

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.

IP Offices

- Incoming Call Route (2)
- WanPort (0)
- Directory (0)
- Time Profile (0)
- Firewall Profile (1)
- IP Route (2)**

0.0.0.0

IP Route

IP Address: 0 . 0 . 0 . 0

IP Mask: 0 . 0 . 0 . 0

Gateway IP Address: 192 . 168 . 111 . 1

Destination: LAN1

Metric: 0

☐ Proxy ARP

**1. Right Click here
Then select New...**

2. Set like this...

3. Set like this...

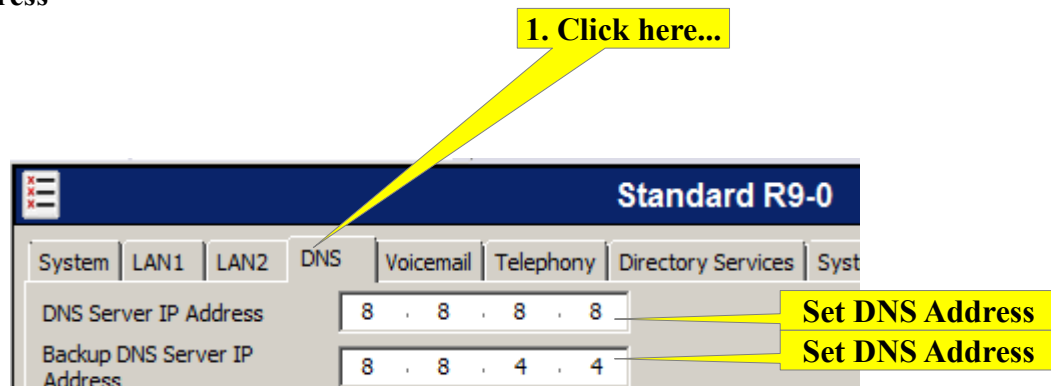
4. Your Network Router here...

5. Set like this...

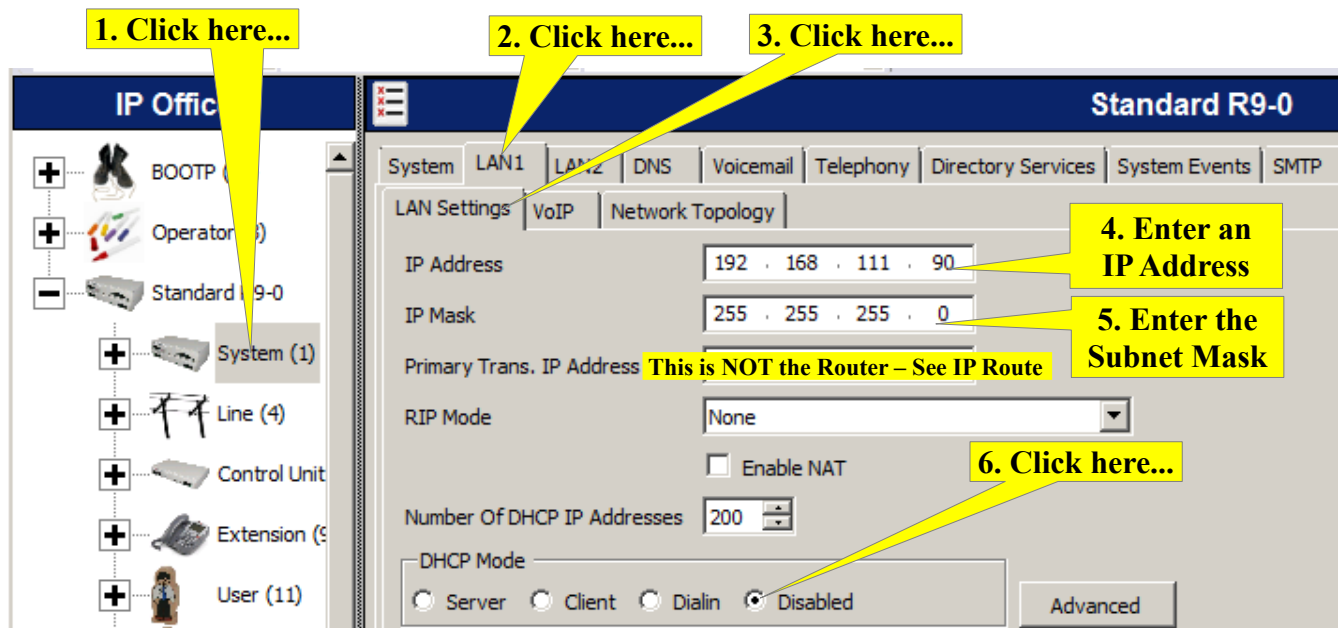
New Ctrl+N

Cut Ctrl+X

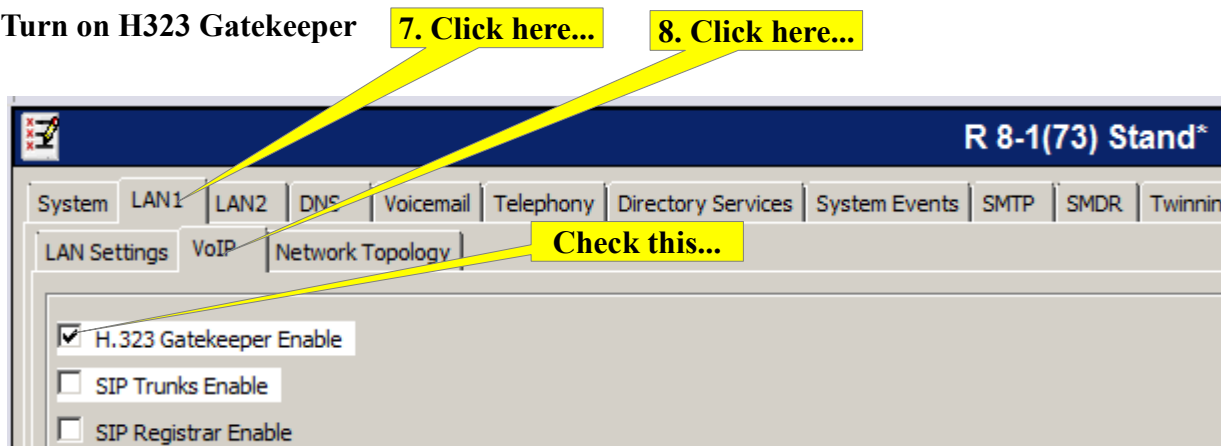
Set a DNS Address



Give the KSU a Static IP Address on the LAN



Turn on H323 Gatekeeper



Turn on STUN

9. Click here...

10. Enter this... Or use a different STUN Server

See note...

11. Enter this...

See note...

12. Enter this...

13. Check this...

Network Topology Discovery

STUN Server IP Address 216 . 93 . 246 . 18 STUN Port 3478

Firewall/NAT Type Port Restricted Cone NAT

Binding Refresh Time (seconds) 10

Public IP Address 212 . 222 . 123 . 34

Public Port 5060

Run STUN Cancel

☒ Run STUN on startup

14. Click here...

Do not change this...

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.

Save Configuration

IP Office Settings Standard R9-0

Configuration Reboot Mode

☐ Merge

☒ Immediate

☐ When Free

☐ Timed

Reboot Time 14:53

Call Barring

☐ Incoming Calls

☐ Outgoing Calls

OK Cancel Help

OK Cancel Help

Avaya IP Office R

File Edit View

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 not supported 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

The screenshot shows the 'IP Offices' configuration window. On the left is a tree view with categories like BOOTP, Operator, Standard R9-0, System, Line, Control Unit, Extension, User, Group, and Short Code. The 'Extension (9)' category is selected. A yellow callout box points to this category with the text '1. Right Click here'. Another yellow callout box points to the 'Extension' category with the text 'Then select New...'. A third yellow callout box points to the 'H323 Extension' option in the right-click context menu with the text 'Then select H323 Extension'. The main panel shows the configuration for 'H323 Extension: 8001 *'. Fields include 'Extension Id' (8001), 'Base Extension' (555), 'Phone Password' (****), 'Caller Display Type' (On), 'Reset Volume After Calls' (checkbox), 'Device Type' (Unknown IP handset), 'Location' (Automatic), 'Module' (0), 'Port' (0), and 'Portable Speakerphone' (checkbox). Yellow callout boxes provide instructions for these fields: 'This Tab...' points to the 'Ext'n' tab, 'This is just an Index Number...' points to the 'Extension Id' field, '2. Enter an Extension Number' points to the 'Base Extension' field, and '3. Enter a Log On Password' points to the 'Phone Password' field.

This Tab...

This is just an Index Number...

2. Enter an Extension Number

3. Enter a Log On Password

1. Right Click here

Then select New...

Then select H323 Extension

New

Cut Ctrl+X

Copy Ctrl+C

Paste Ctrl+V

H323 Extension

IP DECT Extension

SIP Extension

SIP DECT Extension

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.

We are still on the same screen here...

4. Click here...

H323 Extension: 8001 555*

Extn VoIP

IP Address 0 . 0 . 0 . 0 **Do Not change this...**

MAC Address 00 00 00 00 00 00

Codec Selection System Default

Unused Selected

G.711 ULAW 64K
G.711 ALAW 64K
G.729(a) 8K CS-ACELP
G.723.1 6K3 MP-MLQ

5. Uncheck this...

6. Check this...

Reserve License None

TDM->IP Gain Default

IP->TDM Gain Default

Supplementary Services H450

☐ VoIP Silence Suppression

☐ Enable Faststart for non-Avaya IP phones

☒ Out Of Band DTMF

☐ Local Tones

☐ Allow Direct Media Path

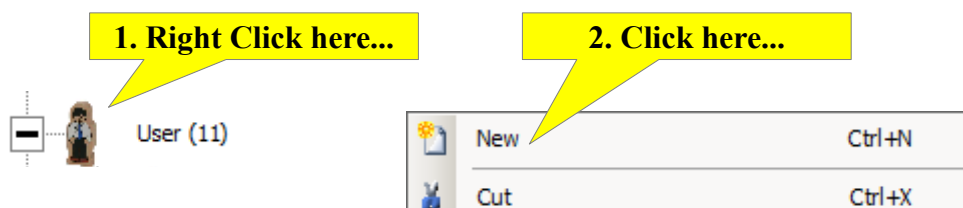
☐ Reserve Avaya IP endpoint license

☐ Reserve 3rd party IP endpoint license

☒ Allow Remote Extn

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.



3. Click here...

Jim Smith: 444*

Group Membership | Announcements | Personal Directory

User | Voicemail | DND | Short Codes | Source Numbers | Telephony | Forwarding | Dial In | Voice Recording | B

Name Jim Smith 4. Give it a Name...

Password *****

Confirm Password ***** 5. Enter an 8 Digit Password. It is not used for the Remote Phone

Account Status Enabled

Full Name

Extension 555 6. Same Extension as Page 4

Email Address

Locale

Priority 5

System Phone Rights None

Profile Basic User

7. Check this...

☐ Receptionist

☐ Enable Softphone

☐ Enable one-X Portal Services

☐ Enable one-X TeleCommuter

☒ Enable Remote Worker

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.

1. Click here... (points to the 'User' tab)

2. Click here... (points to the 'Login Code' field)

3. Enter a 4 Digit Password.. Do not use 3333, 4444, 5555 etc... (points to the 'Login Code' field)

This is the password used to Log on to the Remote Phone... (points to the 'Login Code' field)

Jim Smith: 444

Menu Programming | Mobility | Group Membership | Announcements | Personal Directory

User | Voicemail | DND | Short Codes | Source Numbers | Telephony | Forwarding | Dial In

Call Settings | Supervisor Settings | Multi-line Options | Call Log | TUI

Login Code: ****

Login Idle Period (secs):

Monitor Group: <None>

Coverage Group: <None>

Status on No-Answer: Logged On (No change)

Special Programming for the NoUser

1. Click here... (points to the 'User' tab)

2. Click here... (points to the 'NoUser' entry in the user list)

3. Click here... (points to the 'Source Numbers' tab)

4. Click here... (points to the 'Add...' button)

5. Add this, all CAPS... REMOTE_H323=1800 (points to the 'Source Number' field)

6. Click here... (points to the 'OK' button)

IP Offices

- BOOTP (27)
- Operator (3)
- Standard R9-0
- System (1)
- Line (4)
- Control Unit
- Extension (5)
- User (11)
- Group (1)
- Short Code
- Service (0)
- RAS (1)
- Incoming Call

User

Name	Ext
RemoteManager	
NoUser	
Extn201	201
Extn202	202
Extn203	203
Extn204	204
Extn205	205
Extn206	206
Extn207	207
Extn208	208
Jim Smith	444

NoUser

Voice Recording | Button Programming | Menu Programming | Mobility | Group Membership | Announcements | Personal Directory

User | Voicemail | DND | Short Codes | Source Numbers | Telephony | Forwarding | Dial In

Source Number: Add...

Remove

Edit...

New Source Number

Source Number: REMOTE_H323=1800

OK

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.**