Quick Note 13

Configuring a main mode IPsec VPN between a Digi TransPort and a Netgear DG834G

UK Support

November 2015
## Contents

1. Introduction ................................................................................................................................. 3  
   1.1 Outline .................................................................................................................................. 3  
   1.2 Assumptions .......................................................................................................................... 3  
   1.3 Version ................................................................................................................................... 3  
   1.4 Corrections ............................................................................................................................ 3  
2. Configuration & scenario ............................................................................................................. 4  
3. Netgear configuration ................................................................................................................... 5  
4. TransPort router configuration .................................................................................................... 8  
   4.1 Configure IKE ......................................................................................................................... 8  
   4.2 Configure IPsec ....................................................................................................................... 9  
   4.3 Configure the pre-shared key ............................................................................................... 10  
   4.4 Save the configuration changes to profile 0 ........................................................................ 11  
5. Check and test the VPN ............................................................................................................... 12
1 INTRODUCTION

1.1 Outline
This document contains configuration instructions for building a main mode IPsec VPN tunnel between a Digi TransPort router and a Netgear DG834G router.

1.2 Assumptions
This guide has been written for use by technically competent personnel, with a good understanding of the communications technologies used in the product and of the requirements for their specific application.

Configuration: This application note assumes that both routers will be connecting to an ADSL service and that both devices are set to their factory default configurations. Most configuration commands are only shown if they differ from the factory default.

This application note applies to:

**Models shown:** Digi Transport DR64

**Other Compatible Models:** All Digi TransPort routers that include IPsec encryption

**Firmware versions:** 5.123 and above

1.3 Version

<table>
<thead>
<tr>
<th>Version</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Published</td>
</tr>
<tr>
<td>1.1</td>
<td>Rebranded and updated</td>
</tr>
<tr>
<td>2.0</td>
<td>Updated for new web GUI</td>
</tr>
</tbody>
</table>

1.4 Corrections
Requests for corrections or amendments to this application note are welcome and should be addressed to: Tech.Support@digi.com

Requests for new application notes can be sent to the same address.
An IPsec VPN tunnel is set up to provide secure communications between the remote site Netgear router and the central TransPort router. The Netgear router must be running firmware version V5.01.09 or later.

Both routers have been configured with internet connectivity, they both use ADSL with a dynamic public IP address.

They both use the DynDNS service so that they can always be reached at the hostnames router1.dyndns.org and router2.dyndns.org.

Actual public IP addresses used for testing have been replaced with “xx.xx.xx.xx” where they appear in screenshots.

LAN segments are attached to Eth 0.

The IPsec tunnel will be established using main mode - aggressive mode connections are not accepted by the Netgear router.
3 NETGEAR CONFIGURATION

From the menu on the left, choose VPN Wizard, then click Next:

Enter a descriptive name for the connection, the pre-shared key and select VPN Gateway, then click Next:
Enter the FQDN of the TransPort router, then click Next:

Enter the remote subnet details, then click Next:

Review the summary screen, then click Done:
From the menu on the left, choose VPN Policies. The newly created policy is shown - click Edit:

Review the configuration, change the IKE and Parameters sections as shown below, then click Apply:
4 TRANSPORT ROUTER CONFIGURATION

4.1 Configure IKE

Configuration - Network > Virtual Private Networking (VPN) > IPsec > IKE > IKE 0

Configure as follows:
4.2 Configure IPsec

Configuration - Network > Virtual Private Networking (VPN) > IPsec > IPsec Tunnels > IPsec 0 - 9 > IPsec 0

Configure as follows:
4.3 Configure the pre-shared key

Configuration - Security > Users > User 20 - 29 > User 29

Enter * for the username and use the same pre-shared key as configured on the Netgear router. Using * as the username creates a wildcard entry, so this MUST be the last user in the TransPort router’s configuration – in this example it is User 29:
4.4 Save the configuration changes to profile 0

Administration - Save configuration
5 CHECK AND TEST THE VPN

On the TransPort router, browse to: Management - Connections > Virtual Private Networking (VPN) > IPsec > IPsec Tunnels > IPsec Tunnels 0 - 9 > IPsec Tunnels 0 - 9

The SAs will be shown:

Browse to: Administration - Execute a command then enter a ping command to ping a device on the remote (Netgear) subnet.

Be sure to use the argument –e0 (or –e1, –e2 etc.) to specify the Ethernet source port so that the ping traverses the VPN tunnel. For example, if the LAN subnet is configured on Eth 0 then use –e0.

Enter the command then click Execute:

The ping results are shown a moment later:

Command: ping 192.168.1.1 -e0

Command result

Pinging Addr [192.168.1.1]
sent PING # 1
PING request # 1 : response time 0.06 seconds
Type: PFP 1
Ping Statistics
Sent : 1
Received : 1
Success : 100 %
Average RTT : 0.06 seconds
OK
On the Netgear router, from the menu on the left choose VPN Status. Scroll to the bottom of the log and look for “IPsec SA established”. Click on the VPN Status button and the tunnel show as connected:

![VPN Status Log](image)

![Current VPN Tunnels](image)
From the menu on the left choose Diagnostics, enter the IP address of a device on the remote LAN, tick “Ping VPN” then click Ping:

The results will be shown a couple of seconds later: