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Introduction

The objective of this post is to collect the common error messages that we get when configuring QoS features on Catalyst 3850 series switches. The examples were done using IOS XE version 03.03.05SE.

Prerequisites

Understanding of Modular Quality of Service (QoS) Command-Line Interface (CLI) (MQC) configuration on Catalyst 3850 switches.

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on Cisco Catalyst 3850 Series Switches.

The information in this document was created from the devices in a specific lab environment. All of

the devices used in this document started with default configuration. If your network is live, make sure that you understand the potential impact of any command.

Class-maps

% Empty classes are not supported

Example:

OR

```
3850(config-pmap-c)#interface Gi 1/0/1
3850(config-if)#service-policy input Edge-QoS
3850(config-if)#
*Mar 11 09:12:59.897: Empty class unsupported
```

Restriction(s):

- Class maps with no match statements are not supported
- Class maps with empty actions are not supported

Workaround:

- Use of table-maps under the class-default and remove the empty class
- [CSCun54503](#) removed empty class check in IOS and FED. Fixed in IOS XE version 3.6.1 and newer.

% Range command terminated because it failed on GigabitEthernet1/0/1

Example:

```
3850(config-pmap-c)#interface Gi 1/0/1
3850(config-if)#service-policy input Edge-QoS
3850(config-if)#
*Mar 11 09:12:59.897: Empty class unsupported
```

Restriction(s): None

Workaround:

- There is an error while configuring QoS, try on a single interface and see what error is seen.
- No input queueing permitted on ingress

Queueing

% Queuing actions supported only with dscp/cos/qos-group/precedence based classification!!!

Example:

```
3850(config-pmap-c)#interface Gi 1/0/1
3850(config-if)#service-policy input Edge-QoS
```

```
3850(config-if)#
```

```
*Mar 11 09:12:59.897: Empty class unsupported
```

Restriction(s): The same as the error message

Workaround:

- Two options were given, either to create an input policy to set DSCP marking to ingress traffic matching the ACL or,

- Use policy rate feature instead of queueing.

% queue-limit is only supported in percent on this platform

Example:

```
3850(config-pmap-c)#interface Gi 1/0/1
```

```
3850(config-if)#service-policy input Edge-QoS
```

```
3850(config-if)#
```

```
*Mar 11 09:12:59.897: Empty class unsupported
```

Restriction(s):

- There is only one COS value valid per queue-limit statement, the parameter after the first value should be a percent value.

Workaround:

- Distribute the cos values on several queue-limit statements.

```
3850(config-pmap-c)#interface Gi 1/0/1
```

```
3850(config-if)#service-policy input Edge-QoS
```

```
3850(config-if)#
```

```
*Mar 11 09:12:59.897: Empty class unsupported
```

% Order of classes in policy name queueing is not consistent with installed policy

Example:

```
!Creating class-maps queue1 and queue2
```

```
class-map queue1
```

```
match cos 5
```

```
match dscp 46
```

```
class-map queue2
```

```
match cos 2 4 3 6
```

```
match dscp 16 18 20 22 26 32 34 36
```

```
!Assigning queueing features to queue1 and queue2
```

```
policy-map queueing
```

```
class queue1
```

```
shape average percent 70
```

```
class queue2
```

```
bandwidth remaining percent 10
```

```
!Applying the policy-map queueing to interface Gi1/0/1
```

```
interface gi1/0/1
```

```
service policy output queueing
```

!Creating class-maps queue5 and queue6

```
class-map queue5
match cos 1
match dscp 8 10 12 14
```

```
class-map queue6
match cos 5
match dscp 46
```

!Assigning queueing features to queue5 and queue6

```
policy-map queueing2
class queue5
shape average percent 70
```

```
class queue2
bandwidth remaining percent 10
```

!Applying the policy-map queueing to interface Gi1/0/2

```
interface gi1/0/2
service policy output queueing2
% Order of classes in policy name queueing2 is not consistent with installed policy
```

Restriction(s):

- The classification sequence for all wired queuing-based policies should be the same across all wired upstream ports (TenGigabit Ethernet), and the same for all downstream wired ports (Gigabit Ethernet).

Workaround:

- Use the same order of the classes as the first configured queueing-based policy-map. This message is not shown if you apply the policy map on any interface of 10GE Module

% Only one queue-limit type is allowed in a class.

Example:

```
policy-map port-queue
class dscp-1-2-3
bandwidth percent 20
queue-limit dscp 1 percent 80
queue-limit dscp 2 percent 90
queue-limit cos 3 percent 100 <<<
```

Workaround:

- Configure two different classes, one for queue-limit using DSCP and a second one for queue-limit using COS

Shaping

% shape average command is not supported for this interface

Example:

```
policy-map port-queue
class dscp-1-2-3
```

```
bandwidth percent 20
  queue-limit dscp 1 percent 80
  queue-limit dscp 2 percent 90
  queue-limit cos 3 percent 100 <<<
```

Restriction(s):

- No queueing actions allowed on ingress.

Workaround:

- None, just marking and policing actions are permitted on ingress. Only one input queue per port.

Table-maps

% Cannot be deleted. Tablemap being used in policy maps.

Example:

```
policy-map port-queue
class dscp-1-2-3
  bandwidth percent 20
  queue-limit dscp 1 percent 80
  queue-limit dscp 2 percent 90
  queue-limit cos 3 percent 100 <<<
```

Restriction(s):

- The classification sequence for all wired queuing-based policies should be the same across all wired upstream ports (10-Gigabit Ethernet), and the same for all downstream wired ports (1-Gigabit Ethernet).
- Only one table map is supported per wired port, per direction.
- Since there is already a queueing-based policy map on another interface, when trying to remove or add a different queueing-based, it will fail.
- Expected behavior per bug [CSCtz51125](#) .

Workaround:

- Remove the old queueing-based policy map on all the interfaces in the same stream (10GE or 1GE interfaces).
- Applying the new queueing-based policy should not cause further issues.

% Multiple table-maps not supported per target per direction

Example:

```
policy-map port-queue
class dscp-1-2-3
  bandwidth percent 20
  queue-limit dscp 1 percent 80
  queue-limit dscp 2 percent 90
  queue-limit cos 3 percent 100 <<<policy-map port-queue
class dscp-1-2-3
  bandwidth percent 20
```

```
queue-limit dscp 1 percent 80
queue-limit dscp 2 percent 90
queue-limit cos 3 percent 100 <<<
```

Restriction(s):

- The CLI is block for the flat policy-map when the policy-map attach to the interface, but not for the child policy on images prior to 03.03.00SE per [CSCuc91333](#) .

Workaround:

- one table-map per policy is supported for the wired ports.

% Priority feature is not allowed in police action with table-map

% Table-map action not allowed in police used with priority feature

Example:

```
policy-map port-queue
class dscp-1-2-3
bandwidth percent 20
queue-limit dscp 1 percent 80
queue-limit dscp 2 percent 90
queue-limit cos 3 percent 100 <<<
```

Restriction(s):

- The combination of the priority queue and a policing action of setting the DSCP/COS/IPP value by means of a table-map is unsupported on this platform.

Workaround:

- Try removing the "exceed-action set-dscp-transmit" line and instead set it as a drop action and then re-apply the policy-map.

% Only markdown with a table-map is supported

Example:

```
policy-map port-queue
class dscp-1-2-3
bandwidth percent 20
queue-limit dscp 1 percent 80
queue-limit dscp 2 percent 90
queue-limit cos 3 percent 100 <<<
```

Restriction(s):

- A table map is needed when trying to change the DSCP/COS/IPP value dynamically by means of a policer whenever the rate is exceeded.

Workaround:

- Create a table map with the markdown values desired and apply it to the policy-map when the rate is exceeded.

```
policy-map port-queue
class dscp-1-2-3
```

```
bandwidth percent 20
  queue-limit dscp 1 percent 80
  queue-limit dscp 2 percent 90
  queue-limit cos 3 percent 100 <<<policy-map port-queue
class dscp-1-2-3
bandwidth percent 20
  queue-limit dscp 1 percent 80
  queue-limit dscp 2 percent 90
  queue-limit cos 3 percent 100 <<<
```

Policing

%1rate-3color policer not supported

Example:

```
policy-map port-queue
class dscp-1-2-3
bandwidth percent 20
  queue-limit dscp 1 percent 80
  queue-limit dscp 2 percent 90
  queue-limit cos 3 percent 100 <<<
```

Restriction:

- Only 1 rate 2 color and 2 rate 3 color policers are supported on this platform.

Workaround:

- Configure a PIR value to use a 2-rate 3-color policer or remove the 'be' value and the violate action to configure an 1-rate 2-color policer.

```
policy-map port-queue
class dscp-1-2-3
bandwidth percent 20
  queue-limit dscp 1 percent 80
  queue-limit dscp 2 percent 90
  queue-limit cos 3 percent 100 <<<
```