

# 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](#).

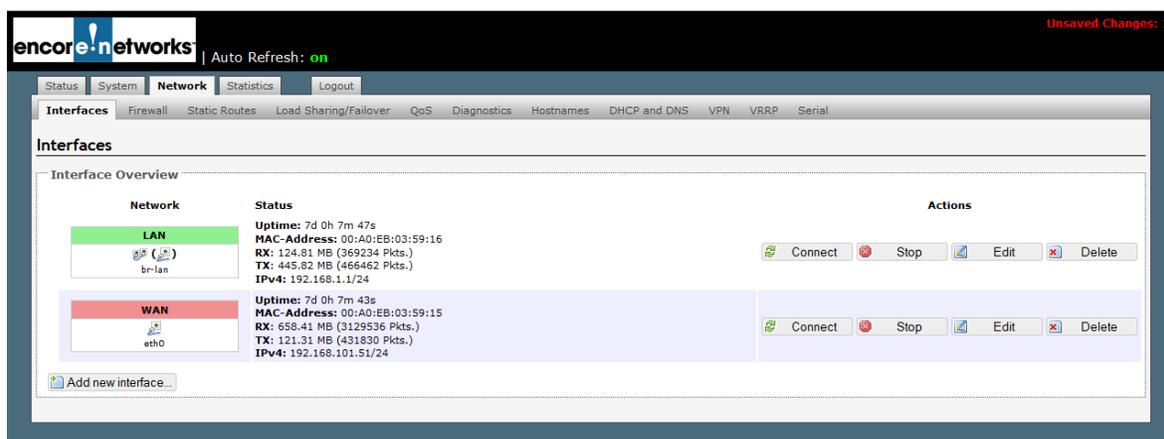
## 7.1 Connecting to the EN-4000

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](#)).

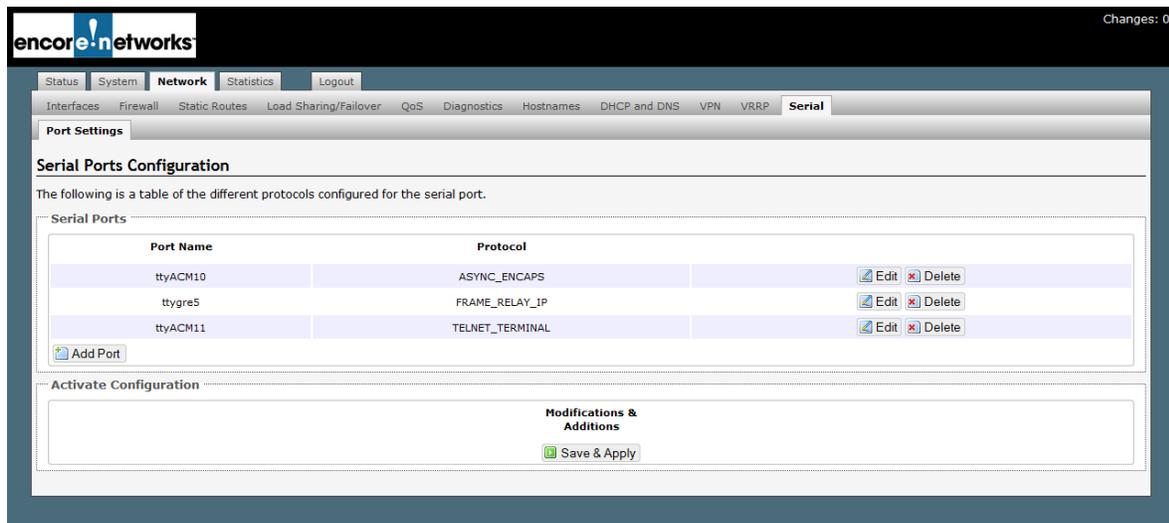
Figure 7-1. Network Interfaces Screen



- 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

encore networks Changes: 0

Status System **Network** Statistics Logout

Interfaces Firewall Static Routes Load Sharing/Failover QoS Diagnostics Hostnames DHCP and DNS VPN VRRP **Serial**

Port Settings

Serial Port - ttyACM10

Configure the Serial Port Parameters

Port Name	ttyACM10
Protocol	Async Encaps Serial Port's Protocol
Asynchronous Speed	9600
Flow Control	HARDWARE
GPT Name	dlci16
GPT Type	FRAME-RELAY PVC
GPT Port	/dev/ttygre5
DLCI Number	16 Range 16-1007
Priority	MEDIUM

[Back to Overview](#) Reset Save Save & Apply

- 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 shows the 'Serial Port - ttyACM11' configuration page. The form contains the following fields:

Field	Value
Port Name	ttyACM11
Protocol	Telnet Terminal Serial Port's Protocol
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 buttons for 'Back to Overview', 'Reset', 'Save', and 'Save & Apply'.

**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 in the Encore Networks management interface. The page title is 'Serial Port - ttygre5' and the subtitle is 'Config the Serial Port Parameters'. The configuration fields are as follows:

Field	Value
Port Name	ttyGRE5
Protocol	Frame Relay (Synchronous Mode)
Management Protocol	ANSI ANNEXT 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 form, there are buttons for 'Back to Overview', 'Reset', 'Save', and 'Save & Apply'. The top right corner of the interface shows 'Changes: 0'.

**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 shows the 'Serial Port - ttygre5' configuration page. The configuration table is as follows:

Field	Value
Port Name	ttyGRE5
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	3
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 fields are as follows:

Field	Value
Port Name	ttyACM10
Protocol	Async Encaps Serial Port's Protocol
Asynchronous Speed	9600
Flow Control	HARDWARE
GPT Name	dlci16
GPT Type	FRAME-RELAY PVC
GPT Port	/dev/ttygre5
DLCI Number	16 Range 16-1007
Priority	MEDIUM

Buttons at the bottom: Back to Overview, Reset, Save, Save & Apply.

**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).

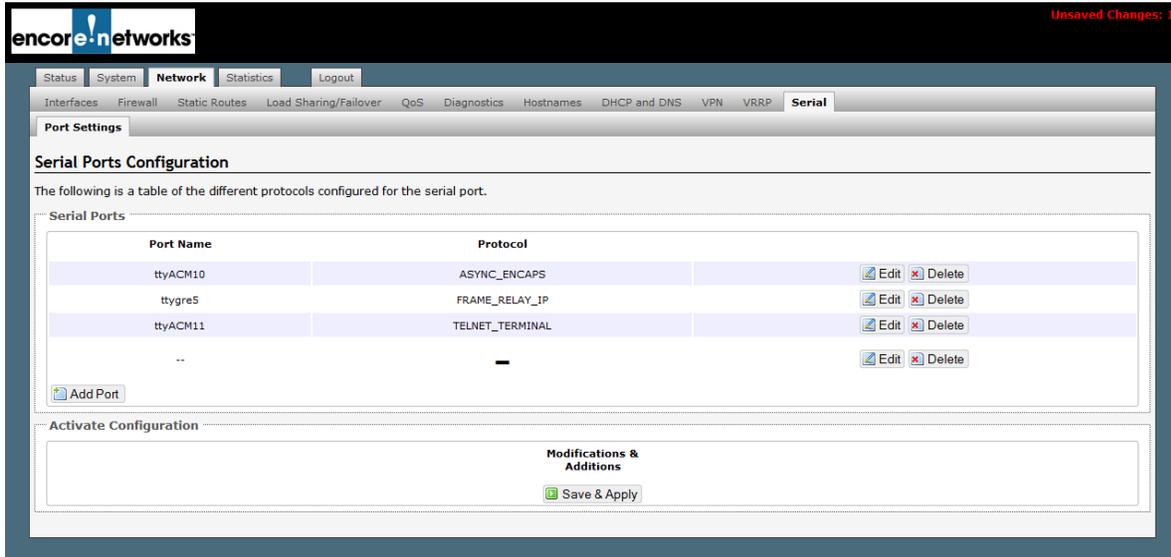
- ❖ The changes are saved, and the Serial Port Configuration Screen is redisplayed. The new display includes your changes.

**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.

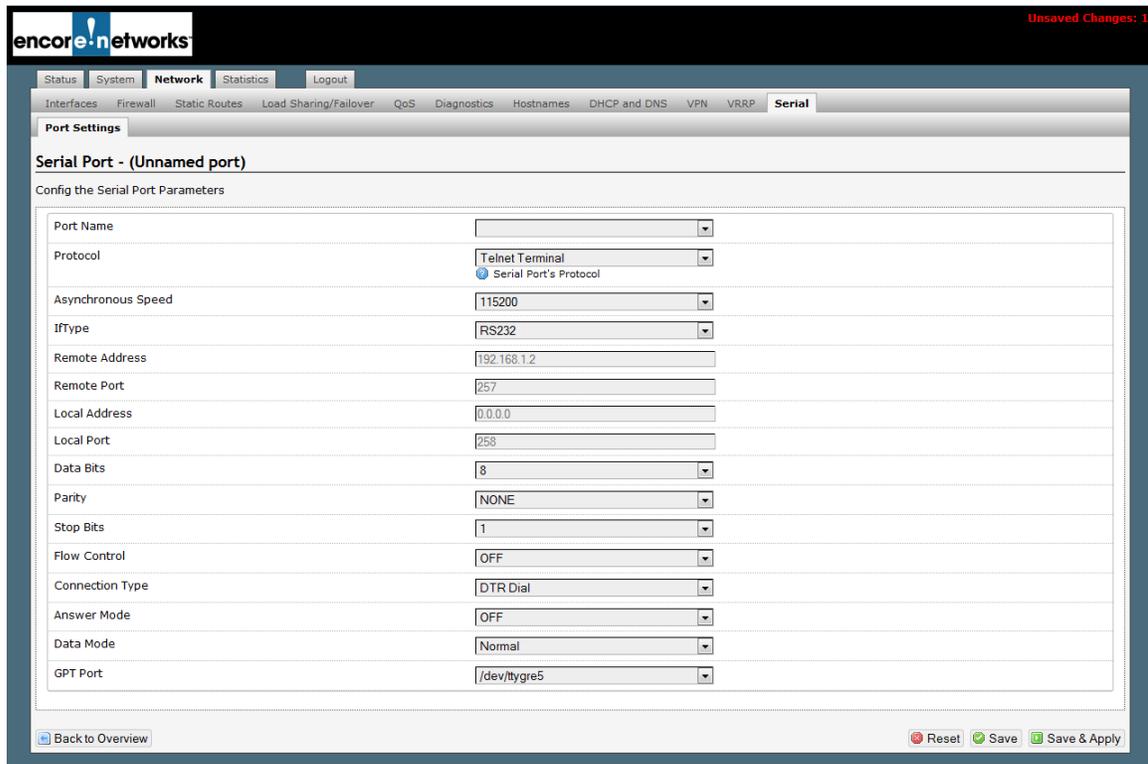
- 11 If you wish to reconfigure another protocol on the Serial Port Configuration Screen, select that protocol's row, and repeat [step 3](#) through [step 10](#).
- 12 If you wish to add another protocol for the serial ports, do the following:
  - a Select the **Add Port** button (at the lower left of 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 management interface. The interface includes a navigation bar with tabs for Status, System, Network, Statistics, and Logout. Below the navigation bar, there are tabs for various network services: Interfaces, Firewall, Static Routes, Load Sharing/Failover, QoS, Diagnostics, Hostnames, DHCP and DNS, VPN, VRRP, and Serial. The 'Serial' tab is active, showing the 'Port Settings' section. The configuration fields are as follows:

Field	Value
Port Name	[Dropdown]
Protocol	Telnet Terminal Serial Port's Protocol
Asynchronous Speed	115200
IfType	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 three buttons: 'Back to Overview', 'Reset', 'Save', and 'Save & Apply'. The 'Save & Apply' button is highlighted in green. In the top right corner, there is a red notification: 'Unsaved Changes: 1'.

- 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](#).

