IPv6 Non-AVC QoS Support

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IPv6 non-AVC QoS support is a wireless network feature that

- enables QoS for IPv6 traffic on Fabric and FlexConnect local switching,
- performs QoS processing at the access point (AP), and
- offers the same functionality as IPv4 QoS starting from Cisco IOS XE 17.2.1.

Supported actions for IPv6 non-AVC QoS

You can use IPv6 non-AVC QoS to:

- mark the Differentiated Services Code Point (DSCP) value for IPv6 packets,
- drop IPv6 packets based on the DSCP value,
- police IPv6 traffic.

Platform limitations

IPv6 non-AVC QoS is not supported on Cisco Aironet 1700, 2700, or 3700 Series Access Points.

Mark DSCP values in an IPv6 packet (CLI)

Assign differentiated services code point (DSCP) values to IPv6 packets for traffic classification and Quality of Service (QoS).

Procedure

Step 1 Enter global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Create a policy map.

Example:

```
Device(config)# policy-map policy-map-name
```

Step 3 Specify the class map criteria for the policy.

Example:

```
Device(config-pmap)#class class-map-name
```

Step 4 Set the DSCP value in an IPv6 packet.

Example:

```
Device(config-pmap-c)#set dscp <0-63>
```

DSCP values must be in the range of 0 to 63.

The selected DSCP value is assigned to matching IPv6 packets, enabling traffic classification and QoS handling according to your policy.

Drop an IPv6 packet with DSCP values (CLI)

Procedure

Step 1 Enter global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Create a policy map.

Example:

```
Device(config)# policy-map policy-map-name
```

Step 3 Create a policy criteria.

Example:

```
Device(config-pmap)#class class-map-name
```

Step 4 Police the committed information rate.

Example:

```
Device(config-pmap-c)#police cir <8000 - 10000000000>
```

the committed information rate is between 8000 and 10000000000. Target bit rate (Bits per second).

Step 5 Configure the **conform-action drop** command.

Example:

```
Device(config-pmap-c-police)#conform action drop
```

This command is the action when the rate is less than the conform burst.

Step 6 Configure the **exceed-action drop** command.

Example:

```
Device(config-pmap-c-police)#exceed-action drop
```

This command is the action when the rate is within the conform and conform plus exceed burst.

Configure policing for IPv6 traffic (CLI)

Police IPv6 traffic by enforcing bandwidth limits and actions for conforming and exceeding packets.

Procedure

Step 1 Enter global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Create a policy map.

Example:

```
Device(config)# policy-map policy-map-name
```

Step 3 Create a policy criteria.

Example:

```
Device(config-pmap)#class class-map-name
```

Step 4 Specify the committed information rate.

Example:

```
Device(config-pmap-c)#police cir <8000 - 10000000000>
```

The CIR (committed information rate) sets the allowed bits per second; choose a value between 8000 and 10,000,000,000.

Step 5 Configure the **conform-action transmit** command, for transmitting packets.

Example:

```
Device(config-pmap-c-police)#conform-action transmit
```

Step 6 Configure the **exceed-action drop** command.

Example:

```
Device(config-pmap-c-police)#exceed-action drop
```

This command specifies the action taken when the packet rate exceeds the CIR but is within conform plus exceed burst.

IPv6 traffic is policed according to your defined bandwidth and actions. The device transmits packets within the CIR and drops packets that exceed the specified rate.

IPv6 non-AVC QoS verification

- To verify the DSCP values for IPv6 packets, IPv6 packets that are dropped, and the policing of IPv6 traffic, use the **show policy-map** command:

  This is a sample output of the **show** command that verifies the DSCP value for an IPv6 packet:

```
Device# show policy-map
1 policymaps
Policy Map Set-dscp type:qos client:default
 Class Set-dscp1_ADV_UI_CLASS
 set dscp af41 (34)
 Class class-default
 no actions
```

- This is a sample output of the **show** command that verifies the IPv6 packets that are dropped:

```
Device# show policy-map
1 policymaps
Policy Map Drop-dscp type:qos client:default
        Class Drop-dscp1_ADV_UI_CLASS
        drop

        Class class-default
        no actions
```

- This is a sample output of the **show** command that verifies the policing of IPv6 traffic:

```
Device# show policy-map
1 policymaps
Policy Map Drop-traffic type:qos client:default
        Class Drop-traffic1_ADV_UI_CLASS
        police rate 2000000 bps (250000Bytes/s)
        conform-action
        exceed-action

        Class class-default
        no actions
```