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EN-2000™ Reference Manual
Document 10

Configuring the EN-2000's VPN Firewall

This document discusses implementation of firewall rules to support IPsec VPN transmissions in the EN-2000. It presents procedures for configuring the firewall for an IPsec VPN tunnel. See the following:

- *Configuring the Firewall for an IPsec VPN Tunnel*
- *Configuring the Source NAT*

Note: In the EN-2000 management system, the term "left" represents "local," and the term "right" represents "remote." Those designations are always from the point of view of the router being managed—the local ("left") EN-2000.

Also see the following documents:

- *Configuring IPsec VPNs in the EN-2000™*
- *Starting and Tracking VPNs in the EN-2000*
- *Virtual Private Networks*

10.1 Configuring the Firewall for an IPsec VPN Tunnel

The firewall for the IPsec VPN tunnel is configured on the EN-2000 that is the VPN tunnel responder. See the following:

- *Firewall Zones*
- *Firewall Traffic Rules*

10.1.1 Firewall Zones

Some firewall zones require configuration changes to support IPsec VPNs.

1 On the EN-2000 management system, select the **Network** tab. Then select the **Firewall** tab. If necessary, select the **General Settings** tab.

❖ The Firewall Zone Settings Screen for the IPsec VPN Tunnel Responder is displayed (Figure 10-1).

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Version A.1, April 2015

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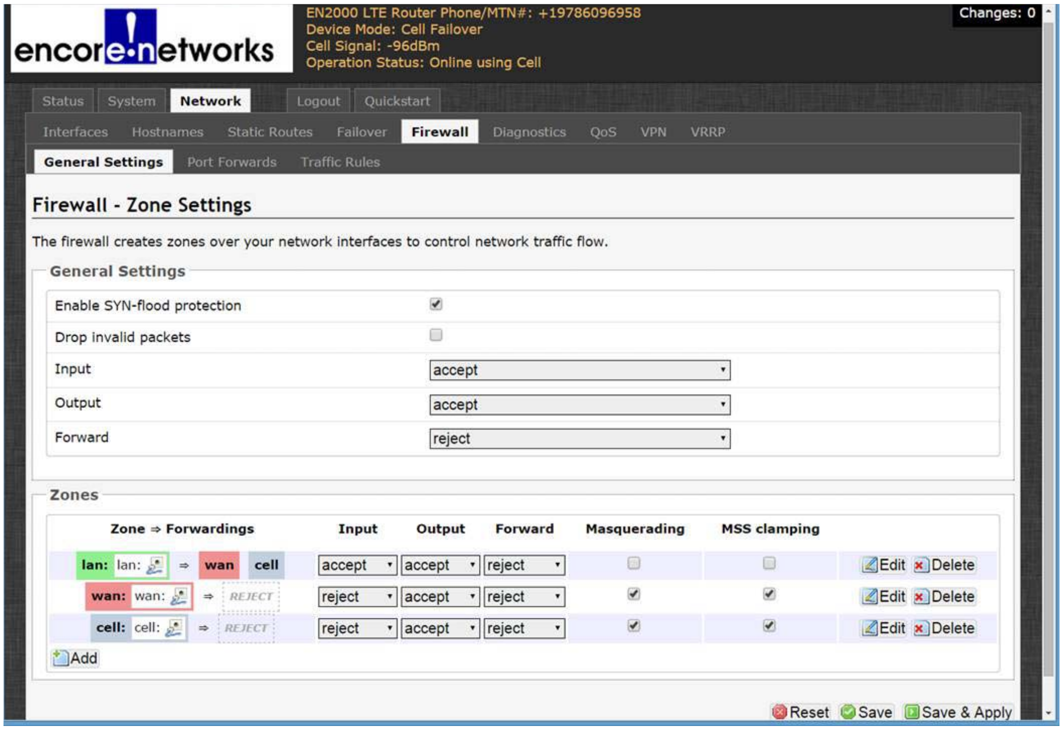
Figure 10-1. Firewall Zone Settings Screen for the IPsec VPN Tunnel Responder



EN2000 LTE Router Phone/MTN#: +19786096958
Device Mode: Cell Failover
Cell Signal: -96dBm
Operation Status: Online using Cell

Firewall - Zone Settings

The firewall creates zones over your network interfaces to control network traffic flow.

General Settings

Enable SYN-flood protection	☑
Drop invalid packets	☐
Input	accept
Output	accept
Forward	reject

Zones

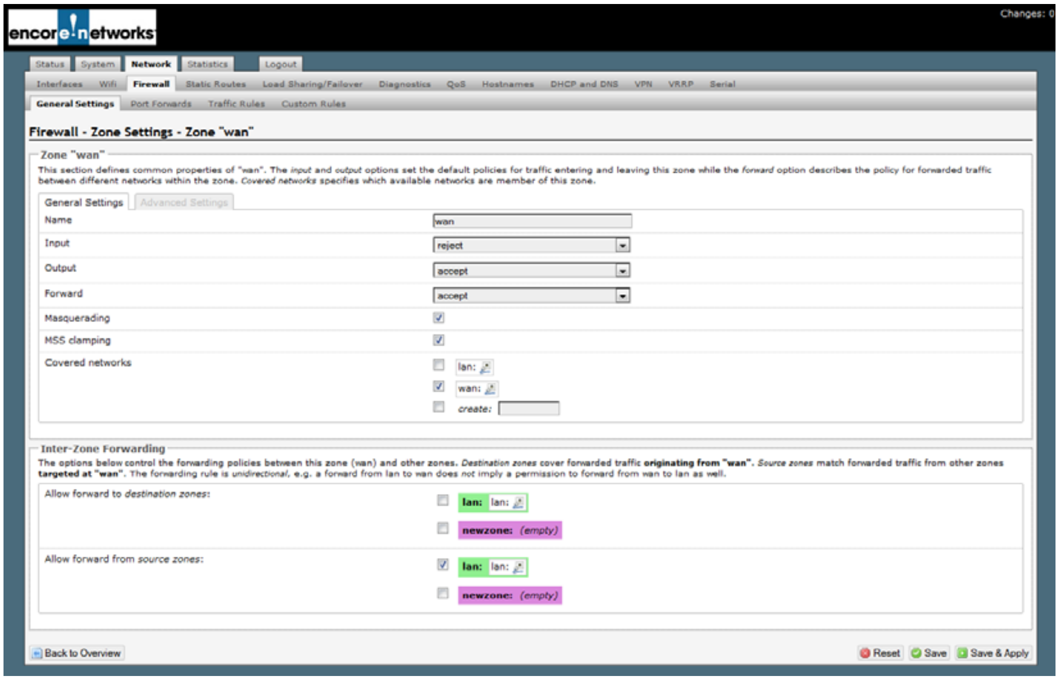
Zone ⇒ Forwardings	Input	Output	Forward	Masquerading	MSS clamping	
lan: lan: ⇒ wan cell	accept	accept	reject	☐	☐	Edit Delete
wan: wan: ⇒ REJECT	reject	accept	reject	☑	☑	Edit Delete
cell: cell: ⇒ REJECT	reject	accept	reject	☑	☑	Edit Delete

2 For this example, select the **Edit** button in the row for the WAN zone.

Note: In general, select the **Edit** button for each zone for which **Masquerading** is selected (by default).

❖ The General Firewall Settings Screen for the WAN Zone of the VPN Tunnel Responder is displayed (Figure 10-2).

Figure 10-2. General Firewall Settings Screen for the WAN Zone of the VPN Tunnel Responder



Firewall - Zone Settings - Zone "wan"

Zone "wan"

This section defines common properties of "wan". The *input* and *output* options set the default policies for traffic entering and leaving this zone while the *forward* option describes the policy for forwarded traffic between different networks within the zone. *Covered networks* specifies which available networks are member of this zone.

General Settings

Name	wan
Input	reject
Output	accept
Forward	accept
Masquerading	☑
MSS clamping	☑
Covered networks	☐ lan: ☑ wan: ☐ *create:*

Inter-Zone Forwarding

The options below control the forwarding policies between this zone (wan) and other zones. *Destination zones* cover forwarded traffic **originating from "wan"**. *Source zones* match forwarded traffic from other zones **targeted at "wan"**. The forwarding rule is *unidirectional*, e.g. a forward from lan to wan does *not* imply a permission to forward from wan to lan as well.

Allow forward to *destination zones*:	☐ **lan:** lan: ☐ **newzone:** *(empty)*
Allow forward from *source zones*:	☑ **lan:** lan: ☐ **newzone:** *(empty)*

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3 On the General Firewall Settings Screen for the WAN Zone of the VPN Tunnel Responder, configure the following:

- Under the heading **General Settings**:
  - ◆ Set **Input** to **Reject**.
  - ◆ Set **Output** to **Accept**.
  - ◆ Set **Forward** to **Accept**.
  - ◆ Enable **Masquerading**.
  - ◆ Enable **MSS Clamping**.
  - ◆ For **Covered Networks**, select **WAN**.
- Under the heading **Interzone Forwarding**:
  - ◆ For **Allow Forward for Source Zones**, select the source zone **LAN**.

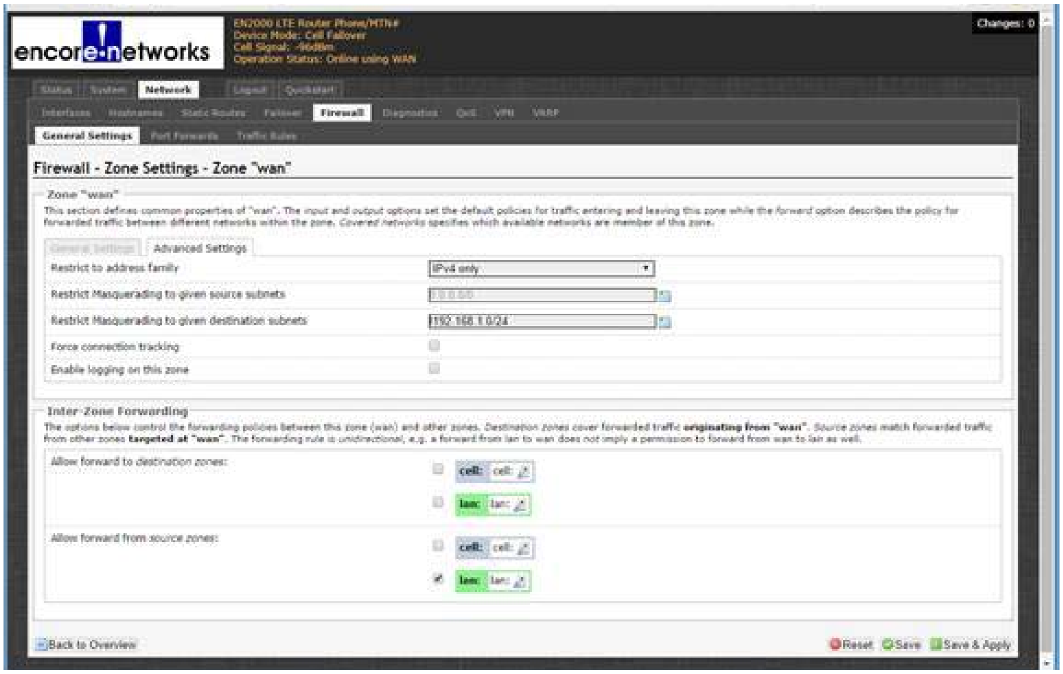
4 When you have finished configuring the screen, select the **Save & Apply** button (in the lower right corner of the screen).

Note: If masquerading is enabled for the zones of interest under firewall configuration, then, for IPsec to work properly, packets destined for the right subnet cannot be masqueraded. Step 5 through step 7 resolve that concern.

5 Then select the **Advanced Settings** tab on the General Firewall Settings Screen for the WAN Zone of the VPN Tunnel Responder.

❖ The Advanced Firewall Settings Screen for the WAN Zone of the VPN Tunnel Responder is displayed (Figure 10-3).

Figure 10-3. Advanced Firewall Settings Screen for the WAN Zone of the VPN Tunnel Responder



EN2000 LTE Router Phone/MTN#
Device Mode: Cell Failover
Cell Signal: -96dBm
Operation Status: Online using WAN

Firewall - Zone Settings - Zone "wan"

Zone "wan"

This section defines common properties of "wan". The input and output options set the default policies for traffic entering and leaving this zone while the forward option describes the policy for forwarded traffic between different networks within the zone. *Covered networks* specifies which available networks are member of this zone.

Restrict to address family	IPv4 only ▾
Restrict Masquerading to given source subnets	0.0.0.0/0
Restrict Masquerading to given destination subnets	192.168.1.0/24
Force connection tracking	□
Enable logging on this zone	□

Inter-Zone Forwarding

The options below control the forwarding policies between this zone (wan) and other zones. *Destination zones* cover forwarded traffic **originating from "wan"**. *Source zones* match forwarded traffic from other zones **targeted at "wan"**. The forwarding rule is *unidirectional*, e.g. a forward from lan to wan does not imply a permission to forward from wan to lan as well.

Allow forward to destination zones:	□ cell: cell: □ lan: lan:
Allow forward from source zones:	□ cell: cell: ☑ lan: lan:

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6 On the Advanced Firewall Settings Screen for the WAN Zone of the VPN Tunnel Responder, configure the following:

a Under the heading **Zone WAN**:

i Set **Restrict to Address Family** to **IPv4 Only**.

ii Set **Restrict Masquerading to Given Source Subnets** to **0.0.0.0/0**.

iii Set **Restrict Masquerading to Given Destination Subnets** to **!*a.b.c.d*/*e***, where the exclamation point (**!**) indicates not to masquerade the IP address, and *a.b.c.d*/*e* represents the subnet for the remote EN-2000.

❖ This turns off masquerading for the VPN tunnel.

Note: The initiator must also disable masquerading for this connection. After you finish the current procedure, see *Disabling Masquerading on the VPN Tunnel Initiator*, on page 5.

b If you wish to exempt an additional destination subnet, select the **Add** button beside the that field, and repeat substep 6.a.iii.

c Under the heading **Interzone Forwarding**:

◆ For **Allow Forward from Source Zones**, select **LAN**.

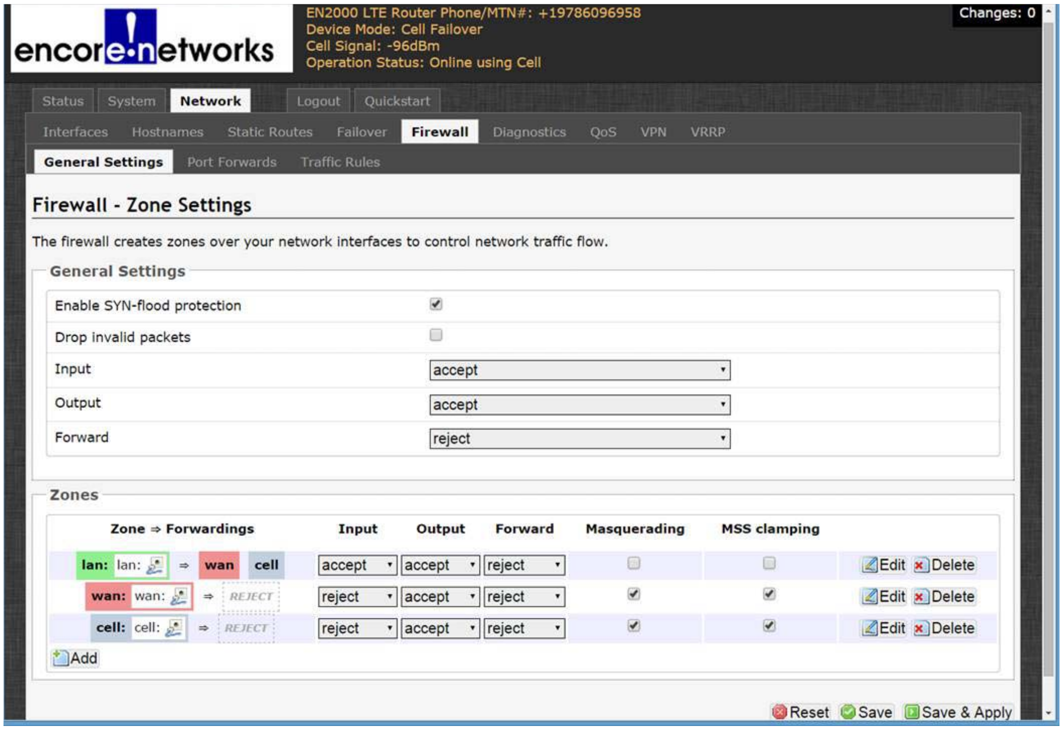
7 When you have finished configuring the screen, select the **Save & Apply** button (in the lower right corner of the screen).

❖ Masquerading for the subnet has been disabled, so that VPNs will work properly.

8 Then select the **Back to Overview** button.

❖ The Firewall Zone Settings Screen for the IPsec VPN Tunnel Responder is redisplayed (Figure 10-4).

Figure 10-4. Firewall Zone Settings Screen for the IPsec VPN Tunnel Responder



EN2000 LTE Router Phone/MTN#: +19786096958
Device Mode: Cell Failover
Cell Signal: -96dBm
Operation Status: Online using Cell

Firewall - Zone Settings

The firewall creates zones over your network interfaces to control network traffic flow.

General Settings

Enable SYN-flood protection	☑
Drop invalid packets	☐
Input	accept
Output	accept
Forward	reject

Zones

Zone ⇒ Forwardings	Input	Output	Forward	Masquerading	MSS clamping
lan: lan: ⇒ wan cell	accept	accept	reject	☐	☐
wan: wan: ⇒ REJECT	reject	accept	reject	☑	☑
cell: cell: ⇒ REJECT	reject	accept	reject	☑	☑

9 On that screen, make sure the following settings are observed:

- Under the heading **General Settings**:
  - ◆ Select **Enable SYN-Flood Protection**.
  - ◆ Select **Drop Invalid Packets**.
  - ◆ Set **Input** as **Accept**.
  - ◆ Set **Output** as **Accept**.
  - ◆ Set **Forward** as **Accept**.
- Under the heading **Zones**:
  - ◆ The **LAN** zone is configured to forward to the **WAN** zone. **Input**, **Output**, and **Forward** for that forwarding zone are all set to **accept**.
  - ◆ Verify that the **WAN** zone has the following settings:
    - **Input: reject**
    - **Output: accept**
    - **Forward: accept**
    - Uses **Masquerading**
    - Uses **MSS Clamping**

Note: You can also configure the **newzone** if the EN-2000 will use that zone; possibilities are for 5 GHz 802.11 wireless, GigE, or Ethernet. Consult your network administrator for configuration information.

10 When you have finished configuring the screen, select the **Save & Apply** button (in the lower right corner of the screen).

❖ The configuration is saved.

11 Select the **Back to Overview** button.

❖ The Firewall Zone Settings Screen for the IPsec VPN Tunnel Responder is redisplayed (recall Figure 10-1).

12 On that screen, select the **Save and Apply** button.

❖ The configuration is saved and applied (restarting the firewall).

10.1.2 Disabling Masquerading on the VPN Tunnel Initiator

There are two ways to disable masquerading on the initiator of the VPN tunnel, depending on the initiator's right subnet.

! **Caution:** Do only one of the following:

- If the tunnel initiator's right subnet is 0.0.0.0/0, perform only step 1.
- If the tunnel initiator's right subnet is not 0.0.0.0/0, perform only step 2.

1 If the IPsec VPN Tunnel Screen for a VPN Tunnel Initiator specifies a **Right Subnet** of **0.0.0.0/0**, indicating all remote locations (as shown in Figure 10-5), do the following:

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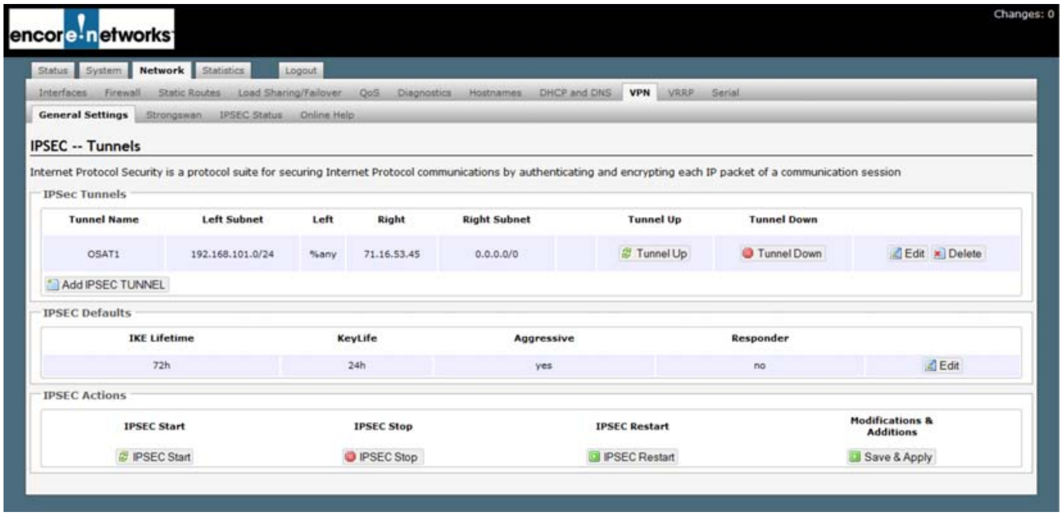
Figure 10-5. IPsec VPN Tunnel Screen for a VPN Tunnel Initiator
Right Subnet 0.0.0.0/0



IPSEC -- Tunnels

Internet Protocol Security is a protocol suite for securing Internet Protocol communications by authenticating and encrypting each IP packet of a communication session

IPSec Tunnels

Tunnel Name	Left Subnet	Left	Right	Right Subnet		Tunnel Up	Tunnel Down	
OSAT1	192.168.101.0/24	%any	71.16.53.45	0.0.0.0/0		Tunnel Up	Tunnel Down	Edit Delete

Add IPSEC TUNNEL

IPSEC Defaults

IKE Lifetime	KeyLife	Aggressive	Responder	
72h	24h	yes	no	Edit

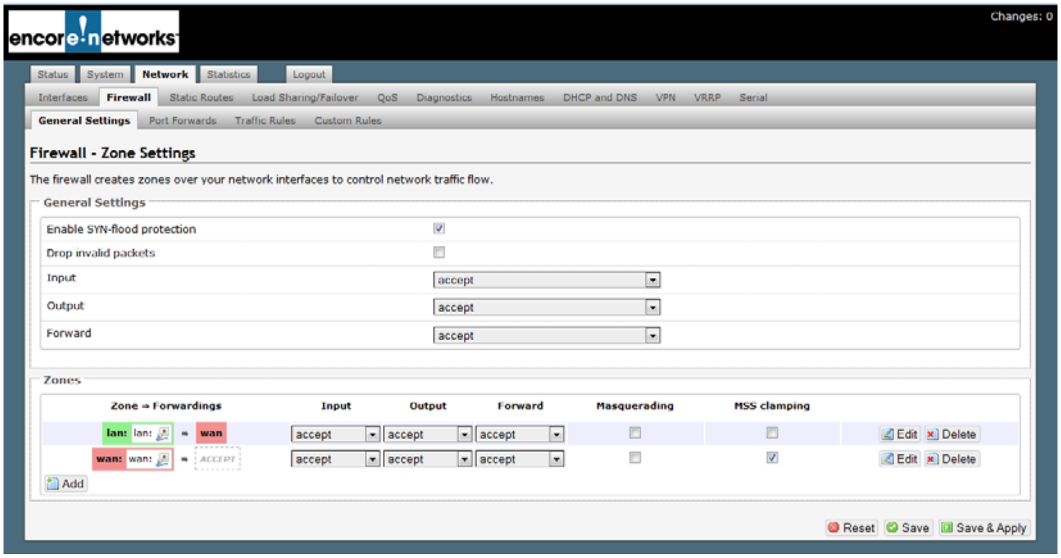
IPSEC Actions

IPSEC Start	IPSEC Stop	IPSEC Restart	Modifications & Additions
IPSEC Start	IPSEC Stop	IPSEC Restart	Save & Apply

a Select the **Network** tab; then select the **Firewall** tab.

❖ The Firewall Zone Settings Screen for the IPsec VPN Tunnel Initiator is displayed (Figure 10-6).

Figure 10-6. Firewall Zone Settings Screen for the IPsec VPN Tunnel Initiator
Right Subnet 0.0.0.0/0



Firewall - Zone Settings

The firewall creates zones over your network interfaces to control network traffic flow.

General Settings

Enable SYN-flood protection	☑
Drop invalid packets	☐
Input	accept
Output	accept
Forward	accept

Zones

Zone ⇒ Forwardings	Input	Output	Forward	Masquerading	MSS clamping	
lan: lan: ⇒ wan	accept	accept	accept	☐	☐	Edit Delete
wan: wan: ⇒ ACCEPT	accept	accept	accept	☐	☑	Edit Delete

Add

Reset Save Save & Apply

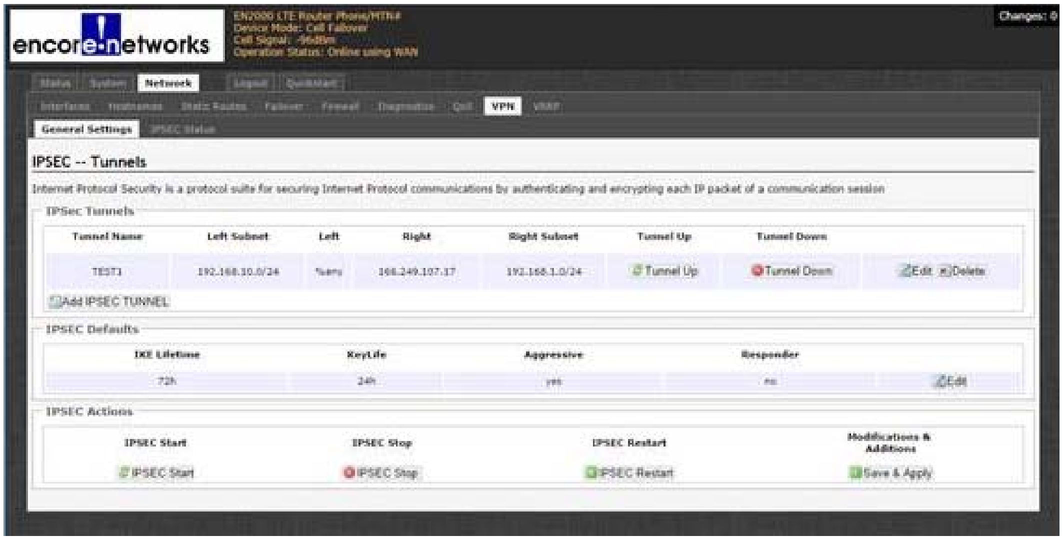
b On the Firewall Zone Settings Screen for the IPsec VPN Tunnel Initiator, make sure **Masquerading** is NOT checked for any **Zone Forwarding**.

c On that same screen, select the **Save & Apply** button.

d Go to *Firewall Traffic Rules*, on page 8.

2 If the IPsec VPN Tunnel Screen for a VPN Tunnel Initiator specifies a **Right Subnet** of ***f.g.h.i*/*j*** other than 0.0.0.0/0 (in Figure 10-7, the sample right subnet is 192.168.101.0/24), do the following:

Figure 10-7. IPsec VPN Tunnel Screen for a VPN Tunnel Initiator
Right Subnet Not 0.0.0.0/0



EN2000 LTE Router Phone/MTN#
Device Mode: Cell Failover
Cell Signal: -96dBm
Operation Status: Online using WAN

Changes: 0

Status | System | **Network** | Logout | QuickStart

Interfaces | Hostnames | Static Routes | Failover | Firewall | Diagnostics | QoS | **VPN** | VRRP

General Settings | IPSEC Status

IPSEC -- Tunnels

Internet Protocol Security is a protocol suite for securing Internet Protocol communications by authenticating and encrypting each IP packet of a communication session

IPSec Tunnels

Tunnel Name	Left Subnet	Left	Right	Right Subnet	Tunnel Up	Tunnel Down	
TEST1	192.168.10.0/24	%any	166.249.107.17	192.168.1.0/24	Tunnel Up	Tunnel Down	Edit Delete

Add IPSEC TUNNEL

IPSEC Defaults

IKE Lifetime	KeyLife	Aggressive	Responder	
72h	24h	yes	no	Edit

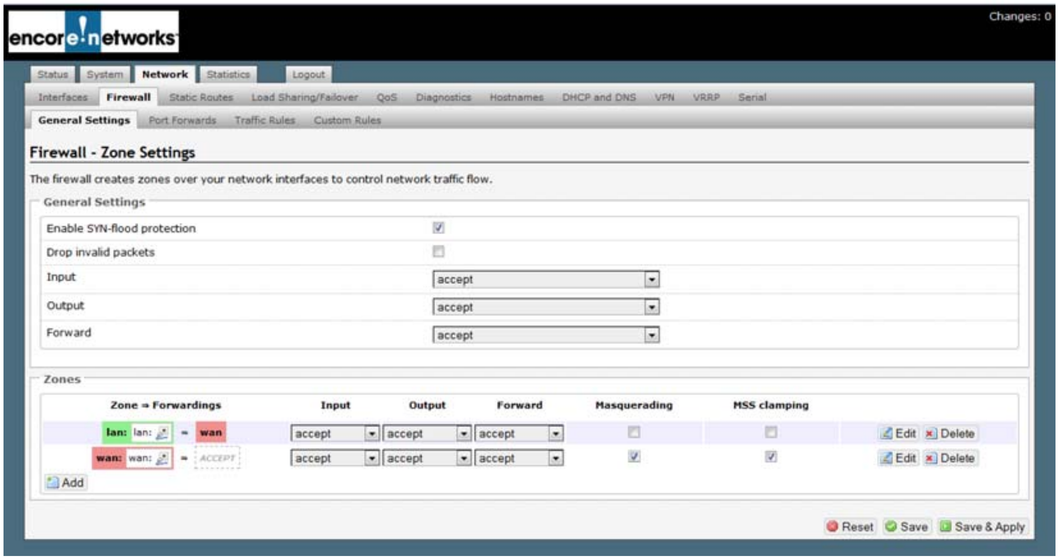
IPSEC Actions

IPSEC Start	IPSEC Stop	IPSEC Restart	Modifications & Additions
IPSEC Start	IPSEC Stop	IPSEC Restart	Save & Apply

a Select the **Network** tab; then select the **Firewall** tab.

❖ The Firewall Zone Settings Screen for the IPsec VPN Tunnel Initiator is displayed (Figure 10-8).

Figure 10-8. Firewall Zone Settings Screen for the IPsec VPN Tunnel Initiator
Right Subnet Not 0.0.0.0/0



Changes: 0

Status | System | **Network** | Statistics | Logout

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

General Settings | Port Forwards | Traffic Rules | Custom Rules

Firewall - Zone Settings

The firewall creates zones over your network interfaces to control network traffic flow.

General Settings

Enable SYN-flood protection	☑
Drop invalid packets	☐
Input	accept
Output	accept
Forward	accept

Zones

Zone ⇒ Forwardings	Input	Output	Forward	Masquerading	MSS clamping	
lan: lan: ⇒ wan	accept	accept	accept	☐	☐	Edit Delete
wan: wan: ⇒ ACCEPT	accept	accept	accept	☑	☑	Edit Delete

Add

Reset | Save | Save & Apply

b On the Firewall Zone Settings Screen for the IPsec VPN Tunnel Initiator, check **Masquerading** for the WAN **Zone** (the lower **Zone** in Figure 10-8).

c On that same screen, select the **Edit** button for the WAN **Zone**.

❖ The Advanced Firewall Settings Screen for the WAN Zone of the VPN Tunnel Initiator is displayed (Figure 10-9).

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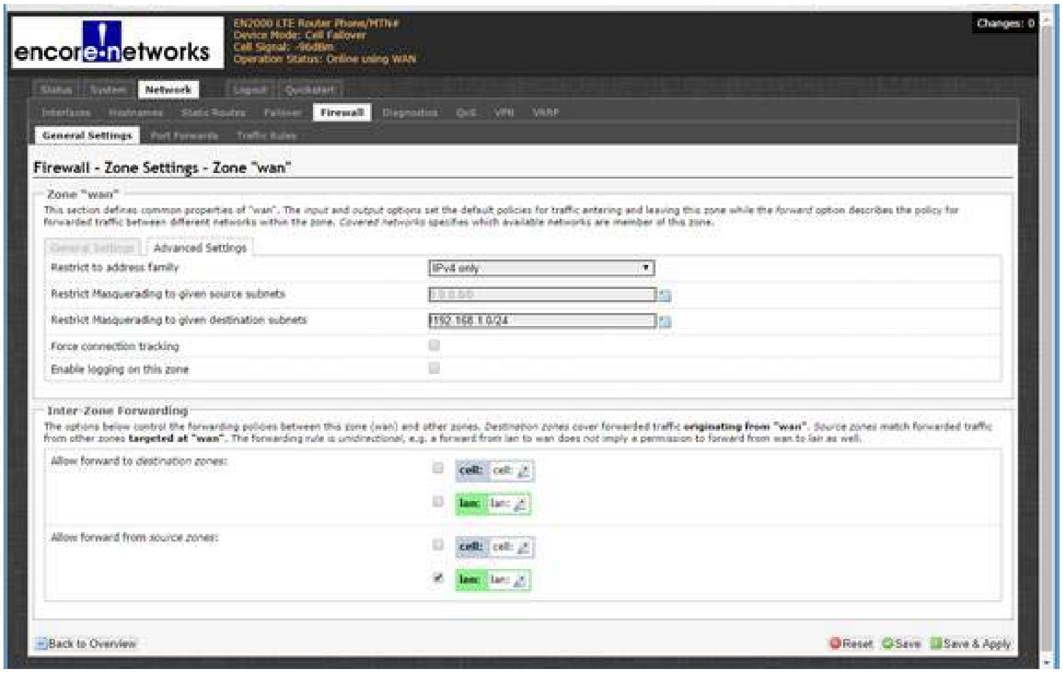
Figure 10-9. Advanced Firewall Settings Screen for
the WAN Zone of the VPN Tunnel Initiator



EN2000 LTE Router Phone/MTN#
Device Mode: Cell Failover
Cell Signal: -96dBm
Operation Status: Online using WAN

Firewall - Zone Settings - Zone "wan"

Zone "wan"

This section defines common properties of "wan". The input and output options set the default policies for traffic entering and leaving this zone while the forward option describes the policy for forwarded traffic between different networks within the zone. *Covered networks* specifies which available networks are member of this zone.

Restrict to address family: IPv4 only

Restrict Masquerading to given source subnets: 0.0.0.0/0

Restrict Masquerading to given destination subnets: !192.168.1.0/24

Force connection tracking: □

Enable logging on this zone: □

Inter-Zone Forwarding

The options below control the forwarding policies between this zone (wan) and other zones. *Destination zones* cover forwarded traffic **originating from "wan"**. *Source zones* match forwarded traffic from other zones **targeted at "wan"**. The forwarding rule is *unidirectional*, e.g. a forward from lan to wan does *not* imply a permission to forward from wan to lan as well.

Allow forward to destination zones:
□ cell: cell:
□ lan: lan:

Allow forward from source zones:
□ cell: cell:
☑ lan: lan:

d On the Advanced Firewall Settings Screen for the WAN Zone of the VPN Tunnel Initiator, specify **!*f.g.h.i*/*j*** in the field **Restrict Masquerading to Given Destination Subnets**, to indicate not to use masquerading for that subnet.

Note: Make sure an exclamation point precedes the right subnet (remote subnet) ***f.g.h.i*/*j*** shown on the IPsec VPN Tunnel Screen for a VPN Tunnel Initiator (recall Figure 10-7).

e Select the **Save & Apply** button.

f On that same screen, select the **Back to Overview** button.

g On the overview screen, select the **Save & Apply** button.

h Go to *Firewall Traffic Rules*, on page 8.

10.1.3 Firewall Traffic Rules

For this IPsec VPN tunnel, we need to add and update firewall rules on the server side (responder side) of the IPsec VPN tunnel.

Note: Do not configure these rules on the initiator of the VPN tunnel.

1 On the EN-2000 management system, select the **Network** tab. Then select the **Firewall** tab and the **Traffic Rules** tab.

❖ The Firewall Traffic Rules Screen for an IPsec VPN Tunnel Responder is displayed (Figure 10-10).

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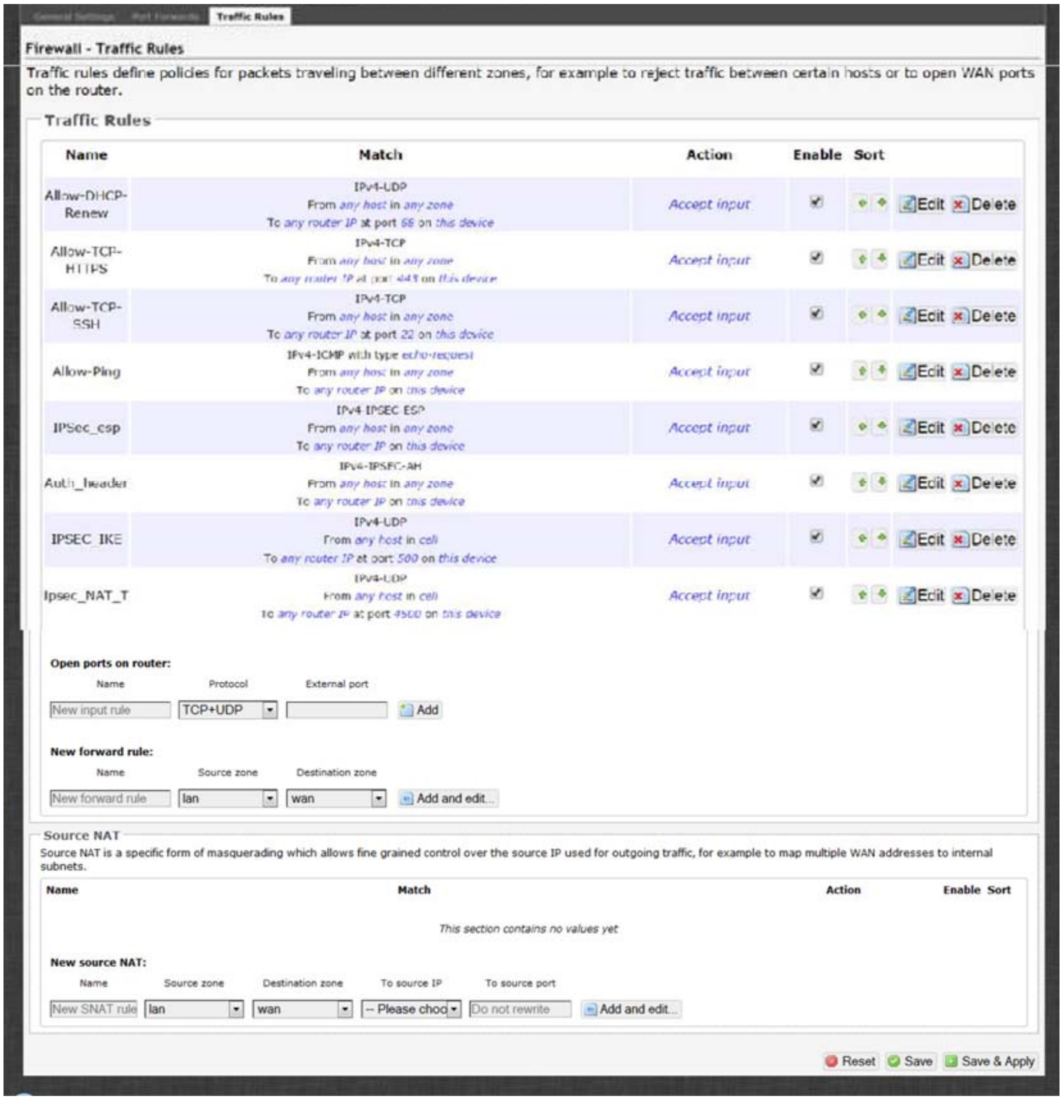
Figure 10-10. Firewall Traffic Rules Screen for an IPsec VPN Tunnel Responder



Firewall - Traffic Rules

Traffic rules define policies for packets traveling between different zones, for example to reject traffic between certain hosts or to open WAN ports on the router.

Traffic Rules

Name	Match	Action	Enable	Sort	
Allow-DHCP-Renew	IPv4-UDP From *any host* in *any zone* To *any router IP* at port *68* on *this device*	*Accept input*	☑	↑ ↓	Edit Delete
Allow-TCP-HTTPS	IPv4-TCP From *any host* in *any zone* To *any router IP* at port *443* on *this device*	*Accept input*	☑	↑ ↓	Edit Delete
Allow-TCP-SSH	IPv4-TCP From *any host* in *any zone* To *any router IP* at port *22* on *this device*	*Accept input*	☑	↑ ↓	Edit Delete
Allow-Ping	IPv4-ICMP with type *echo-request* From *any host* in *any zone* To *any router IP* on *this device*	*Accept input*	☑	↑ ↓	Edit Delete
IPSec_esp	IPv4 IPSEC ESP From *any host* in *any zone* To *any router IP* on *this device*	*Accept input*	☑	↑ ↓	Edit Delete
Auth_header	IPv4-IPSEC-AH From *any host* in *any zone* To *any router IP* on *this device*	*Accept input*	☑	↑ ↓	Edit Delete
IPSEC_IKE	IPv4-UDP From *any host* in *cell* To *any router IP* at port *500* on *this device*	*Accept input*	☑	↑ ↓	Edit Delete
Ipsec_NAT_T	IPv4-UDP From *any host* in *cell* To *any router IP* at port *4500* on *this device*	*Accept input*	☑	↑ ↓	Edit Delete

Open ports on router:

Name	Protocol	External port	
New input rule	TCP+UDP ▾		Add

New forward rule:

Name	Source zone	Destination zone	
New forward rule	lan ▾	wan ▾	Add and edit...

Source NAT

Source NAT is a specific form of masquerading which allows fine grained control over the source IP used for outgoing traffic, for example to map multiple WAN addresses to internal subnets.

Name	Match	Action	Enable	Sort

This section contains no values yet

New source NAT:

Name	Source zone	Destination zone	To source IP	To source port	
New SNAT rule	lan ▾	wan ▾	-- Please choo ▾	Do not rewrite	Add and edit...

Reset Save Save & Apply

The Firewall Traffic Rules Screen for an IPsec VPN Tunnel Responder lists several rules for monitoring traffic. We will briefly address its rules for IPsec VPNs.

2 Do the following to add a firewall traffic rule for the ESP protocol, to allow the responder side of a VPN tunnel to accept traffic on the TCP port from any IP address in the WAN:

a Under the heading **Open ports on router**, type the name **ESP protocol**. (Any name can be entered for a firewall rule; this choice of name reminds us of the function.)

b Then select the **Add** button.

❖ The Firewall Rule Configuration Screen for VPNs is displayed (Figure 10-11).

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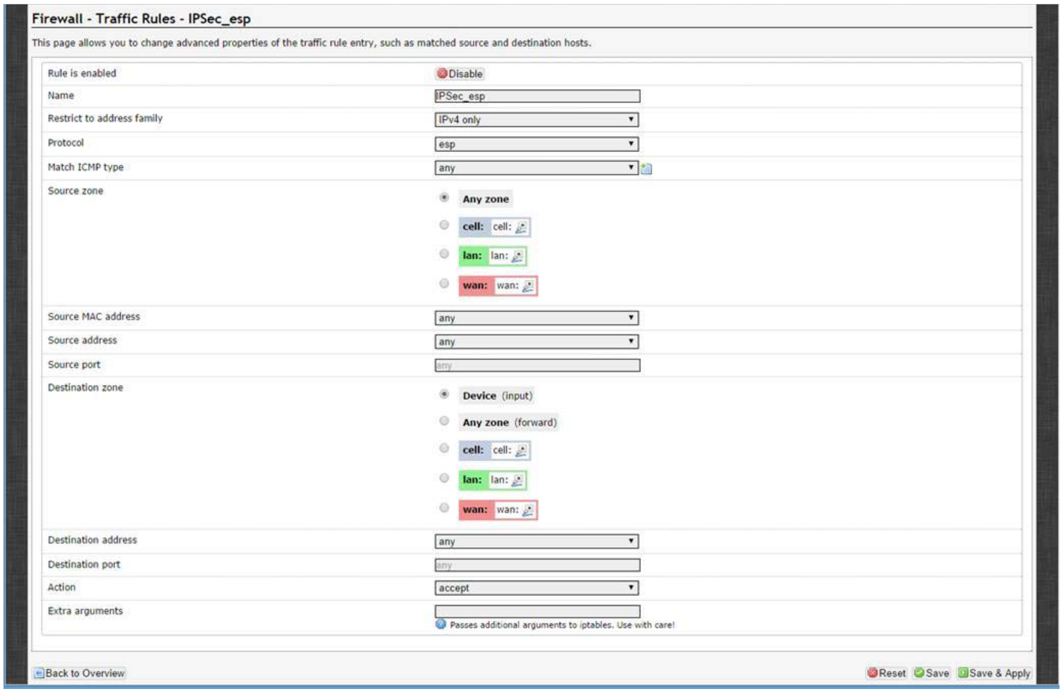
Figure 10-11. Firewall Rule Configuration Screen for VPNs
ESP protocol



Firewall - Traffic Rules - IPSec_esp

This page allows you to change advanced properties of the traffic rule entry, such as matched source and destination hosts.

Rule is enabled	Disable
Name	IPSec_esp
Restrict to address family	IPv4 only
Protocol	esp
Match ICMP type	any
Source zone	● Any zone ○ cell: cell: ○ lan: lan: ○ wan: wan:
Source MAC address	any
Source address	any
Source port	any
Destination zone	● Device (input) ○ Any zone (forward) ○ cell: cell: ○ lan: lan: ○ wan: wan:
Destination address	any
Destination port	any
Action	accept
Extra arguments	Passes additional arguments to iptables. Use with care!

c Configure the fields on this screen:

- Set **Restrict to address family** to **IPv4 only**.
- Set the **Protocol** to **TCP**.
- Leave **Match ICMP type** at **any**.
- Make sure the **Source Zone** shows that the **WAN** port is selected.
- Leave the **Source MAC address**, **Source address**, and **Source port** at **any**.
- For **Destination Zone**, select **Device**.
- Leave the **Destination Address** at **any**.
- For **Destination Port**, leave the port number as **any**.
- Make sure the **Action** is to **accept** the packets.
- Leave the **Extra Arguments** field blank.

d Select the **Save & Apply** button.

❖ The rule is saved.

e Select the **Back to Overview** button.

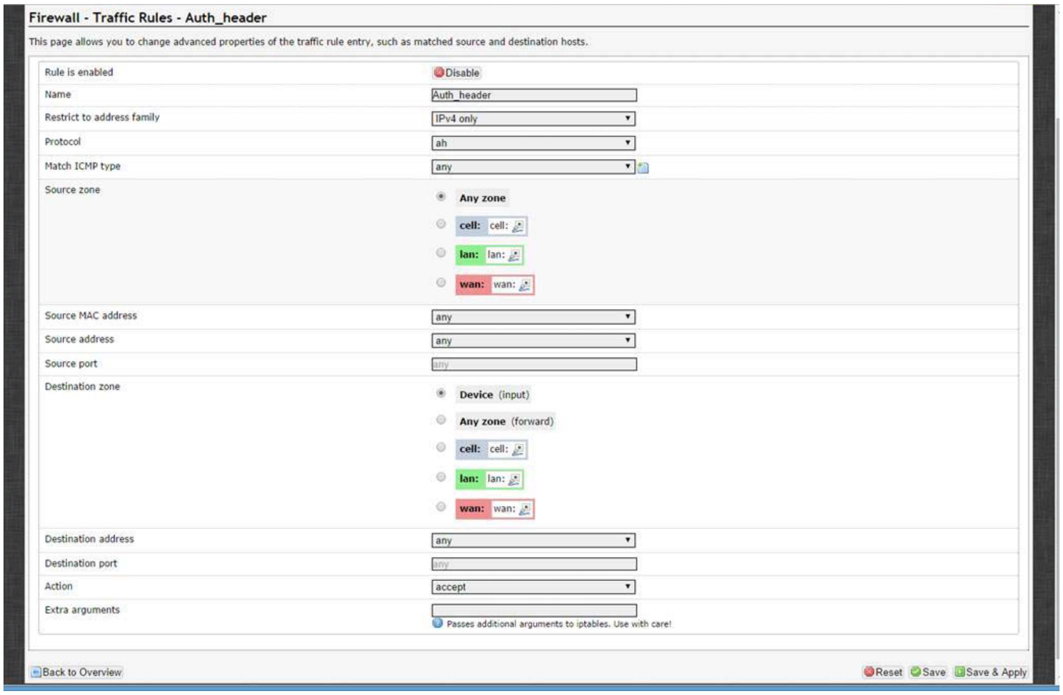
❖ The Firewall Traffic Rules Screen for an IPsec VPN Tunnel Responder is redisplayed (recall Figure 10-10).

3 Repeat the procedure in step 2 for each of the following protocols:

- AH protocol (see Figure 10-12).

  Note: For the **Destination Port**, specify **any**.

Figure 10-12. Firewall Rule Configuration Screen for VPNs
AH protocol



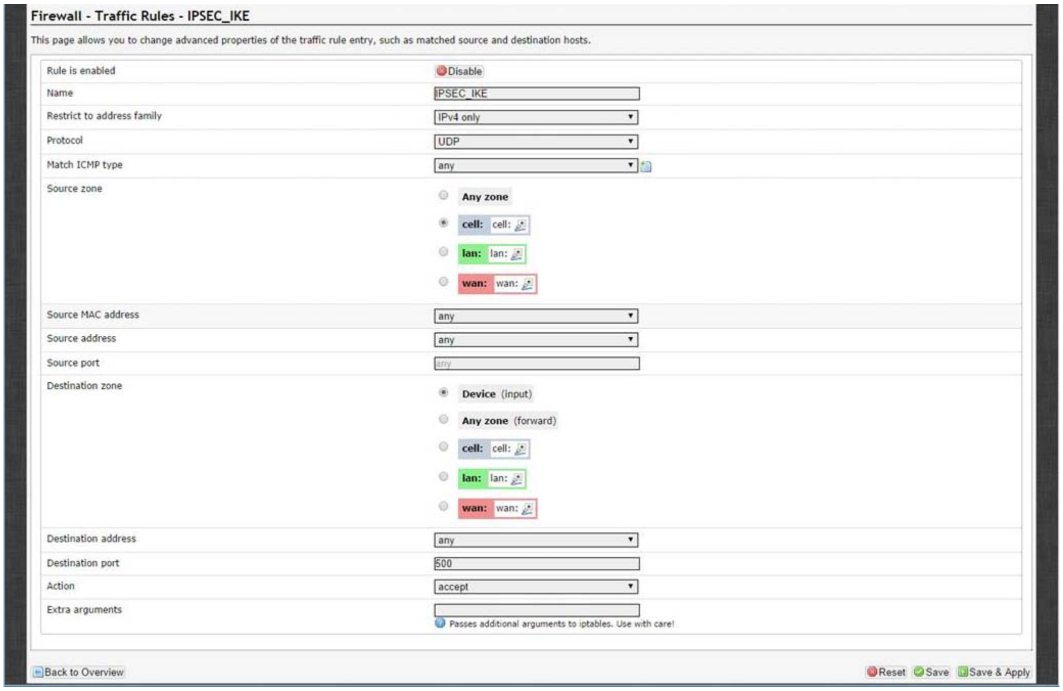
Firewall - Traffic Rules - Auth_header

This page allows you to change advanced properties of the traffic rule entry, such as matched source and destination hosts.

Rule is enabled	Disable
Name	Auth_header
Restrict to address family	IPv4 only
Protocol	ah
Match ICMP type	any
Source zone	● Any zone ○ cell: cell: ○ lan: lan: ○ wan: wan:
Source MAC address	any
Source address	any
Source port	any
Destination zone	● Device (input) ○ Any zone (forward) ○ cell: cell: ○ lan: lan: ○ wan: wan:
Destination address	any
Destination port	any
Action	accept
Extra arguments	Passes additional arguments to iptables. Use with care!

- IKE, UDP port 500 (see Figure 10-13).

Figure 10-13. Firewall Rule Configuration Screen for VPNs
IKE



Firewall - Traffic Rules - IPSEC_IKE

This page allows you to change advanced properties of the traffic rule entry, such as matched source and destination hosts.

Rule is enabled	Disable
Name	IPSEC_IKE
Restrict to address family	IPv4 only
Protocol	UDP
Match ICMP type	any
Source zone	○ Any zone ● cell: cell: ○ lan: lan: ○ wan: wan:
Source MAC address	any
Source address	any
Source port	any
Destination zone	● Device (input) ○ Any zone (forward) ○ cell: cell: ○ lan: lan: ○ wan: wan:
Destination address	any
Destination port	500
Action	accept
Extra arguments	Passes additional arguments to iptables. Use with care!

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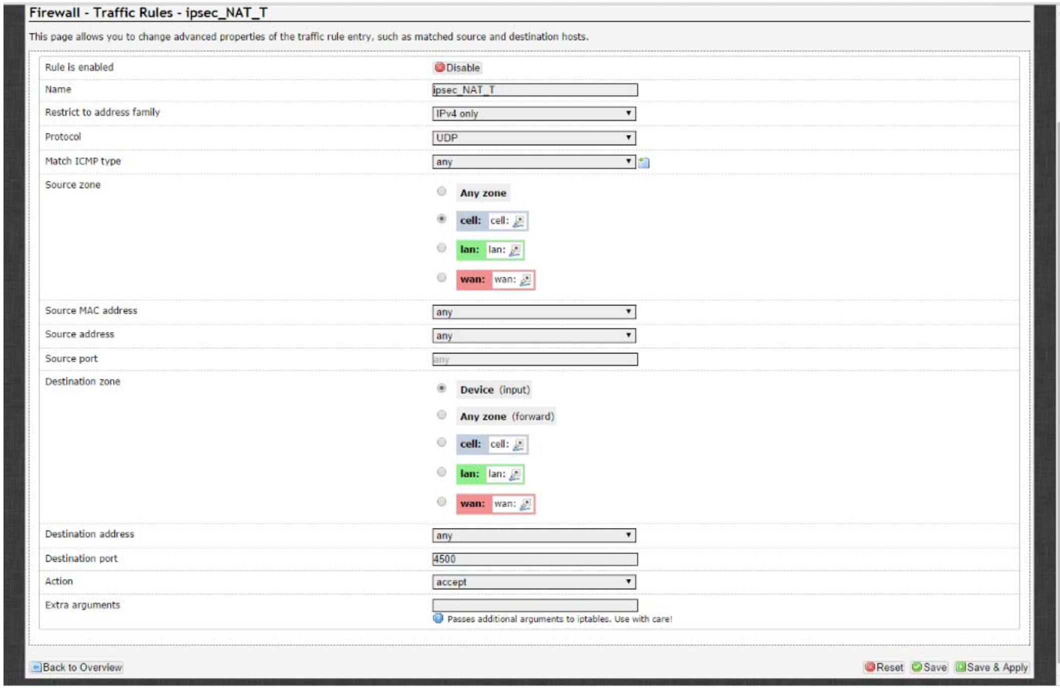
- IPsec_NAT_T, UDP port 4500 (see Figure 10-14).

Figure 10-14. Firewall Rule Configuration Screen for VPNs
IPsec_NAT_T



Firewall - Traffic Rules - ipsec_NAT_T

This page allows you to change advanced properties of the traffic rule entry, such as matched source and destination hosts.

Rule is enabled	Disable
Name	ipsec_NAT_T
Restrict to address family	IPv4 only
Protocol	UDP
Match ICMP type	any
Source zone	○ Any zone ● cell: cell: ○ lan: lan: ○ wan: wan:
Source MAC address	any
Source address	any
Source port	any
Destination zone	● Device (input) ○ Any zone (forward) ○ cell: cell: ○ lan: lan: ○ wan: wan:
Destination address	any
Destination port	4500
Action	accept
Extra arguments	Passes additional arguments to iptables. Use with care!

10.2 Configuring the Source NAT

1 On the Firewall Traffic Rules Screen for an IPsec VPN Tunnel Responder (recall Figure 10-10), under the heading **New Source NAT** (near the bottom of the screen), type a **Name** for a new network address translation (NAT) rule.

2 Make sure the following settings are used:

- **Source zone: LAN**
- **Destination zone: WAN**
- **To source IP: 10.1.1.1 (br-lan)**, selected from the field’s pulldown menu

3 Then select the **Add and Edit** button.

❖ The VPN Responder’s Firewall Traffic Rules Screen for a Source NAT is displayed (Figure 10-15).

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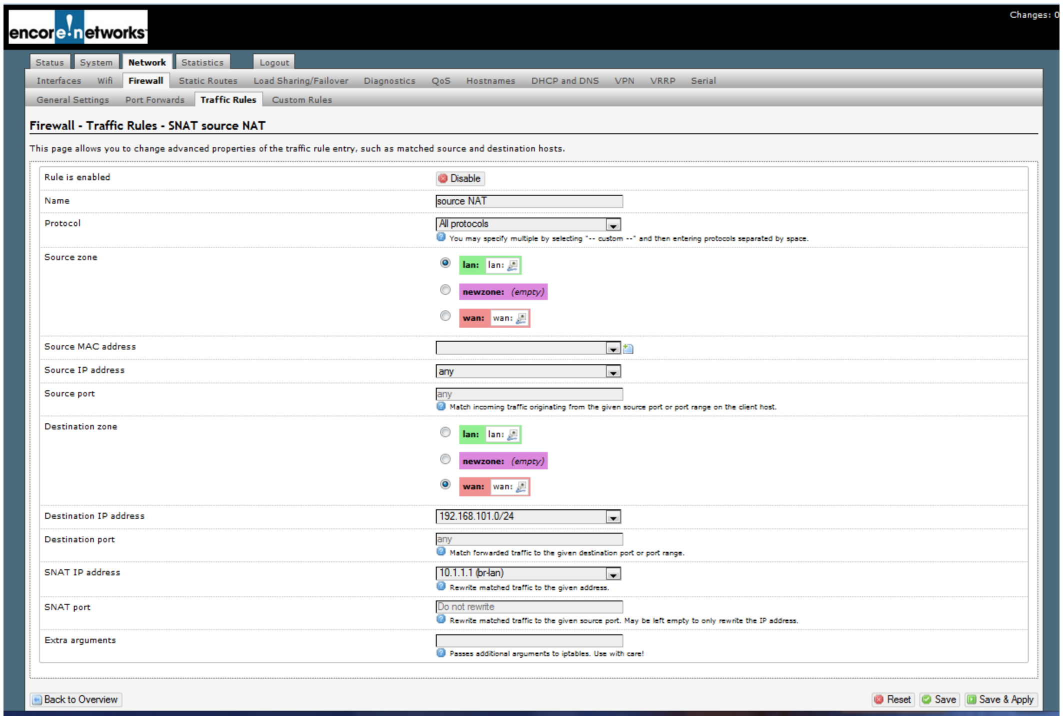
Figure 10-15. VPN Responder's Firewall Traffic Rules Screen for a Source NAT



Firewall - Traffic Rules - SNAT source NAT

This page allows you to change advanced properties of the traffic rule entry, such as matched source and destination hosts.

Rule is enabled	Disable
Name	source NAT
Protocol	All protocols You may specify multiple by selecting "-- custom --" and then entering protocols separated by space.
Source zone	● lan: lan: ○ newzone: *(empty)* ○ wan: wan:
Source MAC address	
Source IP address	any
Source port	any Match incoming traffic originating from the given source port or port range on the client host.
Destination zone	○ lan: lan: ○ newzone: *(empty)* ● wan: wan:
Destination IP address	192.168.101.0/24
Destination port	any Match forwarded traffic to the given destination port or port range.
SNAT IP address	10.1.1.1 (br-lan) Rewrite matched traffic to the given address.
SNAT port	Do not rewrite Rewrite matched traffic to the given source port. May be left empty to only rewrite the IP address.
Extra arguments	 Passes additional arguments to iptables. Use with care!

4 On that screen, make sure the following values are entered:

- **Protocol: All protocols**
- **Source zone: LAN**
- **Source IP address: any**
- **Source port: any**
- **Destination zone: WAN**
- **Destination IP address:** subnet for left (local) router
- **Destination port: any**
- **SNAT** (Source NAT) **IP address: 10.1.1.1 (br-lan)**, selected from the field's pulldown menu

5 Select the **Save & Apply** button.

6 Then select the **Back to Overview** button.

❖ The Firewall Traffic Rules Screen for an IPsec VPN Tunnel Responder (recall Figure 10-10) is redisplayed.

7 On that screen, select the **Save & Apply** button.

❖ Firewall rules for the Source NAT are configured and implemented.

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