



Digi Wi-Point 3G Application Guide

How to Create a VPN between a Wi-Point 3G and Linksys

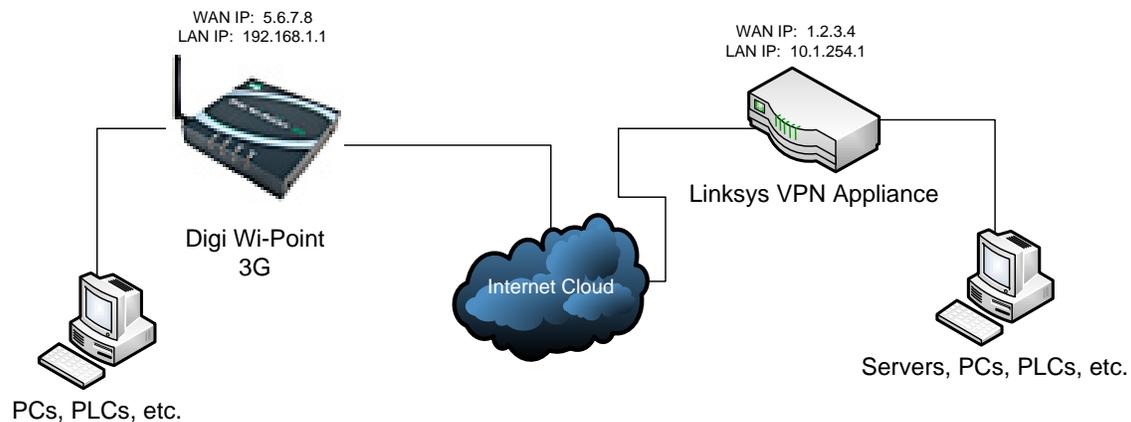
Scenario

Digi Wi-Point 3G is used for primary internet connectivity at a remote site. The remote site needs a way to get data to and from an office location.

Theory of Operation

A remote site needs to be able to retrieve and send data to an office location from its Ethernet and Wi-Fi enabled devices. The way to do this will be to setup a VPN tunnel between the Wi-Point 3G and the Linksys VPN appliance at the office location, to provide a secure tunnel to the office location.

Sample Diagram



Carrier Plan and PC / VPN Appliance Requirements

Digi Wi-Point 3G Requirements: Firmware version 1.1.34-8 or later is installed. To download the latest firmware, go to <http://www.digi.com/support>.

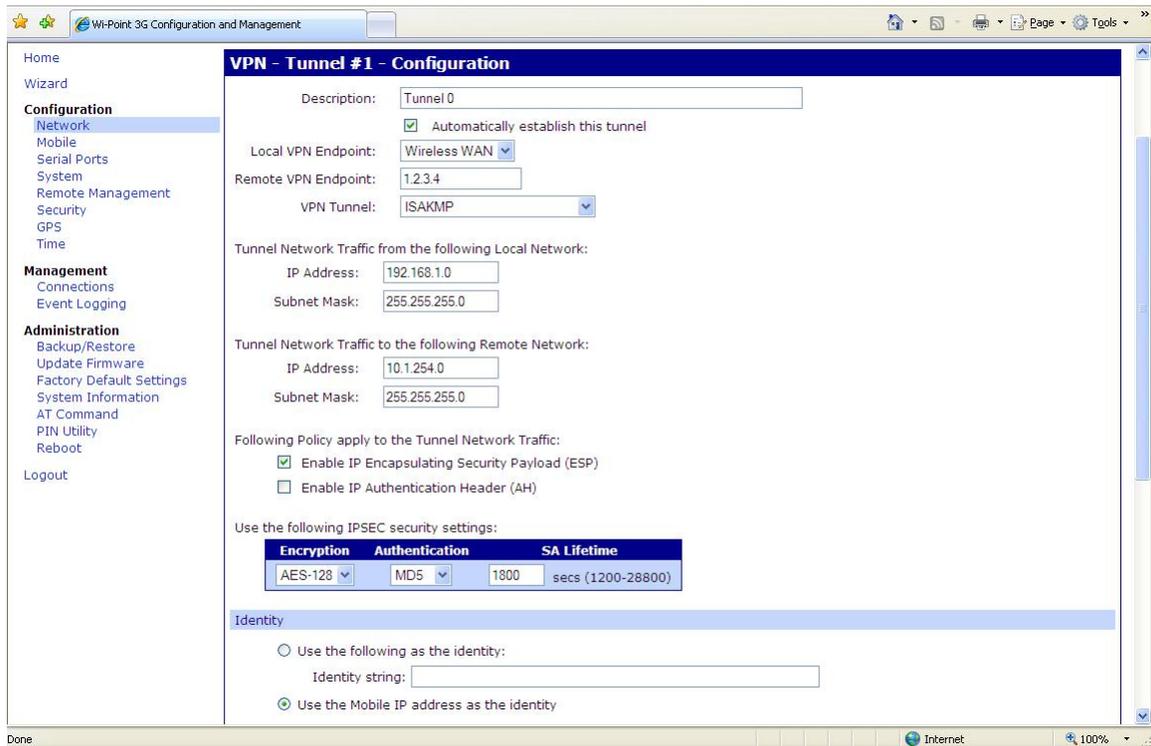
GSM GPRS/EDGE APN Type needed: VPN and GRE end-points usually require static (persistent) IP addresses and must support mobile terminated data connections. If mobile termination is not an option with your current APN, you will need to acquire a new one that does support mobile termination.

CDMA networks may also require special plans to provide static IP addresses and support mobile terminated data connections.

Check with your wireless provider on the available plan types.

Digi Wi-Point 3G Configuration

1. Read and follow the quick-start guide for the Digi Wi-Point 3G. A link has been provided: http://ftp1.digi.com/support/documentation/90000907_a.pdf
2. Assign a static IP address to the Ethernet port (the default address is 192.168.1.1). Note the default gateway may show or change to an address such as 10.6.6.6. This is normal as it is the cellular provider's network default gateway.
3. Configure the Digi Wi-Point 3G settings:
 - a. Navigate to **Configuration > Network > Virtual Private Network (VPN) Settings** in the web interface of the unit.
 - b. Ensure that button for **Enabled** is checked. If not, enable this feature and **Apply** the setting.
 - c. Click **VPN Tunnel Settings**
 - i. Click the **Add** button to start creating the tunnel
 - ii. Fill in the appropriate information, shown in the following screenshots:



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Use the following IPSEC security settings:

Encryption	Authentication	SA Lifetime
AES-128	MD5	1800 secs (1200-28800)

Identity

Use the following as the identity:
Identity string:

Use the Mobile IP address as the identity

Security Settings

Connection Mode:

Diffie-Hellman:

Enable Perfect Forward Secrecy (PFS)

Use the following pre-shared key to negotiate IKE security settings:

Use the following policy to negotiate IKE security settings:

Authentication	Encryption	Integrity	SA Lifetime
Pre-Shared Key	AES (128-bit)	MD5	1200 secs (1200-86400)

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<http://www.digi.com/>

- iii. Click **Apply** to save the settings.

Linksys Configuration

1. Configure the Linksys VPN device:
 - a. Log into the web interface of the Linksys appliance, and navigate to the VPN setup of the device.
 - i. For example, in the device used for this example, Linksys RV042, the VPN setup is located on the toolbar at the top of the screen.
 - b. Click **Add New Tunnel** to add a new tunnel for configuration.
 - c. Choose the option for **Gateway-to-Gateway** for the type of tunnel to be built. Click **Add Now** to start the tunnel configuration.
 - d. Fill in the appropriate information shown in the following screenshots:

The screenshot displays the Linksys VPN configuration web interface for a 10/100 4-port VPN Router (RV042). The interface is titled "Edit the Tunnel" and shows the configuration for a Gateway-to-Gateway tunnel. The tunnel is named "To WPoint" and is on interface "WAN1". It is enabled. The local security gateway is set to "IP Only" with IP address 1.2.3.4. The local security group is set to "Subnet" with IP address 10.1.254.0 and subnet mask 255.255.255.0. The remote security gateway is set to "IP Only" with IP address 5.6.7.8. The remote security group is set to "Subnet" with IP address 192.168.1.0 and subnet mask 255.255.255.0. A sidebar on the right contains a "SITMAP" section with instructions on how to set up a tunnel.

LINKSYS
A Division of Cisco Systems, Inc. Firmware Version: 1.3.12.6-tm

10/100 4-port VPN Router RV042

VPN

System Summary Setup DHCP System Management Port Management Firewall ProtectLink VPN Log Wizard Support Logout

Summary Gateway to Gateway Client to Gateway VPN Client Access VPN Pass Through PPTP Server

Edit the Tunnel

Tunnel No. 4

Tunnel Name To WPoint

Interface WAN1

Enable

Local Security Gateway Type IP Only

IP address 1 . 2 . 3 . 4

Local Security Group Type Subnet

IP address 10 . 1 . 254 . 0

Subnet Mask 255 . 255 . 255 . 0

Remote Security Gateway Type IP Only

IP address 5 . 6 . 7 . 8

Remote Security Group Type Subnet

IP address 192 . 168 . 1 . 0

Subnet Mask 255 . 255 . 255 . 0

SITMAP

By setting this page, users can add the new tunnel between two VPN devices.

Tunnel No.: The tunnel number will be generated automatically from 1-50.

Tunnel Name: Enter the Tunnel Name, such as LA Office, Branch Site, Corporate Site, etc.

[More...](#)

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The screenshot displays the Linksys Web Management interface for configuring a VPN connection. The interface is divided into two main sections: Remote Group Setup and IPsec Setup.

Remote Group Setup:

- Local Security Group Type: Subnet
- Local Security Group IP address: 10.1.254.0
- Local Security Group Subnet Mask: 255.255.255.0
- Remote Security Gateway Type: IP Only
- Remote Security Gateway IP address: 5.6.7.8
- Remote Security Group Type: Subnet
- Remote Security Group IP address: 192.168.1.0
- Remote Security Group Subnet Mask: 255.255.255.0

IPsec Setup:

- Keying Mode: IKE with Preshared key
- Phase1 DH Group: Group2
- Phase1 Encryption: AES-128
- Phase1 Authentication: MD5
- Phase1 SA Life Time: 1800 seconds
- Perfect Forward Secrecy:
- Phase2 Encryption: AES-128
- Phase2 Authentication: MD5
- Phase2 SA Life Time: 900 seconds
- Preshared Key: 123456

Buttons: [Advanced +](#), [Save Settings](#), [Cancel Changes](#)

System Information: Cisco SYSTEMS, Done, Internet, Friday, February 20, 2009

e. Click **Save Settings** to save the settings.

ADDITIONAL NOTES

1. This configuration will work with Dynamic IP addresses, using hostnames established with DynDNS.org. When using a Dynamic IP address, you will need to set the VPN tunnel to use **Aggressive Mode** to make the connection work.
2. This configuration will work with other VPN parameters than what is listed in the screenshots. i.e. – 3DES

Where to Get More Information

Refer to the Digi Connect router user documentation and Digi technical support website at www.digi.com/support for more information. Technical assistance is available at <http://www.digi.com/support/eservice/eservicelogin.jsp>.

For sales and product information, please contact Digi International at 952-912-3444 or refer to the Digi Connect wireless pages at www.digi.com.