



## IP Address and Pre-configuration Information

**Ethernet Connectivity:** Connect your workstation or device to the Digi Connect WAN via one of these methods:

- Direct from workstation to Digi Connect WAN via an Ethernet crossover cable.
- Via network hub or switch using a straight-thru Ethernet cable.

**Ethernet Port IP Addressing:** Follow the Quick Start Guide and assign the Digi Connect WAN an IP Address. In most cases a static IP address is desired.

**DHCP Server:** The Digi Connect WAN/VPN includes a DHCP server and can provide IP address configuration to remote devices and/or workstations. DHCP server is on by default and is configured to provide workstation IP addresses starting at 192.168.1.100.

**Static IP Addresses:** If static IP addresses are used, disable the Digi Connect WAN DHCP server via *Configure>Network>DHCP Server Settings* and follow these directions:

1. In order to properly communicate via the Digi Connect WAN, your workstation should be in the same subnet as the Digi Connect WAN. The simplest way to accomplish this is to use the Digi Connect WAN's DHCP server. If you are using the DHCP server, and the Digi device is at IP address 192.168.1.1, you should configure your workstation to be something like:

- IP address: 192.168.1.2
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.1.1 (i.e. the IP address of Digi Connect WAN)

2. As shown above, any device using the Digi Connect WAN as a gateway via the cellular wireless network must have its default gateway configured to the Digi Connect WAN's Ethernet port IP address.

3. DNS Server IP addresses: If you plan to "browse" the Internet or make other outbound connections that utilize DNS names (e.g., [www.digi.com](http://www.digi.com)), the carrier's DNS server IP addresses should be entered into the workstation's IP configuration. For example, for most Cingular® Blue APN types use 209.183.48.10 & .11. DNS info can be confirmed once the Digi Connect WAN has connected to the cellular network using the Digi Connect WAN Web UI via *Administration>System Info>Mobile*.

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**Changing the Digi Connect IP Address:** The Digi Connect WAN IP address settings can be changed using the built-in Web UI or via command line.

- **Via Command Line:** Use either the console port and a terminal emulation program or telnet to the Digi Connect WAN's IP address. Use the "set net" command similar to:

```
set net ip=172.16.5.88 mask=255.255.0.0 gateway=172.16.5.88
```

Type `set net` with no parameters to verify the settings. Reboot the Digi Connect WAN by either re-powering or via the `boot action=reset` command.

- **Via Web UI:** Point your browser to the Digi Connect WAN's Ethernet port IP address, select *Configuration>Network* and enter the desired settings, as shown below.

The screenshot shows the 'Digi Connect WAN VPN Configuration and Management' web interface. The 'Network Configuration' section is expanded to show 'IP Settings'. The 'Use the following IP address' option is selected. The IP Address field is set to 192.168.1.1, Subnet Mask to 255.255.255.0, and Default Gateway to 0.0.0.0. Primary and Secondary DNS fields are both set to 0.0.0.0. An 'Apply' button is visible at the bottom of the form.

Press *Apply*, and then reboot the Digi Connect WAN for changes to take effect. You will lose connectivity to the unit until you reconfigure your workstation to be in the same subnet as the Digi Connect WAN; or use DHCP.

## Modem Provisioning

In order to communicate on a CDMA wireless network, the Digi Connect WAN must be provisioned for use on the wireless network. Follow the steps below to configure the Digi Connect WAN for the iMotient/Sprint network. These instructions assume that the modem's ESN has already been given to Motient for registration, and that you have received a Device Activation information sheet.

## Connecting the Digi Connect WAN

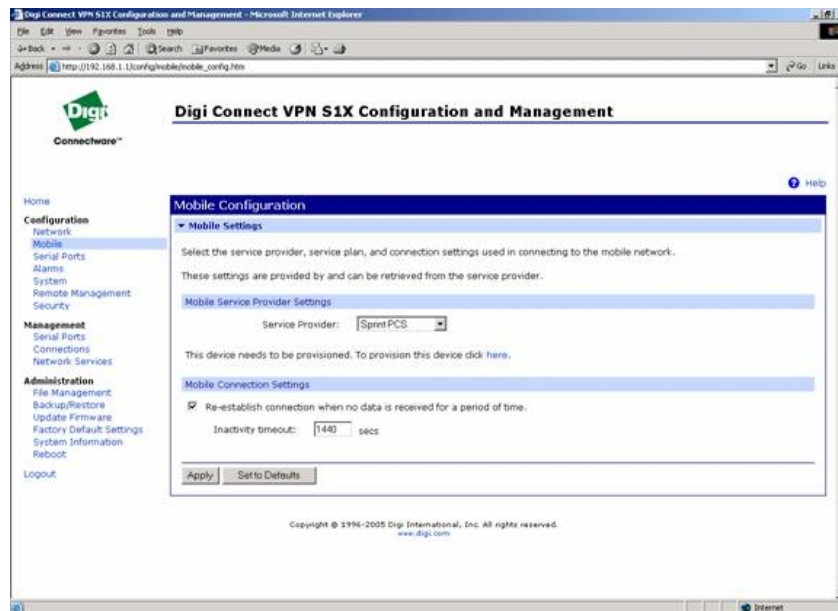
1. Attach the antenna to the Digi Connect WAN. Place the Digi Connect WAN and/or antenna in a location that will ensure the best signal.
2. Connect the Digi Connect WAN Ethernet port to your workstation or

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device in the method mentioned above.

3. Apply power to the Digi Connect WAN. After a few minutes observe the following:

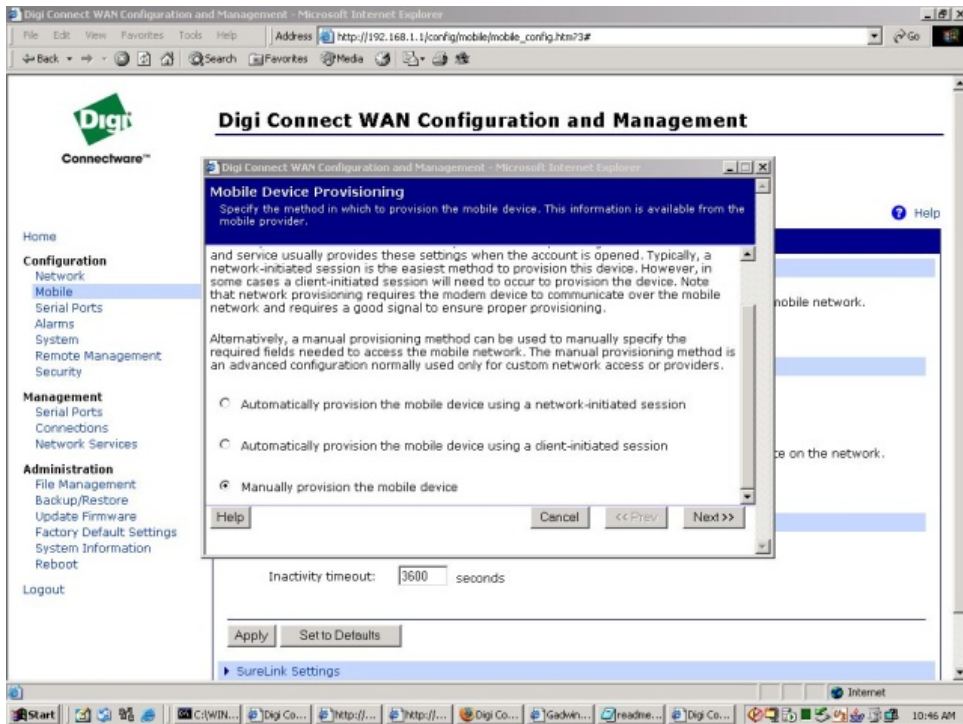
- a. The green Ethernet link LED located on the Ethernet port should be on. If not, make sure you are using the proper cable.
- b. Signal Strength LEDs on top of unit should show 2-4 LEDs. If not, try repositioning the antenna and unit if necessary. Do not extend the antenna cable. Instead, reposition the Digi Connect WAN unit itself via longer Ethernet cable connection.
- c. Activity LED will be on solid for a few moments then go off.
- d. The Wireless Link LED on top of unit should go on solid once the APN type is properly configured. If not, verify the provisioning information via *Configuration > Mobile*.



e. Make sure it is set for the correct Service Provider. The proper selection in the Service Provider box is “Sprint PCS.” Then, you must click the link to proceed to the next set of provisioning screens.

4. When you proceed, a configuration window will pop up. This is where you will enter the rest of the provisioning information. On the first screen, select “*Manually provision the mobile device.*” Then, select *Next*.

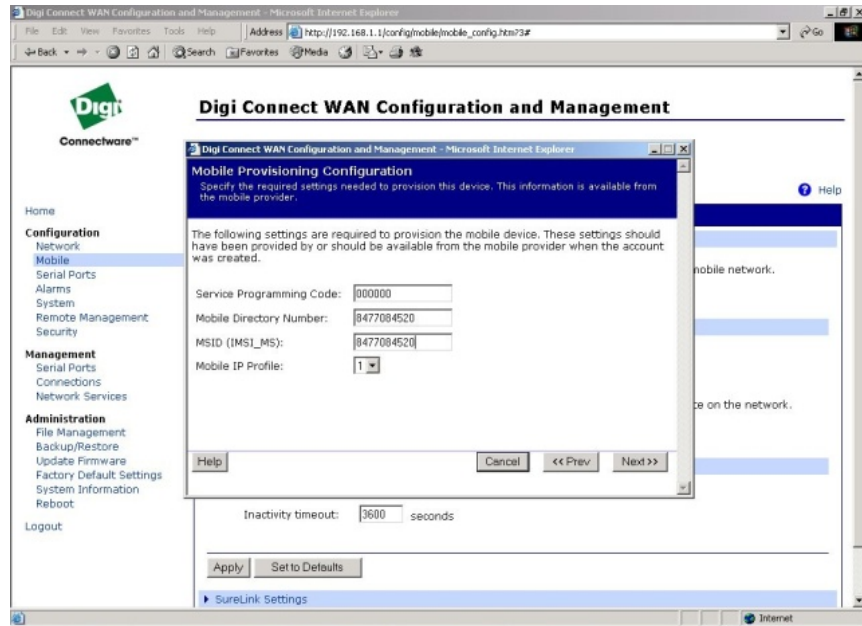
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5. On the next screen, enter the following information. You will need to refer to the registration and provisioning information supplied by iMotient Solutions on the Device Activation spreadsheet.

- Service Programming Code: Supplied by Motient as **MSL**. (Master Subsidy Lock code. 6-Digit code for unlocking the mobile station. Note: In the case of the Digi Connect WAN, this number will always be “000000.”)
- Mobile Directory Number: Supplied by Motient as **MDN**.
- MSID (IMSI\_MS): Supplied by Motient as **MSID**.
- Mobile IP Profile: Set this value to **1**.
- Select *Next*.

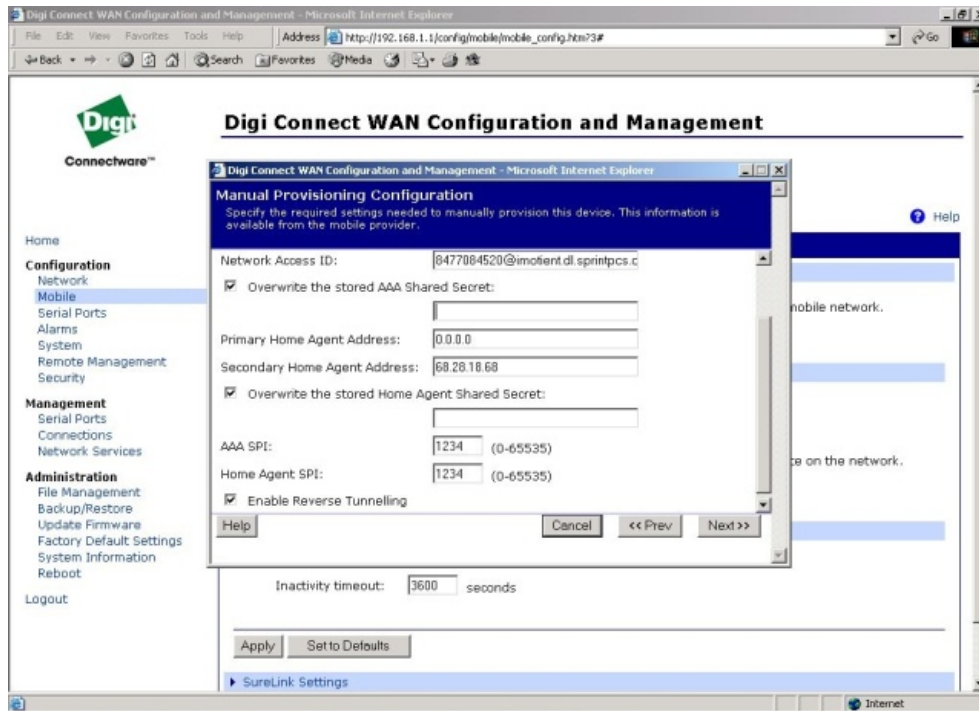
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6. The next screen will also be filled out with the following Motient supplied information.

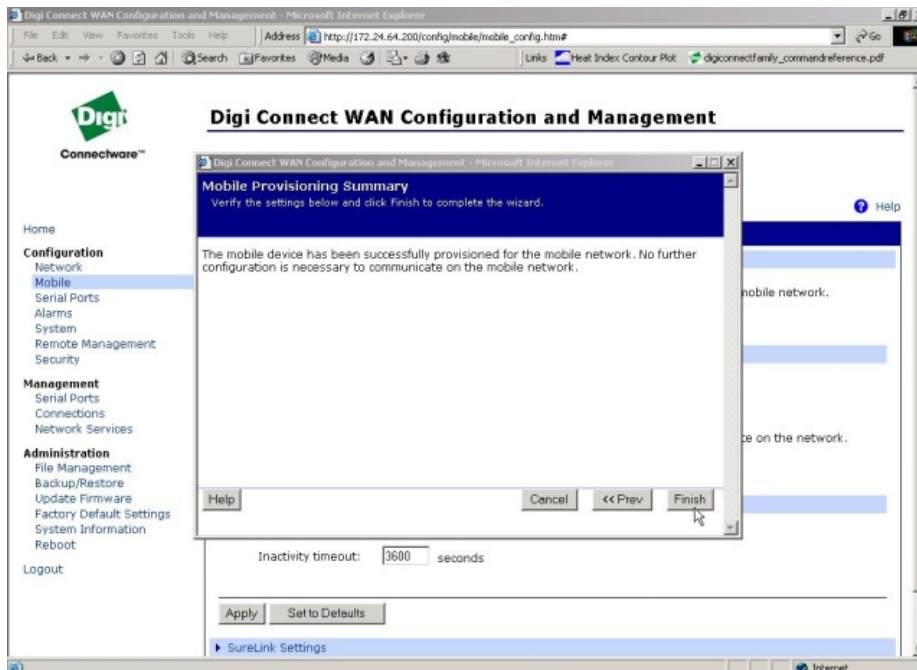
- Network Access ID: Supplied by Motient as **NAI**.
- Check the **Overwrite the stored AAA Shared Secret**, and in the box, enter the **Password** from the Motient provisioning sheet.
- Primary Home Agent Address: Supplied by Motient as **Primary HA** (*Note: In the case of CDMA 1xRTT modems, this address will always be "0.0.0.0" In the case of EV-DO, it will always be "255.255.255.255"*)
- Secondary Home Agent Address: Supplied by Motient as **Secondary HA**.
- Check the **Overwrite the stored Home Agent Shared Secret**, and enter the **HA-SS** from the Motient provisioning sheet.
- AAA SPI: Enter the number **1234**.
- Home Agent SPI: Enter the number **1234**.
- Check the box labeled **Enable Reverse Tunneling**.
- Select *Next*.

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7. The device will now have its provisioning information written to its memory. Do not close this next window, or turn off the Digi Connect WAN while this is occurring. The dialog box will indicate when the process is finished.

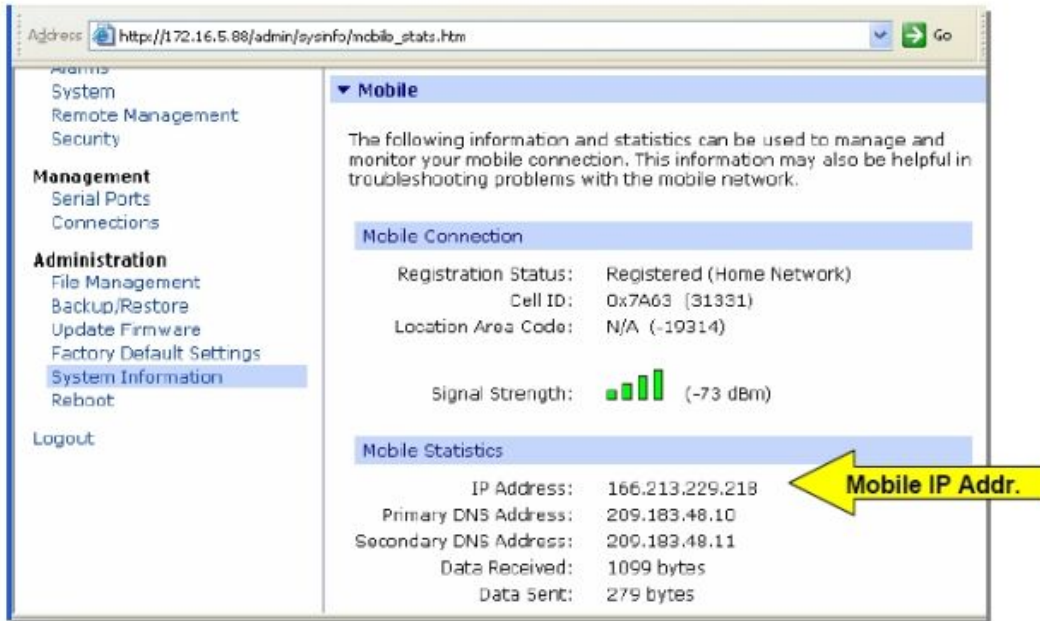
8. Once the device has indicated that provisioning is finished, click the *Finish* button, and then *Reboot* the device.





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9. After the device restarts, and once the mobile link LED is on solid (which may take a few minutes), verify the mobile IP address from the Digi Connect WAN home page, via *Management>Connections*, or via *Administration>System Information>Mobile*, as shown below.




The screenshot shows a web browser window displaying the mobile statistics page. The address bar shows [http://172.16.5.88/admin/sysinfo/mobile\\_stats.htm](http://172.16.5.88/admin/sysinfo/mobile_stats.htm). The left sidebar contains a navigation menu with categories: Administration (System, Remote Management, Security), Management (Serial Ports, Connections), Administration (File Management, Backup/Restore, Update Firmware, Factory Default Settings, System Information, Reboot), and Logout. The main content area is titled "Mobile" and contains the following information:

The following information and statistics can be used to manage and monitor your mobile connection. This information may also be helpful in troubleshooting problems with the mobile network.

**Mobile Connection**

Registration Status:	Registered (Home Network)
Cell ID:	0x7A63 (31331)
Location Area Code:	N/A (-19314)

Signal Strength:  (-73 dBm)

**Mobile Statistics**

IP Address:	166.213.229.218
Primary DNS Address:	209.183.48.10
Secondary DNS Address:	209.183.48.11
Data Received:	1099 bytes
Data Sent:	279 bytes

A yellow arrow points to the IP Address value (166.213.229.218) with the text "Mobile IP Addr." written next to it.

The Digi Connect WAN should now be ready to use.

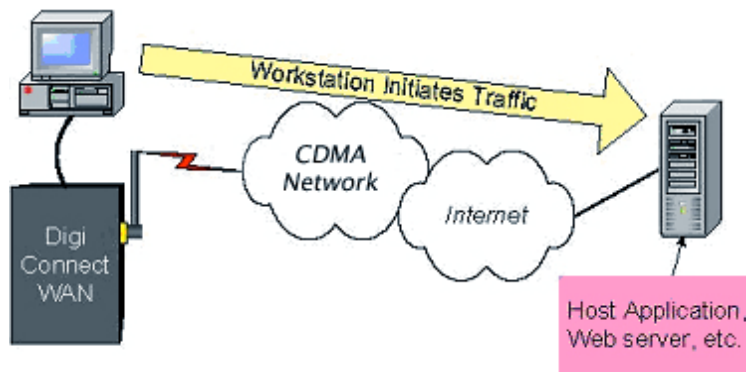
### Testing the Digi Connect from a Workstation

Once the Digi Connect WAN is connected to the cellular network and is accessible from network devices connected to its Ethernet port, you can do some simple tests to verify communications through the device.

A simple test is to connect *out* through the Digi Connect WAN to your iMotient Host computer. Make sure your workstation's IP network is configured is to use the Digi Connect WAN's Ethernet port IP as the default gateway. From the command line, execute a ping command to the IP address of the host computer on the iMotient Tunnel connection.

For example: `ping 172.16.0.16`

You should see an echo response indicating that the data reached that IP address.



Inbound connections require additional configuration to test. First, not all APN types allow incoming connections. Second, the Digi Connect WAN uses NAT (Network Address Translation)\* to route traffic from the Public IP address on the cellular interface to the Ethernet port's private IP network. NAT provides two main benefits:

**Security:** NAT hides the private IP addresses of the devices on the Digi Connect WAN's Ethernet network.

**IP Address Availability:** IP addresses are in short supply and cost money. The Digi Connect WAN need be provided only one IP address from the wireless carrier.

Port forwarding\* entries are required to pass incoming traffic through the Digi Connect WAN to a device or workstation connected to the Digi Connect WAN's Ethernet port.

\* Note that the Digi Connect Remote Gateway (RG) does not support NAT or port forwarding.

Refer to the Digi Connect WAN application guide on mobile terminated connections



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for details on setting up inbound connections.

If your account is set up to include a static IP for the mobile device, a simple test to verify the Digi Connect WAN is on the wireless network and is accessible is to ping the IP address from your iMotient Host computer. For example, if your assigned static IP is 10.255.0.4:

```
ping 10.255.0.4
```

If the request times out, try adding a “-w 5000” or “-w 10000” to the ping command:

```
ping -w 5000 10.255.0.4
```

Other application scenario examples, such as using the Digi Connect WAN for a backup wireless WAN connection, are available from Digi International.

### Finishing Up and Getting Assistance

Please register your Digi Connect WAN at <http://www.digi.com/support/customer%20services/warranty.jsp> .

If you have any questions or need assistance, please contact your Digi Connect WAN vendor or Digi International at 952-912-3444, or Digi technical support at <http://www.digi.com/support/eservice/eservicelogin.jsp> .