

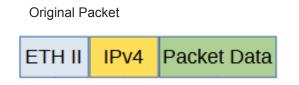


AF1G52AC

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 |
|--------|------|-------|--------|------|-------------|
|--------|------|-------|--------|------|-------------|

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 | |
| L | | ✓ 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 | + 🗊 |
| ▼ 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.



| 7 |
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| |

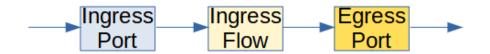
The Add Flow Entry panel will be displayed.

- Under Match Rule select the desired options and enter the desired values to define which packets are encapsulated with an 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.

| GARLANC | | | | | | Hi: admin Logout |
|--|------------|--------|----------------|-----------------------|----------------------|------------------------|
| Menu | | | | | | |
| Device Summary | TAP Statis | tics | | | + Add TAP Group | Truncation 🌣 Timestamp |
| System Management | | | | | | |
| Interface Management | # | TAP Id | TAP Group Name | TAP Group Description | TAP Group truncation | Options |
| Authentication Management | 1 | 1 | I2GRE | N/A | NO | Î |
| ▼ 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.

| 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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AF1G52AC I2GRE Guide

Advanced Features | 3.0.9

| | Ingress | ≣ Egress | | | | | | | | | + Ad |
|---|---------|-----------------|---------|-----------|------------|------------|------------|-----------|-----------|-----------|---------|
| ¥ | 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 | |

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

The add panel will appear.

| I2GRE | × |
|-----------|--------------|
| Direction | egress 🗸 |
| Port | eth-0-2 🗸 |
| Timestamp | Off |
| | ✓ OK X Close |

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

| . | Ingress | Egress | | | | | | | | | + A0 |
|----------|---------|------------|---------|-----------|------------|------------|------------|-----------|-----------|-----------|-------------|
| | 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 | Ê |

- 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 | 12GRE | |
| Decap | off | |
| | | ✓Add Flow X 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 | 12GRE | N/A | Disable | + 1 |
| ■ TAP Management | | | | | |
| TAP Group Table UDF | | | | | |
| Flow | | | | | |
| Inner Match ACL | | | | | |
| TAP Statistics | | | | | |



Advanced Features | 3.0.9

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

| Match | Rule |
|--------------------|----------|
| Sequence-num | off |
| Action | permit 🗸 |
| IP protocol number | nvgre 🗸 |
| NVGRE-VNI | Off |
| Filter Type | lpv4 ~ |
| Ether Type | off |
| Src-ip | off |
| Dst-ip | TIO |
| DSCP | 10 |
| Ip-precedence | TIO |
| Options | 10 |
| Fragment | Off |
| Src-mac | Off |
| Dst-mac | TIO |
| cos | Off |
| Inner COS | 10 |
| VLAN | 10 |
| Inner VLAN | Off |
| UDF | Off |
| Actic | n |
| Strip-header | on |
| Strip-position | Off |
| Strip-offset | off |
| Vlan mark | off |
| Edit packet | Off |
| Add I2gre | Off |
| Add I3gre | Off |
| Add Vxlan | Off |
| Add Erspantype-1 | off |
| Add Erspantype-1 | |

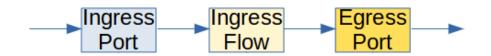
The Add Flow Entry panel will be displayed.

- 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 | | × |
|----------------|-------|--------------|
| 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.



AF1G52AC l2GRE Guide

Advanced Features | 3.0.9

| | | | | | | Hi: admin Log |
|--|-----------|--------|----------------|-----------------------|----------------------|----------------------------------|
| Device Summary | TAP Stati | istics | | | + Add TAP C | Group 🗘 Truncation 🗘 🌣 Timestamp |
| System Management Interface Management | # | TAP Id | TAP Group Name | TAP Group Description | TAP Group truncation | Options |
| Authentication Management | 1 | 1 | 13GRE | N/A | NO | |
| ▼ 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.

| I2GRE | | | | | | | | | | | × |
|---------|--------------|-------|-----------|------------|------------|------------|-----------|-----------|-----------|------------|----|
| Ingress | s 🛛 遭 Egress | | | | | | | | | + A | dd |
| # Port | Flow Match | Untag | Vian 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 | | | | | | | | | + 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 | Ê |

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 | | | | | | | | | + A |
|---|---------|------------|---------|-----------|------------|------------|------------|-----------|-----------|-----------|------------|
| ŧ | Port | Flow Match | Untag | Vlan mark | Truncation | Edit-macda | Edit-macsa | Edit-ipda | Edit-ipsa | Edit-vlan | Options |
| 1 | eth-0-1 | I2GRE | Disable | N/A | Disable | N/A | N/A | N/A | N/A | N/A | Ê |

- 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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