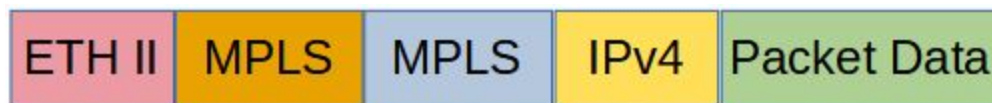GARLAND
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AF1G40AC / AF1G52AC / AF10G72AC / AF40G24AC
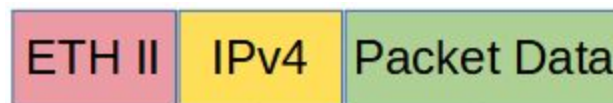
Stripping/Filtering MPLS Labels

Overview:

When the MPLS label(s) are removed from a packet, the packet maintains the original ETH II, IPv4 and packet data as shown below.

MPLS Packet

MPLS Packet – Labels Removed

The Advanced Features MPLS abilities:

- Strip from 1 up to 9 MPLS labels from packets.

- Strip MPLS labels from packets based on IP Protocol number.

- Strip MPLS labels based on filtering up to 3 MPLS Labels, 1st, 2nd and $3^{rd.}$

- Filter MPLS packets based on filtering up to 3 MPLS Labels, 1st, 2nd and $3^{rd.}$

- Filter MPLS packets based on IP Protocol.

- Filter MPLS packets based on Ether Type.

Stripping MPLS labels from a packet or filtering MPLS packets involves two configuration processes.
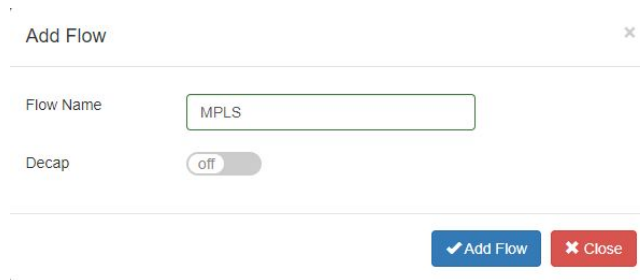
1. Create a Flow

2. Create a Tap Group

1. Create a Flow

The flow defines which MPLS packets will have the MPLS labels stripped and/or filtered. Packets that do not meet the flow attributes will not be stripped and/or filtered. In some cases it may be required to create more than 1 flow.

1. Select Tap Management.
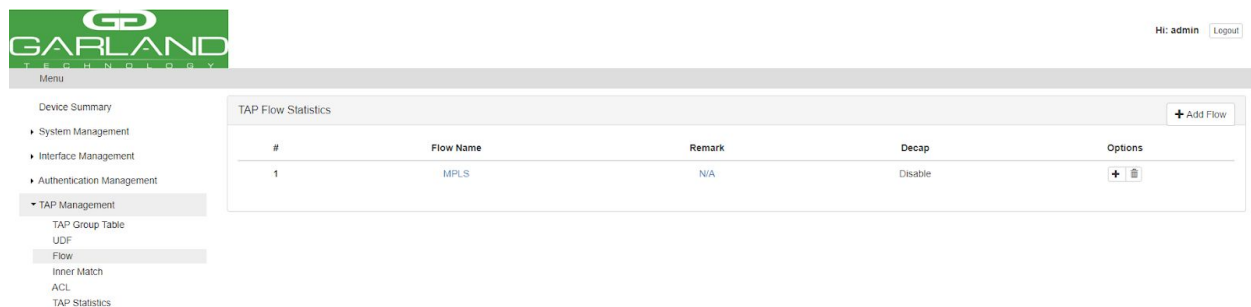
2. Select Flow.

3. Select + Add Flow.

> The Add Flow panel will appear.

4. Enter the Flow Name.

5. Select Add Flow.

> The flow will be displayed.

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 flow defines which packets will have the MPLS labels stripped or passed per the filter. Packets that do not meet the flow attributes will not be affected or dropped. In some cases it may be required to create more than 1 flow.

Flow Option 1 – Strip MPLS Labels (IP Protocol)

This flow may be used to strip all of the MPLS labels from packets without specifying the number of MPLS labels or using filtering to determine which MPLS packets are affected.

7. Under Match Rule, select mpls for the IP Protocol number.

8. Enable Mpls enable.

9. Under Action, enable Streip-header.

10. Select OK.

Flow Option 2 – Strip MPLS Labels (Strip 1-9 Labels and Filter on 1st, 2nd and 3rd)

This flow may be used to strip all of the MPLS labels from packets by specifying the packets that meet the MPLS label number and using filtering to determine which MPLS packets are affected.

7. Under Match Rule, select mpls for the IP Protocol number.

8. Enable Mpls enable.

9. Select the MPLS label number, 1-9. The MPLS labels will only be stripped from the packets that match the number selected. If 7 is selected, packets with 1-6, 8-9 MPLS labels will not be affected.

10. Select the label1 option, any or number. If any is selected this flow will not use the 1st MPLS label as a filter option. If number is selected an option will appear to enter the matching MPLS 1st label. Any packet that does not meet the number entered will not be affected.

11. Select the label2 option, any or number. If any is selected this flow will not use the 2nd MPLS label as a filter option. If number is selected an option will appear to enter the matching MPLS 2nd label. Any packet that does not meet the number entered will not be affected.

12. Select the label3 option, any or number. If any is selected this flow will not use the 3rd MPLS label as a filter option. If number is selected an option will appear to enter the matching MPLS 3rd label. Any packet that does not meet the number entered will not be affected.

13. Under Action, enable Streip-header.

14. Select OK.

Flow Option 3 – Filter MPLS Packets (Filter on 1st, 2nd and 3rd)

This flow may be used to filter MPLS packets based on the 1st, 2nd and 3rd MPLS label number.

7. Under Match Rule, select mpls for the IP Protocol number.

8. Enable Mpls enable.

9. Select the MPLS label number, 1-9. The MPLS packets that match the number selected will be passed. If 5 is selected, packets with 1-4, 6-9 MPLS labels will be dropped.

10. Select the label1 option, any or number. If any is selected this flow will not use the 1st MPLS label as a filter option. If number is selected an option will appear to enter the matching MPLS 1st label. Any packet that does not meet the number entered will not be dropped.

11. Select the label2 option, any or number. If any is selected this flow will not use the 2nd MPLS label as a filter option. If number is selected an option will appear to enter the matching MPLS 2nd label. Any packet that does not meet the number entered will not be dropped.

12. Select the label3 option, any or number. If any is selected this flow will not use the 3rd MPLS label as a filter option. If number is selected an option will appear to enter the matching MPLS 3rd label. Any packet that does not meet the number entered will not be dropped.

14. Select OK.

Flow Option 4 – Filter MPLS Packets (Filter on IP Protocol)

This flow may be used to filter MPLS packets based on IP Protocol only.

7. Under Match Rule, select mpls for the IP Protocol number.

8. Enable Mpls enable.

9. Select OK.

Flow Option 5 – Filter MPLS Packets (Filter on Ether Type)

This flow may be used to filter MPLS packets based on Ether Type only.

7. Under Match Rule, select any for the IP Protocol number.

8. Enable Ether Type.

9. Enter the Ether Type value for MPLS, 0x8847.

10. Select OK.

2. Create a Tap Group

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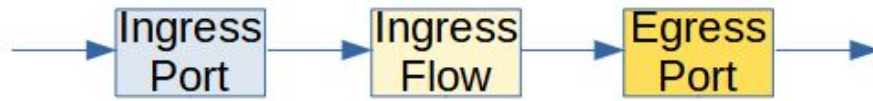
1. Select Tap Management.

2. Select TAP Group Table.

3. Select + Add TAP Group.

>   The TAP Group Name panel will appear.

4. Enter the TAP Group Name.

5. Select OK.

>   The Tap Group will be displayed.

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.

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 MPLS flow.

12. 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.