

# VSR-30™ Installation Guide

for ELIOS™ Software Version 0500

This guide presents procedures for a standard installation of the VSR-30™.

**Note:** The screens shown in this document are examples; the choices shown on your VSR-30's menus depend on the features in the chassis and on the software version installed in the device. (For figures, tables, and configurations not addressed in this *Quick Installation Guide*, see the *VPN and Legacy-to-IP Products Customization and Maintenance Guide* or the *VPN and Legacy-to-IP Products Hardware Reference Guide*.)

**Gather all required information.** Before you start these procedures, make sure you have all the information required to set up the VSR-30 for use in your network—for example, the device's IP address, the device's VPN configuration, and other network and routing functions that the device will perform. Use the site planning worksheets in the *VPN and Legacy-to-IP Products Customization and Maintenance Guide* as checklists for this information.

If you have questions or concerns after you have followed these procedures, contact Encore Networks, Inc., at [support@encorenetworks.com](mailto:support@encorenetworks.com), 703-318-4350 (voice), or 703-318-4371 (fax).

## A Setting Up the Hardware

- 1 Unpack the chassis and components from the shipping box. Make sure you have all the parts: the chassis ([Figure 1](#)), an autosensing external power supply, an RJ-45 Supervisory cable, an adapter for the Supervisory cable (described in the [Note](#) in [Step 7](#)), a paper copy of this *Quick Installation Guide*, a CD containing customer documentation for the VPN and Legacy-to-IP products, and any additional accessories that you ordered.

**Note:** Shipments within North America include a power cable. For shipments outside North America, contact your distributor for a cable that meets local requirements to connect the BANDIT's power supply to a power outlet.

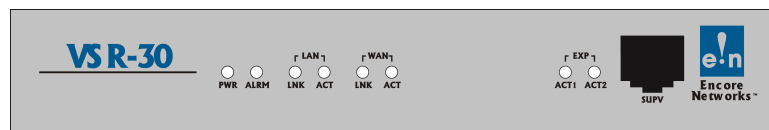


Figure 1. VSR-30 Chassis, Front

- 2 Place the VSR-30 chassis on a tabletop or shelf.
- 3 Connect an earth ground wire to the chassis, as follows: Attach a (minimum) 12 AWG wire to the earth ground screw to the right of the safety ground symbol, on the extreme right rear of the chassis ([Figure 2](#)). Use a ring terminal, such as an AMP (part number 36160), for this connection.

**Warning:** An earth ground must connect to the chassis so that the device remains grounded even when it is not receiving power.



Figure 2. VSR-30 Chassis, Rear

- 4 Connect the VSR-30's ports to their network devices.
- 5 Connect the chassis to the external power supply.
- 6 Then connect the external power supply to an outlet supplying 100–240 VAC at 47–63 Hz.
- 7 Use the Supervisory cable and adapter to connect the device's Supervisory port to your PC's COM port.

**Note:** An eight-pin modular (RJ-45) to DB-9 adapter is the standard adapter to connect the Supervisory cable to a PC. This adapter is shipped with the unit. The following alternate adapters are also available. (Contact Encore Networks, Inc., if you need either of these adapters.)

- An RJ-45 to DB-25 adapter for connection to most asynchronous terminals
- An RJ-45 to DB-25 modem adapter to connect a modem for out-of-band management or remote configuration

## B Logging In

- 1 On the PC, open a terminal emulation session, such as HyperTerminal. Use the settings in [Table 1](#) to establish communication between the terminal console and the VSR-30.

Table 1. Supervisory Port Communication Settings

Parameter	Value
Bits per second	9600
Data bits	8
Parity	None
Stop bit	1
Flow control	Hardware

- 2 On the terminal console, press **Enter** to autoconnect to the attached device.
  - ❖ After successful log-in, the Main Menu appears.

## C Using the Main Menu

The Main Menu is displayed when you log onto the VSR-30. From the Main Menu, you can configure and operate the VSR-30.

```
Main Menu
-----
1) QuickStart Config Builder

2) Typical Configurations
3) Advanced Configurations
4) Tools

V) View Current Unit Status
L) Load Factory Defaults
P) Load Plug and Play Defaults
W) Write Configuration
R) Reset Unit
X) eXit Session
S) Statistics
Y) sYstem Administration

Enter Choice :
```

**Note:** Whenever you wish to return to a higher level in the VSR-30 menus, press **Escape**.

- ! **Caution:** The Supervisory connection to the device will time out after 5 minutes of console inactivity. If you have changed the device's configuration and wish to use the new configuration, save (write) the configuration before you leave the console. (See [Section E, Saving \(Writing\) the Device's Configuration](#).)

**1** On the Main Menu, do one of the following:

**a** For a basic configuration of the VSR-30 for your network, select **QuickStart Config Builders**.

❖ The Startup Config Options menu is displayed. You can enter basic information on this menu; the VSR-30 will use this information to build a standard configuration. Go to [Section D.1, Startup Configuration](#).

```
Startup Config Options
-----
1) SATELLITE

Enter Choice :
```

**b** To configure specific features, select **Advanced Configurations**.

❖ The Advanced Configurations menu is displayed. You configure most parameters of the VSR-30 from this menu. Go to [Section D, Configuring the Software](#).

```

Advanced Configurations
-----
1) Physical Configurations
2) Data Configurations
3) Local Address
4) Routing
5) Global Paths

Enter Choice :
```

## D Configuring the Software

For a standard, basic configuration of the VSR-30 for your network, see [Section D.1, Startup Configuration](#). For configuration of specific features, see the following sections.

- [Section D.2, Device Addresses](#)
- [Section D.3, Ports](#)
- [Section D.4, Virtual Private Network Connections](#)
- [Section D.5, IP Configuration](#)
- [Section D.6, Simple Network Management Protocol](#)

### D.1 Startup Configuration

The menu provides several templates for configurations that your network may use. You can select a template (also known as a startup scenario), change the scenario's IP addresses and related information to reflect the values in your network, and load the scenario into the VSR-30.

**Note:** If you want the device to keep the configured scenario, be sure to write the configuration and reset the device.

To configure a basic setup for this device in your network, do the following:

- 1** On the Main Menu, select **QuickStart Config Builders**.
- 2** On the Startup Config Options menu, select the **Satellite** set of configuration templates.
  - ❖ The menu for Startup Configuration Scenarios appears.

```

VSR-30
Startup Configuration Scenarios
-----
1) Ethernet WAN SLE Gateway(Initiator)
2) Ethernet WAN SLE Gateway(Initiator) With Dial Backup
3) Ethernet WAN SLE Gateway(Terminator)
4) Ethernet WAN SLE Gateway(Terminator) With Dial Backup

Enter Choice :
```

**3** Select one of the listed set-ups.

- ❖ The menu for the selected set-up (scenario) is displayed. (The menu shown is for an **Ethernet WAN SLE Gateway, Initiator**.)

```

VSR-30
Startup Configuration Parameters
-----
1) System Name      :
2) LAN Interface IP : 0.0.0.0      /0.0.0.0      No DHCP
Server
3) LAN Private NAT IP : 0.0.0.0      /0.0.0.0      masq:0.0.0.0
4) WAN Interface IP : Dynamic
5) Primary DNS Server : 0.0.0.0
6) VPN Gateway      :
7) VPN User ID      :
8) VPN Pre-Shared Key :
9) Application Clients IP : 0.0.0.0

L) Load Above Config
V) reView/Modify Loaded Config
R) Reset (Write and Reset)
Z) Clear All Fields

Enter Choice :

```

**Note:** At this point, all IP addresses, etc., have null values. Before you can load the configuration into the VSR-30, you must enter values that reflect your network's settings.

**4** For each item (parameter) in the menu, do the following:

- a** Select the item (for example, **LAN Interface IP**).

```
Enter IP Address :
```

- b** Type a value for the item, and press **Enter**.

- c** If the item requests additional information, enter that information.

- ❖ When the item has been configured, the scenario's menu is displayed again.

**5** After you have performed [Step 4](#) for each item (parameter) in the menu, do one of the following:

- a** Select **Load Above Config**.

- ❖ The following prompt asks for confirmation. Go to [Step 6](#).

```
Caution: Existing configurations will be over written
Do you want to Continue?(Y/N)[N]:
```

- b** Select **Reset (Load, Write and Reset)**.

- ❖ The following prompt asks for confirmation. Go to [Step 6](#).

Caution: Existing configurations will be over written  
Do you want to Continue?(Y/N)[N]:

**c Select Clear All Fields.**

- ❖ The following prompt asks for confirmation.

This Clears All the above Fields, Continue?(Y/N)[N]:

- Do one of the following:
    - ◆ If you wish to reconfigure, enter **Y**.
  - ❖ All fields in the menu are reset to null values. Return to [Step 4](#).
    - ◆ If you do not wish to reconfigure, press **Escape** to return to the Startup Configuration Scenarios menu.
  - ❖ The configuration retains the settings you have entered, but they are not yet in use. Return to [Step 4](#).
- 6** To load the new configuration, enter **y**.
- ❖ The configuration is loaded into the VSR-30.
  - ❖ If you selected **Reset (Load, Write, and Reset)**, the configuration is also saved. This makes the configuration permanent (unless you change it again). Then the device resets.
- 7** When the configuration has finished loading, press **Escape** until you return to the Main Menu. (Go to [Section C, Using the Main Menu.](#))
- 8** To save the configured scenario (if it has not already been saved), do the following:
- a** **Write** the configuration. (See [Section E, Saving \(Writing\) the Device's Configuration.](#))
  - b** **Reset** the BANDIT. ([Section F, Restarting \(Resetting\) the Device.](#))

## **D.2 Device Addresses**

To configure the device's addresses, do the following:

- 1** On the Advanced Configurations menu, select **Local Addresses**.
- 2** On the Configure Local Addresses menu, select **IP Address**.
- 3** Enter the device's IP address and press **Enter**. (Get the device's IP address from your network administrator.)
- 4** Select **BANDIT Name**.
- 5** Enter a unique name to identify this device in your network, and press **Enter**.

### D.3 Ports

To configure software for the device's ports, do the following:

- 1 On the Advanced Configurations menu, select **Data Configuration**.
  - ❖ The Logical Port Protocol menu is displayed. (Table 2 lists the Line IDs for the ports.)

Table 2. Port Identifiers

Line ID	Physical (Hardware) Port	Default Software Configuration
C	COM/Supervisor port	Comm/Supervisor <sup>a</sup>
L	Ethernet LAN port	Ethernet
W	Ethernet WAN port	Ethernet
E	Expansion port	Ethernet DMZ
P	More ports <sup>b</sup>	(See Step 2.)

a. Do not modify the configuration for the Comm/Supervisor port.

b. These are virtual Logical Ports. A protocol configured on a Logical Port can be associated with a global path, which in turn is associated with a physical port. (See Section D.3.1, *Protocols*. For information on global paths, see the *VPN and Legacy-to-IP Products Customization and Maintenance Guide*.)

- 2 On the Logical Port Protocol menu, select the physical port whose software configuration you wish to modify.
  - ❖ One of the following occurs:
    - If you are configuring a physical port, the Logical Port Attribute menu appears. Go to Step 4.
    - If you are configuring a virtual Logical Port, the Virtual Logical Port menu is displayed. Continue to Step 3.

```

VSR-30
Logical Port Protocol      Mapped To      Port Interfaces
-----
1) UNDEFINED
2) UNDEFINED
3) UNDEFINED
4) UNDEFINED
5) UNDEFINED
6) UNDEFINED
7) UNDEFINED
8) UNDEFINED
9) UNDEFINED
10) UNDEFINED
11) UNDEFINED
12) UNDEFINED
13) UNDEFINED
14) UNDEFINED
15) UNDEFINED
16) UNDEFINED
17) UNDEFINED
P) More Ports...

Enter Port :
  
```

- 3 On the Virtual Logical Port menu, select the port to configure.
  - ❖ The Logical Port Attribute menu appears.

4 To modify the port's default settings, see the following:

- [Section D.3.1, Protocols](#)
- [Section D.3.2, DHCP Settings](#) (only for the WAN and LAN ports)
- [Section D.3.3, Dial Backup Settings](#)

### D.3.1 Protocols

To change the protocol that a port uses, or to modify attributes of a port's protocol, do the following on the Logical Port Attribute menu (see [Section D.3, Ports](#)):

1 If you wish to change the protocol the port uses, do all of the following:

- a Select **Undefine Current Logical Port**.
- b Select **Protocol**.
- c On the Logical Port Protocol Selection menu, select the protocol you want this port to use. Go to Step 2a.

2 To modify parameters in the port's protocol, select **Protocol**.

- ❖ The protocols available for the port are displayed.
  - a On the protocol configuration menu, select and change parameters to work in your network.
  - b When you have finished configuring the protocol, press **Escape** to return to the Logical Port Attribute menu.

### D.3.2 DHCP Settings

To review settings that the WAN or LAN port uses for DHCP, or to modify or disable DHCP on a port, do the following on the port's Logical Port Attribute menu (see [Section D.3, Ports](#)).

**Note:** The WAN and LAN ports use different settings. Typically, a BANDIT device is a DHCP client on the WAN port and is a DHCP server on the LAN port. You may enable, modify, or disable use of DHCP on one port or on both ports.

1 Select **DHCP Type**.

- ❖ The DHCP Type menu appears.

```
DHCP Type
-----
1) Server
2) Client
3) None

Enter Choice :
```

## 2 Select the option you want this port to use.

- ❖ If you select **None**, the device does not use this port for DHCP. Press **Escape** until you return to the port's Logical Port Attribute menu. Go to [Step 5](#).
- ❖ If you select **Client**, the device uses this port to request its IP address. (On the WAN port, the device requests its *public* IP address.) No further configuration is required for the DHCP client role. Press **Escape** until you return to the port's Logical Port Attribute menu. Go to [Step 5](#).
- ❖ If you select **Server**, the device uses this port to assign IP addresses. (On the LAN port, the device assigns *private* IP addresses.) The Logical Port Attribute menu is redisplayed, with a menu item for configuring the DHCP server.

## 3 Select DHCP Server Parameters.

- ❖ The DHCP Server Parameters menu appears.

```
DHCP SERVER PARAMETERS
-----

1) Local DHCP Server IP Address (N.N.N.N):0.0.0.0
2) DHCP Pool IP Address Low (N.N.N.N) :0.0.0.0
3) DHCP Pool IP Address High (N.N.N.N) :0.0.0.0
4) DHCP Network Mask (N.N.N.N) :255.255.255.0
5) DHCP Lease Time (minutes) : 1440
6) Domain Name for DHCP clients:
7) Primary Router (N.N.N.N) :0.0.0.0
8) NETBIOS Server (N.N.N.N) :0.0.0.0
Enter the number of the item to change:
```

- 4 Select and configure each parameter the device will use as the local (intranet) DHCP server. When you have finished configuring the DHCP server, press **Escape** until you return to the port's Logical Port Attribute menu.
- 5 When you have finished configuring the port, press **Escape** until you return to the Main Menu.
- 6 Save the configuration and reset the device. See [Section E, Saving \(Writing\) the Device's Configuration](#), and [Section F, Restarting \(Resetting\) the Device](#).

### D.3.3 Dial Backup Settings

- 1 To configure a port for dial backup, select **Dialup Configuration** on the Logical Port Attribute menu (see [Section D.3, Ports](#)).

**Note:** A port can be configured for dial backup only if its protocol supports dial backup. The port's Logical Port Attribute menu will not allow this option unless the protocol supports it. To select a protocol that supports dial backup, see [Section D.3.1, Protocols](#).

- 2 Configure the parameters for the dialup. When you have finished, press **Escape** to return to the Logical Port Attribute menu.

## D.4 Virtual Private Network Connections

One of the major features in the BANDIT family of products is the support of virtual private networks (VPNs). This section discusses the configuration of VPN in the BANDIT products. (If any VPN connections will traverse satellite networks, the BANDIT uses Selective Layer Encryption™, SLE. See [Section D.4.3, Selective Layer Encryption in VPNs.](#))

- 1 To configure VPN connections, do the following:
  - a On the Advanced Configurations menu, select **Routing**.
  - b On the Routing menu, select **IP Routing**.
  - c On the IP Routing Configuration menu, select **IP/VPN Routing**.
  - ❖ The Virtual Private Network Configuration menu appears.
- 2 On the Virtual Private Network Configuration menu, do each of the following:
  - a To see the BANDIT VPN device's list of VPN connections and associated security protocols, select **VPN Profiles**.
    - ❖ The VPN Profile Table appears. Go to [Section D.4.1, Configuring VPN Profiles](#).
  - b To see the device's list of security policies for VPN connections, select **IP/VPN Policy Table**.
    - ❖ The IP Policy menu appears. Go to [Section D.4.2, Configuring the IP/VPN Policy Table](#).

**Note:** You must also configure an IP routing table for use by the virtual private network. See [Section D.5.1, IP Routing](#).

### D.4.1 Configuring VPN Profiles

To configure VPN profiles, do the following:

- 1 On the Virtual Private Network Configuration menu, select **VPN Profiles**. (See [Section D.4, Virtual Private Network Connections](#).)
  - ❖ The VPN Profile Table appears. Each VPN profile lists the following:
    - The record number (line number)
    - The VPN connection's profile name
    - The tunneling mode the profile uses
    - The IP address of the remote VPN gateway (the gateway at the other end of the VPN connection)
    - The first negotiation scheme this local BANDIT VPN device proposes for the connection

**Note:** For autokeyed connections, the table shows the authentication mode, authentication group, encryption protocol, and authentication protocol for Proposal 1 in Phase 1.

- Ping status
  - The users allowed to use this VPN profile
- 2 Do one of the following:
    - a To change parts of a profile, type **m**. Go to [Step 3](#).
    - b To add a profile, type **c**. Go to [Step 4](#).

- c To delete a profile, type **d**. Go to [Step 5](#).
  - d To return to the Virtual Private Network Configuration menu, press **Escape**.
  - ❖ The Virtual Private Network Configuration menu is redisplayed.
- 3** To modify an entry in the VPN Profile Table, do all of the following:
- a Enter the line number of the profile to modify. (Line numbers are listed under the heading label **No.**)
  - ❖ The fields for the selected VPN profile are displayed.

```

VPN PROFILE ENTRY
-----
1) Profile Name: AGGR_G2
2) Tunneling Mode: AGGRESSIVE
3) VPN Gateway: 0.0.0.0
4) User ID:
5) Pre-shared Key: *****
6) Phase 1 Ping : Disabled      Idle Time: 120 seconds
7) Phase 2 Ping : Disabled      Idle Time: 120 seconds
8) Monitor Ping : Disabled      Idle Time: 120 seconds
9) Phase 1 Proposal
10) Phase 2 Proposal

Enter the number of the item to change:

```

**Note:** Although all VPN profile records have all fields, the screen displays only the fields used in the keying specified—autokeying (IKE) or manual. (The BANDIT VPN products do not use manual keying in normal operation. If you want a VPN device to use manual keying, contact your Encore Networks representative.)

- b Type the line number of the field whose value you wish to change.
- ❖ If you select a phase proposal, a menu similar to the following is presented. Go to [Section D.4.1.1, Configuring Phase Proposals for IKE Autokeying](#).

```

Phase 1 Proposals
-----
1) Proposal 1: Preshared - DH GROUP G2 - DES - HMAC-MD5
2) Proposal 2: Preshared - DH GROUP G2 - DES - HMAC-SHA1
3) Proposal 3: Preshared - DH GROUP G2 - 3DES - HMAC-MD5
4) Proposal 4: Preshared - DH GROUP G2 - 3DES - HMAC-SHA1
Enter your choice:

```

- ❖ If you select any other field, the field is presented, so that you may enter a new value.
- c Type the new value for the field, and press **Enter**.
- ❖ The new value is accepted, and the selected profile is displayed with the new value.

d Do one of the following:

- If you wish to modify another field's value, return to Step 3b.
- When you have finished modifying this profile, press **Escape** to save the new values.
- ❖ The following prompt is displayed:

Do you want to keep your change? (Y/N):

e Do one of the following:

- To save the changes, press **y**.
- To discard the changes and keep the prior information, press **n**.
- ❖ Whether you answer **y** or **n**, the VPN Profile Table is redisplayed. Return to [Step 2](#).

4 To add a profile to the VPN Profile Table, do all of the following:

- a Type the line number of the existing profile you wish to copy as a model for the new profile.
- b Type the name for the new profile, and press **Enter**.

**Note:** You may use profile names that are meaningful in your network—for example, **Springfield Office**, or **Business Traveler 9**.

- ❖ The software adds the new profile to the VPN Profile Table.

c Return to [Step 2](#).

5 To delete a profile from the VPN Profile Table, type the line number of the profile to delete. (Line numbers are listed under the heading label **No.**)

- ❖ The selected profile is deleted. The VPN Profile Table is redisplayed, minus the deleted profile. Return to [Step 2](#).

#### D.4.1.1 Configuring Phase Proposals for IKE Autokeying

In VPN connections that use automatic keying (for example, Internet Key Exchange, or IKE), the BANDIT VPN device negotiates keys and proposals for data transmission. You can configure the proposals presented for each phase in the Internet Key Exchange.

To configure phase proposals for automatic keying, do the following:

- 1 On the VPN Profile Table, type **m** (to modify a line). Then type the line number and press **Enter**. (See [Section D.4.1, Configuring VPN Profiles](#).)
  - ❖ The selected profile's fields are displayed.
- 2 Select the phase you wish to modify.
  - ❖ The proposals already configured for the phase are listed.
- 3 Do one of the following:
  - a To return to the profile display, press **Escape**.
    - ❖ The profile's list of fields is displayed. Go to Step 3d in [Section D.4.1, Configuring VPN Profiles](#).

**b** Select the proposal you wish to modify for this phase.

❖ The proposal's values are listed.

◆ Sample Phase 1 Proposal Menu:

```
Phase 1 Proposal 1
-----
1) Authentication Mode : Preshared
2) DH Group: DH GROUP G2
3) Encryption: DES
4) Authentication: HMAC-MD5
5) Life: 100 sec
6) Life Units: sec

Enter your choice:
```

◆ Sample Phase 2 Proposal Menu:

```
Phase 2 Proposal 1
-----
1) PFS : DH GROUP G2
2) Security Protocol: ESP
3) Encryption: DES
4) Authentication: HMAC-MD5
5) Life: 100 sec
6) Life Units: sec

Enter your choice:
```

**4** Select the field whose value you wish to change, and press **Enter**.

❖ Possible values for the field are listed.

**a** Enter a new value for the field, and press **Enter**.

❖ The field's new value is accepted, and the proposal's values are listed again.

**5** Do one of the following:

**a** To change another field's value, repeat [Step 4](#).

**b** To return to the list of proposals configured for the selected phase, press **Escape**.

❖ The list of configured proposals is displayed again. Go to [Step 3](#).

### D.4.2 Configuring the IP/VPN Policy Table

You must configure the device's IP/VPN policy. This policy includes gateway connection information and the VPN profile that each connection uses.

If your connections will include VPNs across satellite networks, the BANDIT VPN device will use selection layer encryption. Before configuring the IP/VPN Policy Table, read [Section D.4.3, \*Selective Layer Encryption in VPNs\*](#).

To configure the IP/VPN Policy Table, do the following:

- 1 On the Virtual Private Network Configuration menu, select **IP/VPN Policy Table**. (See [Section D.4, \*Virtual Private Network Connections\*](#).)
  - ❖ The IP Policy menu appears.
- 2 On the IP Policy menu, do the following:
  - a Select **Status**, and **Enable** the IP/VPN policy table.
  - b Then select **Policy Table**.
    - ❖ If the IP Policy Table does not yet have entries, it requests information for the first record. Go to Step 6b.
    - ❖ If the IP Policy Table already has entries, the table is displayed.
- 3 Do one of the following:
  - a To modify an entry, type **m**. Go to [Step 4](#).
  - b To copy an entry, type **c**. Go to [Step 5](#).
  - c To add an entry to the bottom of the list, type **a**. Go to [Step 6](#).
  - d To add (insert) an entry at a specified point in the list, type **i**. Go to [Step 7](#).
  - e To delete an entry, type **d**. Go to [Step 8](#).
  - f To return to the Virtual Private Network Configuration menu, press the **Escape** key twice.
    - ❖ The Virtual Private Network Configuration menu appears. Go to [Section D.4, \*Virtual Private Network Connections\*](#).
- 4 Do one of the following:
  - a To modify an entry, do all of the following:
    - Type the line number of the entry you wish to modify.
    - ❖ The entry's list of values appears.
    - Select the field you wish to change.
    - ❖ The possible values for the field are listed.
    - Select the new value for the field.
    - ❖ The new value is accepted, and the entry's list of values appears again.
  - b To return to the IP/VPN Policy Table, press the **Escape** key.
    - ❖ A prompt asks whether you wish to save the changes you made.



### D.4.3 Selective Layer Encryption in VPNs

Encore Networks has developed a proprietary technology, Selective Layer Encryption™ (SLE), for VPNs that traverse a satellite network. SLE works with a satellite groundstation's performance-enhancing proxy (PEP) and maintains VPN security over satellite networks. The use of SLE with PEP significantly increases IPsec performance over satellite networks. (For a discussion of SLE and satellite networks, see the *VPN and Legacy-to-IP Products Customization and Maintenance Guide*.)

Figure 3 shows a sample satellite network combining PEP and SLE.

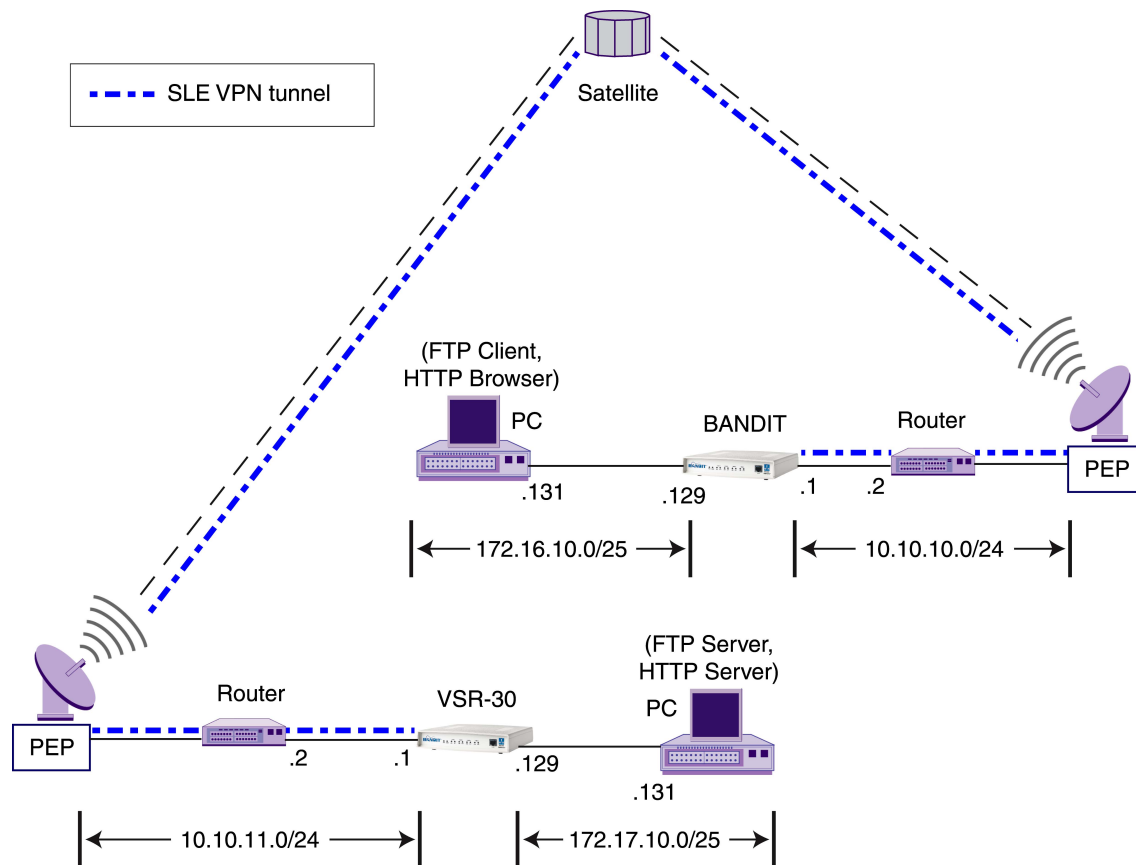


Figure 3. Sample Satellite Network Configuration Using Encore Networks' SLE VPN

To use SLE for transmissions over a satellite network, the following points must be observed:

- The software installed in the VPN device must include the SLE code. (When you order the device software, you indicate whether your network will use VPN connections over satellite networks and, for that reason, whether the software will include SLE.)
- The ports used for this traffic must reflect HTTP TCP (port 80) and FTP TCP (ports 20 and 21). All three of these logical ports must be configured.
- In the IP Policy Table, entries for satellite traffic must show the Protocol/Flag as TCP.<sup>1</sup> The exception is a final catch-all entry (if used), in which all fields are asterisks, indicating that any type of traffic is allowed. See Figure 4 for a sample IP Policy Table (for the BANDIT in Figure 3), and see Figure 5 through Figure 8 for details of each record shown. Note that record 4 of the IP Policy Table is a catch-all entry, allowing IP traffic over any appropriately configured port.

1. When TCP is selected for the Protocol/Flag field, SLE is assumed.

- On the Static NAT Table, public ports 20, 21, and 80 must carry the TCP protocol. Transmission over these same ports should use a public IP address that hides the private IP address. See [Figure 9](#) for a sample Static NAT Table (for the BANDIT in [Figure 3](#)). [Figure 10](#) and [Figure 11](#) show details of the records for SLE over satellite networks.

**Note:** Some records in the sample Static NAT Table ([Figure 9](#), for the BANDIT in [Figure 3](#)) are for transmissions over ground-based networks. The original BANDIT, the BANDIT Plus, and the BANDIT IP can use VPNs across ground-based and satellite networks.

The VSR-30 is designed specifically for VPNs across satellite networks. The Static NAT Table for the VSR-30 in [Figure 3](#) contains only records for transmissions across satellite networks, as shown in [Figure 12](#).

#	Source Address	Src Port	Destination Address	Dest Port	Protocol /Flag	Path Name	I/O	Action
1	172.16.10.131	*	10.10.11.1	80	TCP	*	*	
	172.16.10.131	*	10.10.11.1	80				
	HTTP Action: Allow							
2	172.16.10.131	80	10.10.11.1	*	TCP	*	*	
	172.16.10.131	80	10.10.11.1	*				
	HTTP1 Action: Allow							
3	172.16.10.128	*	10.10.11.1	*	TCP	*	*	
	172.16.10.255	*	10.10.11.1	*				
	Tunnel To Remote 1 Action: Initiate VPN Profile: REMOTE							
4	*	*	*	*	*	*	*	
	*	*	*	*	*	*	*	
	Allow ALL Action: Allow							

Figure 4. Sample Entries in IP Policy Table for BANDIT in [Figure 3](#), Including SLE over Satellite Networks

```

1) Source Address Low : 172.16.10.131
   Source Address High : 172.16.10.131
   Source TCP/UDP Port Low : *
   Source TCP/UDP Port High : *
   Destination Address Low : 10.10.11.1
   Destination Address High : 10.10.11.1
   Destination TCP/UDP Port Low : 80
   Destination TCP/UDP Port High : 80
   Protocol/Flags : TCP
   Path Name : *
   Incoming/Outgoing : *
   Filtering Action : Allow
   VPN Profile name : N/A
   Description : HTTP

```

Figure 5. Detail of Record 1 in IP Policy Table, for SLE over Satellite Networks

```

2) Source Address Low : 172.16.10.131
   Source Address High : 172.16.10.131
   Source TCP/UDP Port Low : 80
   Source TCP/UDP Port High : 80
   Destination Address Low : 10.10.11.1
   Destination Address High : 10.10.11.1
   Destination TCP/UDP Port Low : *
   Destination TCP/UDP Port High : *
   Protocol/Flags : TCP
   Path Name : *
   Incoming/Outgoing : *
   Filtering Action : Allow
   VPN Profile name : N/A
   Description : HTTP1

```

*Figure 6. Detail of Record 2 in IP Policy Table,  
for SLE over Satellite Networks*

```

3) Source Address Low : 172.16.10.128
   Source Address High : 172.16.10.255
   So Address Low : 10.10.11.1
   Destination Address High : 10.10.11.1
   Destination TCP/UDP Port Low : *
   Destination TCP/UDP Port High : *
   Protocol/Flags : TCP
   Path Name : *
   Incoming/Outgoing : *
   Filtering Action : Initiate
   VPN Profile name : REMOTE
   Description : Tunnel To Remote 1

```

*Figure 7. Detail of Record 3 in IP Policy Table,  
for SLE over Satellite Networks*

```

4) Source Address Low : *
   Source Address High : *
   Source TCP/UDP Port Low : *
   Source TCP/UDP Port High : *
   Destination Address Low : *
   Destination Address High : *
   Destination TCP/UDP Port Low : *
   Destination TCP/UDP Port High : *
   Protocol/Flags : *
   Path Name : *
   Incoming/Outgoing : *
   Filtering Action : Allow
   VPN Profile name : N/A
   Description : Allow ALL

```

*Figure 8. Detail of Record 4 in IP Policy Table,  
for Any IP Traffic over Any IP Network*

#	Protocol	Private Address	Private Port	Public Address	Public Port
1	ICMP	10.10.10.1	N/A	10.10.10.1	N/A
		10.10.10.1	N/A	10.10.10.1	N/A
2	TCP	10.10.10.1	23	10.10.10.1	23
		10.10.10.1	23	10.10.10.1	23
3	ESP	10.10.10.1	0	10.10.10.1	0
		10.10.10.1	0	10.10.10.1	0
4	UDP	10.10.10.1	500	10.10.10.1	500
		10.10.10.1	500	10.10.10.1	500
5	TCP	172.16.10.131	80	10.10.10.1	80
		172.16.10.131	80	10.10.10.1	80
6	TCP	172.16.10.131	20	10.10.10.1	20
		172.16.10.131	21	10.10.10.1	21

Figure 9. Sample Entries in Static NAT Table for BANDIT in Figure 3, Including SLE over Satellite Networks

```

5) Protocol : TCP
   Low Private IP Address : 172.16.10.131
   High Private IP Address : 172.16.10.131
   Low Private Port : 80
   High Private Port : 80
   Low Public IP Address : 10.10.10.1
   High Public IP Address : 10.10.10.1
   Low Public Port : 80
   High Public Port : 80

```

Figure 10. Detail of Record 5 in IP Policy Table, for SLE over Satellite Networks

```

6) Protocol : TCP
   Low Private IP Address : 172.16.10.131
   High Private IP Address : 172.16.10.131
   Low Private Port : 20
   High Private Port : 21
   Low Public IP Address : 10.10.10.1
   High Public IP Address : 10.10.10.1
   Low Public Port : 20
   High Public Port : 21

```

Figure 11. Detail of Record 6 in IP Policy Table, for SLE over Satellite Networks

#	Protocol	Private Address	Private Port	Public Address	Public Port
1	TCP	172.17.10.131	80	10.10.11.1	80
		172.17.10.131	80	10.10.11.1	80
2	TCP	172.17.10.131	20	10.10.11.1	20
		172.17.10.131	21	10.10.11.1	21

Figure 12. Sample Entries in Static NAT Table for VSR-30 in Figure 3, for SLE over Satellite Networks

## D.5 IP Configuration

This section discusses additional IP considerations you must configure in order to use the VSR-30 as a VPN gateway.

- 1 On the Advanced Configurations menu, select **Routing**.
- 2 On the Routing menu, select **IP Routing**.
  - ❖ The IP Routing Configuration menu appears.
- 3 See the following:
  - [Section D.5.1, IP Routing](#)
  - [Section D.5.2, IP Quality of Service](#)
  - [Section D.5.3, Network Address Translation](#)
  - [Section D.5.4, Firewall](#)

### D.5.1 IP Routing

To use the VPN feature to its capacity, you must configure the device's IP routing. Do the following:

- 1 On the IP Routing Configuration menu, select the **IP Routing Method** you wish to use (**RIP** or **Static**).
- 2 On the IP Routing Configuration menu, do the following:
  - a If the IP routing method is **RIP**, select and configure **RIP Routing**.
  - b If the IP routing method is **Static**, select and configure **Static Routing**.

For more information, see the *VPN and Legacy-to-IP Products Customization and Maintenance Guide*.

### D.5.2 IP Quality of Service

To use the VPN feature to its capacity, you must configure the device's IP Quality of Service. Do the following:

- 1 On the IP Routing Configuration menu, select **IP Quality of Service**.
- 2 On the IP Priority menu, select **Prioritization**.
- 3 On the IP Quality of Service menu, do the following:
  - a Select **Status**, and **Enable** IP quality of service.
  - b Select **Quality of Service Table**, and configure entries in the table.
  - c Set a **Default Priority** for IP packets that do not match any entry in the table.

For more information, see the *VPN and Legacy-to-IP Products Customization and Maintenance Guide*.

### D.5.3 Network Address Translation

You can use the BANDIT products for network address translation (NAT).

If your connections will include VPNs across satellite networks, the BANDIT device will use selection layer encryption. Before configuring the NAT Table, read [Section D.4.3, \*Selective Layer Encryption in VPNs\*](#).

To use network address translation, do the following:

- 1 On the IP Routing Configuration menu, select **Network Address Translation**.
- 2 On the Network Address Translation menu, do the following:
  - a Select a NAT configuration scheme.
  - b Enable and configure the NAT configuration scheme according to your network plan—e.g., for masquerading, or for a NAT table.

For more information, see the *VPN and Legacy-to-IP Products Customization and Maintenance Guide*.

### D.5.4 Firewall

The default settings for the VSR-30 do not use the firewall feature. If you wish to configure the firewall, do the following.

- 1 On the Main Menu, select **Typical Configurations**.
- 2 On the Typical Configurations menu, select **Configure Firewall**.
- 3 On the Configure Firewall menu, configure the policy table, NAT profiles, and IP interfaces for your network's dynamic firewall.

For more information, see the *VPN and Legacy-to-IP Products Customization and Maintenance Guide*.

## D.6 Simple Network Management Protocol

If you wish to use Simple Network Management Protocol (SNMP) with the VSR-30, do the following to configure the device's built-in SNMP agent:

- 1 On the Main Menu, select **System Administration**.
- 2 When the system asks for your password, enter the default password **encore** and press **Enter**.

**Note:** If your product order requested a different, specific password, contact your system administrator for the password.
- 3 On the System Administration menu, select **SNMP Configuration**.
- 4 On the SNMP Configuration menu, do the following:
  - a Configure the **SNMP Get Community String**.
  - b Configure the **SNMP Set Community String**.
  - c Configure the **SNMP Trap Default Address**.
  - d Configure IP addresses for the **SNMP Trap Table**.
- 5 Now you can configure an SNMP manager on your control terminal. (Encore Networks does not furnish SNMP manager software.)

## E Saving (Writing) the Device's Configuration

**Note:** If you do not save the configuration before you reset or exit the VSR-30 (or before the connection times out), the configuration will be lost.

After the unit has been configured, save (write) the configuration. Do the following:

- 1 On the Main Menu, select **Write Configuration**.
- 2 Select **Yes**.
  - ❖ The device will notify you when it has saved the configuration.

**Note:** If the device's software detects an error in the configuration, it will not save it. Review the configuration. After you have revised the configuration to your satisfaction, save it.

- 3 Press **Enter**.

## F Restarting (Resetting) the Device

To use the saved configuration, you must reset the VSR-30. Do the following:

**Note:** If you want to use your new configuration, you must save (write) the configuration before resetting the unit. Otherwise, the new configuration will be lost.

- 1 On the Main Menu, select **Reset Unit**.
- 2 Select **Yes**.

**Note:** If you have not yet saved the new configuration, the system asks whether to save it. Answer **yes** or **no**.

- 3 Regardless of screen instructions, do not type anything until you see the banner: **BANDIT, ENCORE NETWORKS INC**. Then press **Enter**.
  - ❖ The device resets.
- 3 Regardless of screen instructions, do not type anything until you see the banner: **BANDIT, ENCORE NETWORKS INC**. Then press **Enter**.
  - ❖ The Main Menu is displayed.

## G Exiting a Session

After the software has been configured, save (write) the configuration. Then exit the session before disconnecting the PC, so that communication is not disrupted.

**!** **Caution:** Before you exit, make sure you save (write) the configuration. Otherwise, the changes you configured will be lost. See [Section E, Saving \(Writing\) the Device's Configuration](#).

To exit the session, do the following:

- 1 On the Main Menu, select **Exit Session**.
- 2 Select **Yes**.

**Note:** If the configuration has not been saved, the device asks you whether it should save the new configuration. Answer **Yes** (or **No**, if you prefer not to save the configuration).

- 3 To reconnect to the device, press **Enter**.
  - ❖ The system notifies you that it is ending the session.
- 3 To reconnect to the device, press **Enter**.
  - ❖ The Main Menu is displayed.