

# 5

## GATEWAY CONFIGURATION

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### Navigating Through the Gateway Configuration Pages

This chapter describes all the screens available through the Gateway configuration pages, and is provided as a reference. To get to the configuration pages, browse to the Gateway by entering the URL in the location bar of your browser. The default URL is `http://192.168.1.1`, but if you changed the Gateway LAN IP address during initial configuration, use the new IP address instead. When you have browsed to the Gateway, login using your system password (default *admin*).

### Main Menu

At the left side of all screens is a main menu, as shown in Figure 24 on page 32. When you click on a topic from the main menu, that page will appear in the main part of the screen.

- Welcome - displays the firmware version of the Gateway, allows you to change your password, and launch the Wizard
- LAN Settings - allows you to configure IP address and subnet mask information, setup DHCP server parameters, and display the DHCP client list.
- Wireless Settings - enables / disables access from wireless computers, and provides facilities for improving the security of the wireless network.
- Internet Settings - sets up Internet addressing modes such as PPPoE connection, dynamic IP address allocation and static IP address settings
- Firewall - allows configuration of the Gateway's firewall features: Virtual Servers, Special Applications, PCs Privileges and security options
- System Tools - allows the administrator to perform maintenance activities on the Gateway.
- Status and Logs - displays the current status and activity logs of the Gateway.
- Support - contains a comprehensive online help system

### Option Tabs

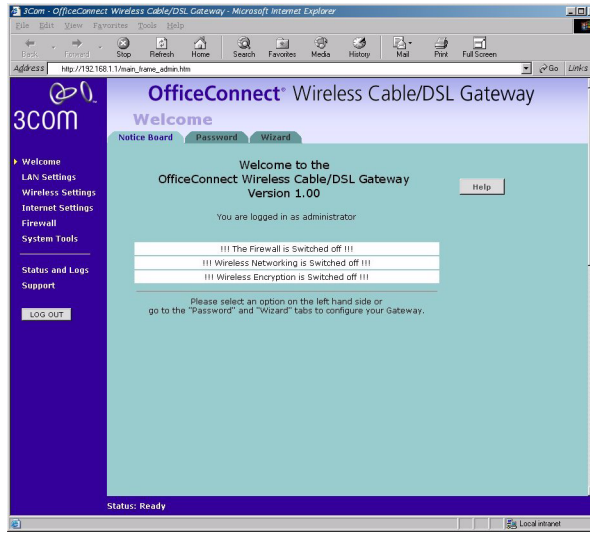
Each corresponding menu page may also provide sub-sections which are accessed through the use of tabs (see Figure 24 for example). To access a sub-section, simply click on the required tab.

### Getting Help

On every screen, a *Help* button is available that provides access to the context-sensitive online help system. Click this button for further assistance and guidance relating to the current screen.

**Welcome Screen**

**Figure 24** OfficeConnect Wireless Cable/DSL Gateway Welcome Screen



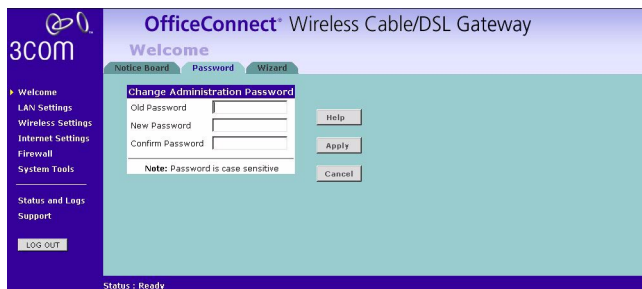
The *Welcome* section allows you to view the Notice board and to change your Password. You can also gain access to the Configuration Wizard. (See "Accessing the Wizard" on page 23 for details.)

**Notice Board** **Figure 25** Notice Board Screen



The Notice Board is used to display configuration warning messages. For example, you would be warned if you had disabled the Firewall.

**Password** **Figure 26** Password Screen



## Changing the Administration Password

You can change the password to prevent unauthorized access to the Administration System. To do this:

- 1 Enter the current password in the *Old Password* field
- 2 Enter the new password in the *New Password* field
- 3 Enter the new password again in the *Confirm Password* field
- 4 Click *Apply* to save the new password



*The password is case sensitive.*



*If you have forgotten your password you can reset the Gateway. See "Forgotten Password" on page 56.*

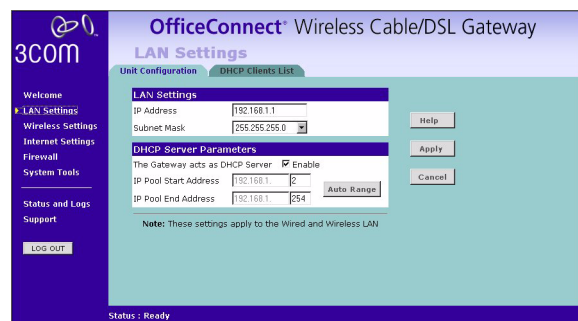
**Wizard** Figure 27 Wizard Screen



Click the *WIZARD...* button to launch the configuration wizard. Refer to Chapter 4 for information on how to run the wizard.

## LAN Settings

**Unit Configuration** Figure 28 Unit Configuration Screen



The LAN Settings screen is used to specify the LAN IP address of your Gateway, and to configure the DHCP server.

- 1 Select *Unit Configuration* and then specify the *Gateway IP Address* and *Subnet Mask* in the LAN Settings field. The default IP address of the Gateway is 192.168.1.1.
- 2 If you want to use the OfficeConnect Wireless Cable/DSL Gateway as a DHCP Server, click in the *Enable* check box.
- 3 Clicking on *Auto Range* button will generate the IP pool address from 192.168.1.2 to 192.168.1.254 for the *DHCP Server Parameters* field. Auto Range will automatically choose the largest available range of addresses.
- 4 Check all of your settings, and then click *Apply*.



*The DHCP server will give out addresses to both wired and wireless clients.*

### DHCP Clients List **Figure 29** DHCP Clients List Screen

	IP Address	Host Name	MAC Address	Client Type
release	192.168.1.4	pc1	0x0000e822280b	Wired
release	192.168.1.11	pc2	0x0000e823524e	Wireless, 11Mbps
release	192.168.1.12	pc16	0x00c04f937e42	Wireless, 2Mbps

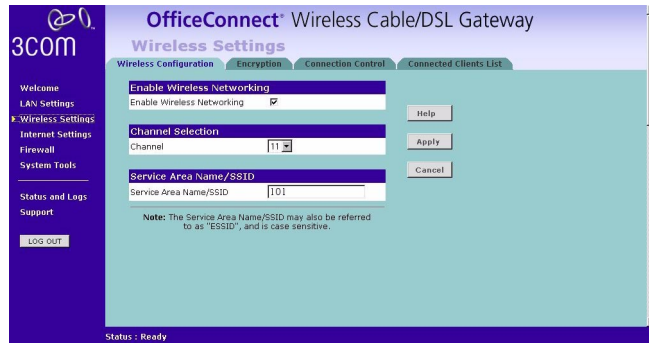
The DHCP Clients List provides details on the devices that are connected to the LAN. The list is only created when the Gateway is setup as a DHCP server. For each device that is connected to the LAN, the IP address, Host Name and MAC address of that device is displayed. As you connect more devices to the LAN, the client list will grow to a maximum number of clients, which is determined by the IP address range.

The Release button allows the lease time for the IP address that has been issued to a device to be cleared. The lease time is set at 12 hours. If a PC has been switched off, using the Release Button would allow the 12 hour lease time to be cleared. The IP address would then be available for another device if there were no other IP addresses available.

As the IP address is fixed to a MAC address, then each particular computer will normally be issued with the same IP address. The only time that a PC will get a different IP address is if the unit is reset to factory defaults or the DHCP server has run out of IP addresses.

## Wireless Settings

**Wireless Configuration**   **Figure 30** Wireless Configuration Screen



### Enable Wireless Networking

Allows you to enable/disable the wireless section of your LAN. When disabled, no wireless PCs can gain access to either the Internet or other PCs on your Wired or Wireless LAN.

### Channel Selection

The Channel Selector allows you to specify which Channel the Gateway will transmit and receive on. If someone else nearby is using the same Channel as you, there will be a reduction in the performance of your network. If this seems to be the case, you should select a different channel number. Valid Channels are 1- 13. Usually the Wireless computers will scan to find the correct channel, but if they don't you must configure them to use the same Channel number as the Gateway.

### Service Area Name/SSID

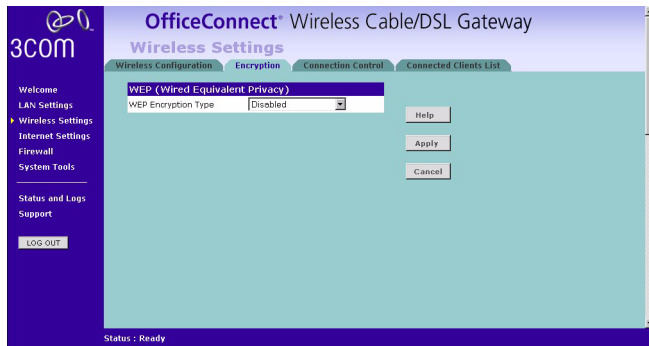
This allows you to name your Wireless network. The field will accept any alphanumeric string and has a maximum length of 32 characters. Your Wireless computers must be configured with exactly the same name or you will not establish a connection. The Service Area Name may also be referred to as "ESSID" depending on your networking vendor. By default 3Com uses the name "101". 3Com recommends that you change the default name.



*In order that your Wireless computers can connect to the Gateway, you must configure them so that they :*

- Use Infrastructure Mode not Adhoc Mode.
- Have the same Service Area Name as the Gateway.
- Have the same Channel number as the Gateway.
- Use the same encryption type and keys as the Gateway.
- All Wireless computers can connect to the Gateway via their MAC addresses. See "Wireless Configuration Screen " on page 35)

**Encryption** Figure 31 Encryption Screen



Wired Equivalent Privacy or WEP allows you to encrypt the traffic between your Wireless PC and the Gateway. It is important to remember that with WEP disabled anyone with a Wireless PC can eavesdrop on your network. 3Com recommends that you get the network working with WEP disabled first and then enable it as the last step. This will simplify setting up your network.



*If you enable WEP on the Gateway, you must reconfigure your wireless PCs to use exactly the same Encryption Type and Keys otherwise the devices will not understand each other.*



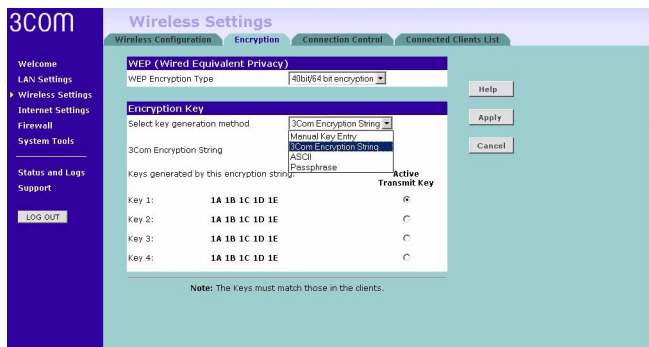
*WEP is for securing data transmitted through wireless communications between the Gateway and it's wireless clients. Enabling WEP has no security effect on data transmitted through wired (Ethernet) connections or through your connections to the Internet.*

### Wireless Encryption Type

There are two levels of encryption available, 64 bit (sometimes referred to as 40 bit) and 128 bit. 128 bit will result in a higher level of security, but may cause a slight decrease in performance. Use the "Wireless Encryption Type" box to select the desired level.

### Encryption Keys

**Figure 32** Encryption Keys Screen



A Key is a hexadecimal (0-9, A-F) number used to encrypt and decrypt the data. There can be up to 4 keys and each key can be as long as 26 digits. The Gateway also offers a number of methods for converting plain text into hex keys. The text is much easier to remember than hex keys but it relies on your wireless adapters also

supporting this feature. Different manufacturers have developed different ways of converting plain text and so interoperability is not guaranteed. If you are experiencing difficulty, the Manual Hex Key method is supported by most vendors.

There are four methods available to generate the encryption keys:

- Manual Key Entry - This method allows you to manually enter hex keys. Virtually all manufacturers support this scheme. Enter a two digit hexadecimal number in every box. Hexadecimal numbers are formed from 0-9 and A-F.
- 3Com Encryption String- This method is supported by 3Com Wireless products. The string can contain any alpha numeric characters and must be between 6 and 30 characters long. A single string will automatically generate 4 unique keys for 64 or 128 bit WEP.
- ASCII - This method is supported by some adapter cards running under Windows XP. The string must be exactly 5 characters for 64 bit WEP and 13 characters for 128 bit WEP. You must enter a separate string for each of the 4 Keys. You can leave a string blank provided this Key is not selected as the Active Transmit Key.
- Passphrase - This is another common method and similar to the 3Com Encryption string. In 64 bit WEP, the Passphrase will generate 4 different keys. However, in 128 bit WEP, this method only generates 1 key which is replicated for all 4 keys. The passphrase can be up to 31 characters long and may contain any alpha numeric or symbol characters.

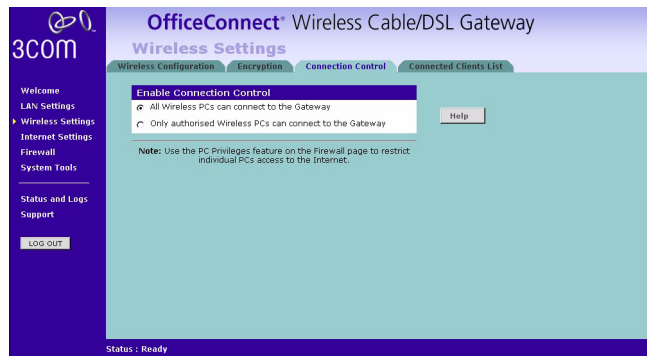
Select from the drop down list the key generation method you wish to use. If you have other wireless products choose the scheme that is compatible with these, then enter the appropriate information.



*If you encounter any difficulty when you enable WEP ensure that you check that each Key on your wireless computer is exactly the same as each key on your Gateway. In other words, Key number 1 on the Wireless computer must have the same Hex number as Key number 1 on the Gateway, Key 2 on the Wireless computer must match Key 2 on the Gateway and so on.*

The "Active Transmit Key" selects which of the 4 Keys the Gateway uses when it transmits. You can change the selected key periodically to increase the security of your network. Your wireless computers do not need to use the same Active Transmit Key number as your Gateway - so you could for example select Key 2 on the Gateway and Key 4 on your computers.

Some wireless adapters have only one key available on their WEP configuration page. If this is the case ensure it is the same as Key 1 on the Gateway and that it is selected as the active transmit key.

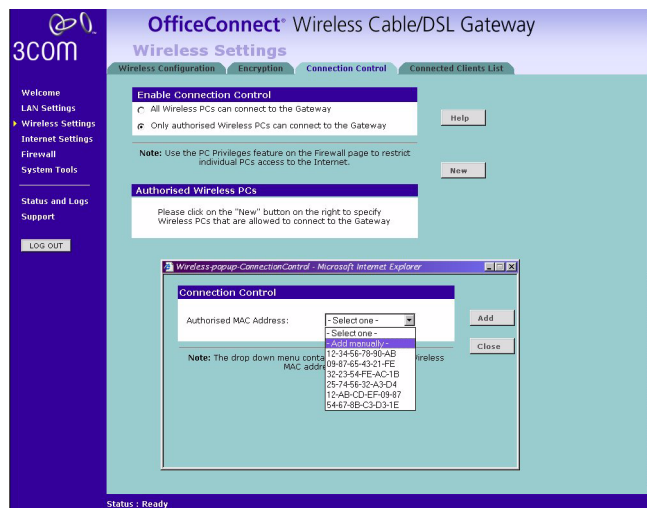
**Connection Control** Figure 33 Connection Control Screen

A higher level of security can be achieved for your wireless network if you use both encryption and you specify only certain wireless computers can connect to the Gateway. By default, any wireless computer that has the same Service Area Name/SSID, channel and encryption settings as the Gateway can connect to it.

Select *Only Authorised Wireless PC's can connect to the Gateway* to configure this feature.

**Connected Client List**

Figure 34 Connections Control Detail Screen



To create a list of Wireless computers that can access the Gateway:

- 1 Press the *New* button.
- 2 Specify the MAC address of the Wireless PC that is to be allowed to connect.



*The drop down list on the "Add" window will contain the MAC addresses of all Wireless PCs that are in range, currently operating, and have the same Service Area Name/SSID, channel and encryption settings as the Gateway. You will find this screen easier to use if you set up and make a note of all of your wireless PC's on your network first. You may also add the entries manually if you know the MAC address.*



To add a MAC address that is not in the list, select "- Add Manually -" from the list, and enter the MAC address in the appropriate fields. A MAC address consists of 12 characters. Valid characters are '0-9', and 'A-F'.

- 3 Press the Add button.



*By pressing the Close button all changes will be discarded.*

### **Modifying a MAC Address**

- 1 Click on the MAC address to be modified in the table.
- 2 Modify the MAC address. The MAC address can be edited manually, or a different MAC address may be selected from the drop down list of detected addresses.
- 3 Press the *Apply* button to accept the changes.



*By pressing the Close button all changes will be discarded.*

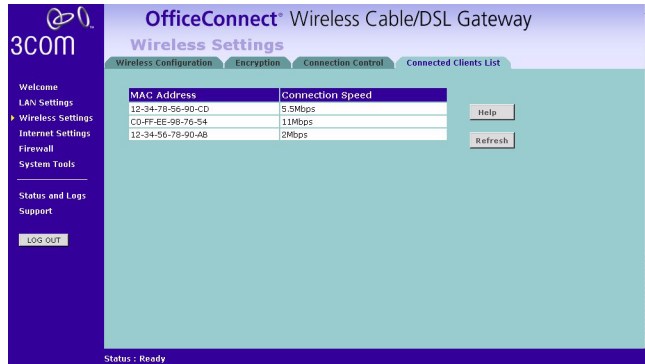
## Deleting a MAC Address

The connection rights for a Wireless PC listed in the table can be removed by pressing the *Delete* button for that entry in the table.



Once an entry has been deleted it cannot be undone. Please wait 30 seconds before changes take effect.

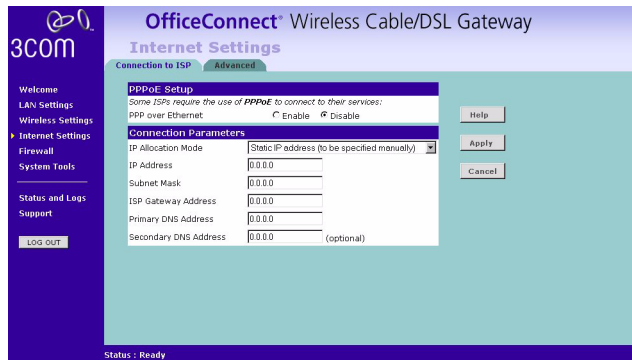
**Connected Clients List** Figure 35 Connected Clients List Screen



The Wireless Clients List provides details on the devices that are connected to the Wireless LAN. The list is only created when Wireless Networking is enabled. For each device that is connected to the Wireless LAN, the MAC address and Connection Speed of that device is displayed. As you connect more devices to the Wireless LAN, the client list will grow to a maximum of 32 (the maximum number of wireless devices that the Gateway can support).

## Internet Settings

**Connection to ISP** Figure 36 Connection to ISP Screen



Select *Internet Settings* from the main menu. Before beginning this section, ensure you have the required information from your ISP. (See "Before you Install your Gateway" on page 16.)

**IP Allocation Mode** If you enabled PPPoE, this field is automatically set to *Dynamic IP address (automatically allocated)*. If PPPoE is disabled, you will also be able to select *Static IP address (to be specified manually)*. If you are unsure which setting you require, your ISP should be able to advise you.

When the *Cable/DSL Internet Settings > Connection to ISP* page appears (Figure 36), you will be asked to enter the information you received from your ISP. If you have the information and your ISP has given you an IP address, enter the IP address, subnet mask address, and ISP Gateway address in the appropriate text boxes.



*If your ISP has given you a DNS (Domain Name Server) address, fill in those addresses.*

## PPP over Ethernet connection

**Figure 37** PPPoE Setup Screen

Some ISPs require the use of PPPoE in order to establish connections with their networks. If you are unsure, you should ask your ISP whether you need to use PPPoE.

Your ISP may need you to enter host name or PPPoE (Point-to-Point Protocol over Ethernet) settings. To setup the Gateway for use with a PPP over Ethernet connection, use the following procedure:

- 1 Select *Enable* on the *PPP over Ethernet* option to display the PPPoE Setup screen. (Figure 37)
- 2 Enter your PPP over Ethernet user name in the *PPPoE User Name* text box.
- 3 Enter a password in the *PPPoE Password* and *Confirm Password* text boxes.
- 4 Enter your PPP over Ethernet service name in the *PPPoE Service Name* text box. Not all ISPs require a PPPoE service name. Only enter a service name if your ISP requires this.
- 5 Select an idle time from the *Maximum Idle Time* drop-down list.

This value will correspond to the amount of idle time (no Internet activity), in seconds, that will pass before the Gateway automatically ends your PPP over Ethernet session.



*Since the Gateway firmware contains its own PPPoE client proxy, you no longer need to run PPPoE client software on your computer to access the Internet. You can simply start your browser and connect to the Internet immediately after setting up your cable or DSL modem.*

## Dynamic IP Address

**Figure 38** Connection Parameters Screen - Dynamic IP

The screenshot shows a window titled "Connection Parameters" with a dark blue header. Below the header, there are four rows of configuration fields:

- IP Allocation Mode:** A dropdown menu set to "Dynamic IP address (automatically allocated)".
- Primary DNS Address:** A text box containing "0.0.0.0" with "(optional)" to its right.
- Secondary DNS Address:** A text box containing "0.0.0.0" with "(optional)" to its right.
- Host Name:** An empty text box with "(optional)" to its right.

At the bottom of the window, a status bar displays "Status : Ready".

If this mode is selected, your IP Address, Subnet Mask, and DNS Address will be obtained automatically from your ISP. They are not displayed on this screen, but may be viewed on the Status screen (click on *Status and Logs* on the left hand menu bar).

To setup the Gateway for use with a dynamic IP address connection:

- 1 Select *Dynamic IP Address (automatically allocated)* in the *IP Allocation Mode* field. (Figure 38)
- 2 Enter your primary and secondary DNS addresses.  
Your ISP should provide your primary and (optional) secondary DNS addresses. Enter the addresses in the appropriate text boxes. If you are using the DHCP option (which automatically assigns your IP address), the value *0.0.0.0* will already be entered in the text box.
- 3 Enter the *Host Name* (optional).  
Some ISPs require a host name. If your ISP has this requirement, enter the host name in the *Host Name* text box.
- 4 When you are finished, click *Apply*.

## Static IP Address

**Figure 39** Connection Parameters Screen - Static IP

The screenshot shows a window titled "Connection Parameters" with a dark blue header. On the left side, there is a vertical menu with options: "Firewall", "System Tools", "Status and Logs", and "Support". Below the menu is a "LOG OUT" button. The main area contains the following configuration fields:

- IP Allocation Mode:** A dropdown menu set to "Static IP address (to be specified manually)".
- IP Address:** A text box containing "0.0.0.0".
- Subnet Mask:** A text box containing "0.0.0.0".
- ISP Gateway Address:** A text box containing "0.0.0.0".
- Primary DNS Address:** A text box containing "0.0.0.0".
- Secondary DNS Address:** A text box containing "0.0.0.0" with "(optional)" to its right.

On the right side of the window, there are "Apply" and "Cancel" buttons. At the bottom, a status bar displays "Status : Ready".

To setup the Gateway for use with a Static IP address connection:

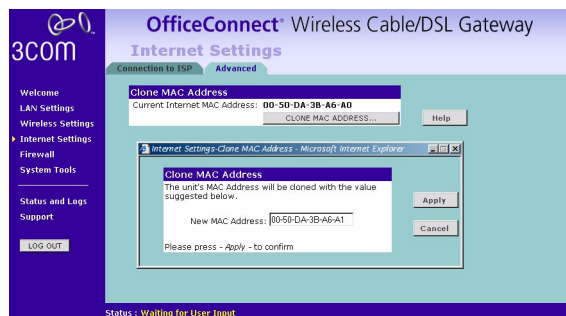
- 1 Select *Static IP Address (to be specified manually)* in the *IP Allocation Mode* field (Figure 39).
- 2 Enter your IP Address in the *IP Address* text box.

This information, along with the rest of the information in this screen, should be provided to you by your ISP. If the information is already entered, your ISP has provided it to you automatically, and you should go to step 7.

- 3 Enter your subnet mask address in the *Subnet Mask* text box.
- 4 Enter your ISP Gateway address in the *ISP Gateway Address* text box.
- 5 Enter your primary DNS address in the *Primary DNS Address* text box.
- 6 Enter your secondary DNS address in the *Secondary DNS Address* text box.  
This step is optional. Not all ISPs require a secondary DNS address.
- 7 Check all of your settings, and then click *Apply*.

## Advanced Clone MAC

**Figure 40** Clone MAC Address Screen



If your ISP requires an assigned MAC address, click *Internet Settings > Advanced* to display the *Clone MAC Address* screen. The *New MAC Address* field is automatically filled in with the MAC address of the computer you are using to configure the Gateway. You should use this address only if you were previously using this computer to connect directly to your modem.

If you want to specify a new MAC Address, click on the *CLONE MAC ADDRESS* button, enter a new MAC Address and then click *Apply*. (Figure 40)

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## Firewall

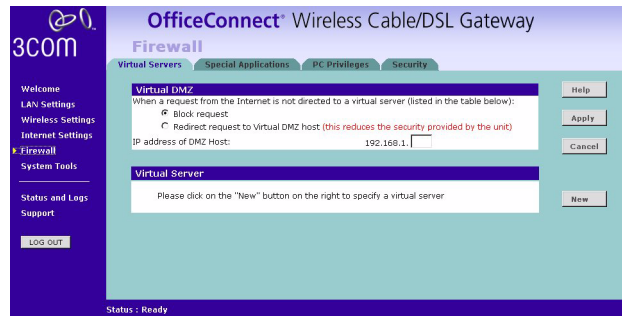
On the main frame of the *Firewall* setup screen is a menu with four tabs: Virtual Servers, Special Applications, PCs Privileges, and Security.

## Virtual Servers

Selecting the *Firewall* option on the main menu displays the Virtual Servers setup screen. (Figure 41)

## Virtual DMZ

**Figure 41** Virtual Servers Screen



DMZ (De-Militarized Zone) Host is a computer without the protection of the firewall. This feature allows a single computer to be exposed to unrestricted 2-way communication from outside of your network. This feature should be used only if the Virtual Server or Special Applications options do not provide the level of access needed for certain applications.

To configure one of your computers as a DMZ host, enter the last digit(s) of the IP address of the computer in the *IP Address of DMZ Host* text box, and then click the *SAVE* button.

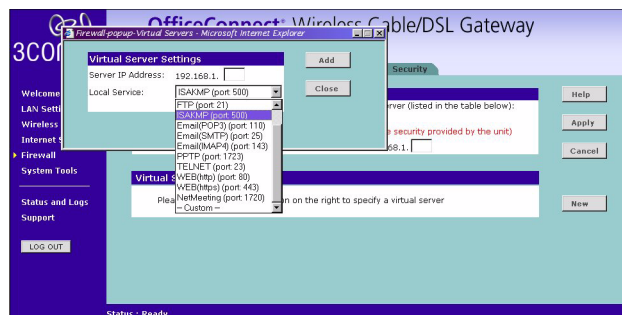
## Virtual Server

Activating and configuring a virtual server allows one or more of the computers on your network to function as an Internet service host. For example, one of your computers could be configured as an FTP host, allowing others outside of your office network to download files of your choosing. Or, if you have created a Web site, you can configure one of your computers as a Web server, so that others can view your Web site.

To configure a virtual server:

- 1 Click on the *New* button on the right side of the screen to open the *Virtual Server Settings* dialogue box. (Figure 42)
- 2 Enter the last digit(s) of the IP address of the computer in the *Server IP Address* text box.
- 3 Select the Service from the pull-down list. (Figure 42)

**Figure 42** Virtual Servers Settings Screen



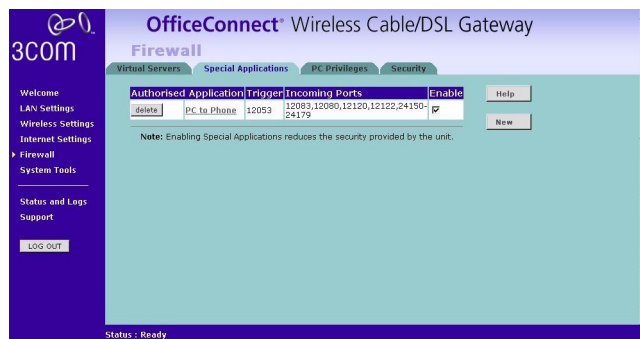
Or Select *Custom* to specify a suitable name for the service and then enter the port numbers required for that service. (Figure 43)

**Figure 43** Custom Setup Screen

- 4 Click *Add* button to save the settings.

The port numbers are specified using a comma-separated list, with hyphens to denote port number ranges. So for example, entering 2, 3, 5-7 would cause ports 2, 3, 5, 6, and 7 to be activated.

**Special Applications** **Figure 44** Special Applications Screen



Select *Special Applications* tab to display *Authorized Application* setup screen. (Figure 44)

Some software applications require special or multiple connections to the Internet and these would normally be blocked by the Firewall. For example Internet Telephony or Video conferences require multiple connections.

So that these special applications can work properly and are not blocked, the firewall needs to be told about them. In each instance there will be a trigger port and incoming port(s), where traffic on the trigger port tells the Firewall to open the incoming ports.



*Each defined Special Application only supports a single computer user, and up to 10 Special Applications can be defined. Any incoming ports opened by a Special Application trigger will be closed after five minutes of inactivity.*

To configure special applications:

- 1 Click on the *New* button.
- 2 Select the applications from the pull-down list. (Figure 45)