

Configuring the EN-4000's Serial Ports

A module containing two serial ports is installed in an expansion port on the front of the EN-4000. This document discusses configuration of the EN-4000's serial ports.

Also see [Configuring Chassis Ports in the EN-4000](#).

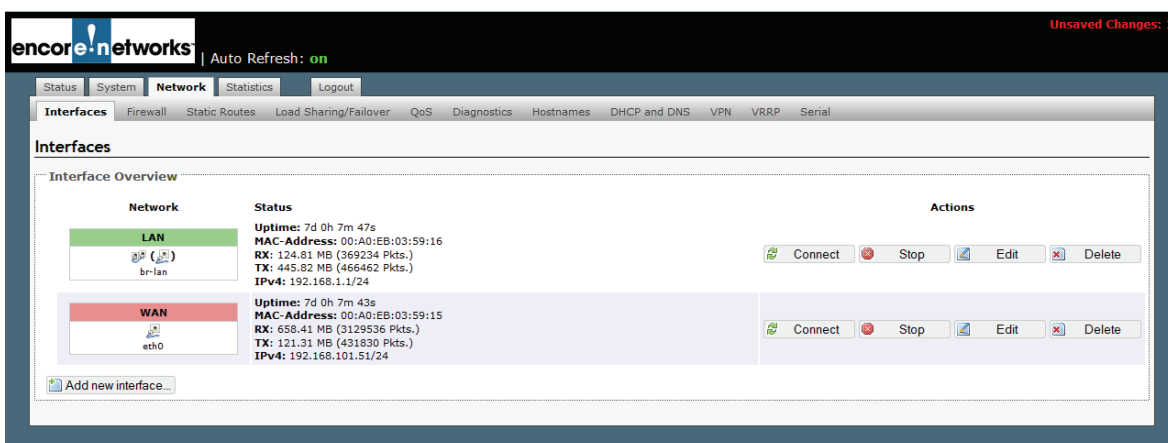
7.1 Connecting to the EN-4000

Connect a management terminal to the EN-4000, and log into the management system. (For details, see [Using the EN-4000's Management System](#), in the document [Configuring General Settings for the EN-4000](#).)

7.2 Configuring a Serial Port

- 1 On the EN-4000 Management System, select the **Network** tab.
 - ❖ The Network Interfaces Screen is displayed ([Figure 7-1](#)).

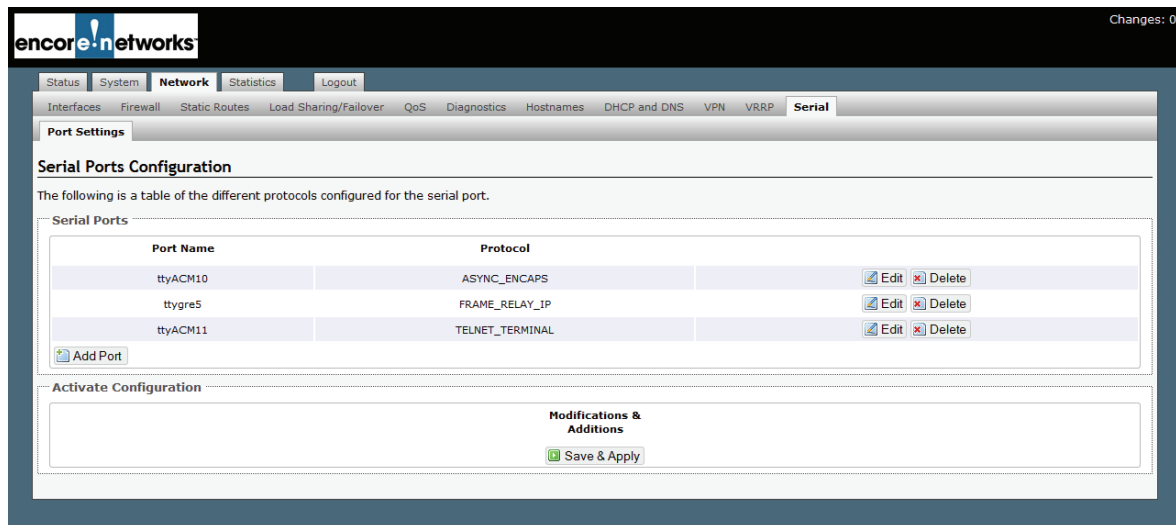
Figure 7-1. Network Interfaces Screen



- 2 Then select the **Serial** tab.

- ❖ The Serial Port Configuration Screen is displayed ([Figure 7-2](#)).

Figure 7-2. Serial Port Configuration Screen



The default configuration for the dual serial-port module includes the following. (Port names—for example, ttyACM10—may differ in your set-up.)

- **ttyACM10:** The Asynchronous Encapsulation protocol is the default configuration for one of the physical serial ports. This protocol sends and receives Async Encaps transmissions to and from a remote device.
- **ttyGRE5:** This virtual port uses general route encapsulation (GRE) to send and receive Frame Relay transmissions. (GRE uses the Internet Protocol, IP.)
- **ttyACM11:** The Telnet Terminal protocol is the default configuration on one of the physical serial ports.

The port configurations named ttyACM10 and ttyACM11 refer to discrete serial ports; each serves only one physical port. The port configuration named ttyGRE5 is a virtual port and can serve both physical serial ports. Additional virtual ports can be configured.

- 3 If you wish to customize a port configuration, select that row's **Edit** button. For example, select the edit button in the row for **ttyACM10**.
 - ❖ The Serial Port Configuration Detail Screen is displayed ([Figure 7-3](#)).

Figure 7-3. Serial Port Configuration Detail

The screenshot displays the 'Serial Port - ttyACM10' configuration page in the Encore Networks web interface. The page title is 'Serial Port - ttyACM10' and the subtitle is 'Configure the Serial Port Parameters'. The configuration form contains the following fields:

Port Name	ttyACM10
Protocol	Async Encaps
Asynchronous Speed	9600
Flow Control	HARDWARE
GPT Name	dlci16
GPT Type	FRAME-RELAY PVC
GPT Port	/dev/ttygre5
DLCI Number	16
Priority	MEDIUM

At the bottom of the form, there are buttons for 'Back to Overview', 'Reset', 'Save', and 'Save & Apply'. The top navigation bar includes 'Status', 'System', 'Network', 'Statistics', and 'Logout'. The 'Network' tab is active, and the 'Serial' sub-tab is selected.

- 4 On the Serial Port Configuration Detail Screen, configure the following near the top of the screen:
 - **Port Name:** At the direction of your network administrator, you may rename the port to something more meaningful in your network.
 - **Protocol:** You may change the protocol that the port uses. The choices are:
 - ◆ **Telnet Terminal**
 - ◆ **Frame Relay (Synchronous Mode)**
 - ◆ **Frame Relay (IP)**
 - ◆ **Asynchronous Encapsulation**
 - ❖ The protocol selection determines the fields that appear on the rest of the screen.
- 5 See one of the following, as appropriate:
 - [Step 6: Serial Port Configuration for Telnet Terminal](#)
 - [Step 7: Serial Port Configuration for Frame Relay \(Synchronous Mode\)](#)
 - [Step 8: Serial Port Configuration for Frame Relay over IP](#)
 - [Step 9: Serial Port Configuration for Asynchronous Encapsulation](#)

6 Serial Port Configuration for Telnet Terminal

Figure 7-4. Serial Port Configuration Detail for Telnet Terminal

The screenshot displays the 'Serial Port - ttyACM11' configuration page in the Encore Networks web interface. The page title is 'Serial Port - ttyACM11' and the subtitle is 'Config the Serial Port Parameters'. The form contains the following fields:

Port Name	ttyACM11
Protocol	Telnet Terminal
Asynchronous Speed	9600
IfType	RS232
Remote Address	192.168.1.3
Remote Port	261
Local Address	192.168.1.1
Local Port	258
Data Bits	8
Parity	NONE
Stop Bits	1
Flow Control	OFF
Connection Type	DTR Dial
Answer Mode	OFF
Data Mode	Normal
GPT Port	/dev/ttygre5

At the bottom of the form, there are four buttons: 'Back to Overview', 'Reset', 'Save', and 'Save & Apply'. The 'Changes: 0' indicator is visible in the top right corner of the interface.

a On the Serial Port Configuration Detail for Telnet Terminal Screen (Figure 7-4), you may see the following fields:

- **Asynchronous Speed:** Select a speed for the transmission.
- **IfType:** The interface type can be RS232 or RS485.
- **Remote Address:** IP address for remote device
- **Remote Port:** Port number for remote device
- **Local Address:** IP address for EN-4000
- **Local Port:** Port number for EN-4000
- **Data Bits:** 8, 7, or 6. Confer with your network administrator to match the data bits to the application.
- **Parity:** None, Even, or Odd
- **Stop Bits:** 1 or 2
- **Flow Control:** Off or On
- **Connection Type:** Manual or DTR Dial
- **Answer Mode:**
 - Off (Does not answer calls, but will initiate calls.)
 - On (Answers and initiates calls.)
 - Only (Answers but does not initiate calls.)

- **Data Mode:** Binary or Normal
- **GPT (Global Path) Port:** Select a global path port for the virtual protocol to use, or select **custom** to type a new global path name.

b Go to [step 10](#).

7 Serial Port Configuration for Frame Relay (Synchronous Mode)

Figure 7-5. Serial Port Configuration Detail for Frame Relay (Synchronous Mode)

The screenshot displays the 'Serial Port - ttygre5' configuration page. The 'Port Settings' section is active, showing the following configuration details:

Field	Value
Port Name	tyGRE5
Protocol	Frame Relay (Synchronous Mode)
Management Protocol	ANSI ANNE X D User
Synchronous Speeds	64000
Trace Level	LOW
Value N1	3
Value N2	4
Value N3	3
Value T1	10
Value T2	15
GPT Port	/dev/ttygre5

At the bottom of the configuration area, there are buttons for 'Back to Overview', 'Reset', 'Save', and 'Save & Apply'.

a On the Serial Port Configuration Detail for Frame Relay (Synchronous Mode) Screen ([Figure 7-5](#)), you may see the following fields:

- **Management Protocol:** Consult with your network administrator to select one of several available protocols.
- **Synchronous Speed:** Select a speed for the transmission.
- **Trace Level:** Low, Medium, High, Critical
- **Value N1:** For Frame Relay, polling, and so forth.
- **Value N2:** For Frame Relay, polling, and so forth.
- **Value N3:** For Frame Relay, polling, and so forth.
- **Value T1:** For Frame Relay, polling, and so forth.
- **Value T2:** For Frame Relay, polling, and so forth.
- **GPT (Global Path) Port:** Select a global path port for the virtual protocol to use, or select **custom** to type a new global path name.

b Go to [step 10](#).

8 Serial Port Configuration for Frame Relay over IP

Figure 7-6. Serial Port Configuration Detail for Frame Relay (IP Mode)

The screenshot displays the 'Serial Port - ttygre5' configuration page. The form fields are as follows:

Field	Value
Port Name	tyGRE5
Protocol	Frame Relay (IP Mode)
Management Protocol	ANSI ANNEX D User
Trace Level	LOW
Local Address	192.168.1.1
Remote Address	192.168.1.3
Value N1	3
Value N2	4
Value N3	5
Value T1	10
Value T2	15
GPT Port	/dev/ttygre5

a On the Serial Port Configuration Detail for Frame Relay (IP Mode) Screen (Figure 7-6), you may see the following fields:

- **Management Protocol:** Consult with your network administrator to select one of several available protocols.
- **Trace Level:** Low, Medium, High, Critical
- **Local Address:** The EN-4000's IP address.
- **Remote Address:** The remote device's IP address
- **Value N1:** For Frame Relay, polling, and so forth.
- **Value N2:** For Frame Relay, polling, and so forth.
- **Value N3:** For Frame Relay, polling, and so forth.
- **Value T1:** For Frame Relay, polling, and so forth.
- **Value T2:** For Frame Relay, polling, and so forth.
- **GPT (Global Path) Port:** Select a global path port for the virtual protocol to use, or select **custom** to type a new global path name.

b Go to [step 10](#).

9 Serial Port Configuration for Asynchronous Encapsulation

Figure 7-7. Serial Port Configuration Detail for Asynchronous Encapsulation

The screenshot shows the 'Serial Port - ttyACM10' configuration page. The form fields and their values are as follows:

Field	Value
Port Name	ttyACM10
Protocol	Async Encaps
Asynchronous Speed	9600
Flow Control	HARDWARE
GPT Name	dlci16
GPT Type	FRAME-RELAY PVC
GPT Port	/dev/ttygre5
DLCI Number	16
Priority	MEDIUM

a On the Serial Port Configuration Detail for Asynchronous Encapsulation Screen (Figure 7-7), you may see the following fields:

- **Asynchronous Speed:** Select a speed for the transmission.
- **Flow Control:** Hardware, Off, On, or Tx (Transmit) Only
- **GPT (Global Path) Name:** Select a global path for the virtual protocol to use.
- **GPT Type:** Select a global path type (Frame Relay, Telnet, and so forth) for the virtual protocol to use.
- **GPT Port:** Select a global path port for the virtual protocol to use, or select **custom** to type a new global path name.
- **DLCI Number:** Get the DLCI number from your network administrator.
- **Priority:** Immediate, High, Medium, or Low

b Go to [step 10](#).

10 When you have finished configuring the serial port protocol, do one of the following:

a Select the **Save & Apply** button (in the lower right corner of the screen).

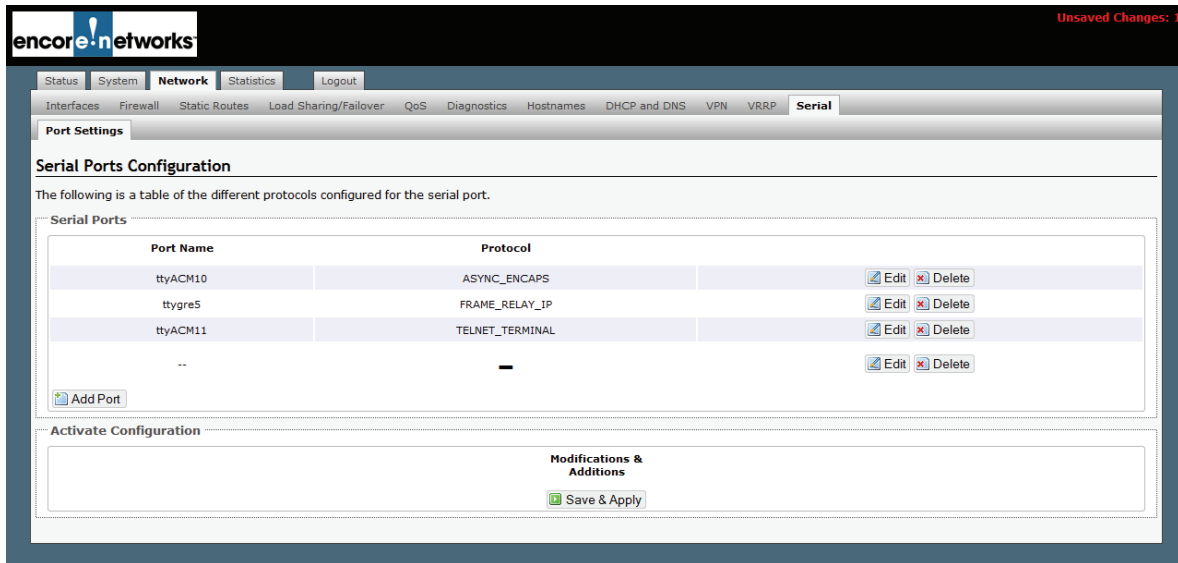
- ❖ The changes are saved, and the Serial Port Configuration Screen is redisplayed. The new display includes your changes.

b Select the **Back to Overview** button (in the lower left of the screen).

- ❖ The changes are discarded, and the Serial Port Configuration Screen is redisplayed.

- 11 If you wish to reconfigure another protocol on the Serial Port Configuration Screen, select that protocol's row, and repeat [step 3](#) through [step 10](#).
- 12 If you wish to add another protocol for the serial ports, do the following:
 - a Select the **Add Port** button (at the lower left of the list of Port Names).
 - ❖ The Serial Port Configuration Screen with a Row for a New Protocol ([Figure 7-8](#)) is displayed. The protocol does not yet have a name.

Figure 7-8. Serial Port Configuration Screen with a Row for a New Protocol



- b In the new row, select the **Edit** button.
 - ❖ The Serial Port Configuration Detail Screen for a New Protocol ([Figure 7-9](#)) is displayed. The protocol does not yet have a name.

Figure 7-9. Serial Port Configuration Detail Screen for a New Protocol

The screenshot displays the 'Serial Port - (Unnamed port)' configuration screen in the Encore Networks web interface. The interface includes a navigation menu at the top with options like Status, System, Network, and Statistics. The main configuration area is titled 'Serial Port - (Unnamed port)' and contains a form with the following fields:

Field	Value
Port Name	[Dropdown]
Protocol	Telnet Terminal Serial Port's Protocol
Asynchronous Speed	115200
Baud Rate	RS232
Remote Address	192.168.1.2
Remote Port	257
Local Address	0.0.0.0
Local Port	258
Data Bits	8
Parity	NONE
Stop Bits	1
Flow Control	OFF
Connection Type	DTR Dial
Answer Mode	OFF
Data Mode	Normal
GPT Port	/dev/ttygre5

At the bottom of the screen, there are buttons for 'Back to Overview', 'Reset', 'Save', and 'Save & Apply'. The 'Save & Apply' button is highlighted in green, indicating it is the active action.

- c In the **Port Name** field, select a name from the pulldown list, or select **custom** and type a new name.
- d In the **Protocol** field, select the protocol that the virtual protocol will support.
 - ❖ The remaining fields on the screen change to support the selected protocol. Return to [step 5](#).

