Fat Spaniel Technologies

cgConfig User Guide

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Contents

Preface

The cgConfig application allows you to manage the communication gateways running on a LAN,
from your laptop or PC. Using the cgConfig graphical user interface (GUI), you can view status and information relevant to the
gateways, run diagnostics, and set configuration parameters on individual gateway devices.

What's In This Manual?

This manual provides information to assist you in installing and using the cgConfig application, in the following topics:

- Chapter 1—**Installing cgConfig**—describes the installation package and provides information about installing the program on your PC.
- Chapter 2—**Navigating cgConfig**—shows the structure of the GUI and scope of commands you can use to manage the gateways.
- Chapter 3—**Using cgConfig**—provides procedures for practical cgConfig applications

This manual is intended for use by IT administrators and installers.

Need Help?

If you should encounter difficulties with the installation, contact Fat Spaniel Technical Support.

Phone: 1-800-824-9146

Web   Case: www.fatspaniel.com/support

1   Installing cgConfig

The cgConfig files are contained in a file named cgConfig_MSW-advanced.zip. The zip file contains the application and a dynamic link library (dll) file:

*   cgConfig-advanced.exe
*   libexpat-1.dll

1. Locate zip file named cgConfig_MSW-advanced.zip per advice provided by FST Technical Support.
2. Download and unzip the cgConfig files into a directory on the hard disk of your PC. Check to ensure that you retrieved both the .exe and the .dll files.
3. Make sure the PC running FST cgConfig is connected to the same LAN as the gateway you are planning to configure.
4. Set up a connection to the PC, using either of the following two methods:

    *   Connect the PC to the hub or switch that is connected to the gateway,
        or

    *   Connect the PC directly to the gateway by using a crossover cable between the Ethernet port LAN1 of the gateway and the Ethernet LAN1 port of the network access point.

5. If required, configure the network firewall to allow cgConfig to communicate over the LAN.

2   Navigating cgConfig

The cgConfig GUI initially contains no network information. All configuration screens and entry fields are desensitized prior to identifying the gateways to be used during a cgConfig session. When launched from the program executable, the GUI presents the cgConfig main menu, the device list panel, tabbed panels for device-specific configurations, and a Status window (Figure 1). Device information populates the GUI if you either run a scan from the welcome screen or open a saved cgConfig file.

Tab panels, for Device configuration operations

Main Menu

Device list panel
  Communication Gateways are listed here as a result of using Search for Gateways, or Adding Devices. Most cgConf operations require that you click/select a device before issuing a command.
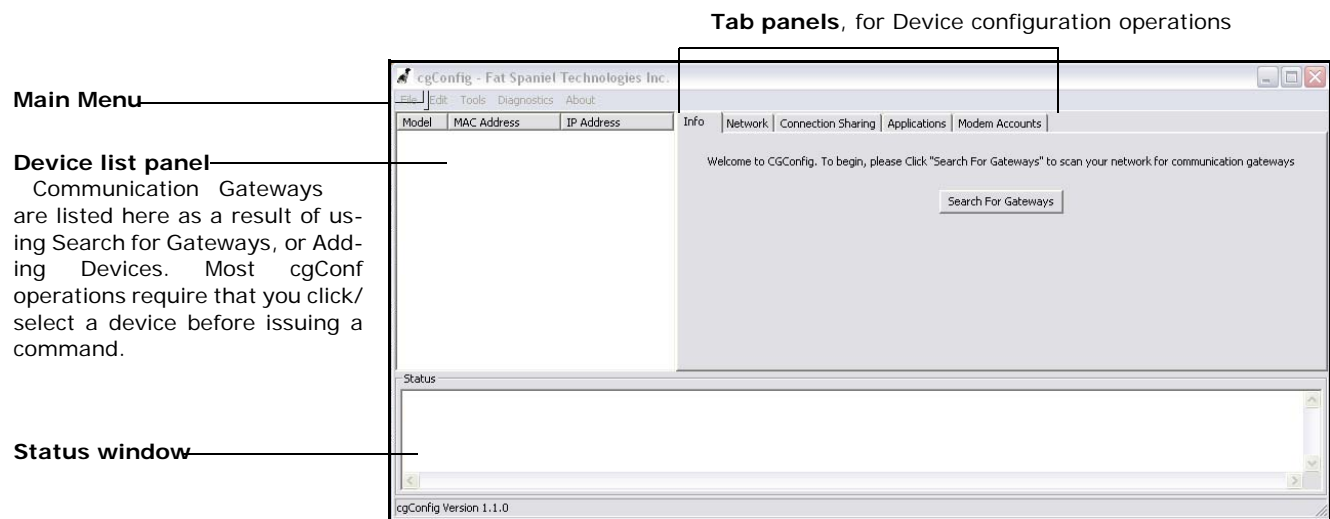
Status window

Figure 1. cgConfig Application Tools

Main Menu

The cgConfig main menu provides commands for accessing and saving configurations, controlling the devices to be presented in cgConfig, and running various tests. You can also access product version and usage information from the main menu.

cgConfig Command Menus				
File	**Edit**	**Tools**	**Diagnostics**	**About**
Open...	Add/Delete Device	Test Communication	Debug Messages	About
Save...		Test Communication	Network Details	Help
Save Current			System Details	
Exit			Reboot Gateway	

cgConfig Command Descriptions	
Command	**Description**
Open...	Open a specified .cgx file.
Save...	Save the current cgConfig file, in .cgx format, to a specified location on the PC.
Save Current	This option is not functional in the current version.
Exit	Close and dismiss the cgConfig application from view.
Add Device	Add a Communiction Gateway. This command presents the **Add a New Device** popup dialog box into which you can type the IPv4 address and MAC address of a Gateway. The MAC address must match that printed on the back panel of the associated gateway device.
Test Communication	Present the **Test Network Connectivity** dialog box, from which to run a PING session using a specified server or custom IP address, and view results of the connectivity tests as associated with port 4001 [TCP] and port 6051 [TCP]. Verification of communication with FST servers is useful when diagnosing firewall issues.
Test Network Info	Present the **Check Network Settings** dialog box, into which you specify an IPv4 address, subnet mask, and gateway address with which to verify network settings for the cmmunication gateway. This information is used only to verify formatting of network information. The gateway is not affected by this testing of network information.

cgConfig Command Descriptions (Continued)	
Command	**Description**
Debug Messages	Present the FST Listen window, which contains logged messages for the current cgConfig session. These messages contain logs associated with all active FST gateways on the network. You can save the messages—in .txt format—to a file that can be sent to FST Support and /or stored in your site records.
Network Details	Retrieve detailed network information from a selected communication gateway, and print the output into the **Status** panel.
System Details	Retrieve a detailed summary about operations from the active gateway.
Reboot Gateway	Force a reboot on a specified communication gateway.
About	View product version information.
Help	View the online help version of the cgConfig Guide.

Tab Panels

The tab panels allow you to set parameters for a selected gateway. The cgConfig tab panels and embedded commands are described in the following table.

Tab Panel Details	
Tab Label	**Purpose/Description**
Info...	cgConfig welcome screen that enables network scanning for available gateways. Any gateway presented as a result of the scan can be configured with the cgConfig application.
	To locate available gateways, click the **Search for Gateways** button, which presents the **Search** popup window in which to view the list as it populates while scanning the network.
	• To halt a search in progress, click **Cancel** at any time. • To close the **Search** window at the conclusion of the search session, click **Done**.
Network	cgConfig network configuration panel that provides fields for defining network parameters for LAN1 port of the c ommunication gateway ,as based on selecting either DHCP or Static IP. Enter addresses for a static IP—IP address, subnet mask, and gateway—in dotted decimal format.
	DHCP Use Domain Host Control Protocol. No other settings are required on this panel for DHCP.
	Static IP Choose this option to set a static IP address, subnet mask, and gateway ID.
	Apply Write your network settings to the selected Communication Gateway.
	Retrieve View the current settings for the selected Communication Gateway. Note that information presented from the Retrieve action overwrites your entries in the Network panel fields.
	Verify Check and confirm the configured network settings before applying them.
Connection Sharing	Use this function when you need to set up multiple gateways to share communication.
	Shared Connection
	Set shared connection as either **none**, **phone**, or **Lan0**: **none** = Do not share connection **phone** = Share a cell or POTS modem **Lan0** = Share a broadband connection
	Apply Write the currently listed configuration to the selected gateway.
	Retrieve Get the connection sharing configuration from the currently selected gateway.

Tab Panel Details (Continued)	
Tab Label	**Purpose/Description**
Applications	Update an application associated with a selected device.
	Current Application
	Pull-down menu from which to select an application to be applied to a selected communication gateway.
	Note: do not select an "Unused" application because these are reserved for use by FST Technical Support. Click the Update Firmware button after selecting an application.
	Current Version
	Firmware version currently running on the selected gateway.
	Start at Boot
	Elect to ignore (No) or use (Yes) the current version when the selected gateway next boots.
	NOTE ! For all production gateways, set Start at Boot as **Yes**.
	Check Current
	View the list of current applications associated with the selected device.
	Update Firmware
	Presents the **Select a File to Open** dialog box from which to select a firmware version for upload to a specified gateway. After selecting the file, wait for completion of the update before attempting other actions with cgConfig.
Modem Accounts	Set modem connectivity to use either GPRS or POTS.
	Current Account—Use the dropdown menu to select an account number for which to set a GPRS or POTs configuration.
	GPRS— Select this option to set modem account to use General Packet Radio Service
	• **APN—**Type the Access Point Node address.
	POTS
	• **Username**: Type your username, as configured on the modem for access.
	• **Password**: Type the password bound to the specified username.
	• **Phone Number**: Type the phone number of the modem.
	• **Show Advanced Options**
	• **Fail on**: choose event that will determine if the call is to be dropped due to failure. Failure types are No dialtone, busy tone, or no carrier available.
	• **Dial type**: Set dial type as either tone or pulse.
	• **Customer AT Command**: Type string to define the modem attention command

Status

Dynamic display of logged messages detected by cgConfig during the current cgConfig session. Each entry in the display contains the hour:minute:second, and description associated with an event.

3 Using cgConfig

To use cgConfig on the network, you must first load the information from the network into the interface, then use the tools from the main menu and the tab screens to view information about the FST monitoring devices and/or set network operation parameters.

Guidelines for using cgConfig are provided in the following topics of this section:

- **Running CGConfig on the LAN**
- **Setting a Direct Connect for CgConfig on Gateway LAN2**
- **Verifying Status of Outbound Ports on the Gateway**
- **Retrieving and Setting Network Addresses for a Gateway**
- **Configuring Shared Communication for Dual Gateways**
- **Enabling Vista Operating System Connectivity**

Running CGConfig on the LAN

Use the procedure in this section to scan the network for the list of communication gateway devices that can be configured.

Task	Description
1. Set up your laptop.	Plug your computer into the LAN in which the gateway is connected.
2. Run CG Config.	Double-click the cgConfig icon to launch the program.

3. Scan and load communication gateways into cgConfig.

   At the cgConfig **Info** tab, click **Search for Gateways**.
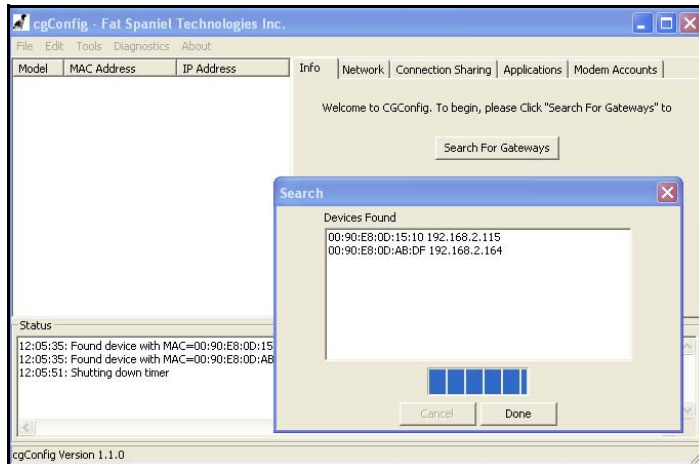
The **Search** window displays progress and results of the search for the duration of the scan.

- You can stop the scan at any time by clicking the **Cancel** button.
- When the progress bar reaches the end point, click the **Done** button to send the findings of the search to the cgConfig device list panel, and to dismiss the Search window.

The device list panel will now display all detected gateways. For each gateway you can see the associated model, MAC address, and IP address.
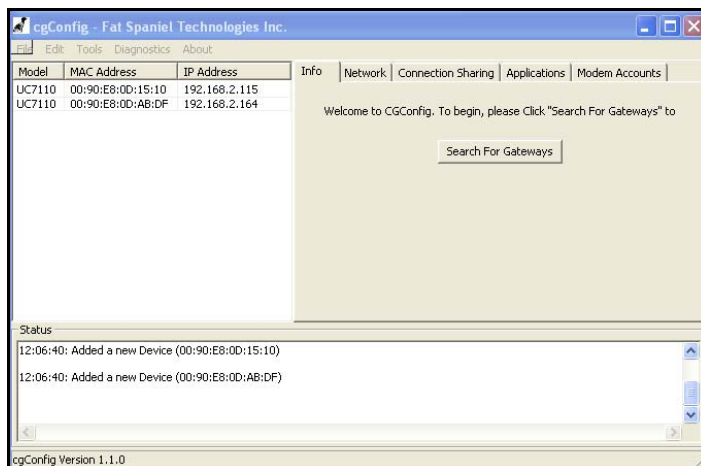
- To identify the gateway to be configured, click to highlight/choose one of the rows in the list.
- To use cgConfig commands on an gateway, make sure it is selected, then navigate to the cgConfig main menu or tabs to locate commands and parameter entry fields.

Setting a Direct Connect for CgConfig on Gateway LAN2

If the network access point is not available, or if you cannot find the gateways by searching for them over the LAN, use the procedure in this section to connect directly to the Gateway via LAN port 2.

Procedure: Setting Direct Connection to FST Gateway LAN2	
Task	**Description**
1. Plug your computer into LAN port 2 of the Gateway with a crossover CAT-5 cable.	To tell the difference between a crossover and a straight through CAT-5 cable please look at figure 1.

2. Using Windows desktop network configuration tools,set the IP address by which to communicate directly with the communication gateway.

   a. Navigate from the taskbar **Start** menu to **Settings-->Network Connections**, to present the Network Connections System Folder.

   c. In the **Network Connections** window double click the **Local Area Connection** icon.

   d. In the **Local Area Connection Properties** window, highlight the internet protocol (TCP/IP) option from the list, then click the **Properties** button.

   e. In the **Internet Protocol (TCP/IP) Properties** window, choose **Use the Following IP Address** and type the following network settings:

   • IP Address 192.168.4.22

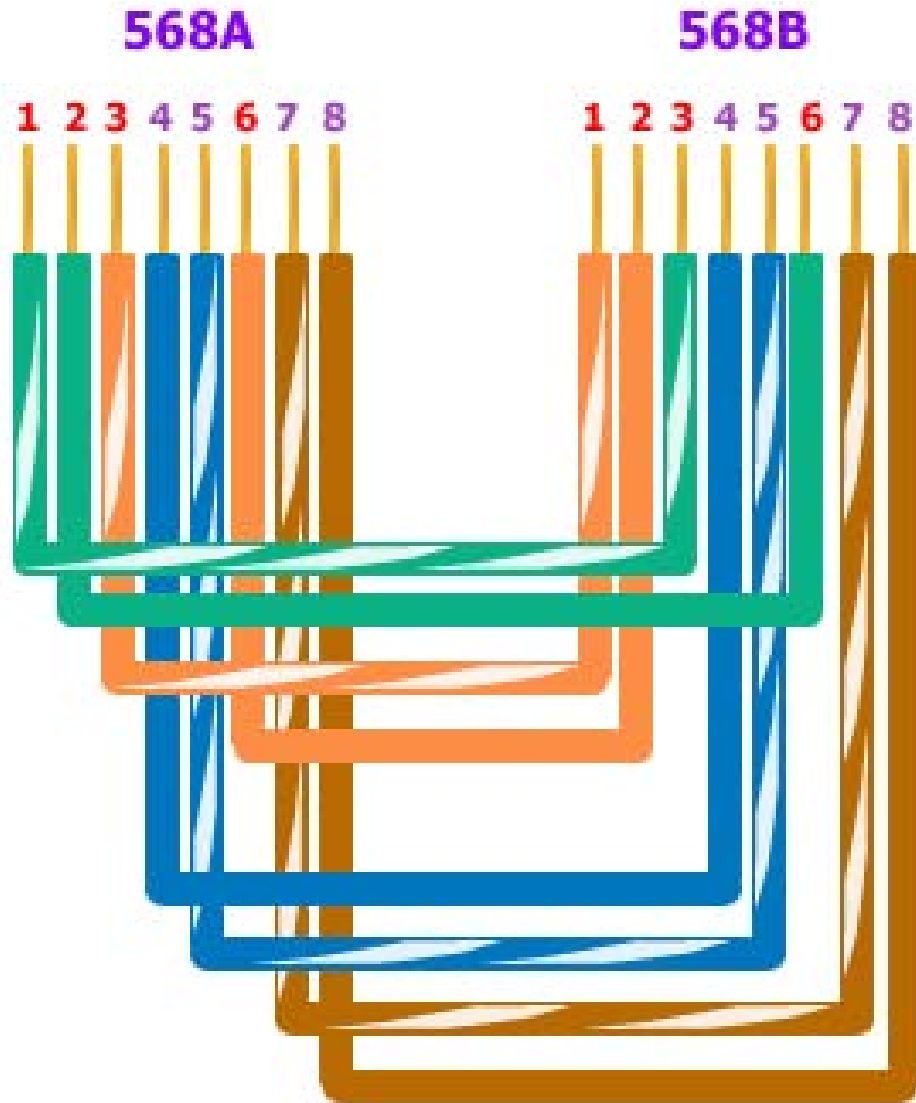   • Subnet Mask 255.255.255.0
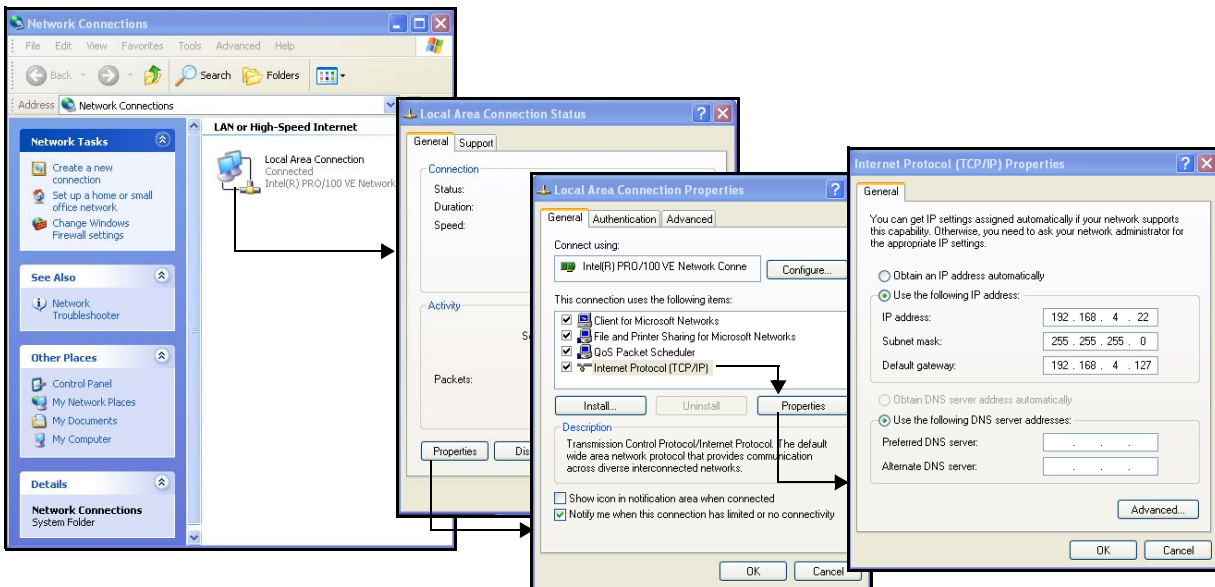
Figure 1

1   Installing cgConfig

The cgConfig files are contained in a file named cgConfig_MSW-advanced.zip. The zip file contains the application and a dynamic link library (dll) file:
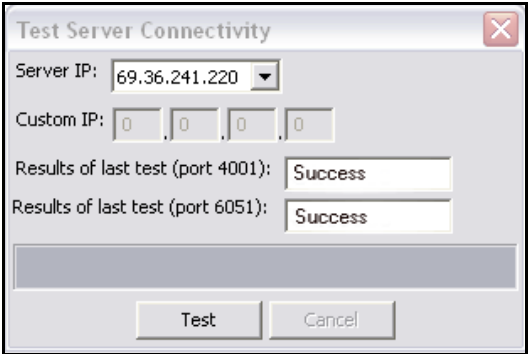
- cgConfig-advanced.exe
- libexpat-1.dll

1. Locate zip file named cgConfig_MSW-advanced.zip per advice provided by FST Technical Support.
2. Download and unzip the cgConfig files into a directory on the hard disk of your PC. Check to ensure that you retrieved both the .exe and the .dll files.
3. Make sure the PC running FST cgConfig is connected to the same LAN as the gateway you are planning to configure.
4. Set up a connection to the PC, using either of the following two methods:
    - Connect the PC to the hub or switch that is connected to the gateway
      or
    - Connect the PC directly to the gateway by using a crossover cable between the Ethernet port LAN1 of the gateway and the Ethernet LAN1 port of the network access point.
5. If required, configure the network firewall to allow cgConfig to communicate over the LAN.

Verifying Status of Outbound Ports on the Gateway

If outbound ports 4001 and 6051 are not opened in the site firewall, the gateways will not communicate. Use the procedure in this section to check status of these ports.

Procedure: Verify Status of Gateway Outbound Ports.	
Task	**Description**
1. Use the cgConfig main menu to access the testing commands.	Choose **Tools**-->**Test Communication** to present the **Test Server Connectivity** dialog box.
2. Run the test.	Retain the default server IP address already provided (69.36.241.220), and click the **Test** button to start the test.
3. Check output port status. Outbound ports are working properly if results report success at the 4001 and the 6051 ports. If either port "failed", this is a block to optimal communications between the gateway and FST servers. Work with the network administrator to open the ports, and retry.	

Retrieving and Setting Network Addresses for a Gateway

Retrieving IP addresses

 Communication gateways cannot communicate if they are not configured with the correct IP address for communication with the onsite router. Use the procedure in this section to check if the gateway is retrieving the correct IP address.

Procedure: Retrieve Network Addresses for Gateway	
Task	**Description**
1. Use the cgConfig application to access the network information retrieval command.	a. At the device list, click a device to highlight it. b. Select the **Network** tab and click the **Retrieve** button. cgConfig will now query for your OK to overwrite the current settings. c. At the dialog query, click **Yes**.

2. Check to determine if the gateway has retrieved a DHCP address or reverted to a default address. IP address display of 192.168.168.127 means that it has reverted to the default address.	• **If the network is set to respond to static IP addresses**, contact the network administrator to obtain valid network settings, and follow steps provided in "Modifying IP Addresses" on page 21 to configure IP information for the gateway.
	• **If the network provides IP addressing via DHCP only to known MAC addresses**, provide the network administrator with MAC address listed on the back panel of the gateway. Use the information displayed in the row labelled **LAN1 MAC address**.
	• T**he CAT5 cabling must be configured correctly to ensure communication between the gateway and the router. If this is** **not communicating then:**
	
	   • Rewire the CAT5 cable, or use a known working cable to connect the gateway to the network port.
	   • Reboot the gateway to allow it to request a DHCP address.
	   • Test IP settings.
	• **If the retrieved IP settings are other than the default**: the gateway has received a valid IP address and the IP setting are not a reason for communication failure.

Modifying IP Addresses

FST sets a static IP address for a gatewa in compliance with directives provided in the associated site survey. If network configurations change and you must modify the network information on an gateway, use the procedure in this section.

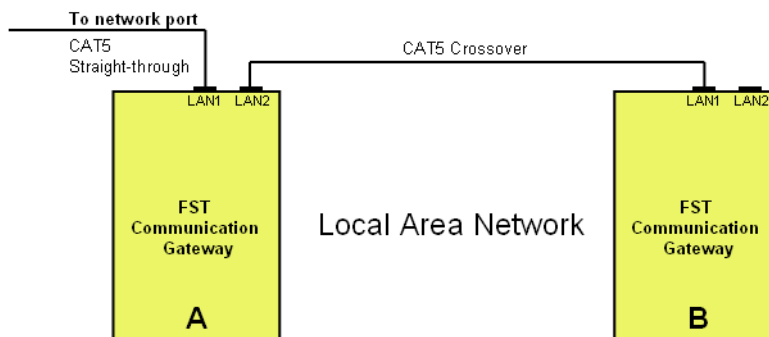| Procedure: Modify Network Addresses for Gateway	
Task	**Description**
1. Get the updated information.	Obtain correct IP address, subnet mask, and default gateway information from the network administrator
2. Identify the gateway for which the IP address is to be modified.	At the cgConfig device list panel, click to highlight the gateway, then choose the **Network** tab.
3. Update the network addresses.	a. At the **Network** tab, choose StaticIP, then type the address(es) as obtained from the network administrator, and click **Apply**. b. Wait for the appearance of the popup window that states **If you have entered network settings for this interface they will be overwritten. Continue?**, then click the **Yes** button. c. Wait for the appearance of the popup window that states **Network config updated. Please reboot the gateway for changes to take effect** , then click the **Yes** button.
4. Reboot the gateway.	Use either of the following two methods: • Physically power cycle the gateway by removing the green power plug located next to the LAN 1 port or • Navigate at cgConfig to **Diagnostics-->Reboot Gateway**.
5. Verify the update.	Use guidelines from "Retrieving and Setting Network Addresses for a Gateway" on page 20.

Configuring Shared Communication for Dual Gateways

Where two gateways must communicate through a cell modem, or where only one network access port is provided for dual gateways, the FST gateways must be configured to share communication.

The procedure for setting up this network is demonstrated in this section as a simplified topology in which the gateway that initiates the connection is named **A,** the gatewayrunning through Gateway **A** is named **B**.

Procedure: Setting Up Shared Connectivity for Dual Gateways

FST Gateway A Configuration	FST Gateway B Configuration
1. Connect your computer to the LAN2 port of gateway A. Use guidelines from *"Setting a Direct Connect for CgConfig on Gateway LAN2" on page 17*.	1. Connect your computer to the LAN2 port of gateway B. Use guidelines from *"Setting a Direct Connect for CgConfig on Gateway LAN2" on page 17* .
2. At cgConfig, click the **Connection Sharing** tab.	2. At cgConfig, click the **network** tab and select **StaticIP.**
3. Choose **LAN1** from the dropdown menu of the **Shared Connection** field, and click **Apply.**	3. Set the following network addresses. • IP 192.168.4.100 • Subnet Mask 255.255.255.0 • Default Gateway 192.168.4.127.

4. Wait for the appearance of the pop-up window that states **Firewall config updated. Please reboot the gateway for changes to take effec**t, then click **OK**.

5. Reboot gateway, using either of the following two methods:

- Physically power cycle the gateway by removing the green power plug located next to the LAN 1 port
  or

- Navigate in cgConfig to **Diagnostics-->Reboot Gateway.**

Enabling Vista Operating System Connectivity

Use the procedure in this section to enable use of the Vista Operating System with cgConfig. This configuration sets the static IP address by which the computer can connect with the gateway via direct crossover.

Network Configuration Requirement for cgConfig-to-Vista Operating System	
Task	**Description**
1. Access Windows network connectivity tools.	a From the Windows Task Bar navigate from **Start** and select **Control Panel**.
	b Set the Control Panel to Category View.
	c Click **Network and Internet Connections** to present the Task and Control Panel selection window.
	d From the Control Panel icons, select **Network Connections** to present the currently configured network connection for your computer. Make sure that the status of the Local Area Connection you intend to use is listed as *Connected*.

2. Set TCP/IP parameters for the Local Area Connection	a Right-click the **Local Area Connection** icon and select **Properties** from the popup menu, to present the **Local Area Connection Properties** window. Use the **General** tab to apply the following TCP/IP and DNS settings:
	
	• Click to select **Internet Protocol (TCP/IP)**.
	
	• Click the **Properties** button to present the **Internet Protocol (TCP/IP) Preperties** window:
	
	  • Click to select **Use the following IP address**, then type the IPv4 address, Subnet Mask, and the default gateway address that was provided to you.
	
	  • Click to select **Use the following DNS server addresses**, then type the primary and secondary DNS server addresses.
	b Click the **OK** button to conclude this procedure.