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30th ANNIVERSARY 1988-2018

eSAM

PPTP VPN USER GUIDE

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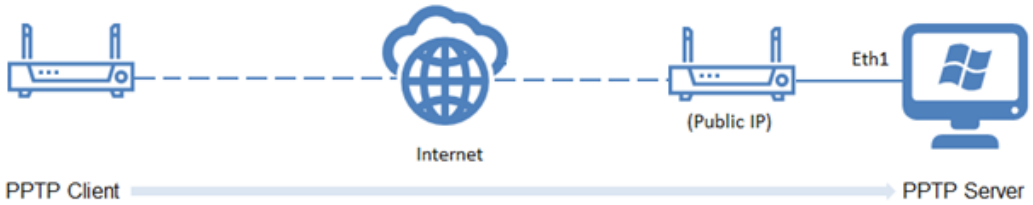
INTRODUCTION

A VPN (Virtual Private Network) is a method for securely connecting two devices together on a single network across the internet. Packets from one device are encrypted and then sent over the network to the second device, where the packets are decrypted and read. As a result, both devices appear to be on the same network with each other and can communicate as is they were both plugged into the same router.

This guide will explain how to configure a Windows-based PPTP Host, using an eSAM Modem as the internet gateway. It will also explain how to configure a separate eSAM to act as a client for the Windows PPTP Host.



While this is specifically geared towards a Windows PPTP VPN, many other VPN configurations are possible using the eSAM. This guide can be thought of as an introduction to VPN's on the eSAM generally.

HOST CONFIGURATION

First, we will configure the eSAM Modem we will use to connect the PPTP Host to the internet.

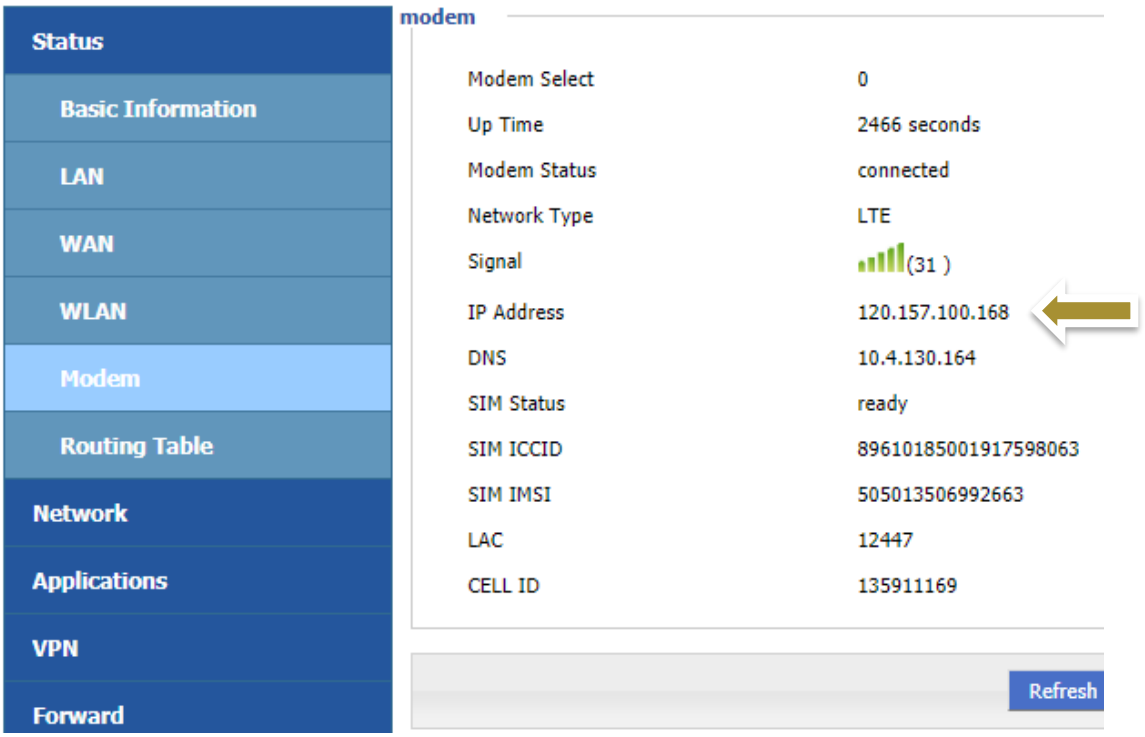
1. Connect the Windows PPTP Server to your modem, and then use your web browser to open the Modem's web interface. Out of the box, this is accessible on port 192.168.1.1

   Insert your SIM, and check that your ISP has provided you with a public IP Address. A Public IP Address is an IP Address that is visible from the internet. It is necessary for your PPTP Server to have a public IP Address, so Clients will be able to find it over the Internet.

   Public IP Addresses are any addresses that are not in any of the following ranges:

   10.x.x.x
   192.x.x.x

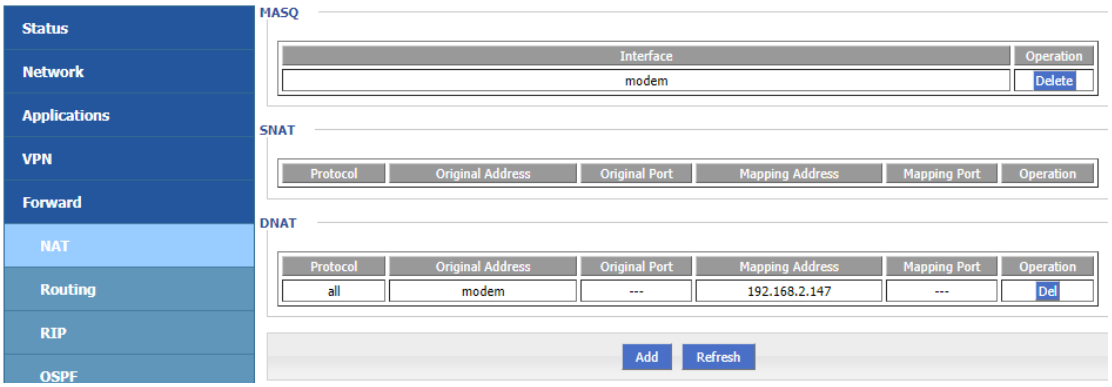
   It is not required for clients to have a Public IP Address, only the Host needs to have one.



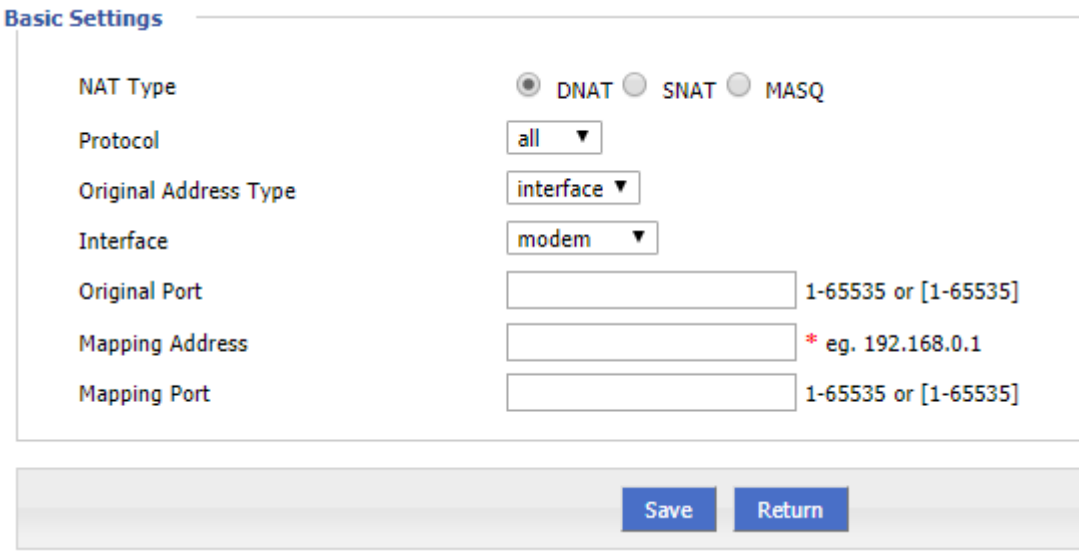
If your eSAM Modem does not have a public IP Address, or if it is unable to connect to the ISP please ensure you have entered the correct APN under the Network > Modem window.

2. Once you have confirmed that your eSAM is accessible over the internet, you must now configure the port forwarding. Port Forwarding specifies to the Modem where it should send packets when they arrive from the Internet. In this case, we want to route packets related to hosting VPN's to your Windows Machine, as it will be responsible for running the PPTP Host.

   To configure port forwarding, select the Forward > NAT Screen



Press ‘Add’ to enter a new Port Forwarding rule.



We need to add a new port forwarding rule for each Port we wish to forward. For PPTP, there are two ports we need to forward:

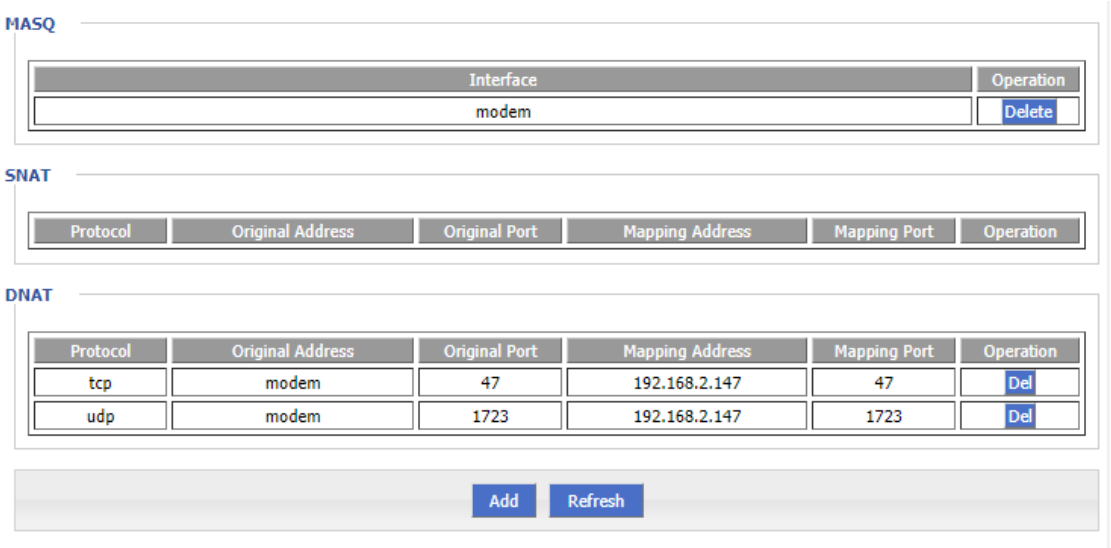
Port Number	Protocol
1723	TCP
47	UDP

For both rules, we want to leave the other options set as follows:

Field Name	Value
Original Address Type	Interface
Interface	Modem
Mapping Address	IP Address of the PPTP Host Computer

Please note the IP Address of your computer using the ipconfig command, or similar.

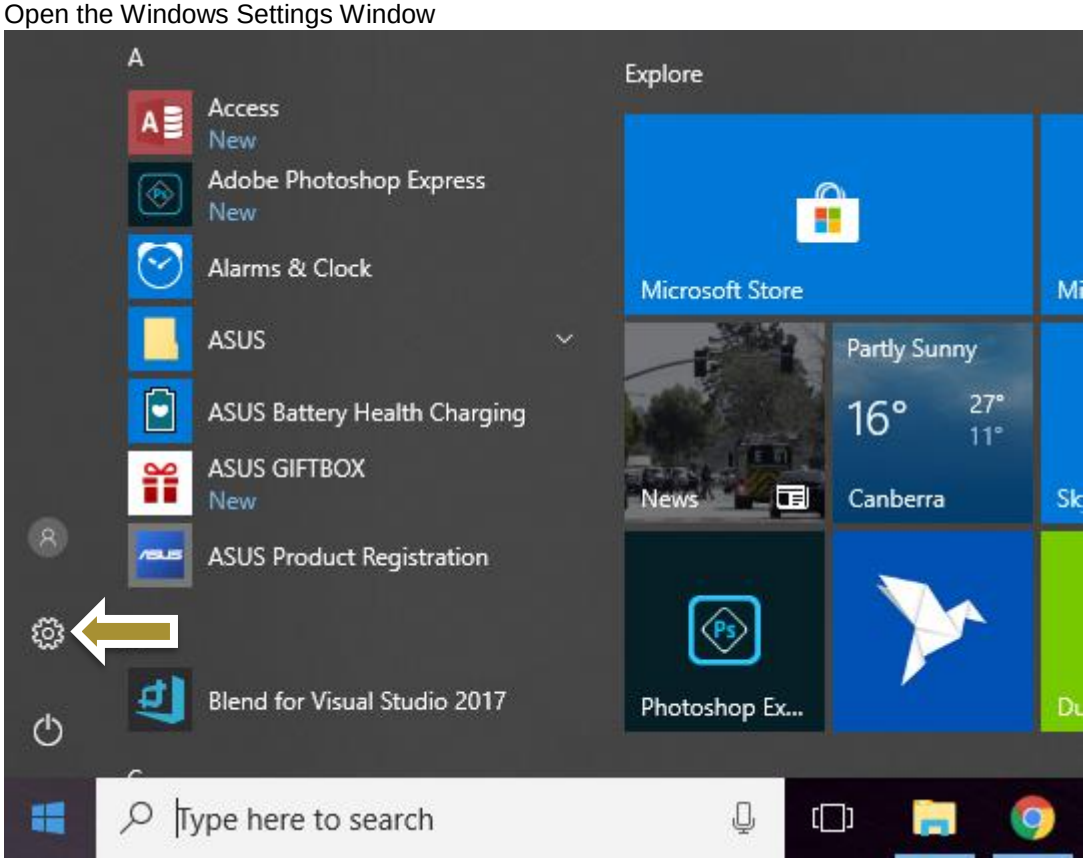
Once all are entered, your NAT Screen should have the following rules:



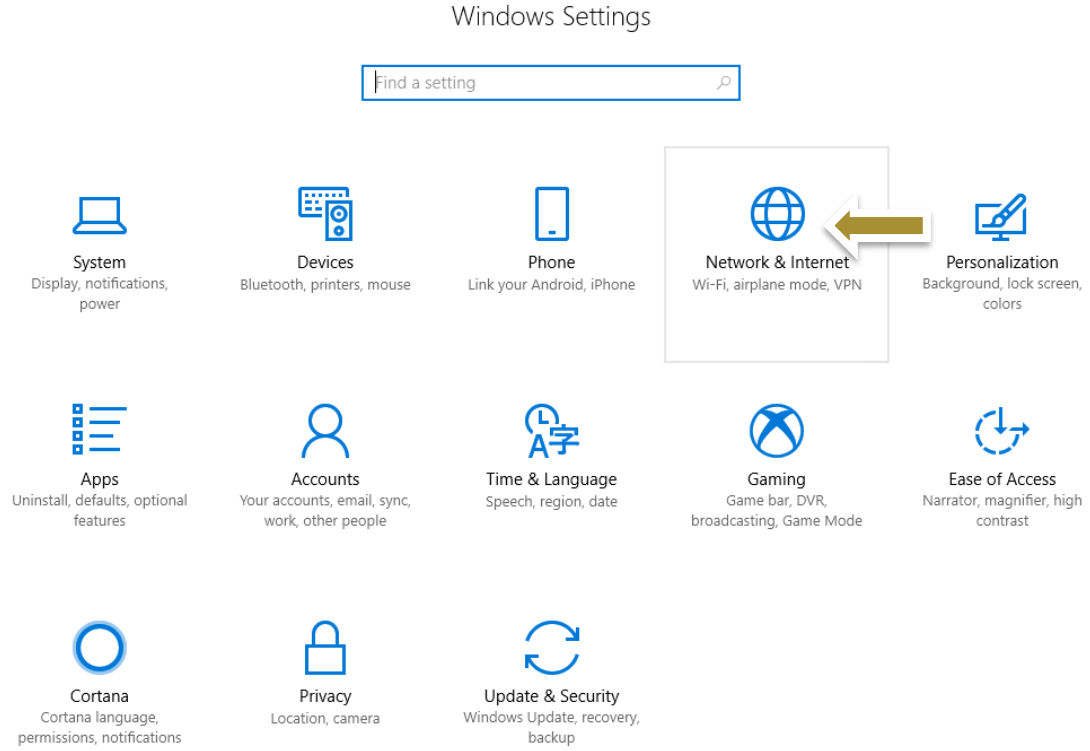
Note: Mapping Address will be set to the PPTP Host's LAN IP Address. For troubleshooting purposes, it may sometimes be useful to forward all ports. In this case, leave the Original and Mapping Port options blank.

3. Now that the PPTP host is visible from the internet, we can enable the PPTP Host functionality within windows.

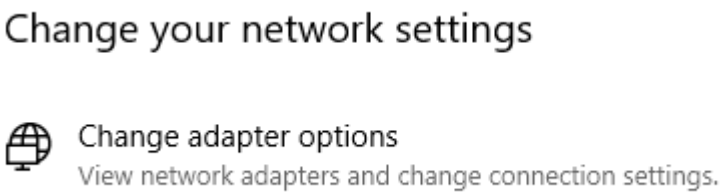
   Open the Windows Settings Window



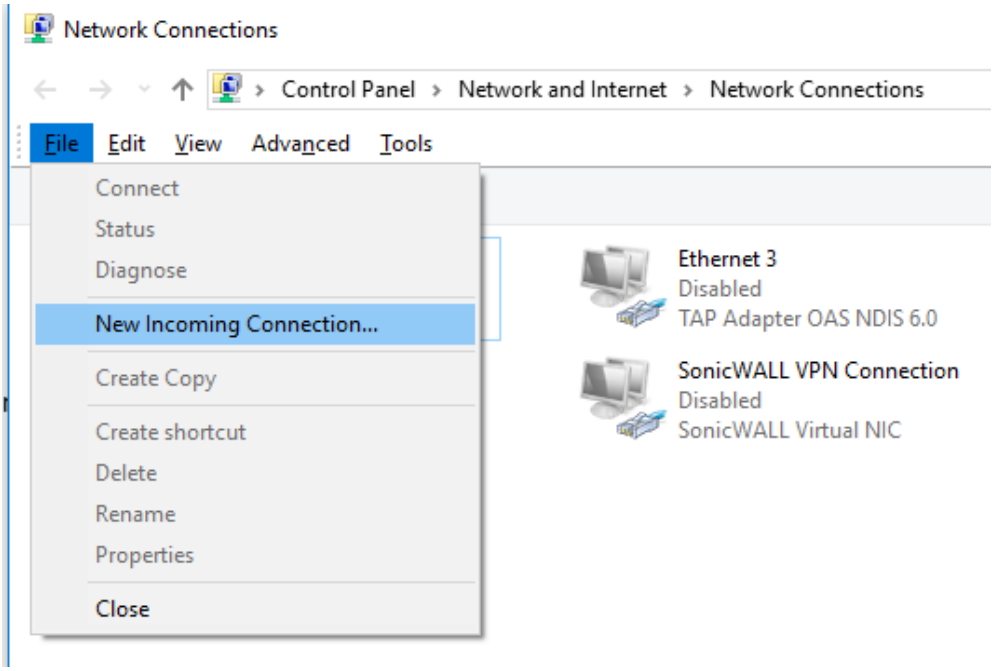
Under settings, select the *'Network & Internet'* Option

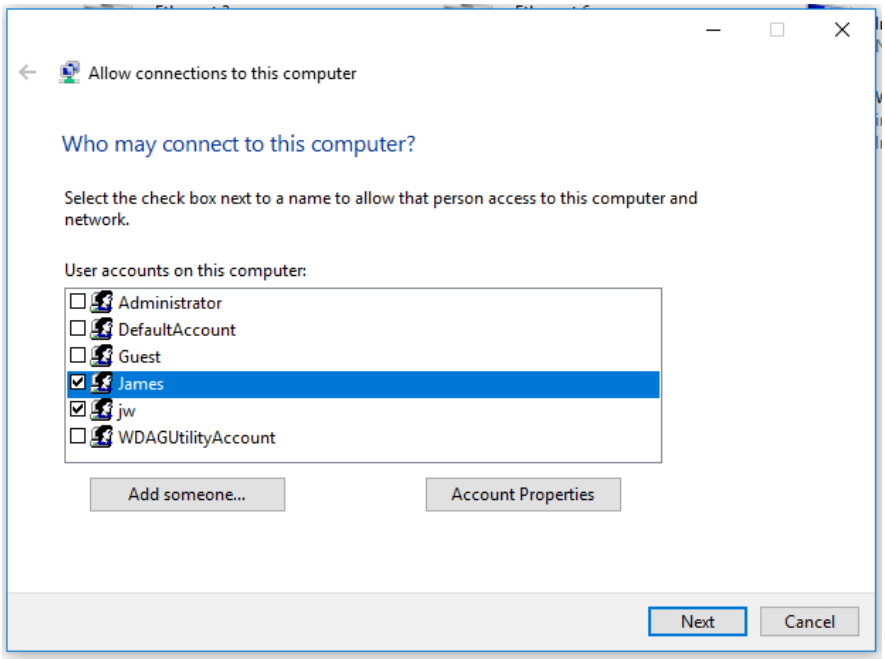


From the Network and Internet Screen, select '*Change adapter options'*



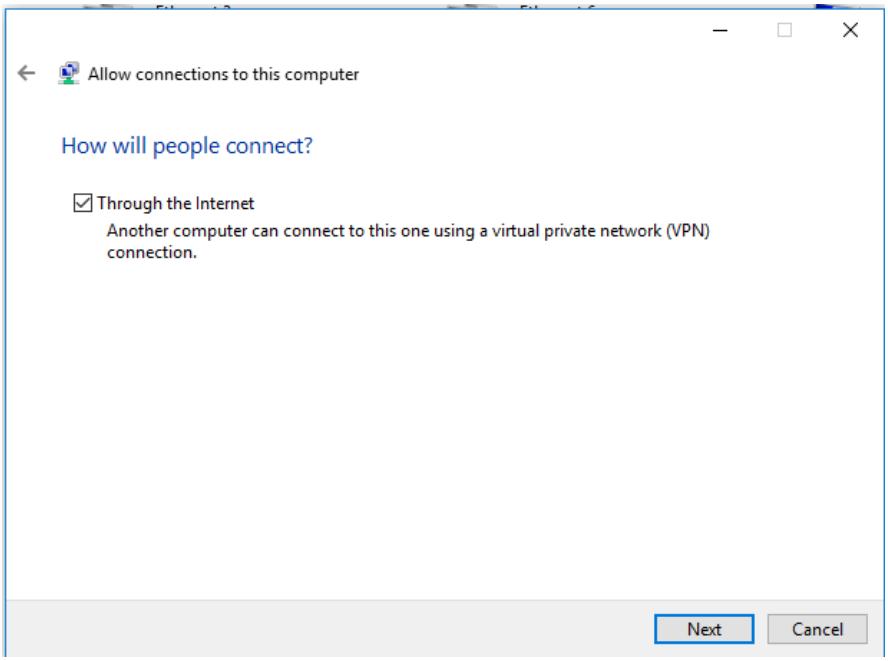
Press the ‘Alt’ key to open the file menu, then select File > New Incoming Connection



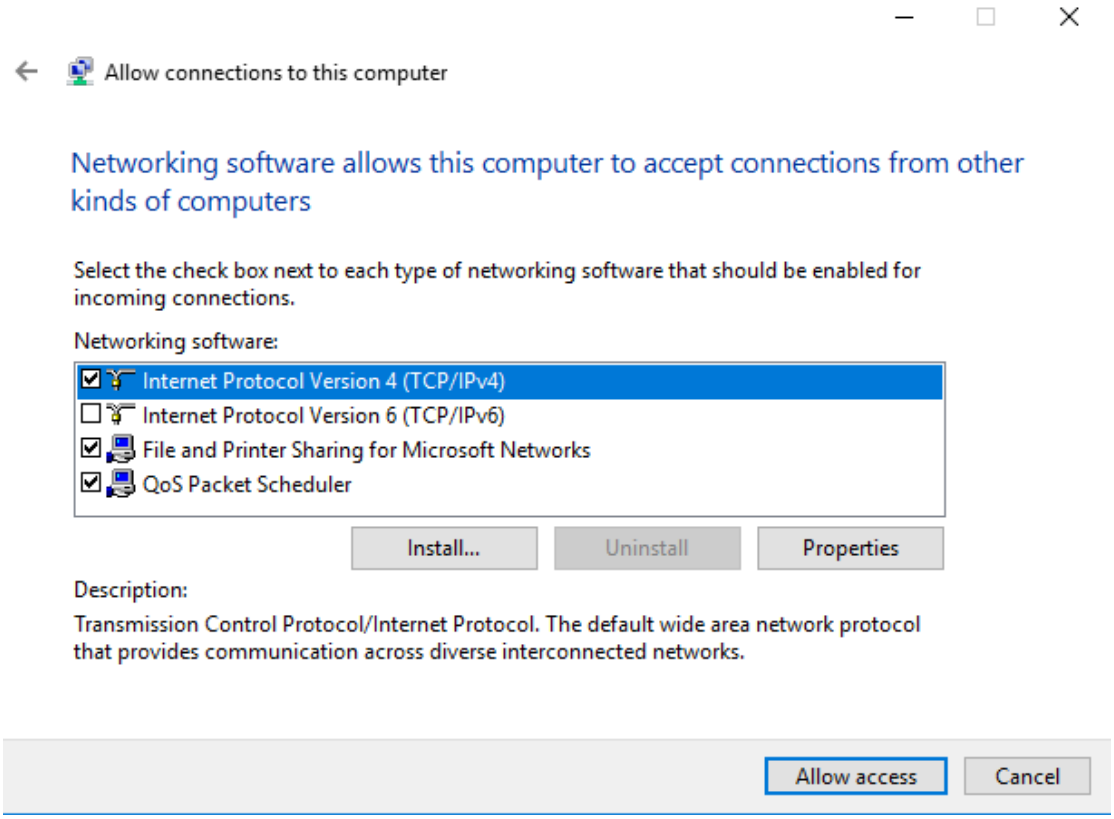


Select the users you wish to be able to connect to the VPN. Whenever an outside client connects to the VPN Host, it must use this users login details to connect to the Host Machine.

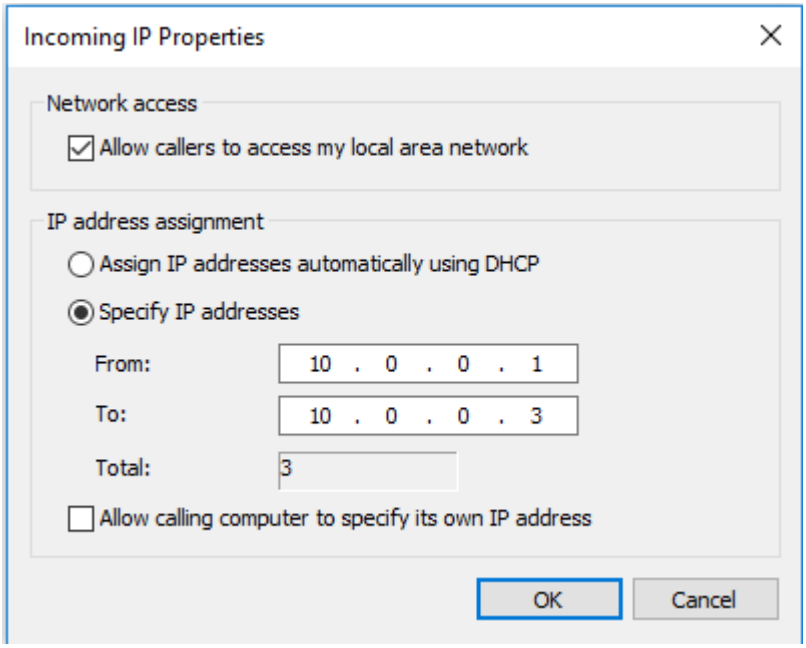
If you don’t want to use a pre-existing login, you can add a new user using the *‘Add someone’* option.



Leave the 'Through the Internet' option enabled and press Next.



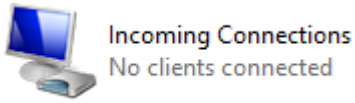
Select the *'Internet Protocol Version 4 (TCP/IPv4)'* option, and press properties



Choose *'Specify IP addresses'* and enter a suitable range of addresses. This will cause the Windows PPTP Host to assign an IP Address to each Client that connects to it.

Press OK once configured, then 'Allow Access'.

This should add an 'Incoming Connections' Icon to the network adapter screen. This confirms that your PPTP Host is now enabled.



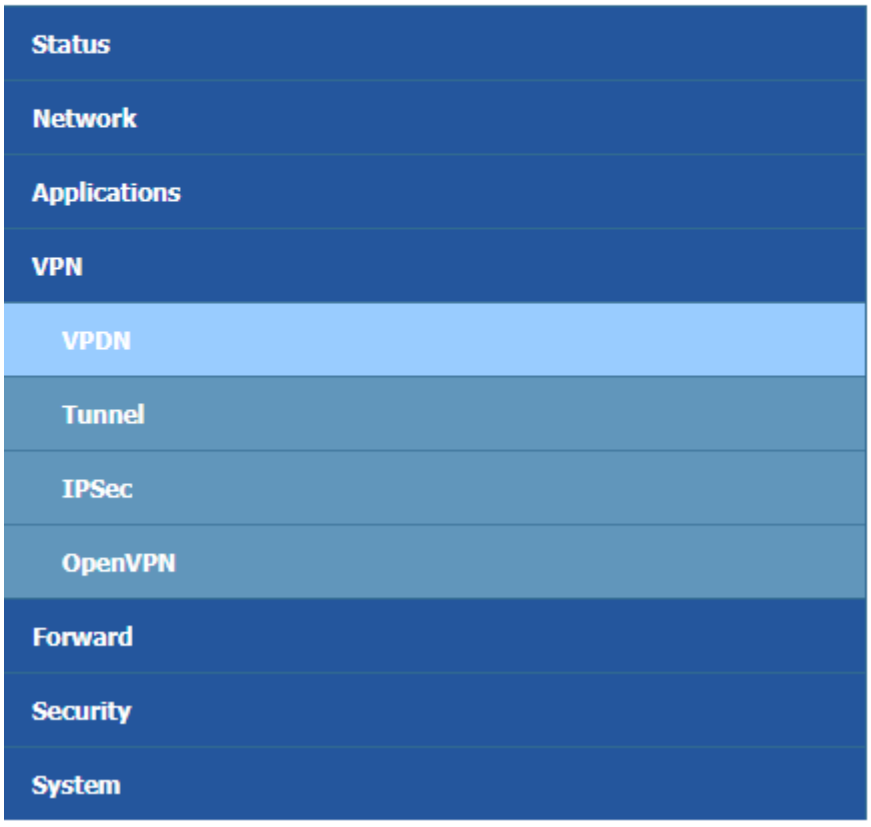
If you want to verify the host configuration before continuing, you can connect to the Windows PPTP Host using either an Android phone, iPhone or another Windows Computer.

CLIENT CONFIGURATION

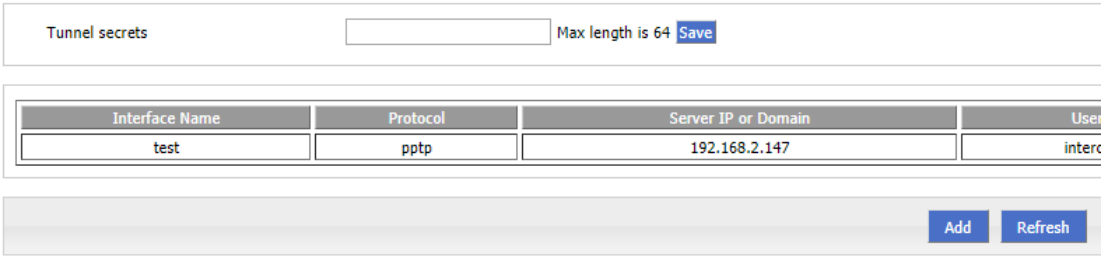
Connect a second eSAM Module to the device you want available over the VPN. This eSAM does not need to have a public IP Address – as long as it has internet connectivity, it should suffice.

1. Log into the web interface for the Client eSAM. By default, this can be done through your web browser by connecting to IP 192.168.1.1

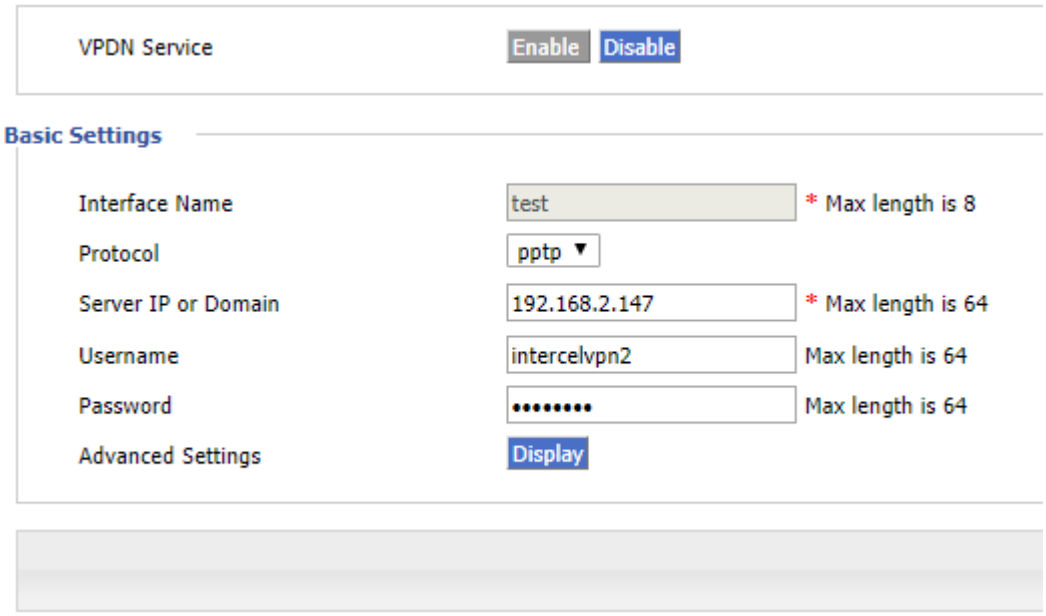
Open the VPN > VPDN Screen



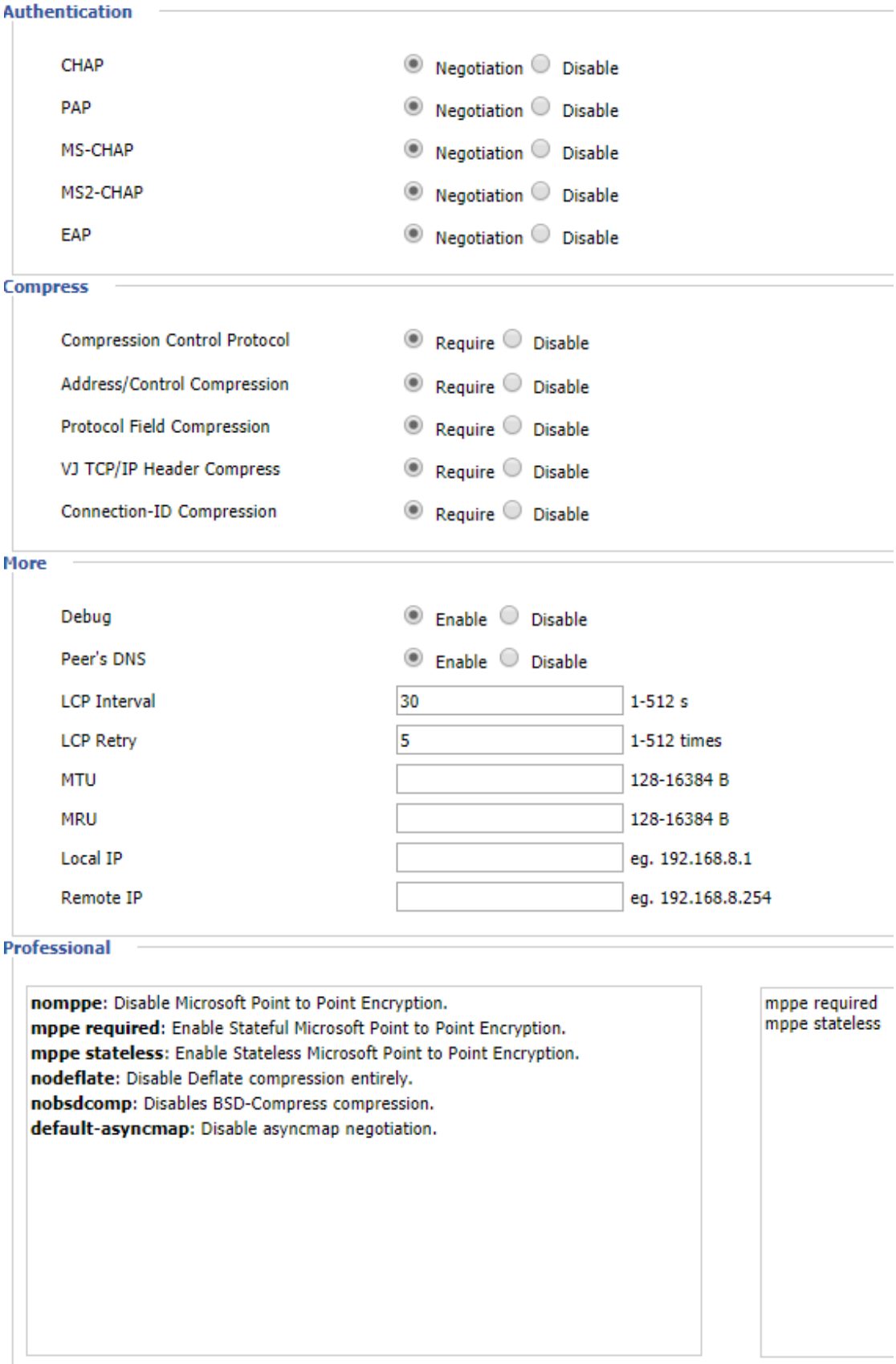
2. Press the *'add'* button to configure a new VPN



3. On this screen, select '*pptp*' as protocol type and then enter your Publicly accessible PPTP Server IP Address in the 'Server IP or Domain' Field. Enter the username and password for a valid user on the PPTP Host.

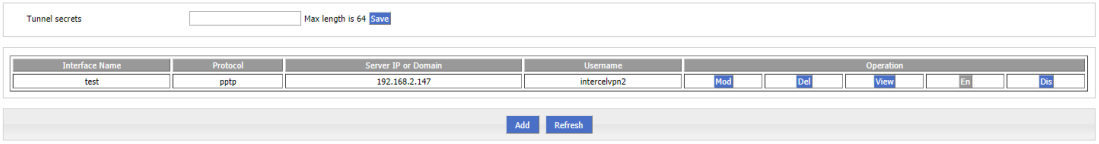


Press '*Display*' for the Advanced Settings option and then enter the settings as shown below:



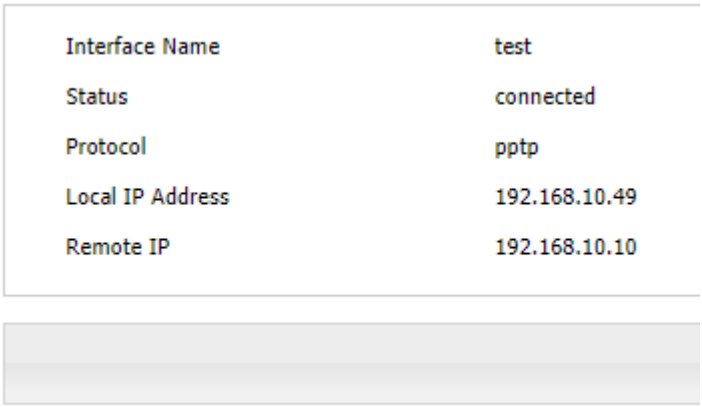
Note: mmpe required and mppe stateless are both required for a Windows Host. Other hosts may have different settings requirements.

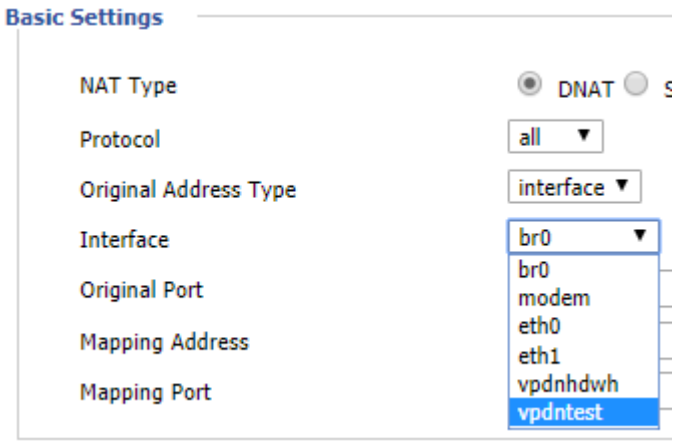
4. Save the settings for your PPTP Client and enable the VPN Service. You should now have a single VPN Connection on your VPDN Screen



Press 'View' to view the state of your VPN.

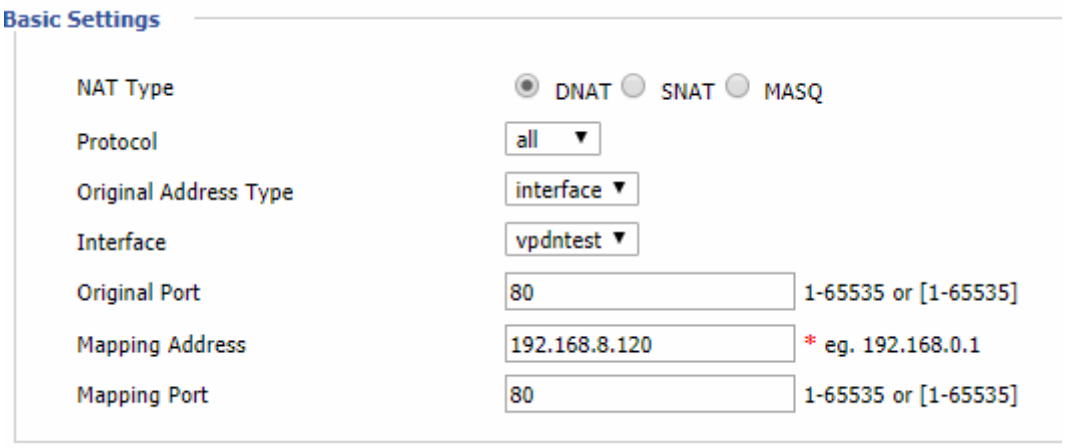
Provided everything is configured correctly, your VPN should show as connected and the VPN will now be available as an interface on the router.





You can now forward traffic from this port as you can with any other network interface.

In this case, we wish to forward traffic arriving from the VPN to the relevant device on the client side of the network. Typically, this would be a PLC or other piece of industrial equipment.



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