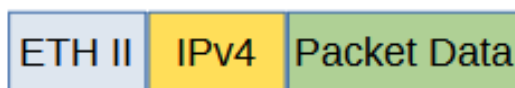


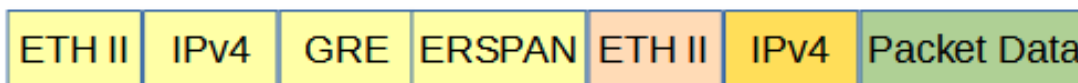
## Encapsulate

When a packet is encapsulated with an ERSPAN Type 1 header the new ERSPAN Type 1 header segments are added to the original packet. The ERSPAN Type 1 header segments consists of L2, L3, GRE and ERSPAN Type 1 as shown below.

Original Packet



ERSPAN Type 1 Encapsulated Packet



Encapsulating a packet with an ERSPAN Type 1 header involves two configuration procedures.

- Create a flow to add the ERSPAN Type 1 header
- Create a TAP Group

*This document discusses the procedure to create a flow to add the ERSPAN Type 1 header. The procedure to create a TAP Group is discussed in the TAP Group Guide.*

## Create a Flow

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

*The Add Flow panel will appear.*

Add Flow
✕

---

Flow Name

Decap
 off

---

✔ Add Flow
✕ Close

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

*The flow will be displayed.*

| TAP Flow Statistics |           |        |         |   | + Add Flow |
|---------------------|-----------|--------|---------|---|------------|
| #                   | Flow Name | Remark | Decap   | Options   |            |
| 1                   | ERSPAN    | N/A    | Disable | <div style="display: flex; gap: 5px;"> <span>+</span> <span>✕</span> </div> |            |

6. Select the + in the Options column to define the attributes.

*The Add Flow Entry panel will be displayed.*

The Add Flow Entry panel is divided into two sections, match rule and action.

### Match Rule Section

- Defines whether the packets are permitted or denied
- Determines the permitted or denied packet filter criteria
- Determines which permitted packets will be modified by any action(s) selected and defined in the action section

### Action Section

- The action section is used to define the modification(s) that will be performed on any packet(s) that is permitted by the match rule section

### Flow Match Options


- 7. Action permit
- 8. IP Protocol Number any
- 9. Select any other desired options and enter the desired values to define which packets will be encapsulated. The defaults may be used to encapsulate all packets.

### Flow Match Options

- 10. Add Erspan-type-1 enable
- 11. Erspan-type-1-dest-mac Enter the desired address. This defines the destination MAC in the L2 segment of the ERSPAN header.
- 12. Erspan-type-1-src-ip Enter the desired address. This defines the destination IP in the L3 segment of the ERSPAN header.
- 13. Erspan-type-1-dest-ip Enter the desired address. This defines the destination IP in the L3 segment of the I2GRE header.
- 14. Select OK.
- 15. Select the flow name to display the attributes.

*The Flow Entry panel will be displayed*

ERSPAN
✕

| # | Flow Entry  | Options   |
|---|---|---|
| 1 | sequence-num 10 permit any src-ip any dst-ip any add-erspan erspan-type1 erspan-sip 10.10.10.10 erspan-dip 10.10.10.25 erspan-dmac f093.c5f1.a1a1 |  |

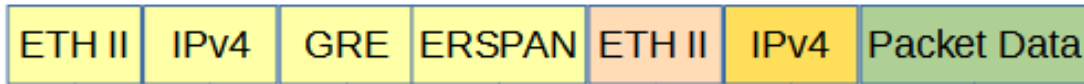
✕ Close

*Additional entries may be created for the flow. Entries may be deleted by selecting the Trash Can. Entries may not be modified.*

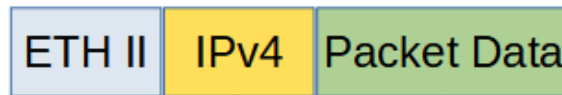
## Decapsulate (IP Protocol-GRE)

When an ERSPAN Type 1 packet is decapsulated the ERSPAN Type 1 header segments are removed from the packet along with the original L2 segment. A new L2 segment is added as shown below.

ERSPAN Type 1 Encapsulated Packet



ERSPAN Type 1 Decapsulated Packet



Decapsulating the ERSPAN Type 1 header from a packet(s) involves two configuration procedures.

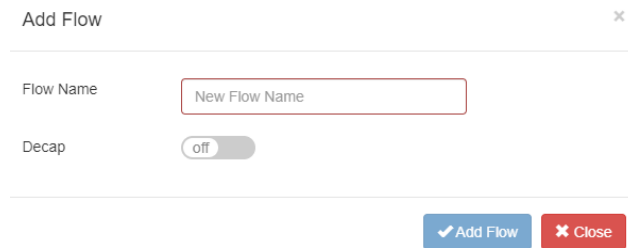
- Create a flow to strip the ERSPAN Type 1 header
- Create a TAP Group

*This document discusses the procedure to create a flow to strip the ERSPAN Type 1 header. The procedure to create a TAP Group is discussed in the TAP Group Guide.*

## Create a 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.*

| TAP Flow Statistics |           |        |         |         | + Add Flow |
|---------------------|-----------|--------|---------|---------|------------|
| #                   | Flow Name | Remark | Decap   | Options |            |
| 1                   | ERSPAN    | N/A    | Disable | + 🗑️    |            |

6. Select the + in the Options column to define the attributes.

*The Add Flow Entry panel will be displayed.*

The Add Flow Entry panel is divided into two sections, match rule and action.

### Match Rule Section

- Defines whether the packets are permitted or denied
- Determines the permitted or denied packet filter criteria
- Determines which permitted packets will be modified by any action(s) selected and defined in the action section

### Action Section

- The action section is used to define the modification(s) that will be performed on any packet(s) that is permitted by the match rule section

### Flow Match Rule Options

- Action permit
- IP Protocol Number gre
- Select any other desired options and enter the desired values to define which ERSPAN packets will be decapsulated. The defaults may be used to decapsulate all ERSPAN packets.

### Flow Action Options

- Strip-header enable
- Strip-position enable
- Type L4
- Strip-offset enable
- Value 4
- Edit packet enable
- Edit-macda Enter the desired address. This will define the destination MAC for the new L2 segment added to the packet.
- Edit-macsa Enter the desired address. This will define the source MAC for the new L2 segment added to the packet.
- Select OK.
- Select the flow name to display the attributes.

*The Flow Entry panel will be displayed*

ERSPAN ×

| # | Flow Entry   | Options   |
|---|--|---|
| 1 | sequence-num 10 permit gre src-ip any dst-ip any strip-header strip-position l4 strip-offset 4 edit-macda F093.C5F1.A1A1 edit-macsa F093.C5F1.A1A2 |  |

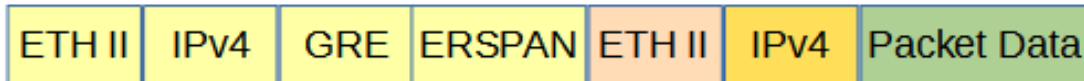
✕ Close

*Additional entries may be created for the flow. Entries may be deleted by selecting the Trash Can. Entries may not be modified.*

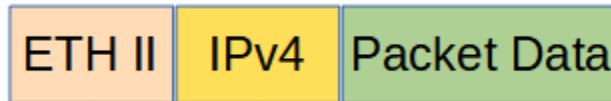
## Decapsulate (IP Protocol-GRE ESPAN)

When an ERSPAN Type 1 packet is decapsulated the ERSPAN Type 1 header segments are removed from the packet. The original packet is not modified as shown below.

ERSPAN Type 1 Encapsulated Packet



ERSPAN Type 1 Decapsulated Packet



Decapsulating the ERSPAN Type 1 header from a packet(s) involves two configuration procedures.

- Create a flow to strip the ERSPAN Type 1 header
- Create a TAP Group

*This document discusses the procedure to create a flow to strip the ERSPAN Type 1 header. The procedure to create a TAP Group is discussed in the TAP Group Guide.*

## Create a Flow

The GRE ERSPAN flow must be created using CLI commands. This flow type cannot be created using the GUI. The flow defines which ERSPAN Type 1 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.

Connect to the Advanced Features unit. A connection to the unit may be established using two options:

Directly connected to the Console Interface to COM Port using Putty/Serial connection.

Connected via the IP Management Interface using Putty/SSH connection.

1. Press the Return key.
2. Enter enable.
3. Enter configure terminal.
4. Enter the following commands to create the flow.

```
Switch(config)# flow ERSPAN
```

*ERSPAN is the flow name.*

```
Switch(config-flow-ERSPAN)# permit gre erspan any src-ip any dst-ip any strip-
header strip-position 14 strip-offset 4
```

5. Once the flow is created it will be displayed in the GUI.

| TAP Flow Statistics |           |        |         |         | + Add Flow |
|---------------------|-----------|--------|---------|---------|------------|
| #                   | Flow Name | Remark | Decap   | Options |            |
| 1                   | ERSPAN    | N/A    | Disable | + -     |            |

6. Select the flow name to display the attributes.

*The Flow Entry panel will be displayed*

ERSPAN x

| # | Flow Entry  | Options |
|---|---|---------|
| 1 | sequence-num 10 permit gre erspan any src-ip any dst-ip any strip-header strip-position 14 strip-offset 4 | -       |

x Close

*Additional entries may be created for the flow. Entries may be deleted by selecting the Trash Can. Entries may not be modified.*