

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.



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.

Flow Name	VxLAN	
Decap	off	

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

The flow will be displayed.

GARLANC	þ				Hi: admin Logout
Menu					
Device Summary	TAP Flow Statistics				+ Add Flow
 System Management 		Flow Name	Bomark	Pecan	Options
 Interface Management 		Flow Hume	Nellark	Decup	Optiona
Authentication Management	1	VxLAN	N/A	Disable	+ 💼
▼ TAP Management					
TAP Group Table					
UDF					
Flow					
Inner Match					
ACL					
TAP Statistics					

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



Match	Rule
Sequence-num	of
Action	permit v
IP protocol number	any v
Filter Type	ipv4 ¥
Ether Type	off
Src-Ip	
Dst-ip	of
DSCP	(off)
Ip-precedence	aff
Options	(III)
Fragment	off
Sre-mac	10
Dst-mac	off
COS	To
Inner COS	off
VLAN	10
Inner VLAN	off
UDF	10
Acti	on
Add Vxlan	01
Vxlan-dest-mac	atatiatatat
Vixlan-src-ip	10.10.10.10
Vxlan-dest-lp	10.10.10.15
Vxian-dist-port	
port-viaue	4709
Vxlan-src-port	(0)
port-viaue	1234
Valan-vni-num	123

The Add Flow Entry panel will be displayed.

- 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-dest-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.

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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.

TAP Group Name		×
TAP Group Name	VxLAN	
TAP Group ID	0	
		✓ OK Close

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



The Tap Group will be displayed.

GARLAN	Ĩ					Hi: admin Logout
Menu						
Device Summary	TAP Statis	stics			+ Add TAP Group	cation 🌣 Timestamp
System Management Interface Management	#	TAP Id	TAP Group Name	TAP Group Description	TAP Group truncation	Options
Authentication Management	1	1	VxLAN	N/A	NO	Ē
 TAP Management 						
TAP Group Table UDF Flow						
Inner Match ACL TAP Statistics						

6. 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.

XLAN										
Ingress	≣ Egress									+ ^
Port	Flow Match	Untag	Vian mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
										× Clo

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

The add panel will appear.

Port eth-0-1 v	
Truncation	
Untag Disable ~	
Vlan mark off	
Flow Match On	
Flow	

- 8. Select the Direction, ingress.
- 9. Select the desired ingress port.
- 10. Enable Flow Match.
- 11. Select the VxLAN flow.
- 12. Select OK.



	Ingress	i≣ Egress									+ A
#	Port	Flow Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
1	eth-0-1	VxLAN	Disable	N/A	Disable	N/A	N/A	N/A	N/A	N/A	亩

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

The add panel will appear.

	Direction	egress	~		
	Port	eth-0-2	~		
1	ïmestamp	Off			

- 14. Select the Direction, egress.
- 15. Select the desired egress port.
- 16. Select OK.

Vxl	_AN										
	Ingress	≣ Egress									+ A
#	Port	Flow Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
1	eth-0-1	VxLAN	Disable	N/A	Disable	N/A	N/A	N/A	N/A	N/A	Û
											×ci

- 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.

VxLAN Encapsulated Packet



VxLAN Decapsulated Packet

ETH II	IPv4	Packet Data
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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.

Flow Name	VxLAN	
Decan	off	
Decap	UI	

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

The flow will be displayed.

	D				HI: admin Logout
Device Summary	TAP Flow Statistics				+ Add Flow
System Management Interface Management	#	Flow Name	Remark	Decap	Options
Authentication Management	1	VXLAN	N/A	Disable	+ 🗊
TAP Management					
TAP Group Table UOF Flow Inner Match ACL TAP Statistics					

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



The Add Flow Entry panel will be displayed.

Add Flow Entry	×
Match	Rule
Sequence-num	ot
Action	permit
IP protocol number	utp w
Filter Type	lpvl +
Ether Type	
Src-tp	at
Dst4p	(0)
DSCP	(11)
Ip-precedence	(0)
Options	(aff)
Fragment	
Sec-port	at
Dst-port	
Type	any eq gt t
Port	4789
\$rc-mac	
Dst-mao	of
cos	at
Inner COS	at
VLAN	at
Inter VLAN	(at)
UDF	al
Valan-VNI	off
Acti	501
Strip-header	(10)
Strip-position	(III)
Strip-ottset	off
Vian mark	l
Edit packet	(aff
Add ISgre	l
Add lögre	of
Add Valan	(II)
Add Erspantype-1	off
Add Erspantype-2	(fl)
	✓ CK K Close

- 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.

TAP Group Name		×
TAP Group Name	VxLAN	
TAP Group ID	0	
L		✓ OK ¥ Close

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

The Tap Group will be displayed.

GARLANE	D				Hi: admin [Logout]
Menu					
Device Summary	TAP Flow Statistics				+ Add Flow
System Management Interface Management		Flow Name	Remark	Decap	Options
Authentication Management	1	VxLAN	NA	Disable	+ 8
 TAP Management 					
TAP Group Table UDF					
Flow					
Inner Match ACL TAP Statistics					

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6. 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.

	Ingress	Egress									+ ^
#	Port	Flow Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options

- 7. Select the + Add to define the ingress port and ingress flow.
 - The add panel will appear.

VxLAN	×
Direction	ingress 🗸
Port	eth-0-1 🗸
Truncation	Off
Untag	Disable 🗸
Vian mark	Off
Flow Match	on
Flow	VxLAN ~
	✓ OK K Close

- 8. Select the Direction, ingress.
- 9. Select the desired ingress port.
- 10. Enable Flow Match.
- 11. Select the VxLAN flow.
- 12. Select OK.



	Ingress	≣ Egress									+ A
#	Port	Flow Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
1	eth-0-1	VxLAN	Disable	N/A	Disable	N/A	N/A	N/A	N/A	N/A	Î

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

The add panel will appear.

Direction	egress	~		
Port	eth-0-2	~		
Timestamp	Off			

- 14. Select the Direction, egress.
- 15. Select the desired egress port.
- 16. Select OK.

Egress									+ A
low Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
VxLAN	Disable	N/A	Disable	N/A	N/A	N/A	N/A	N/A	Î
	Egress low Match VxLAN	Iow Match Untag VxLAN Disable	Icgress Iow Match Untag Vlan mark VxLAN Disable N/A	Legress Vian mark Truncation VxLAN Disable N/A Disable	Legress Vian mark Truncation Edit-macda VxLAN Disable N/A Disable N/A	Legress Vian mark Truncation Edit-macda Edit-macsa VxLAN Disable N/A Disable N/A N/A	Legress Value Vian mark Truncation Edit-macda Edit-macsa Edit-ipda VxLAN Disable N/A Disable N/A N/A N/A	Legress Untag Vian mark Truncation Edit-macda Edit-macsa Edit-ipda Edit-ipsa VxLAN Disable N/A Disable N/A N/A N/A N/A	Legress Untag Vlan mark Truncation Edit-macda Edit-macsa Edit-ipda Edit-ipsa Edit-vlan VxLAN Disable N/A Disable N/A N/A N/A N/A N/A

- 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.

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