



# Quick Note 4

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**TCP/UDP port re-direction (Port Forwarding)  
through NAT using “Static NAT Mappings” or a  
firewall script.**

**(Port Redirection)**

Digi Technical Support

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## 1 VERSION

Version Number	Status
1.0	Published
2.0	Updated and rebranded
2.1	Updated screenshots and instructions for new web interface, rebranding (Feb 2016)
2.2	Updated title to include Port Forwarding and improved layout (Sep 2020)

### 1.1 Corrections

Requests for corrections or amendments to this Quick Note are welcome and should be addressed to: [tech.support@digicom.com](mailto:tech.support@digicom.com)

Requests for new Quick Notes can be sent to the same address.

## 2 CONFIGURATION OPTIONS & SCENARIO

In this example scenario two re-direction/forwarding options will be configured. 1 NAT (Network address translation) and 1 NAPT (Network address and port translation). PPP 1 will be used for the Internet connection. 2 internal servers are running VNC on port 5900 and the requirement is to be able to connect to each from an external location over the public Internet. Server 1 has a LAN IP address of 10.1.51.2 and Server 2 has a LAN IP address of 10.1.51.3. The same process can be applied to any TCP or UDP traffic that uses a specific port number.

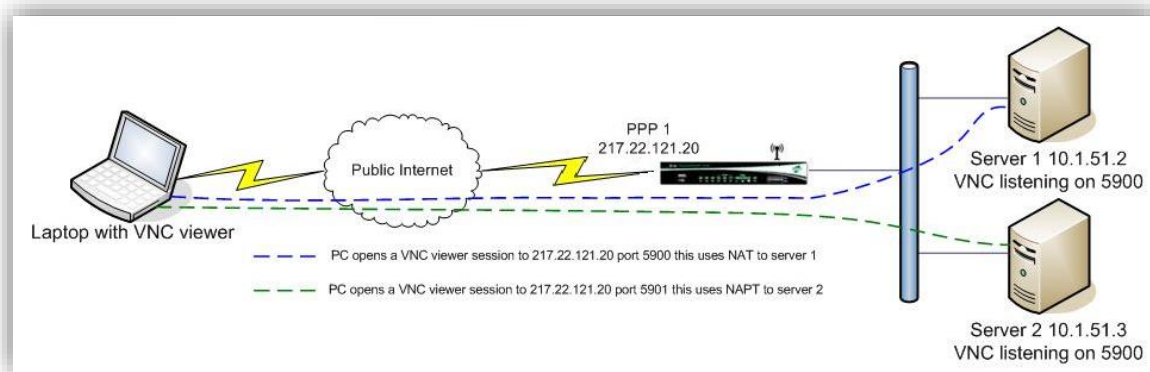


Figure 1: Network Diagram

There are 2 ways of achieving the same result. The **IP Port Forwarding/Static NAT Mappings** option in the web interface is very simple to configure and the functionality is fine for most users. However, the firewall can also be used to re-direct traffic and is much more flexible in what can be achieved.

Use one method only either:

Configuration using IP Port Forwarding/Static NAT Mappings

Or

Configuration using the firewall

### 3 CONFIGURATION USING STATIC NAT MAPPINGS

Configuration - Network > Interfaces > Advanced > PPP 0 – 9 > PPP 1

[Configuration - Network](#) > [Interfaces](#) > [Advanced](#) > [PPP 0 - 9](#) > [PPP 1](#)

Enable NAT on this interface  
 IP address  IP address and Port  
 NAT Source IP address:   
 Enable IPsec on this interface  
 Enable the firewall on this interface

Figure 2: Network Address Port Translation (NAPT)

On the PPP interface that will be used for the incoming connection (e.g. PPP 1), scroll to the bottom of the screen and change the NAT mode to 'IP address and Port' to allow for port translation as well as address translation.

If the PPP interface is currently up, it will need to be dropped and re-connected before the above change will take effect.

#### 3.1 Configure the NAT mapping

Configuration - Network > IP Routing/Forwarding > IP Port Forwarding/Static NAT Mappings

[Configuration - Network](#) > [IP Routing/Forwarding](#) > [IP Port Forwarding/Static NAT Mappings](#)

▼ IP Port Forwarding/Static NAT Mappings

Forward connections from external networks to the following internal devices. In order to forward to an internal port, an interface must have its NAT configuration set to "IP address and Port".

(you may configure up to 30 forwarding rules):

External Min Port	External Max Port	Forward to Internal IP Address	Forward to Internal Port	
5900	5900	10.1.51.2	5900	Delete
5901	5901	10.1.51.3	5900	Delete
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Add

Figure 3: Nat Mappings

Server 1. Traffic with a destination port of 5900 will be forwarded to 10.1.51.2 but the destination port remains unchanged at 5900.

Server 2. Traffic with a destination port of 5901 will be forwarded to 10.1.51.3 and the destination port is changed to 5900.

**NOTE:** Port numbers are both TCP and UDP.

### 3.2 Save your config changes to profile 0

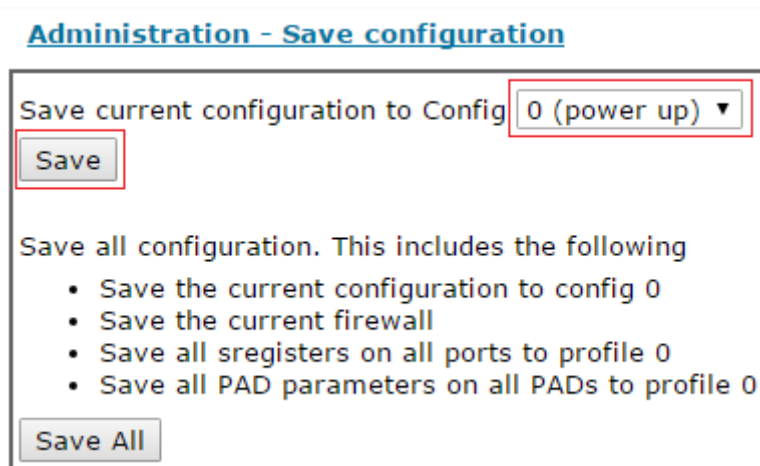


Figure 4: Save config

### 3.3 Test

Check your forwarding is working to both servers.

Server 1 – NAT

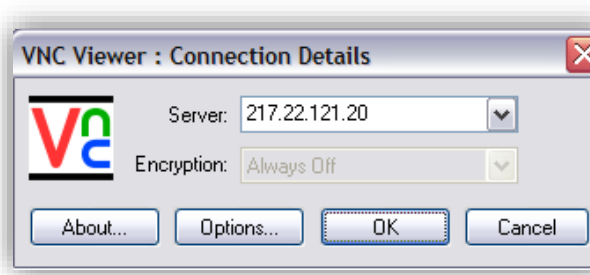


Figure 5: VNC Viewer setup 1

Server 2 – NATP

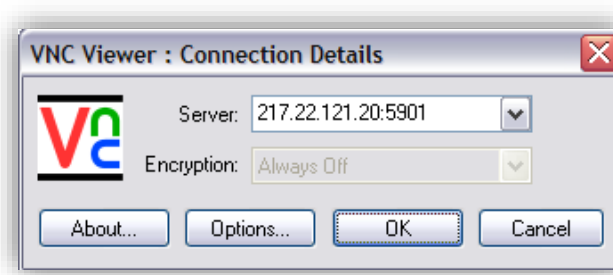


Figure 6: VNC Viewer setup 2

## 4 CONFIGURATION USING THE FIREWALL

### Browse to Configuration - Security > Firewall

Add in the following lines:

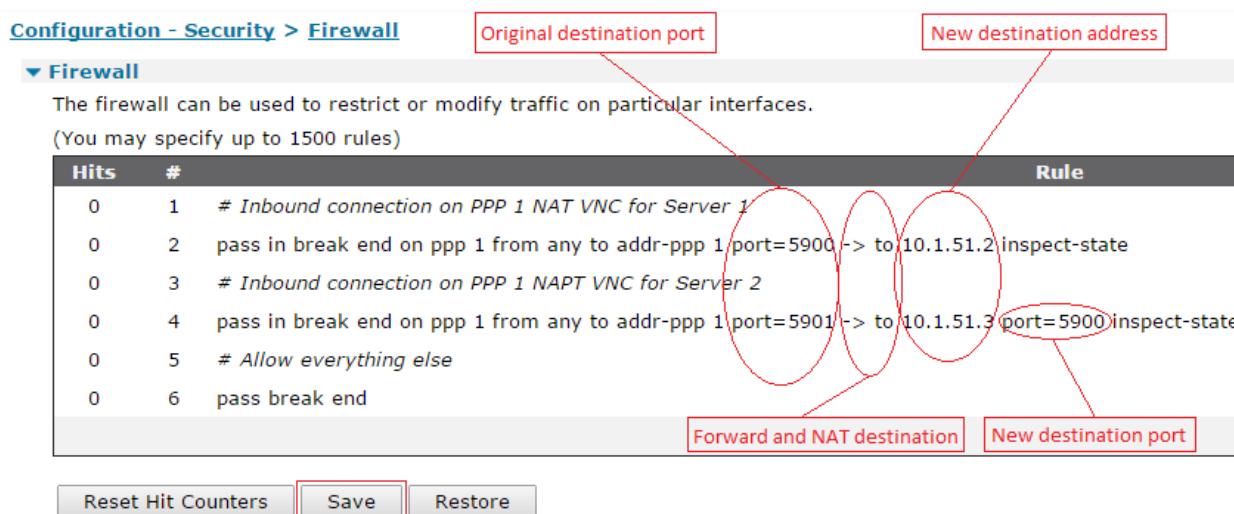


Figure 7: setup the Firewall

#### Rule 2: Server 1 NAT

```
pass in break end on ppp 1 from any to addr-ppp 1 port=5900 -> to 10.1.51.2 inspect-state
```

#### Rule 4: Server 2 NAT

```
pass in break end on ppp 1 from any to addr-ppp 1 port=5901 -> to 10.1.51.3 port=5900 inspect-state
```

#### Rule 6: Allow all other traffic to pass normally

```
Pass break end
```

Save the firewall rules by clicking on the **Save** button.

For a full description on the firewall usage please see the relevant section in TransPort User Guide.

## 4.1 Enable the firewall on the PPP interface

Configuration - Network > Interfaces > Advanced > PPP 0 - 9 > PPP 1

[Configuration - Network](#) > [Interfaces](#) > [Advanced](#) > [PPP 0 - 9](#) > [PPP 1](#)

Enable NAT on this interface  
     IP address    IP address and Port  
    NAT Source IP address:

Enable IPsec on this interface

Enable the firewall on this interface

Figure 8: Turn on the firewall

## 4.2 Save your config changes to profile 0

Administration - Save configuration

**Administration - Save configuration**

Save current configuration to Config

Save all configuration. This includes the following

- Save the current configuration to config 0
- Save the current firewall
- Save all sregisters on all ports to profile 0
- Save all PAD parameters on all PADs to profile 0

Figure 9: Save the config



### 4.3 Test

Check your forwarding is working to both servers.

Server 1 – NAT

Server 2 – NAT

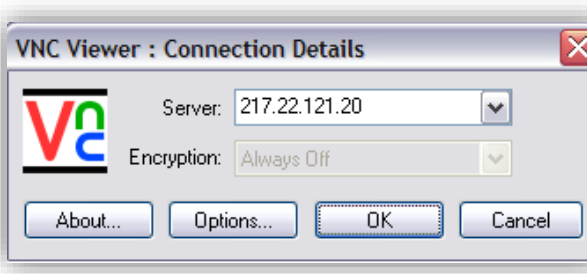


Figure 10: VNC Server 1

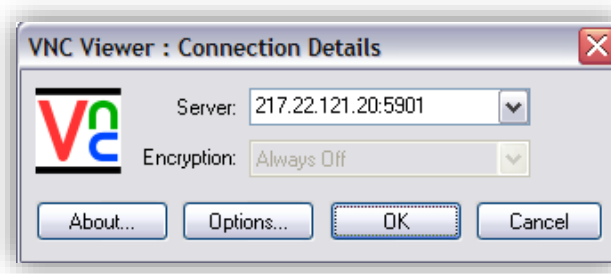


Figure 11: VNC Server 2