This is for non-commercial use and is all about playing with Ham
Radio.
Adding remote access to your Raspberry Pi running Hamvoip without
doing a port forward.
This then allows you to use Putty, WinSCP, Supermon to access your
raspberry
all from your remote windows computer that also has Zerotier
installed.
I got a start on this project from David McGough K4FXC and worked at
it until I got it working.
This will allow incoming connections from another registered VPN user
on your network
to connect to your Node without having to do port forwarding on your
node out at some
tower site where you can't get port forwarding.
Install ZeroTier on your raspberry and windows laptop.

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Here are steps to get setup.
1) Go to the zerotier website, register and activate an account. The
website is here.
Use the "Register" link: https://my.zerotier.com/
Basic Free / ZeroTier Hosted Controller up to 50 Members.
2) Login to your new account and click the "Create a network" button.
A new network with an
arbitrary name will be created. You can change the name.
3) Click the link to enter the setup page for your new network. At the
top of the webpage,
you'll notice a 16 character (8 hexadecimal digits) network ID.
Something like "1c33c1ced0e4c478" ....Make a note of this ID.
1c33c1ced0e4c478 ;this is the secure ID for zerotier user to enter for
connecting
4) Now install the software on the HamVoIP raspberry node from the
bash shell
prompt: putty menu 9
pacman -Sy zerotier-one
proceed with installation y
5) Once the package is installed, run the zerotier daemon, which goes
immediately into the
background:
zerotier-one -U -d
6) From the HamVoIP node, join your new VPN network using the network
ID noted
above....For EXAMPLE:

zerotier-cli join 1c33c1ced0e4c478
NOTE that "1c33c1ced0e4c478" is an example...Use the network ID you got from the
zerotier webpage, using your account.
7) The final step is to go back to the zerotier webpage. Login and down in Advanced, Add your
Routes IP range or go with the one there but I would suggest unchecking the IPv4 Auto-Assign
so your members are static.
Then scroll down to the "Members" section and click the checkbox at the left to authorize the
HamVoIP device, allowing it to join the network. You can uncheck this anytime to break the
connection to that user. Also note that there is a dog bone, or wrench just to the right and you
need to check it and then click on the Do Not Auto-Assign IPs, allow bridging. Then over in the
Name/Description put something in, then in the Managed IP's type in an IP you want and hit
the + to assign it.
8) To launch VPN when the Raspberry node boots, just edit the /etc/rc.local file and place the
command: "zerotier-one -U -d" (without the quotes) just above the exit statement at the
bottom of the file. It automatically knows what networks to join.
Here are some command examples with the example of the network ID. putty menu 9
zerotier-one -U -d ;starts vpn but its allready in the rc.local
sudo systemctl stop zerotier-one
zerotier-cli listnetworks
zerotier-cli join 1c33c1ced0e4c478
zerotier-cli leave 1c33c1ced0e4c478
9) Now let's download the app for connecting your laptop to the VPN network. Go to
zerotier.com if you're not already there and Click on download, I downloaded the windows
app for my windows 7 laptop.
Install, open the ZeroTier Control panel and down in the [##########] box type in your
Network ID created above and hit join network.
Anytime you want to disconnect just click on the ZeroTier app and highlight your connection
and you have disconnect as a choice. Also you can right mouse on the app and Quit ZeroTier UI

to stop it from running on your laptop.
You may have to click on the show hidden icons on your windows laptop bottom right and
then click on ZeroTier One.
10) Now let's connect with our laptop to control the remote Raspberry node using putty, or
WinSCP or Supermon with the zerotier up and running and remote node is connected and
your laptop is connected. The IP address you want to connect to in the putty window, is the
address shown in your online zerotier account, under managed IPs.
It really doesn't matter what IP is assigned onsite for the remote raspberry Pi Ethernet, as you
are connecting to the VPN. All should have worked just fine.
If you are using a copy of an image of another node and you updated/changed the info in rpt.conf
and other files, you will have to go to /var/lib and delete zerotier-one,
reboot and start at the top of this document to install a fresh copy of zerotier.
WA2KJC Dave