Digi Connect® WAN Application Guide

Using the Digi Connect WAN and Digi Connect® VPN with a Wireless Router/Access Point

Scenario

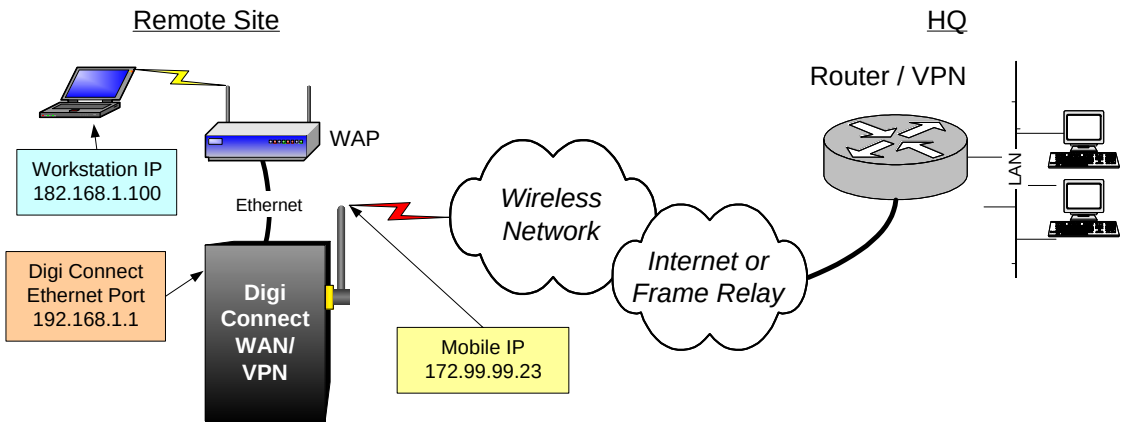
Digi Connect WAN and Digi Connect VPN are used for primary remote site connectivity. The Digi Connect WAN/VPN Ethernet port is connected to an Ethernet port of a Wi-Fi SOHO router or Wireless Access Point (WAP), creating a small wireless network. The Digi Connect WAN/VPN provides IP routing via a cellular IP network much the same as a DSL or cable modem provides Internet access.

Theory of Operation

There are two main configurations possible with this scenario:

1. The WAP functions only as a wireless access point and/or Ethernet switch; the Digi Connect WAN/VPN is the primary WAN router. This is the most likely scenario.
    a. The WAP behaves like a normal Ethernet switch. The Ethernet port of the Digi Connect WAN/VPN attaches to an Ethernet LAN port on the WAP just as it would to any other router's LAN port. The WAP's WAN port (if provided) is not connected, unless that port can be designated a LAN port; no routing is done by the WAP.
    b. The Digi Connect WAN/VPN provides routing, NAT and/or VPN to/from the remote site via the cellular wireless network. Workstation IP configurations use the Digi Connect WAN/VPN has their default gateway. The Digi Connect WAN/VPN can also provide DHCP services.
2. The WAP functions as a router. The Digi Connect WAN/VPN connects to the WAP's Ethernet WAN port (typically via a crossover Ethernet cable) and simply passes traffic. This scenario might be used where the WAP performs some special function such as proprietary VPN. The Digi Connect WAN/VPN will likely need to be configured for GRE or VPN pass-through. See the appropriate Digi Connect application guides available at http://www.digi.com/products/wireless/digiconnectwangsmdocs.jsp for details.

Sample Diagram:



Example Setup:

Refer to the diagram above using these sample IP addresses:

Digi Connect WAN/VPN/VPN cellular link	172.99.99.23
Digi Connect WAN/VPN/VPN Ethernet port	192.168.1.1
Wireless Access Point	192.168.1.2
Wireless workstation IP addresses	starts at 192.168.1.100

The WAP's IP address is used only for configuration since it behaves just like an Ethernet switch.

The workstation(s)'s default gateway points to the Digi Connect WAN/VPN/VPN Ethernet IP address of 192.168.1.1.

The Digi Connect WAN/VPN/VPN can also be used as a DHCP server. The WAP should be able to pass DHCP requests. If not, you may need to use the WAP's DHCP server instead of the Digi Connect device. Simply disable the Digi Connect WAN/VPN DHCP server in the Network Configuration screen.

Where to Get More Information

Refer to the Digi Connect WAN/VPN 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 information, please contact Digi International at 952-912-3444.

EXTRA: How to Configure a Linksys Wireless Access Point (WAP) for Use with a Digi Connect WAN/VPN

This document explains how to connect a Linksys WAP to a Digi Connect WAN/VPN. The information used for the Linksys should apply similarly to other WAPs. See your WAP manufacturer's manual for more details.

1. Run the WAP setup utility.

2. Make sure the WAP is cabled correctly to your network. Depending on the model and other devices connected, the WAP may use a straight-thru (standard) or crossover Ethernet cable. A WAP that does NOT have a built-in Ethernet switch connected directly to the Digi Connect device will most likely use a crossover Ethernet cable.

3. Configure the WAP Network Settings. In this example 192.168.1.2 is the WAP's IP address. The Digi Connect WAN's Ethernet port IP address, 192.168.1.1, is the gateway.

4. Enter the WAP password if required (default is admin):

5. Enter the appropriate Wireless Settings (these will match those of the workstations):

6. Choose Security Settings:

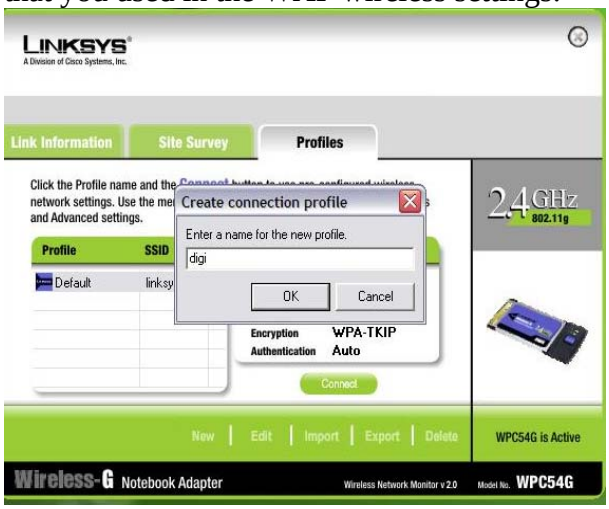
7. Setup Wireless Security:

8. Finish setup and exit.

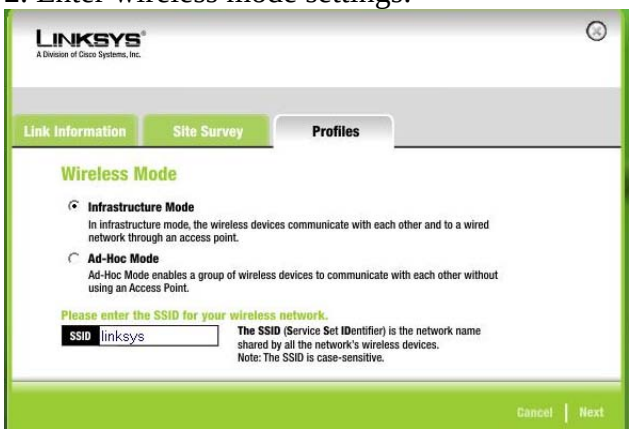
This completes the setup for the WAP.

Wireless PC Card Set-Up (built-in wireless will have a similar setup)

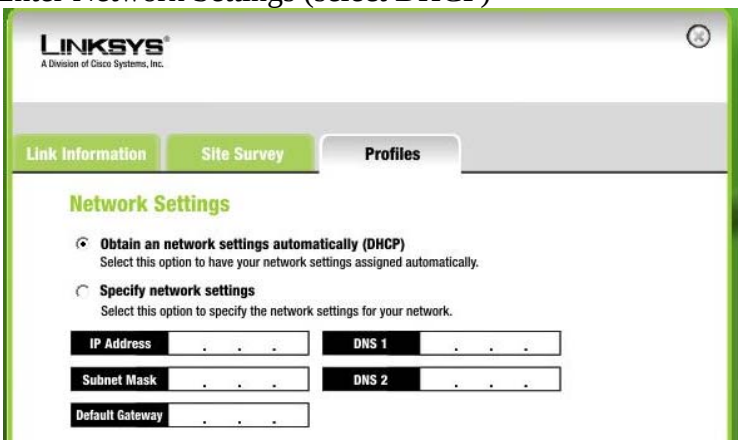
1. Setup a new Profile for the wireless settings that you will be using as per the settings that you used in the WAP wireless settings:



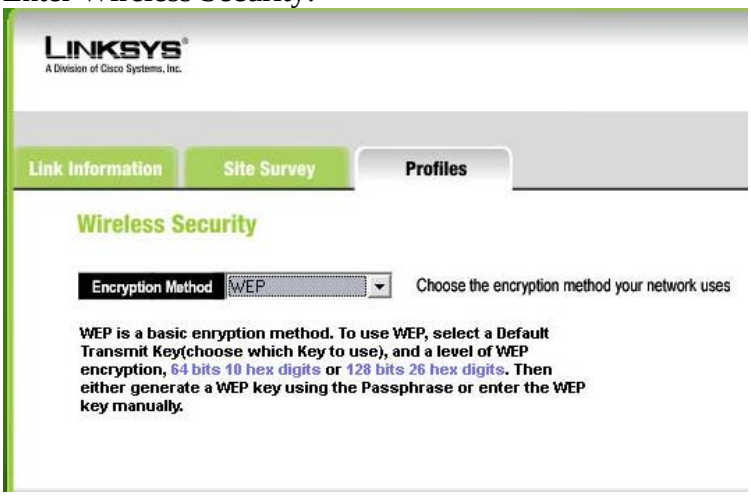
2. Enter wireless mode settings:



3. Enter Network Settings (select DHCP)

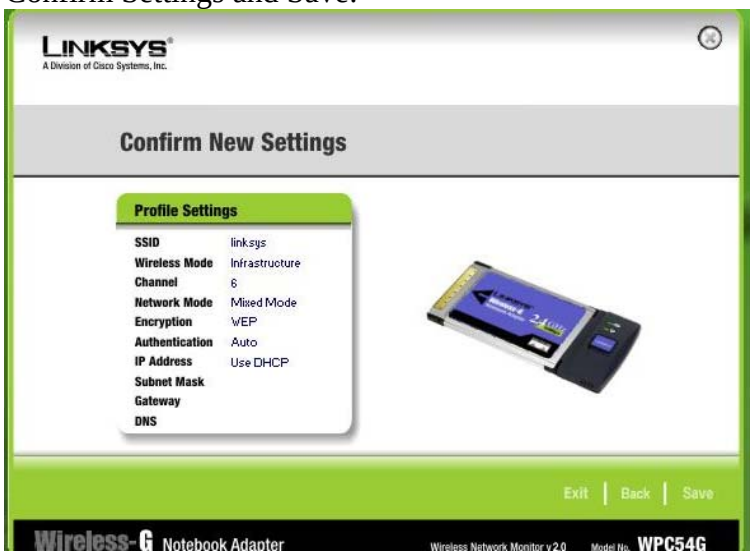


4. Enter Wireless Security:

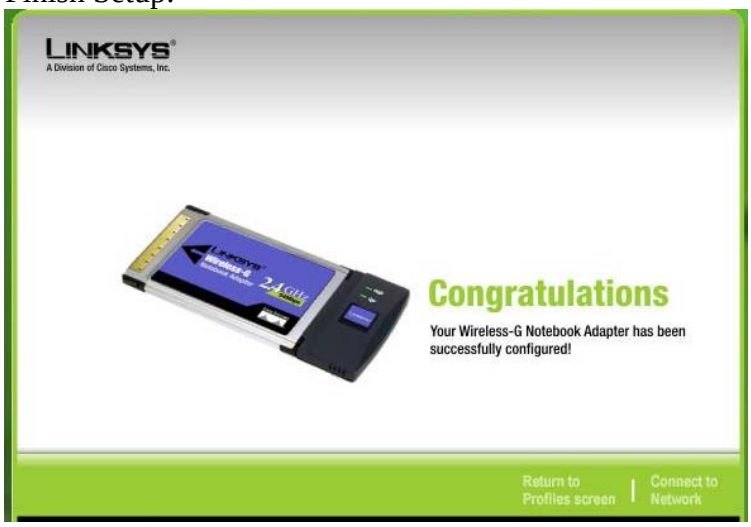


5. Enter Wireless Security Settings

6. Confirm Settings and Save:



7. Finish Setup:

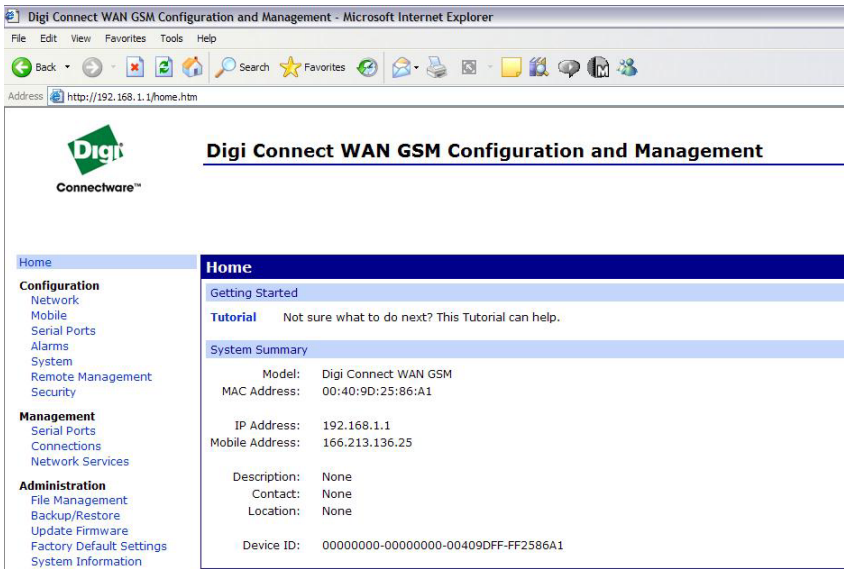


8. Verify Wireless PC Card Connection to the WAP:

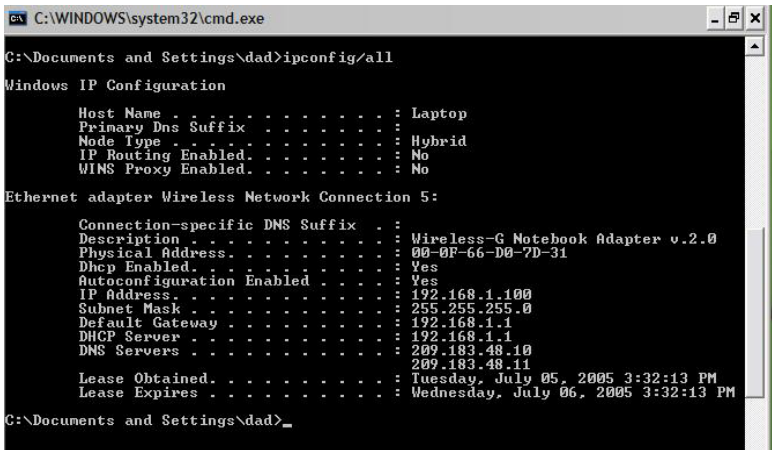
Connect the WAP to the Digi Connect WAN/VPN

After you verified the connection from the wireless PC to the WAP, connect the WAP to the Digi Connect WAN/VPN.

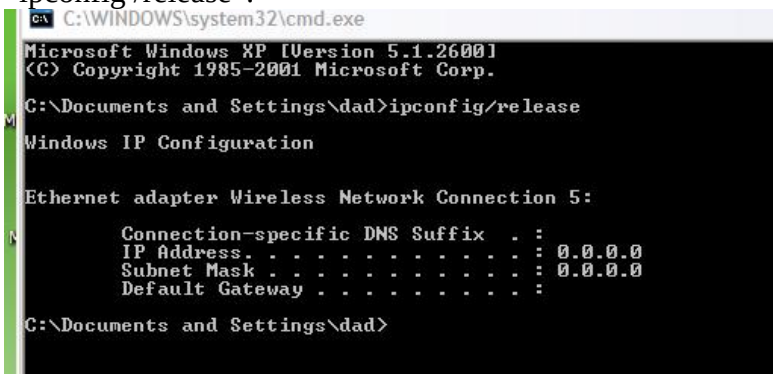
1. Connect the Ethernet cable from the WAP Ethernet port to the Digi Connect WAN/VPN's Ethernet port. Cabling will be one of these three possibilities:
    a. WAP only: Ethernet cable is likely a crossover cable
    b. WAP is also a router plus switch: standard straight-thru Ethernet cable
    c. WAP and Digi Connect device attach to a switch or router: standard straight-thru Ethernet cable
2. Verify there is connectivity to the Digi Connect WAN/VPN by bringing up a web browser and entering the IP address of the Digi Connect WAN/VPN (default 192.168.1.1). You should see a screen as shown below:



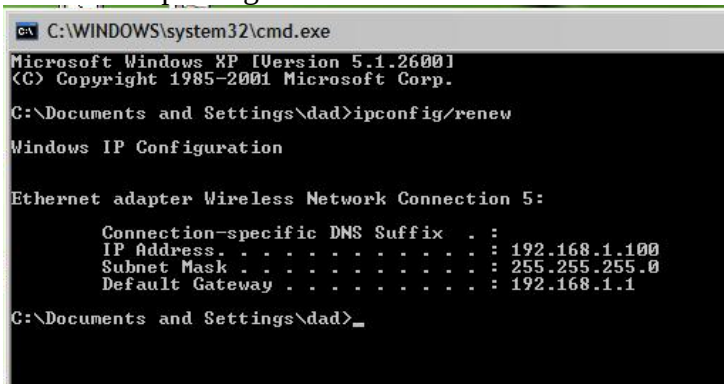
3. Verify you can communicate to the web via your browser. If you cannot communicate, verify the correct default gateway and DNS address information is being passed to your workstation. Open a command window via Start > Run > "cmd" > Enter. Type "ipconfig" in the command window:



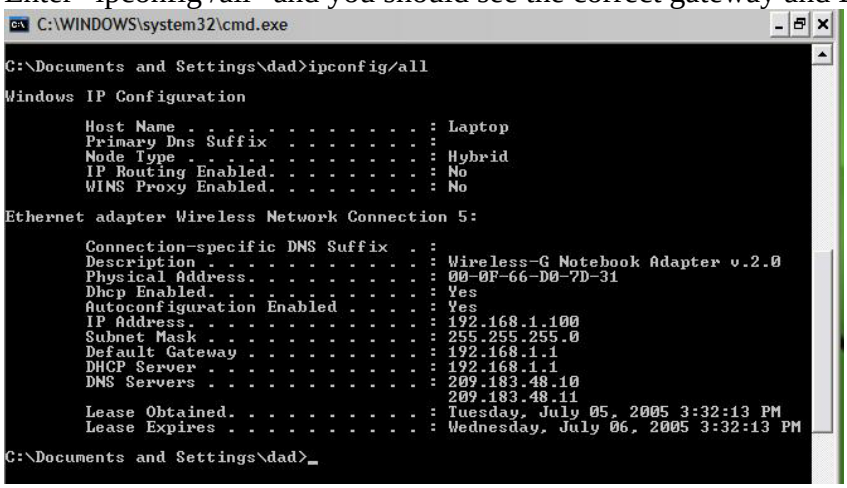
4. If the gateway and DNS IP addresses are not listed or are wrong then enter "ipconfig /release":



5. Next do an ipconfig /renew to refresh the information:



6. Enter "ipconfig /all" and you should see the correct gateway and DNS addresses:



You should now be able to access the Internet via the Digi Connect WAN/VPN.