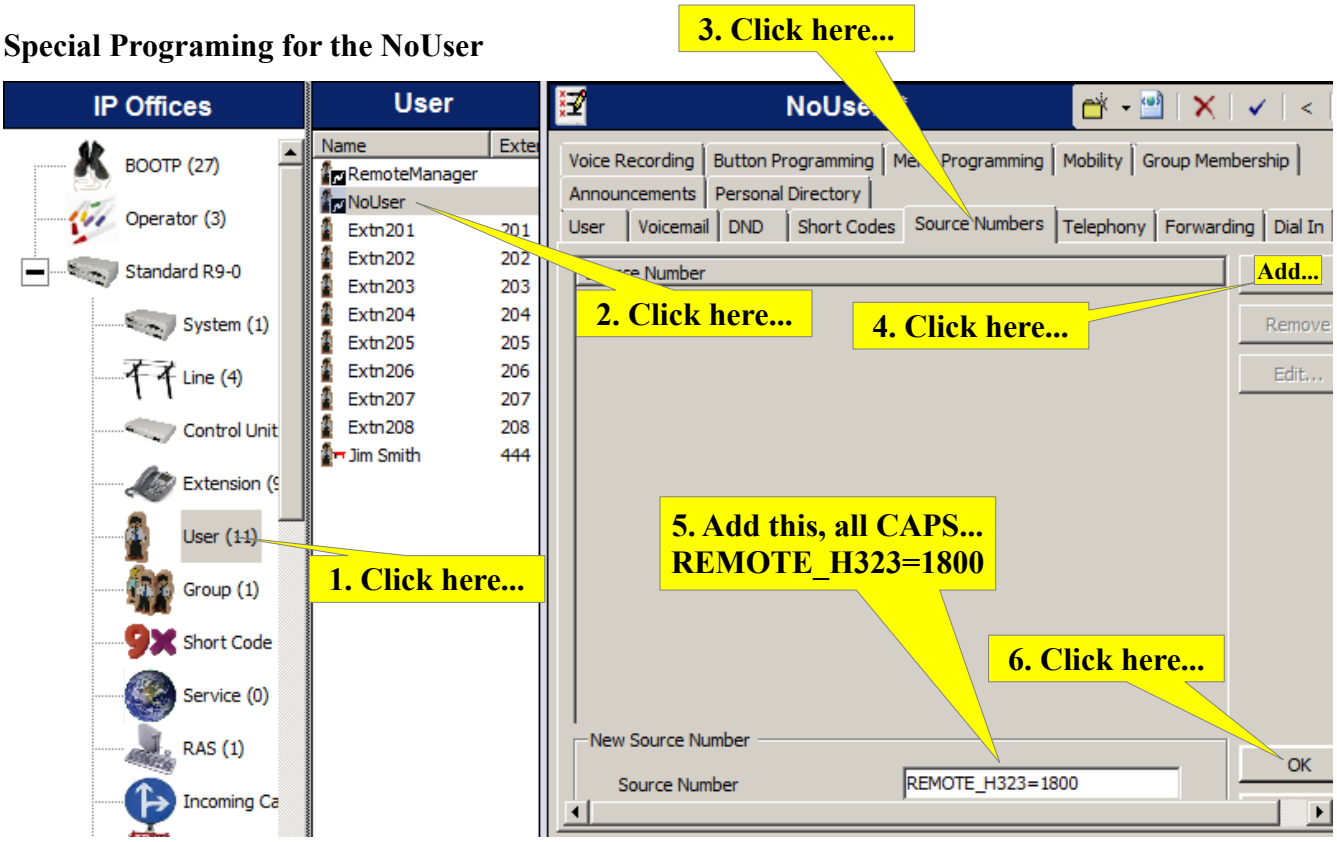




Assign a Login Password for the Remote Phone
This will be the Password entered on the keypad of the Remote Phone when first logging on.



Special Programing for the NoUser



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Here are some thoughts and observations.

There are 4 free Remote Worker Licenses in the KSU allowing up to 4 Remote 96xx phones.
They are not listed in the License area of the Manager program tool.
You will however need an Avaya IP Endpoint License for each 96xx IP Phone.

It is better to set up the 96xx type phone on the same LAN as the KSU first.
That is, plug it into the same physical network that the KSU is connected to.
This is the best way to test it initially.
Be sure to enter the LAN IP Address of the KSU into the phone, not the KSU's Public IP Address.
It also allows the 96xx phone to download all the Language Files from Port 80.
It takes out all the networking issues/troubles that may exist.
If it works OK, then it means that all your KSU programing looks OK.
Next, you can set it up at the Remote Location 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 Remote Location.

You do not need to use the Avaya 46xxsettings.txt file to make the phone work.
It is only required if you want to use the built in VPN ability of the phone.
That function is not covered in this Help Sheet.

Port 80 is only used once when the 96xx phone boots up for the very first time.
If you are setting the 96xx phone up at the KSU location (as I suggested) then you will not need to open Port 80 in the router at the KSU location.
If you are setting the 96xx phone up at the Remote Location, then you do need to open Port 80 to the KSU, but you can close it once the phone is working.

When programing the 96xx phone
“Phone” = LAN IP Address of the 96xx phone
“Call Server” = IP Address of the KSU (LAN Address if local, Public Address if Remote)
“Router” = IP Address of the Router that the 96xx phone is connected to physically
“Mask” = Sub Net Mask of the Router that the 96xx phone is connected to physically
“HTTP Server” = IP Address of the KSU (LAN Address if local, Public Address if Remote)
“HTTPS Server” = Leave it blank or 0.0.0.0
“802.1Q = Set to Off
No other settings need to be changed.

I have observed that the phone will take a long time to load and configure itself.

Starting and stopping and re-booting several times before becoming operational.

After that, it starts up quicker.

Avaya says that the Remote Phone needs to be a 96xx type.
I have tested here and have had reports that a 1608 or 1616 phone works too.
Since it is not official from Avaya, you can try it to see if it works for you.