

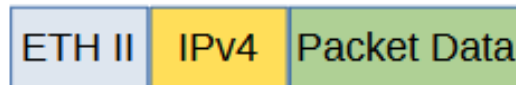
## AF40G24AC

### VxLAN Encapsulate

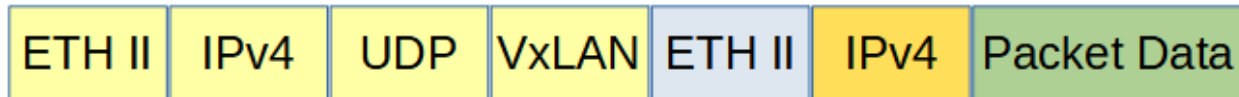
Overview:

When a packet is encapsulated with a VxLAN header the new VxLAN header segments are added to the original packet. The VxLAN header segments consists of Ethernet II, IPv4, UDP and VxLAN as shown below.

Original Packet



VxLAN Encapsulated Packet



Encapsulating a packet with a VxLAN header involves two configuration processes.

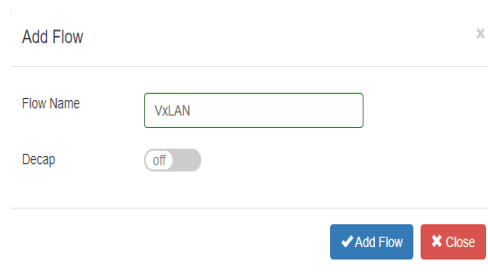
1. Create a Flow
2. Create a Tap Group

## 1. Create a Flow

The flow defines which packets will be encapsulated with a VxLAN header. Packets that do not meet the flow attributes will not be encapsulated. In some cases it may be required to create more than 1 flow.

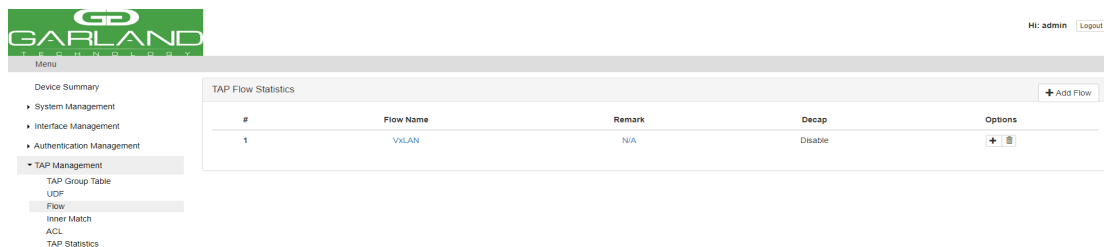
1. Select Tap Management.
2. Select Flow.
3. Select + Add Flow.

The Add Flow panel will appear.



4. Enter the Flow Name.
5. Select Add Flow.

The flow will be displayed.



#	Flow Name	Remark	Decap	Options
1	VxLAN	N/A	Disable	+   [icon]

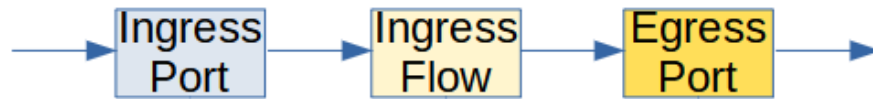
6. Select the + in the Options column for the desired flow to define the flow attributes.

The Add Flow Entry panel will be displayed.

7. Under Match Rule select the desired options and enter the desired values to define which packets are encapsulated with a VxLAN header. If desired the default options may be used to encapsulate all packets.
8. Under Action, select Add Vxlan.
9. Enter the desired Vxlan-dst-mac. This defines the Destination MAC in the Ethernet II segment of the VxLAN header.
10. Enter the desired Vxlan-src-ip. This defines the Source IP in the IPv4 segment of the VxLAN header.
11. Enter the desired Vxlan-dst-ip. This defines the Destination IP in the IPv4 segment of the VxLAN header.
12. Enable Vxlan-dst-port.
13. This is the UDP Destination Port defined in the UDP segment in the VxLAN header. The port value is always 4789 for VxLAN.
14. Enable Vxlan-src-port.
15. Enter the port-value of the UDP Source Port defined in the UDP segment in the VxLAN header, 1-65535.
16. Enter the Vxlan-vni-num, 1-16777215.
17. Select OK.

## 2. Create a Tap Group

The Tap Group defines the ingress port, ingress flow and egress port.



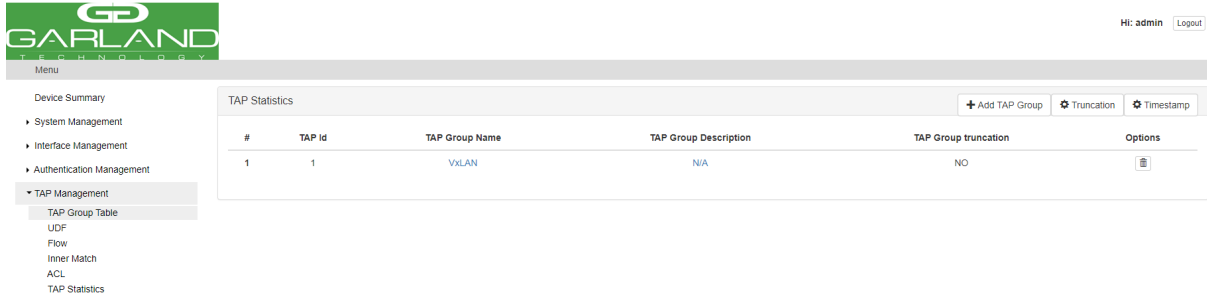
1. Select Tap Management.
2. Select TAP Group Table.
3. Select + Add TAP Group.

The TAP Group Name panel will appear.

The screenshot shows a dialog box titled 'TAP Group Name' with a close button (x) in the top right corner. Inside the dialog, there are two input fields: 'TAP Group Name' with the value 'VxLAN' and 'TAP Group ID' with the value '0'. At the bottom right of the dialog, there are two buttons: a blue 'OK' button with a checkmark and a red 'Close' button with an 'x'.

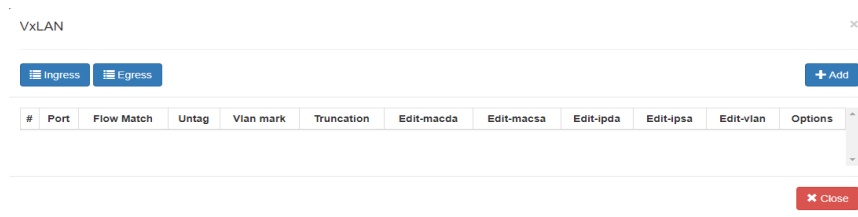
4. Enter the TAP Group Name.
5. Select OK.

The Tap Group will be displayed.



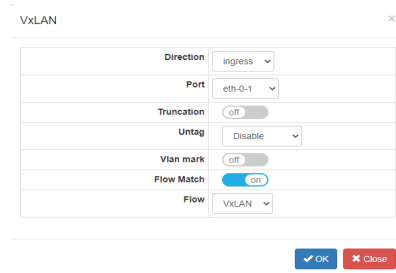
- Place the cursor on the tap group name under the TAP Group Name column and press the left mouse button.

The TAP group panel will appear.

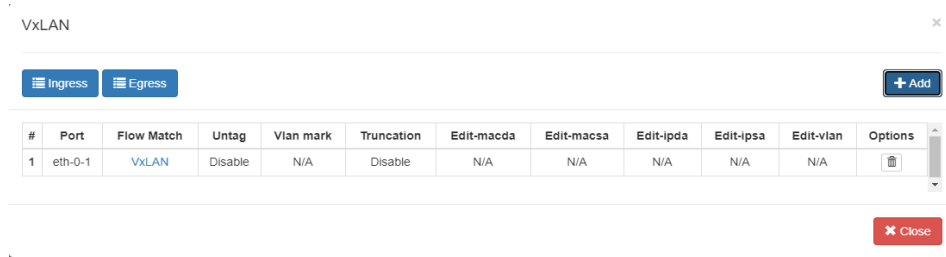


- Select the + Add to define the ingress port and ingress flow.

The add panel will appear.

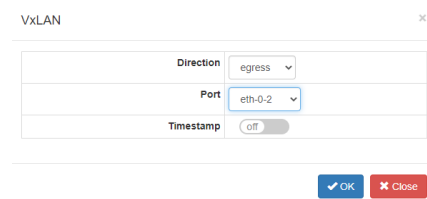


- Select the Direction, ingress.
- Select the desired ingress port.
- Enable Flow Match.
- Select the VxLAN flow.
- Select OK.



13. Select the + Add to define the egress port.

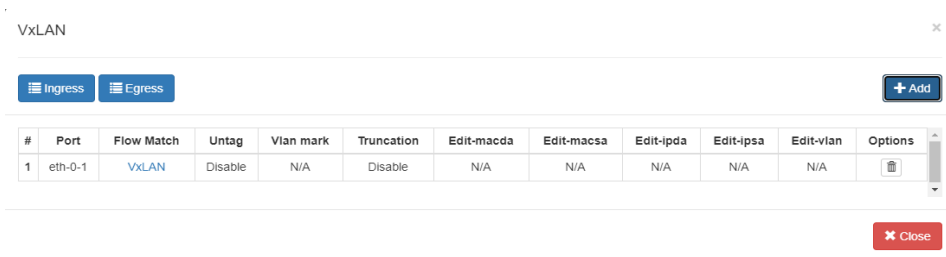
The add panel will appear.



14. Select the Direction, egress.

15. Select the desired egress port.

16. Select OK.



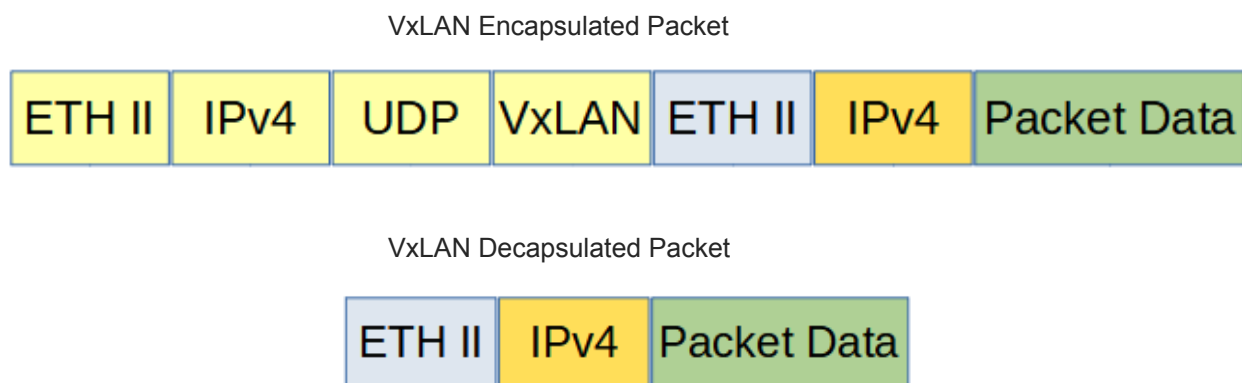
17. The ingress port, ingress flow, and egress port may be displayed by selecting Ingress or Egress. Additional ingress ports, ingress flows, or egress ports may be added to the Tap Group using the same steps.

18. Select Close to return the TAP Group Table display.

## VxLAN Decapsulate

### Overview:

When a VxLAN packet is decapsulated the VxLAN header segments are removed from the packet.



Decapsulating the VxLAN header from a packet involves two configuration processes.

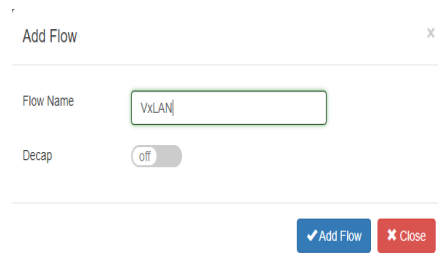
1. Create a Flow
2. Create a Tap Group

## 1. Create a Flow

The flow defines which VxLAN packets will be decapsulated. Packets that do not meet the flow attributes will not be decapsulated. In some cases, it may be required to create more than 1 flow.

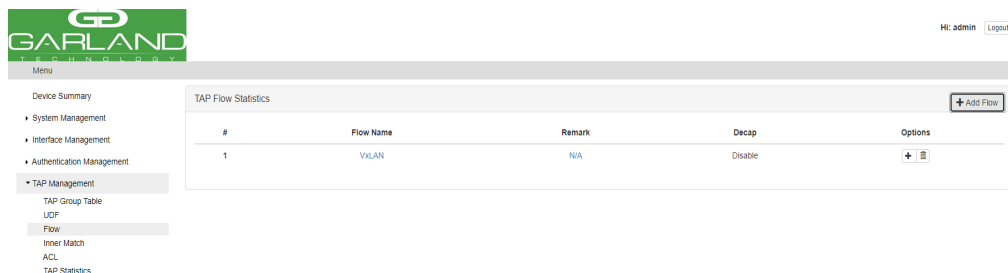
1. Select Tap Management.
2. Select Flow.
3. Select + Add Flow.

The Add Flow panel will appear.



4. Enter the Flow Name.
5. Select Add Flow.

The flow will be displayed.

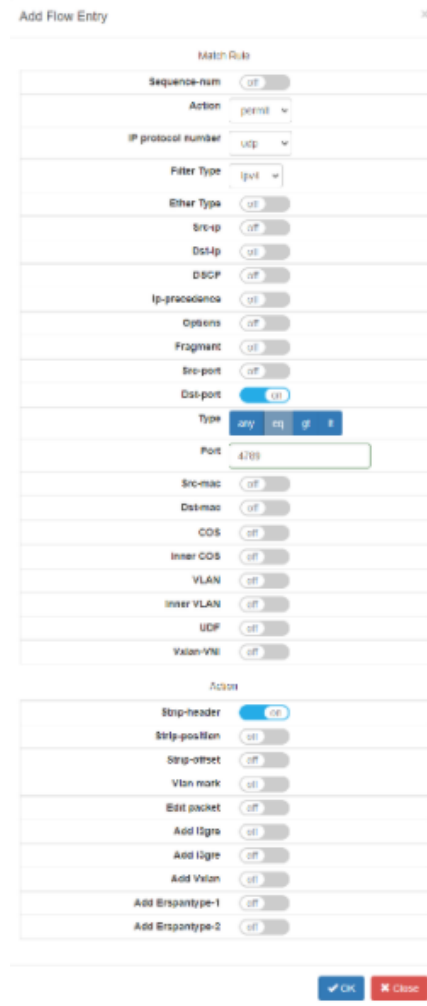


#	Flow Name	Remark	Decap	Options
1	VxLAN	N/A	Disable	+

6. Select the + in the Options column for the desired flow to define the flow attributes.



The Add Flow Entry panel will be displayed.



The screenshot shows the 'Add Flow Entry' configuration window. Under the 'Match Rule' section, the following settings are visible:
 

- Sequence-num: off
- Action: permit
- IP protocol number: udp
- Filter Type: ipv4
- Ether Type: off
- Src-ip: off
- Dst-ip: off
- DSCP: off
- Ip-precedence: off
- Options: off
- Fragment: off
- Src-port: off
- Dst-port: on
- Type: eq
- Port: 4789
- Src-mac: off
- Dst-mac: off
- COS: off
- Inner COS: off
- VLAN: off
- Inner VLAN: off
- UDP: off
- Vlan-VNI: off

 In the 'Action' section:
 

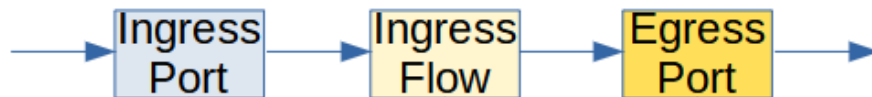
- Strip-header: on
- Strip-position: off
- Strip-offset: off
- Vlan mark: off
- Edit packet: off
- Add t3gts: off
- Add t3gts: off
- Add Vlan: off
- Add Esrcpntype-1: off
- Add Esrcpntype-2: off

 At the bottom, there are 'OK' and 'Close' buttons.

7. Under Match Rule select udp for the IP Protocol Number.
8. Select the other desired options and enter the desired values to define which VxLAN packets are decapsulated. The defaults may be used to decapsulate all VxLAN packets.
9. Enable Dst-port.
10. Select Type, eq.
11. Enter Port number 4789. The UDP Destination Port number for VxLAN is always 4789.
12. Under Actions enable Strip-header.
13. Select OK.

## 2. Create a Tap Group

The Tap Group defines the ingress port, ingress flow, and egress port.



1. Select Tap Management.
2. Select TAP Group Table.
3. Select + Add TAP Group.

The TAP Group Name panel will appear.

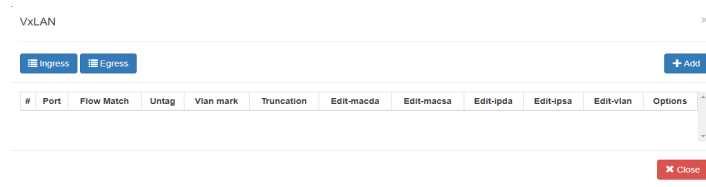
4. Enter the TAP Group Name.
5. Select OK.

The Tap Group will be displayed.

#	Flow Name	Remark	Decap	Options
1	VxLAN	N/A	Disable	+ -

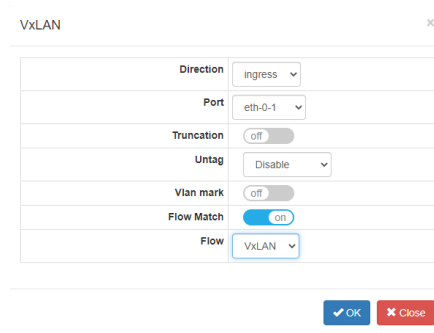
- Place the cursor on the tap group name under the TAP Group Name column and press the left mouse button.

The TAP group panel will appear.

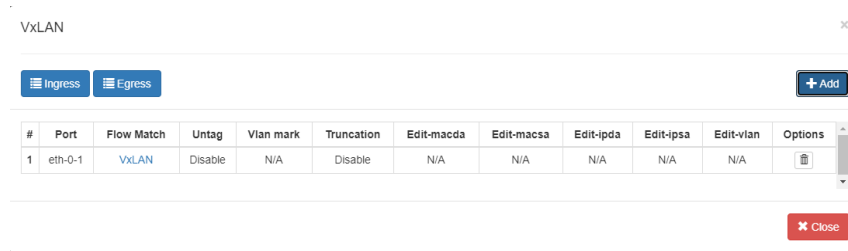


- Select the + Add to define the ingress port and ingress flow.

The add panel will appear.

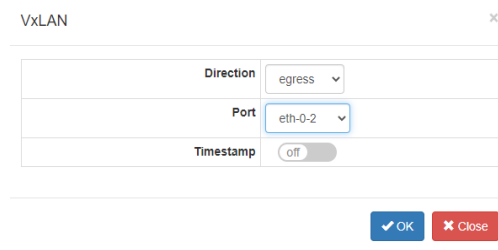


- Select the Direction, ingress.
- Select the desired ingress port.
- Enable Flow Match.
- Select the VxLAN flow.
- Select OK.



13. Select the + Add to define the egress port.

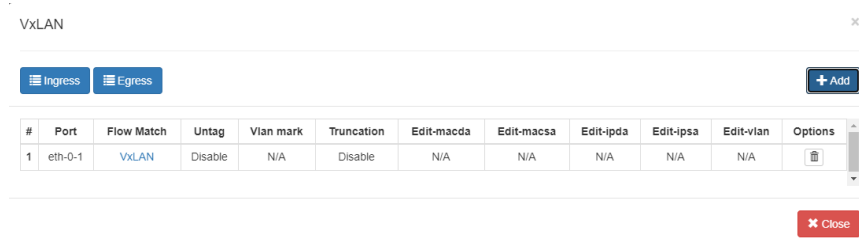
The add panel will appear.



14. Select the Direction, egress.

15. Select the desired egress port.

16. Select OK.



17. The ingress port, ingress flow, and egress port may be displayed by selecting Ingress or Egress. Additional ingress ports, ingress flows, or egress ports may be added to the Tap Group using the same steps.

18. Select Close to return the TAP Group Table display.