Exemplo de configuração de QoS em portas de acesso Catalyst 6800ia

Contents

Introduction

Este documento descreve como configurar, verificar e solucionar problemas de Qualidade de Serviço (QoS - Quality of Service) nas portas do host Cisco Catalyst 6800ia. A QoS é suportada em portas de host 6800ia no Cisco IOS® Software Release 152.1.SY e posterior em um Sistema de Comutação Virtual (VSS - Virtual Switching System) pai do Catalyst 6800.

Prerequisites

Requirements

Não existem requisitos específicos para este documento.

Componentes Utilizados

As informações neste documento são baseadas nestas versões de software e hardware:

- Software Cisco IOS® versão 152.1.SY
- VSS pai do Cisco Catalyst 6800

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 a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Informações de Apoio

O modo de configuração em um Catalyst 6800ia é desabilitado e todas as configurações de QoS para portas de host 6800ia devem ser feitas do pai. A QoS para a porta do host 6800ia é configurada com um mapa de política. Quando aplicado às interfaces, esse mapa de política envia a configuração relevante internamente para o 6800ia e, em seguida, programa as filas de hardware.

As portas de host 6800ia têm arquitetura 1p3q3t na direção de transmissão (TX). Todos os exemplos de configuração neste documento se aplicam somente a filas TX em uma 6800ia.

Quando não há uma configuração de QoS explícita presente nas interfaces 6800ia no estado padrão, a interface do host 6800ia pode ser semelhante a esta saída de exemplo:

```
6880-VSS#show run int gi101/1/0/1

interface GigabitEthernet101/1/0/1
 switchport
 switchport trunk allowed vlan 500
 switchport mode access
 switchport access vlan 500
 load-interval 30
end

6880-VSS#show queueing interface gi101/1/0/1
Interface GigabitEthernet101/1/0/1 queueing strategy:  Weighted Round-Robin

 Port QoS is disabled globally
 Queueing on Gi101/1/0/1: Tx Enabled Rx Disabled

Trust boundary disabled

 Trust state: trust DSCP
 Trust state in queueing: trust DSCP
 Default COS is 0
   Queueing Mode In Tx direction: mode-dscp
   Transmit queues [type = 1p3q3t]:
   Queue Id    Scheduling  Num of thresholds
   ---------------------------------------
      1         Priority            3
      2         WRR                 3
      3         WRR                 3
      4         WRR                 3

   WRR bandwidth ratios:  100[queue 2] 100[queue 3] 100[queue 4]   0[queue 5]
   queue-limit ratios:     15[Pri Queue]  25[queue 2]  40[queue 3]  20[queue 4]

   queue thresh dscp-map
   ---------------------------------------
   1     1      32 33 40 41 42 43 44 45 46 47
   1     2
   1     3
   2     1      16 17 18 19 20 21 22 23 26 27 28 29 30 31 34 35 36 37 38 39
   2     2      24
   2     3      48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
   3     1      25
   3     2
   3     3      0 1 2 3 4 5 6 7
   4     1      8 9 11 13 15
```

```
4     2      10 12 14
4     3
```

Configurar

Exemplo de configuração 1: Largura de banda da fila

Este exemplo mostra como você pode configurar larguras de banda para filas 6800ia TX:

1. Configure **class-maps** para classificar o tráfego de interesse:
```
class-map type lan-queuing match-any ltest
 match dscp 32
class-map type lan-queuing match-any ltest1
 match dscp 24
class-map type lan-queuing match-any ltest2
 match dscp default
```
2. Atribuir prioridade e largura de banda às classes configuradas:
```
policy-map type lan-queuing ltest
 class type lan-queuing ltest
   priority
 class type lan-queuing ltest1
   bandwidth remaining percent 30
 class type lan-queuing ltest2
   bandwidth remaining percent 20
 class class-default
```
3. Aplique o **mapa de políticas** à interface 6800ia em questão:**Note**: Quando você aplica um **mapa de política de enfileiramento de lan** a uma porta em uma pilha 6800ia, ele propaga as alterações para todas as portas na pilha.
```
6880-VSS#conf t
6880-VSS(config)#int gi101/1/0/1
6880-VSS(config-if)#service-policy type lan-queuing output ltest
Propagating [attach] lan queueing policy "ltest" to Gi101/1/0/1 Gi101/1/0/2 Gi101/1/0/3
Gi101/1/0/4 Gi101/1/0/5 Gi101/1/0/6 Gi101/1/0/7 Gi101/1/0/8 Gi101/1/0/9 Gi101/1/0/10
Gi101/1/0/12 Gi101/1/0/13 Gi101/1/0/14 Gi101/1/0/15 Gi101/1/0/16 Gi101/1/0/17
Gi101/1/0/18 Gi101/1/0/19 Gi101/1/0/20 Gi101/1/0/21 Gi101/1/0/22 Gi101/1/0/23
Gi101/1/0/24 Gi101/1/0/25 Gi101/1/0/26 Gi101/1/0/27 Gi101/1/0/28 Gi101/1/0/29
Gi101/1/0/30 Gi101/1/0/31 Gi101/1/0/32 Gi101/1/0/33 Gi101/1/0/34 Gi101/1/0/35
Gi101/1/0/36 Gi101/1/0/37 Gi101/1/0/38 Gi101/1/0/39 Gi101/1/0/40 Gi101/1/0/41
Gi101/1/0/42 Gi101/1/0/43 Gi101/1/0/44 Gi101/1/0/45 Gi101/1/0/46 Gi101/1/0/47 Gi101/1/0/48

Propagating [attach] lan queueing policy "ltest" to Gi101/2/0/1 Gi101/2/0/2
Gi101/2/0/3 Gi101/2/0/4 Gi101/2/0/5 Gi101/2/0/6 Gi101/2/0/7 Gi101/2/0/8
Gi101/2/0/9 Gi101/2/0/10 Gi101/2/0/11 Gi101/2/0/12 Gi101/2/0/13 Gi101/2/0/14
Gi101/2/0/15 Gi101/2/0/16 Gi101/2/0/17 Gi101/2/0/18 Gi101/2/0/19 Gi101/2/0/20
Gi101/2/0/21 Gi101/2/0/22 Gi101/2/0/23 Gi101/2/0/24 Gi101/2/0/25 Gi101/2/0/26
Gi101/2/0/27 Gi101/2/0/28 Gi101/2/0/29 Gi101/2/0/30 Gi101/2/0/31 Gi101/2/0/32
Gi101/2/0/33 Gi101/2/0/34 Gi101/2/0/35 Gi101/2/0/36 Gi101/2/0/37 Gi101/2/0/38
Gi101/2/0/39 Gi101/2/0/40 Gi101/2/0/41 Gi101/2/0/42 Gi101/2/0/43 Gi101/2/0/44
Gi101/2/0/45 Gi101/2/0/46 Gi101/2/0/47 Gi101/2/0/48

Propagating [attach] lan queueing policy "ltest" to Gi101/3/0/1 Gi101/3/0/2
Gi101/3/0/3 Gi101/3/0/4 Gi101/3/0/5 Gi101/3/0/6 Gi101/3/0/7 Gi101/3/0/8
Gi101/3/0/9 Gi101/3/0/10 Gi101/3/0/11 Gi101/3/0/12 Gi101/3/0/13 Gi101/3/0/14
Gi101/3/0/15 Gi101/3/0/16 Gi101/3/0/17 Gi101/3/0/18 Gi101/3/0/19 Gi101/3/0/20
Gi101/3/0/21 Gi101/3/0/22 Gi101/3/0/23 Gi101/3/0/24 Gi101/3/0/25 Gi101/3/0/26
Gi101/3/0/27 Gi101/3/0/28 Gi101/3/0/29 Gi101/3/0/30 Gi101/3/0/31 Gi101/3/0/32
Gi101/3/0/33 Gi101/3/0/34 Gi101/3/0/35 Gi101/3/0/36 Gi101/3/0/37 Gi101/3/0/38
Gi101/3/0/39 Gi101/3/0/40 Gi101/3/0/41 Gi101/3/0/42 Gi101/3/0/43 Gi101/3/0/44
```

```
Gi101/3/0/45 Gi101/3/0/46 Gi101/3/0/47 Gi101/3/0/48

Propagating [attach] lan queueing policy "ltest" to Gi101/4/0/1 Gi101/4/0/2
Gi101/4/0/3 Gi101/4/0/4 Gi101/4/0/5 Gi101/4/0/6 Gi101/4/0/7 Gi101/4/0/8
Gi101/4/0/9 Gi101/4/0/10 Gi101/4/0/11 Gi101/4/0/12 Gi101/4/0/13 Gi101/4/0/14
Gi101/4/0/15 Gi101/4/0/16 Gi101/4/0/17 Gi101/4/0/18 Gi101/4/0/19 Gi101/4/0/20
Gi101/4/0/21 Gi101/4/0/22 Gi101/4/0/23 Gi101/4/0/24 Gi101/4/0/25 Gi101/4/0/26
Gi101/4/0/27 Gi101/4/0/28 Gi101/4/0/29 Gi101/4/0/30 Gi101/4/0/31 Gi101/4/0/32
Gi101/4/0/33 Gi101/4/0/34 Gi101/4/0/35 Gi101/4/0/36 Gi101/4/0/37 Gi101/4/0/38
Gi101/4/0/39 Gi101/4/0/40 Gi101/4/0/41 Gi101/4/0/42 Gi101/4/0/43 Gi101/4/0/44
Gi101/4/0/45 Gi101/4/0/46 Gi101/4/0/47 Gi101/4/0/48
6880-VSS(config-if)#
6880-VSS(config-if)#end
```

4. Verifique se **policy-map** é aplicado:

```
6880-VSS#show run int gi101/1/0/1

interface GigabitEthernet101/1/0/1
 switchport
 switchport trunk allowed vlan 500
 switchport mode access
 switchport access vlan 500
 load-interval 30
 service-policy type lan-queuing output ltest
end
```

5. Verifique o mapa de classe para mapeamento de fila, alocações de largura de banda e buffer e mapeamento de fila para Ponto de Código de Serviços Diferenciados (DSCP - Differentiated Services Code Point):

```
6880-VSS#show queueing int gi101/1/0/1
Interface GigabitEthernet101/1/0/1 queueing strategy:  Weighted Round-Robin

 Port QoS is disabled globally
 Queueing on Gi101/1/0/1: Tx Enabled Rx Disabled

Trust boundary disabled

 Trust state: trust DSCP
 Trust state in queueing: trust DSCP
 Default COS is 0
   Class-map to Queue in Tx direction
   Class-map           Queue Id
   ---------------------------
   ltest                      1
   ltest1                     4
   ltest2                     3
   class-default              2

   Queueing Mode In Tx direction: mode-dscp
   Transmit queues [type = 1p3q3t]:
   Queue Id    Scheduling  Num of thresholds
   -----------------------------------------
      1         Priority            3
      2         WRR                 3
      3         WRR                 3
      4         WRR                 3

   WRR bandwidth ratios:   50[queue 2]  20[queue 3]  30[queue 4]
   queue-limit ratios:     15[Pri Queue] 100[queue 2] 100[queue 3] 100[queue 4]

   queue thresh dscp-map
   ---------------------------------------
   1     1      32
   1     2
```

```
   1     3
   2     1      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
23 25 26 27 28 29 30 31 33 34 35 36 37 38 39 40 41 42 43
44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
   2     2
   2     3
   3     1      0
   3     2
   3     3
   4     1      24
   4     2
   4     3
```

6. Verifique duas vezes o buffer e as alocações de largura de banda do 6800ia:**Note**: Se você não especificar o peso do buffer para uma determinada classe, por padrão ele levará 100%.+B650Fila 1: 15 / [15+100+100+100] = 4Fila 2: 100 / [15+100+100+100] ~ 31Os pesos também são derivados para outras filas.

```
6880-VSS#remote command fex 101 show mls qos int gi1/0/1 buffer

GigabitEthernet1/0/1
The port is mapped to qset : 1
The allocations between the queues are : 4 31 31 34


6880-VSS#remote command fex 101 show mls qos int gi1/0/1 queueing

GigabitEthernet1/0/1
Egress Priority Queue : enabled
Shaped queue weights (absolute) :  0 0 0 0
Shared queue weights  :  0 127 51 76
The port bandwidth limit : 100  (Operational Bandwidth:100.0)
The port is mapped to qset : 1
```

7. Verifique se o tráfego interessado está enfileirado na respectiva fila e se há algum descarte:

```
6880-VSS#remote command fex 101 show mls qos int gi1/0/1 statistic

GigabitEthernet1/0/1 (All statistics are in packets)

 dscp: incoming
-------------------------------

 0 -  4 :           0            0            0            0            0
 5 -  9 :           0            0            0            0            0
 10 - 14 :          0            0            0            0            0
 15 - 19 :          0            0            0            0            0
 20 - 24 :          0            0            0            0            0
 25 - 29 :          0            0            0            0            0
 30 - 34 :          0            0            0            0            0
 35 - 39 :          0            0            0            0            0
 40 - 44 :          0            0            0            0            0
 45 - 49 :          0            0            0           13            0
 50 - 54 :          0            0            0            0            0
 55 - 59 :          0            0            0            0            0
 60 - 64 :          0            0            0            0
 dscp: outgoing
-------------------------------

 0 -  4 :           0            0            0            0            0
 5 -  9 :           0            0            0            0            0
 10 - 14 :          0            0            0            0            0
 15 - 19 :          0            0            0            0            0
 20 - 24 :          0            0            0            0      9118500
 25 - 29 :          0            0            0            0            0
 30 - 34 :          0            0       516236            0            0
```

```
 35 - 39 :           0            0            0            0            0
 40 - 44 :           0            0            0            0            0
 45 - 49 :           0            0            0           20            0
 50 - 54 :           0            0            0            0            0
 55 - 59 :           0            0            0            0            0
 60 - 64 :           0            0            0            0
 cos: incoming
------------------------------

 0 -  4 :         106            0            0            0            0
 5 -  7 :           0            0            0
 cos: outgoing
------------------------------

 0 -  4 :          41            0            0      9118505       516236
 5 -  7 :           0            0            0
 output queues enqueued:
 queue:    threshold1   threshold2   threshold3
-----------------------------------------------
 queue 0:      516255           35            5
 queue 1:          12            0            0
 queue 2:           0            0            0
 queue 3:     9118520            0            0

 output queues dropped:
 queue:    threshold1   threshold2   threshold3
-----------------------------------------------
 queue 0:      0           0           0
 queue 1:           0           0           0
 queue 2:           0           0           0
 queue 3:       49823            0           0

Policer: Inprofile:            0 OutofProfile:            0
```

Exemplo de configuração 2: Largura de banda e buffer

Este exemplo mostra como você pode configurar larguras de banda e buffers para filas 6800ia TX:

1. No mapa de políticas criado no exemplo 1, você pode especificar alocações de buffer de fila como mostrado neste exemplo:**Note**: Se você não especificar o peso do buffer para uma determinada classe, por padrão ele levará 100%.
```
policy-map type lan-queuing ltest
 class type lan-queuing ltest
   priority
   queue-buffers ratio 15
 class type lan-queuing ltest1
   bandwidth remaining percent 30
   queue-buffers ratio 30
 class type lan-queuing ltest2
   bandwidth remaining percent 20
   queue-buffers ratio 40
 class class-default
   queue-buffer ratio 15
```
2. Verifique o mapa de classe para mapeamento de fila, alocações de largura de banda e buffer e mapeamento de fila para DSCP:
```
6880-VSS#sh queueing int gi101/1/0/1
Interface GigabitEthernet101/1/0/1 queueing strategy:  Weighted Round-Robin

 Port QoS is disabled globally
```

```
 Queueing on Gi101/1/0/1: Tx Enabled Rx Disabled

Trust boundary disabled

 Trust state: trust DSCP
 Trust state in queueing: trust DSCP
 Default COS is 0
   Class-map to Queue in Tx direction
   Class-map           Queue Id
   ----------------------------
    ltest                    1
   ltest1                   4
   ltest2                   3
   class-default            2

   Queueing Mode In Tx direction: mode-dscp
   Transmit queues [type = 1p3q3t]:
   Queue Id    Scheduling  Num of thresholds
   ---------------------------------------
      1         Priority            3
      2         WRR                 3
      3         WRR                 3
      4         WRR                 3

   WRR bandwidth ratios:   50[queue 2]  20[queue 3]  30[queue 4]
   queue-limit ratios:     15[Pri Queue]  15[queue 2]  40[queue 3]  30[queue 4]

   queue thresh dscp-map
   ---------------------------------------
   1     1      32
   1     2
   1     3
   2     1      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
22 23 25 26 27 28 29 30 31 33 34 35 36 37 38 39 40 41
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
   2     2
   2     3
    3     1      0
   3     2
   3     3
    4     1      24
   4     2
   4     3
```

3. Verifique duas vezes o buffer e as alocações de largura de banda do 6800ia:

```
6880-VSS#remote command fex 101 sh mls qos int gi1/0/1 queueing

GigabitEthernet1/0/1
Egress Priority Queue : enabled
Shaped queue weights (absolute) :  0 0 0 0
Shared queue weights  :  0 127 51 76
The port bandwidth limit : 100  (Operational Bandwidth:100.0)
The port is mapped to qset : 1


6880-VSS#remote command fex 101 sh mls qos int gi1/0/1 buffers

GigabitEthernet1/0/1
The port is mapped to qset : 1
The allocations between the queues are : 15 15 40 30
```

4. Verifique se o tráfego interessado está enfileirado na respectiva fila e se há algum descarte:

```
6880-VSS#remote command fex 101 sh mls qos int gi1/0/1 statistic

GigabitEthernet1/0/1 (All statistics are in packets)
```

```
 dscp: incoming
-------------------------------

 0 -  4 :           0            0            0            0            0
 5 -  9 :           0            0            0            0            0
 10 - 14 :          0            0            0            0            0
 15 - 19 :          0            0            0            0            0
 20 - 24 :          0            0            0            0            0
 25 - 29 :          0            0            0            0            0
 30 - 34 :          0            0            0            0            0
 35 - 39 :          0            0            0            0            0
 40 - 44 :          0            0            0            0            0
 45 - 49 :          0            0            0          491            0
 50 - 54 :          0            0            0            0            0
 55 - 59 :          0            0            0            0            0
 60 - 64 :          0            0            0            0
 dscp: outgoing
-------------------------------

 0 -  4 :           0            0            0            0            0
 5 -  9 :           0            0            0            0            0
 10 - 14 :          0            0            0            0            0
 15 - 19 :          0            0            0            0            0
 20 - 24 :          0            0            0            0     57864687
 25 - 29 :          0            0            0            0            0
 30 - 34 :          0            0     29364400            0            0
 35 - 39 :          0            0            0            0            0
 40 - 44 :          0            0            0            0            0
 45 - 49 :          0            0            0          775            0
 50 - 54 :          0            0            0            0            0
 55 - 59 :          0            0            0            0            0
 60 - 64 :          0            0            0            0
 cos: incoming
-------------------------------

 0 -  4 :        5323            0            0            0            0
 5 -  7 :           0            0            0
 cos: outgoing
-------------------------------

 0 -  4 :        1718            0            0     57864691     29364400
 5 -  7 :           0            0            0
 output queues enqueued:
 queue:    threshold1   threshold2   threshold3
-----------------------------------------------
 queue 0:    29365402         1883            5
 queue 1:         793    98           0
 queue 2:           0           0           0
 queue 3:   530554174           0           0

 output queues dropped:
 queue:    threshold1   threshold2   threshold3
-----------------------------------------------
 queue 0:    0          10           0
 queue 1:           1       24093           0
 queue 2:           0           0           0
 queue 3:     2309351           0           0

Policer: Inprofile:            0 OutofProfile:            0
```

Verificar

No momento, não há procedimento de verificação disponível para esta configuração.

Troubleshoot

Esta seção fornece informações que podem ser usadas para o troubleshooting da sua configuração.

A ferramenta Output Interpreter (exclusiva para clientes registrados) é compatível com alguns comandos de exibição.. Use a ferramenta Output Interpreter para visualizar uma análise do resultado gerado pelo comando show..

> **Note**: Consulte Informações Importantes sobre Comandos de Depuração antes de usar comandos **debug.**

1. Ative a **depuração** para o qos-manager a partir da CLI 6800ia. Verifique se os registros são redirecionados para o buffer e se o buffer de registro está definido como um número alto:

```
6880-VSS#attach fex 101
Attach FEX:101 ip:192.168.1.101
Trying 192.168.1.101 ... Open
????????FEX-101>en
Password: cisco
FEX-101#
FEX-101#debug platform qos-manager all
QM verbose debugging is on
QM cops debugging is on
QM events debugging is on
QM Statistics debugging is on
FEX-101#exit
[Connection to 192.168.1.101 closed by foreign host]
```

2. Configure o **policy-map** para disparar depurações:

```
6880-VSS#conf t
6880-VSS(config)#int gi101/1/0/1
6880-VSS(config-if)# service-policy type lan-queuing output ltest
Propagating [attach] lan queueing policy "ltest" to Gi101/1/0/1
Gi101/1/0/2 Gi101/1/0/3 Gi101/1/0/4 Gi101/1/0/5 Gi101/1/0/6 Gi101/1/0/7 Gi101/1/0/8
Gi101/1/0/9 Gi101/1/0/10 Gi101/1/0/12 Gi101/1/0/13 Gi101/1/0/14 Gi101/1/0/15 Gi101/1/0/16
<snip>
6880-VSS(config-if)#end
```

3. Verifique os registros no extensor de estrutura (FEX) para verificar as depurações:

```
6880-VSS#remote command fex 101 show log
<snip>
May 20 06:43:18.208: HQM: hulc_fex_qos_priority_handler: hulc_fex_qos_priority_handler:
****Setting Priority Queue (FEX-101)

May 20 06:43:18.208: HQM: hulc_fex_qos_priority_handler: hulc_fex_qos_priority_handler:
subopcode=2 startport=0 endport=0 size=4 (FEX-101)
May 20 06:43:18.208: HQM: hulc_f
_fex_qos_priority_handler:QueueNum=1 PriorityQueue=1 queuetype=2 thresholdsnum=3 (FEX-101)
May 20 06:43:18.212: HQM: hulc_fex_qos_priority_handler: hulc_fex_qos_priority_handler:
idb=GigabitEthernet1/0/1 (FEX-101)
May 20 06:43:18.212: HQM: hulc_fex_qos_priority_handler: hulc_fex_qos_priority_handler:
```

```
idb=GigabitEthernet1/0/2 (FEX-101)
May 20 06:43:18.212: HQM: hulc_fex_qos_priority_handler: hulc_fex_qos_priority_handler:
idb=GigabitEthernet1/0/3 (FEX-101)
<snip>
```

hulc_fex_qos_srr_weight_setting:**Setting weight for queues**** (FEX-101)**

```
May 20 06:43:18.232: HQM: hulc_fex_qos_srr_weight_setting: hulc_fex_qos_srr_weight_setting:
subopcode=2 startport=0 endport=0 size=4 (FEX-101)
May 20 06:43:18.232: HQM: hulc_fex_qos_srr_weight_setting: hulc_fex_qos_srr_weight_setting:
QueueNum=1 RRType=0 WeightRelative=0 WeightAbsolute=0 (FEX-101)
 20 06:43:18.232: HQM: hulc_fex_qos_srr_weight_setting: hulc_fex_qos_srr_weight_setting:
ratio is 0 for queue 1 (FEX-101)
May 20 06:43:18.232: HQM: hulc_fex_qos_srr_weight_setting: hulc_fex_qos_srr_weight_setting:
QueueNum=2 RRType=0 WeightRelative=33 WeightAbsolute=0 (FEX-101)
<snip>
```

20 06:43:19.110: HQM: hulc_fex_qos_buffer_conf: **Setting buffer for output queues (FEX-101)**

```
May 20 06:43:19.110: HQM: hulc_fex_qos_buffer_conf: hulc_fex_qos_buffer_conf:
subopcode=2 startport=0 endport=0 size=4 (FEX-101)
May 20 06:43:19.110: HQM: hulc_fex_qos_buffer_conf: hulc_fex_qos_buffer_conf:
queuenum=1 size=15 (FEX-101)
May 20 06:43:19.110: HQM: hulc_fex_qos_buffer_conf:
hulc_fex_qos_buffer_conf: queuenum=2 size=25 (FEX-101)
May 20 06:43:19.110: HQM: hulc_fex_qos_buffer_conf:
hulc_fex_qos_buffer_conf: queuenum=3 size=40 (FEX-101)
May 20 06:43:19.110: HQM: hulc_fex_qos_buffer_conf:
hulc_fex_qos_buffer_conf: queuenum=4 size=20 (FEX-101)
May 20 06:43:19.110: HQM: hqm
 20 06:43:19.113: HQM: s88g_qd_get_queue_threshold: s88g_qd_get_queue_threshold:
max_limit = 3200, set to 350. (FEX-101)
May 20 06:43:19.113: HQM: s88g_qd_get_queue_threshold: s88g_qd_get_queue_threshold:
max_limit = 3200, set to 350. (FEX-101)
<snip>
```

hulc_fex_qos_qthresh_map:**Setting dscp to output queue map**** (FEX-101)**

```
May 20 06:43:19.169: HQM: hulc_fex_qos_qthresh_map: hulc_fex_qos_qthresh_map:
subopcode=2 startport=0 endport=0 size=1 (FEX-101)
May 20 06:43:19.169: HQM: hulc_fex_qos_qthresh_map: hulc_fex_qos_qthresh_map: DscpBma
 20 06:43:19.169: HQM: hulc_fex_qos_qthresh_map: hulc_fex_qos_qthresh_map
dscp=32 iterator=0 (FEX-101)
May 20 06:43:19.169: HQM: hulc_fex_qos_qthresh_map: hulc_fex_qos_qthresh_map
dscp=33 iterator=1 (FEX-101)
May 20 06:43:19.169: HQM: hulc_fex_qos_qthresh_map: hulc_fex_qos_qthresh_map
dscp=40 iterator=2 (FEX-101)
<snip>
```