

#### AF40G24AC

#### **I2GRE Encapsulate**

Overview:

When a packet is encapsulated with an I2GRE header the new I2GRE header segments are added to the original packet. The I2GRE header segments consist of Ethernet II, IPv4, and I2GRE as shown below.



I2GRE Encapsulated Packet

ETH II	IPv4	I2GRE	ETH II	IPv4	Packet Data
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Encapsulating a packet with an I2GRE 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 an I2GRE 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.

Add Flow		×
Flow Name	I2GRE	
Decap	off	
		✓Add Flow Close

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

#### The flow will be displayed.

					Hi: admin Logout
Device Summary	TAP Flow Statistics				+ Add Flow
System Management     Interface Management	#	Flow Name	Remark	Decap	Options
Authentication Management	1	I2GRE	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.



Matc	h Rule
Sequence-num	(01)
Action	permit v
IP protocol number	any 🗸
Filter Type	ipv4 v
Ether Type	10
Src-ip	(of )
Dst-ip	(10)
DSCP	(10)
Ip-precedence	(10)
Options	(m)
Fragment	(01)
Src-mac	of
Dst-mac	(10)
cos	To
Inner COS	(01)
VLAN	(10)
Inner VLAN	(01)
UDF	01
Ac	lion
Add I2gre	Con
L2gre-sro-ip	10.10.10.10
L2gre-dest-lp	10.10.10.15
L2gre-dest-mac	atat atat atat
L2gre-key-length	24 ¥
L2gre-key-num	123

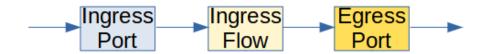
#### The Add Flow Entry panel will be displayed.

- Under Match Rule select the desired options and enter the desired values to define which packets are encapsulated with a I2GRE header. If desired the default options may be used to encapsulate all packets.
- 8. Under Action, select Add I2gre.
- 9. Enter the desired L2gre-src-ip. This defines the Source IP in the IPv4 segment of the I2GRE header.
- 10. Enter the desired L2gre-dest-ip. This defines the Destination IP in the IPv4 segment of the I2GRE header.
- 11. Enter the desired L2gre-dst-mac. This defines the Destination MAC in the Ethernet II segment of the I2GRE header.
- 12. Select the L2gre-key-length, 16, 20, 24, 32. The default is 24.
- 13. Enter the L2gre-key-num, 1-16777215.
- 14. 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	I2GRE	
TAP Group ID	0	
		✓ OK K Close

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



The Tap Group will be displayed.

							1	Hi: admin Logou
Device Summary	TAP Statistics + Add TAP Group 🗘							Timestamp
System Management     Interface Management	#	TAP Id	TAP Group Name	TAP Group Description		p truncation		Options
Authentication Management     TAP Management	1	1	12GRE	N/A		NO		Î
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.

2G	RE										
	Ingress	Egress									+ Ad
#	Port	Flow Match	Untag	Vian mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
											× Clos

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

The add panel will appear.

Direction	ingress 🗸
Port	eth-0-1 🗸
Truncation	Off
Untag	Disable 🗸
Vlan mark	Off
Flow Match	On
Flow	I2GRE ¥

- 8. Select the Direction, ingress.
- 9. Select the desired ingress port.
- 10. Enable Flow Match.
- 11. Select the I2GRE flow.
- 12. Select OK.

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	Ingress	<b>≣</b> Egress									<b>+</b> Ac
¥	Port	Flow Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
	eth-0-1	I2GRE	Disable	N/A	Disable	N/A	N/A	N/A	N/A	N/A	<b></b>

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

The add panel will appear.

I2GRE	×
Direction	egress 🗸
Port	eth-0-2 🗸
Timestamp	off
	✓ OK K Close

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

Ingress	Egress 🗄									<b>+</b> A
Port	Flow Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
eth-0-1	I2GRE	Disable	N/A	Disable	N/A	N/A	N/A	N/A	N/A	â

- 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.



#### **I2GRE** Decapsulate

Overview:

When an I2GRE packet is decapsulated the I2GRE header segments are removed from the packet.

I2GRE Encapsulated Packet



I2GRE Decapsulated Packet

ETH II	IPv4	Packet Data
--------	------	-------------

Decapsulating the I2GRE 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 I2GRE 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.

Add Flow	×
Flow Name	I2GRE
Decap	Off
	Add Flow Close

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

The flow will be displayed.

					HI: admin Logo
Device Summary	TAP Flow Statistics				+ Add Flow
System Management     Interface Management	#	Flow Name	Remark	Decap	Options
Authentication Management	1	I2GRE	N/A	Disable	+ 1
▼ 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.

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Add Flow Entry	
Match	Rule
Sequence-num	Off
Action	permit 🗸
IP protocol number	nvgre 🗸
NVGRE-VNI	Time
Filter Type	ipv4 👻
Ether Type	off
Src-ip	Off
Dst-ip	Off
DSCP	Off
Ip-precedence	10
Options	off
Fragment	off
Src-mac	Off
Dst-mac	Off
cos	Off
Inner COS	Off
VLAN	
Inner VLAN	off
UDF	off
Activ	on
Strip-header	on
Strip-position	off
Strip-offset	off
Vlan mark	off
Edit packet	off
Add I2gre	Off
Add I3gre	off
Add Vxlan	m
Add Erspantype-1	off
Add Erspantype-2	off
	✓ OK K Close

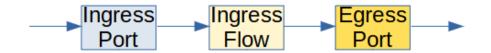
#### The Add Flow Entry panel will be displayed.

- 7. Under Match Rule select nvgre for the IP Protocol Number.
- 8. Select the other desired options and enter the desired values to define which I2GRE packets are decapsulated. The defaults may be used to decapsulate all I2GRE packets.
- 9. Under Actions enable Strip-header.
- 10. 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	I2GRE	
TAP Group ID	0	

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

The Tap Group will be displayed.



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					HI	: admin Logo
Device Summary	TAP Stat	istics			+ Add TAP Group 🌣 Truncation	Timestamp
<ul> <li>System Management</li> </ul>						
<ul> <li>Interface Management</li> </ul>	#	TAP Id	TAP Group Name	TAP Group Description	TAP Group truncation C	Options
Authentication Management	1	1	13GRE	N/A	NO	
<ul> <li>TAP Management</li> </ul>						
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.

120	RE											×
	Ingress	Egress									+ A	dd
#	Port	Flow Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-Ipda	Edit-ipsa	Edit-vlan	Options	*
											× Clo	se

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



- 8. Select the Direction, ingress.
- 9. Select the desired ingress port.
- 10. Enable Flow Match.
- 11. Select the I2GRE flow.
- 12. Select OK.

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	Ingress	Egress 🗮									<b>+</b> A
	Port	Flow Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
	1 010										

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.

Port	Flow Match	Untag	Vlan mark	Truncation	Edit-macda	Edit-macsa	Edit-ipda	Edit-ipsa	Edit-vlan	Options
eth-0-1	I2GRE	Disable	N/A	Disable	N/A	N/A	N/A	N/A	N/A	<b>a</b>

- 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 the TAP Group Table display.