

配置在UCS和连结5000的QoS

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Introduction

本文描述服务质量(QoS)的配置在统一计算系统(UCS)和连结设备内的。

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

本文档中的信息基于以下软件和硬件版本：

- UCS结构互连(FI) 6100和6200
- 连结5000和5500

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. 如果您的网络处于活动状态，请确保您了解所有命令的潜在影响。

背景信息

本文是关于UCS(6100，并且6200结构互连)，并且Nexus(5000和5500) QoS与FlexPod和vBlock特别地关连。

与QoS关连用于此文档的术语。

Cos =业务类别= 802.1p =在.1q报头的3位在告诉交换机如何的每个信息包分类。

QoS =服务质量=交换机如何处理每业务类别。

MTU =最大传输单元(MTU) =帧/信息包的最大大小在交换机允许。最普通和默认值(正常是什么下面的UCS屏幕画面显示)是1500。

Configure

UCS out-of-the-box QoS

UCS QoS设置供参考(UCSM/LAN/QoS系统组)：

Priority	Enabled	CoS	Packet Drop	Weight	Weight (%)	MTU	Multicast Optimized
Platinum	<input type="checkbox"/>	5	<input type="checkbox"/>	10	N/A	normal	<input type="checkbox"/>
Gold	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	9	N/A	normal	<input type="checkbox"/>
Silver	<input type="checkbox"/>	2	<input checked="" type="checkbox"/>	8	N/A	normal	<input type="checkbox"/>
Bronze	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	7	N/A	normal	<input type="checkbox"/>
Best Effort	<input checked="" type="checkbox"/>	Any	<input checked="" type="checkbox"/>	5	50	normal	<input type="checkbox"/>
Fibre Channel	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>	5	50	fc	N/A

Note: 尽力和光纤信道变灰，并且不可以是失效的在UCS内。

默认QoS配置

```
P10-UCS-A(nxos)# show running-config ipqos
logging level ipqosmgr 2
class-map type qos class-fcoe
class-map type queuing class-fcoe
  match qos-group 1
class-map type queuing class-all-flood
  match qos-group 2
class-map type queuing class-ip-multicast
  match qos-group 2
policy-map type qos system_qos_policy
  class class-fcoe
    set qos-group 1
  class class-default
policy-map type queuing system_q_in_policy
  class type queuing class-fcoe
    bandwidth percent 50
  class type queuing class-default
    bandwidth percent 50
policy-map type queuing system_q_out_policy
  class type queuing class-fcoe
    bandwidth percent 50
  class type queuing class-default
    bandwidth percent 50
class-map type network-qos class-fcoe
  match qos-group 1
class-map type network-qos class-all-flood
  match qos-group 2
class-map type network-qos class-ip-multicast
  match qos-group 2
policy-map type network-qos system_nq_policy
  class type network-qos class-fcoe
    pause no-drop
    mtu 2158
  class type network-qos class-default
system qos
  service-policy type qos input system_qos_policy
  service-policy type queuing input system_q_in_policy
  service-policy type queuing output system_q_out_policy
  service-policy type network-qos system_nq_policy
```

相关信息：

- QOS组是内部地交换机如何对待特定Cos。设想QOS组作为每个信息包进入的桶或通道。
- 尽力没有明确QOS组，因此它默认值QOS组0
- 在以太网(FCoE)的光纤信道有Cos 3和获得被放到QOS组1

Cos <=> QOS组欺诈行为图表

	Cos QOS组	
白金	5	2
金子	4	3
银	2	4
铜牌服务	1	5
尽力	Any	0
光纤信道	3	1

Cos可以更改到在UCS的Cos 6。Cos 7为内部UCS通信是后备的。

显示排队interface命令

```
P10-UCS-A(nxos)# show queuing interface
Ethernet1/1/1 queuing information:
  TX Queuing
    qos-group  sched-type  oper-bandwidth
      0         WRR        50
      1         WRR        50

  RX Queuing
    qos-group 0
    q-size: 360640, HW MTU: 1500 (1500 configured)
    drop-type: drop, xon: 0, xoff: 360640
    Statistics:
      Pkts received over the port           : 27957
      Ucast pkts sent to the cross-bar      : 0
      Mcast pkts sent to the cross-bar     : 27957
      Ucast pkts received from the cross-bar : 0
      Pkts sent to the port                 : 347
      Pkts discarded on ingress            : 0
      Per-priority-pause status            : Rx (Inactive), Tx (Inactive)

    qos-group 1
    q-size: 79360, HW MTU: 2158 (2158 configured)
    drop-type: no-drop, xon: 20480, xoff: 40320
    Statistics:
      Pkts received over the port           : 0
      Ucast pkts sent to the cross-bar      : 0
      Mcast pkts sent to the cross-bar     : 0
      Ucast pkts received from the cross-bar : 0
      Pkts sent to the port                 : 0
      Pkts discarded on ingress            : 0
      Per-priority-pause status            : Rx (Inactive), Tx (Inactive)

  Total Multicast crossbar statistics:
    Mcast pkts received from the cross-bar : 347
```

此输出如何显示此接口队列每个组。

关于连接孔以太网1/1/1的信息：

- 尽力获得QOS组0和q大小360640字节的缓冲区和MTU 1500。
- 此端口ingressed/收到了尽力27957个信息包，并且egressed/发送了347个信息包。
- “Pkts在入口丢弃了”是收到了信息包的数量，但是在缓冲区的该即时期间(q大小)亦称是充分和交换机决定丢弃，这是尾部丢弃。

国际移民组织端口que

显示输入和输出模块(国际移民组织)端口的排队接口在UCS机箱：

```
Ethernet1/1/1 queuing information:
  Input buffer allocation:
  Qos-group: 1
  frh: 3
  drop-type: no-drop
  cos: 3
```

```
xon      xoff      buffer-size
-----+-----+-----
8960     14080     24320
```

```
Qos-group: 0
frh: 8
drop-type: drop
cos: 0 1 2 4 5 6
```

```
xon      xoff      buffer-size
-----+-----+-----
0        117760     126720
```

Queueing:

```
queue  qos-group  cos          priority  bandwidth  mtu
-----+-----+-----+-----+-----+-----
2      0           0 1 2 4 5 6   WRR       50         1600
3      1           3             WRR       50         2240
```

Queue limit: 66560 bytes

Queue Statistics:

```
queue  rx          tx
-----+-----+-----
2      18098         28051
3      0           0
```

Port Statistics:

```
rx drop      rx mcast drop  rx error      tx drop      mux overflow
-----+-----+-----+-----+-----
0             0              0             0             InActive
```

Priority-flow-control enabled: yes

Flow-control status:

```
cos      qos-group  rx pause  tx pause  masked rx pause
-----+-----+-----+-----+-----
0         0        xon       xon       xon
1         0        xon       xon       xon
2         0        xon       xon       xon
3         1        xon       xon       xon
4         0        xon       xon       xon
5         0        xon       xon       xon
6         0        xon       xon       xon
7         n/a      xon       xon       xon
```

有QoS组0和QoS组1，QoS组0得到信息包用cos标记0 1 2 4 5 6，并且QoS组1获得cos 3。在结构增量剂(FEX) /IOMs的buffer-size只是有点更小的并且是126720个字节。FEX轻微不同地执行QoS并且采取多QoS组并且捆绑他们到队列。每个队列的rx和tx计数器能被看到。

show interface优先级流控制

检查的最后输出是：**show interface优先级流控制**

```
P10-UCS-A(nxos)# show interface priority-flow-control
```

```
=====
Port          Mode Oper(VL bmap)  RxPPP  TxPPP
=====
Ethernet1/1   Auto Off        0      0
Ethernet1/2   Auto Off        0      0
Ethernet1/3   Auto Off        0      0
Ethernet1/4   Auto Off        6      0
=====
```

```

Ethernet1/5      Auto Off      0      0
Ethernet1/6      Auto Off      0      0
Ethernet1/7      Auto Off      0      0
Ethernet1/8      Auto Off      0      0
Ethernet1/9      Auto Off      0      0
Ethernet1/10     Auto Off      2      0
..snip..
Vethernet733    Auto Off      0      0
Vethernet735    Auto Off      0      0
Vethernet737    Auto Off      0      0
Ethernet1/1/1    Auto On   (8)    0      0
Ethernet1/1/2    Auto Off      0      0
Ethernet1/1/3    Auto On   (8)    0      0
Ethernet1/1/4    Auto Off      0      0

```

这在什么接口优先级流控制(PFC)显示协商(自动)，并且什么接口PFC不协商(自动)。PFC是交换机的一个方式能请求一台邻居交换机不发送信息包少量的时刻的特定Cos。PFC暂停(PPP，每次优先级暂停)发生，当缓冲区是充分/几乎充分的。`show cdp neighbors`的输出和`显示fex详细资料`告诉我们此以太网1/1-4发生故障对FEX/IOM机箱1，并且以太网1/9-10是至连结5000。在此输出中6次暂停被发送了下来到在以太网1/4和2暂停的FEX/IOM是被派出的Ethernet1/10对上行连结5000。

- PPPs不是BAD事!

Note:因为FEX/IOM不是确实交换PFC不协商在他们之间在Ethernet1/1-4，但是能协商到终端Ethernet1/1/1。PPPs被发送到FEX/IOM沿远程连接孔Ethernet1/1/1被传送。

那是什么UCS QoS看起来象箱外....

银若被启用？

这导致配置：

```

class-map type qos class-fcoe
class-map type qos match-all class-silver match cos 2 class-map type queuing class-silver match qos-group 4
class-map type queuing class-all-flood
  match qos-group 2
class-map type queuing class-ip-multicast
  match qos-group 2
policy-map type qos system_qos_policy
  class class-silver set qos-group 4
policy-map type queuing system_q_in_policy
class type queuing class-silver bandwidth percent 44
  class type queuing class-fcoe
    bandwidth percent 29 class type queuing class-default bandwidth percent 27 policy-map type queuing system_q_out_policy class type queuing class-silver bandwidth percent 44
  class type queuing class-fcoe
    bandwidth percent 29 class type queuing class-default bandwidth percent 27 policy-map type queuing org-root/ep-qos-Default-Qos class type queuing class-fcoe class type queuing class-default bandwidth percent 50 shape 40000000 kbps 10240 class-map type network-qos class-silver match qos-group 4class-map type network-qos class-all-flood match qos-group 2 class-map type network-qos class-ip-multicast match qos-group 2 policy-map type network-qos system_nq_policy class type network-qos class-silver
  class type network-qos class-fcoe
    pause no-drop
    mtu 2158
  class type network-qos class-default
system qos

```

```
service-policy type qos input system_qos_policy
service-policy type queuing input system_q_in_policy
service-policy type queuing output system_q_out_policy
service-policy type network-qos system_nq_policy
```

Ethernet1/1 queuing information:

TX Queuing

qos-group	sched-type	oper-bandwidth
0	WRR	27
1	WRR	29
4	WRR	44

RX Queuing

qos-group 0

q-size: 308160, HW MTU: 9216 (9216 configured)

drop-type: drop, xon: 0, xoff: 301120

Statistics:

Pkts received over the port	: 12
Ucast pkts sent to the cross-bar	: 12
Mcast pkts sent to the cross-bar	: 0
Ucast pkts received from the cross-bar	: 17
Pkts sent to the port	: 17
Pkts discarded on ingress	: 0
Per-priority-pause status	: Rx (Inactive), Tx (Inactive)

qos-group 1

q-size: 79360, HW MTU: 2158 (2158 configured)

drop-type: no-drop, xon: 20480, xoff: 40320

Statistics:

Pkts received over the port	: 7836003
Ucast pkts sent to the cross-bar	: 7836003
Mcast pkts sent to the cross-bar	: 0
Ucast pkts received from the cross-bar	: 4551954
Pkts sent to the port	: 4551954
Pkts discarded on ingress	: 0
Per-priority-pause status	: Rx (Inactive), Tx (Inactive)

qos-group 4 q-size: 22720, HW MTU: 1500 (1500 configured)

drop-type: drop, xon: 0, xoff: 22720

Statistics:

Pkts received over the port	: 0
Ucast pkts sent to the cross-bar	: 0
Mcast pkts sent to the cross-bar	: 0
Ucast pkts received from the cross-bar	: 0
Pkts sent to the port	: 0
Pkts discarded on ingress	: 0
Per-priority-pause status	: Rx (Inactive), Tx (Inactive)

注意最佳效果(QOS组0) q大小去从360640到308160，因为银(分配了QOS组4) 22720缓冲空间。

银若使超大？

设置MTU到9216。

Ethernet1/1 queuing information:

TX Queuing

qos-group	sched-type	oper-bandwidth
0	WRR	27
1	WRR	29
4	WRR	44

RX Queuing

qos-group 0
q-size: 301120, HW MTU: 9216 (9216 configured)
drop-type: drop, xon: 0, xoff: 301120

Statistics:

Pkts received over the port : 3
Ucast pkts sent to the cross-bar : 3
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 0
Pkts sent to the port : 0
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)

qos-group 1
q-size: 79360, HW MTU: 2158 (2158 configured)
drop-type: no-drop, xon: 20480, xoff: 40320

Statistics:

Pkts received over the port : 7842224
Ucast pkts sent to the cross-bar : 7842224
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 4555791
Pkts sent to the port : 4555791
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)

qos-group 4

q-size: 29760, HW MTU: 9216 (9216 configured)
drop-type: drop, xon: 0, xoff: 29760

Statistics:

Pkts received over the port : 0
Ucast pkts sent to the cross-bar : 0
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 0
Pkts sent to the port : 0
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)

变成银色(QOS组4)当前获得29760 q大小，从22720起。

银若做NO-丢弃呢？

不选定信息包丢弃设置？

Ethernet1/1 queuing information:

TX Queuing

qos-group	sched-type	oper-bandwidth
0	WRR	27
1	WRR	29
4	WRR	44

RX Queuing

qos-group 0
q-size: 240640, HW MTU: 9216 (9216 configured)
drop-type: drop, xon: 0, xoff: 240640

Statistics:

Pkts received over the port : 20
Ucast pkts sent to the cross-bar : 20
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 1


```
Pkts sent to the port : 1
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)
```

qos-group 1

q-size: 79360, HW MTU: 2158 (2158 configured)

drop-type: no-drop, xon: 20480, xoff: 40320

Statistics:

```
Pkts received over the port : 7837323
Ucast pkts sent to the cross-bar : 7837323
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 4552726
Pkts sent to the port : 4552726
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)
```

qos-group 4 q-size: 90240, HW MTU: 9216 (9216 configured)

drop-type: no-drop, xon: 17280, xoff: 37120

Statistics:

```
Pkts received over the port : 0
Ucast pkts sent to the cross-bar : 0
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 0
Pkts sent to the port : 0
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)
```

注意银(QOS组4) q大小增至90240，丢弃型的更改NO-丢弃和最佳效果QOS组0减少到240640。

最佳效果QOS组0缓冲空间被再分配对其他QoS组。

上行连结5000

连结5000默认qos configs是类似的，但是没有苛求。

show running-config ipqos

Ethernet1/1 queuing information:

TX Queuing

qos-group	sched-type	oper-bandwidth
0	WRR	27
1	WRR	29
4	WRR	44

RX Queuing

qos-group 0

q-size: 240640, HW MTU: 9216 (9216 configured)

drop-type: drop, xon: 0, xoff: 240640

Statistics:

```
Pkts received over the port : 20
Ucast pkts sent to the cross-bar : 20
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 1
Pkts sent to the port : 1
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)
```

qos-group 1

q-size: 79360, HW MTU: 2158 (2158 configured)

drop-type: no-drop, xon: 20480, xoff: 40320

```
Statistics:
  Pkts received over the port           : 7837323
  Ucast pkts sent to the cross-bar      : 7837323
  Mcast pkts sent to the cross-bar      : 0
  Ucast pkts received from the cross-bar : 4552726
  Pkts sent to the port                 : 4552726
  Pkts discarded on ingress             : 0
  Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

qos-group 4 q-size: 90240, HW MTU: 9216 (9216 configured)

drop-type: no-drop, xon: 17280, xoff: 37120

```
Statistics:
  Pkts received over the port           : 0
  Ucast pkts sent to the cross-bar      : 0
  Mcast pkts sent to the cross-bar      : 0
  Ucast pkts received from the cross-bar : 0
  Pkts sent to the port                 : 0
  Pkts discarded on ingress             : 0
  Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

5000隐藏默认选项，因此show running-config ipqos全部要求连结发现全部的配置。

显示排队接口

Ethernet1/1 queuing information:

TX Queuing

qos-group	sched-type	oper-bandwidth
0	WRR	27
1	WRR	29
4	WRR	44

RX Queuing

qos-group 0

q-size: 240640, HW MTU: 9216 (9216 configured)

drop-type: drop, xon: 0, xoff: 240640

```
Statistics:
  Pkts received over the port           : 20
  Ucast pkts sent to the cross-bar      : 20
  Mcast pkts sent to the cross-bar      : 0
  Ucast pkts received from the cross-bar : 1
  Pkts sent to the port                 : 1
  Pkts discarded on ingress             : 0
  Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

qos-group 1

q-size: 79360, HW MTU: 2158 (2158 configured)

drop-type: no-drop, xon: 20480, xoff: 40320

```
Statistics:
  Pkts received over the port           : 7837323
  Ucast pkts sent to the cross-bar      : 7837323
  Mcast pkts sent to the cross-bar      : 0
  Ucast pkts received from the cross-bar : 4552726
  Pkts sent to the port                 : 4552726
  Pkts discarded on ingress             : 0
  Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

qos-group 4 q-size: 90240, HW MTU: 9216 (9216 configured)

drop-type: no-drop, xon: 17280, xoff: 37120

```
Statistics:
  Pkts received over the port           : 0
  Ucast pkts sent to the cross-bar      : 0
  Mcast pkts sent to the cross-bar      : 0
```

```
Ucast pkts received from the cross-bar : 0
Pkts sent to the port : 0
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)
```

show interface优先级流控制

下来端口对UCS (Ethernet1/1 - 2)有PFC (自动)。

Ethernet1/1 queuing information:

TX Queuing

qos-group	sched-type	oper-bandwidth
0	WRR	27
1	WRR	29
4	WRR	44

RX Queuing

qos-group 0

q-size: 240640, HW MTU: 9216 (9216 configured)

drop-type: drop, xon: 0, xoff: 240640

Statistics:

```
Pkts received over the port : 20
Ucast pkts sent to the cross-bar : 20
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 1
Pkts sent to the port : 1
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)
```

qos-group 1

q-size: 79360, HW MTU: 2158 (2158 configured)

drop-type: no-drop, xon: 20480, xoff: 40320

Statistics:

```
Pkts received over the port : 7837323
Ucast pkts sent to the cross-bar : 7837323
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 4552726
Pkts sent to the port : 4552726
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)
```

qos-group 4 q-size: 90240, HW MTU: 9216 (9216 configured)

drop-type: no-drop, xon: 17280, xoff: 37120

Statistics:

```
Pkts received over the port : 0
Ucast pkts sent to the cross-bar : 0
Mcast pkts sent to the cross-bar : 0
Ucast pkts received from the cross-bar : 0
Pkts sent to the port : 0
Pkts discarded on ingress : 0
Per-priority-pause status : Rx (Inactive), Tx (Inactive)
```

添加FCoE到配置

默认情况下这些策略在那里在连结5000，但是不启用，那么请需要使用他们。

Ethernet1/1 queuing information:

TX Queuing

qos-group	sched-type	oper-bandwidth
0	WRR	27

```
1      WRR      29
4      WRR      44
```

RX Queuing

qos-group 0

q-size: 240640, HW MTU: 9216 (9216 configured)

drop-type: drop, xon: 0, xoff: 240640

Statistics:

```
Pkts received over the port          : 20
Ucast pkts sent to the cross-bar     : 20
Mcast pkts sent to the cross-bar     : 0
Ucast pkts received from the cross-bar : 1
Pkts sent to the port                : 1
Pkts discarded on ingress            : 0
Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

qos-group 1

q-size: 79360, HW MTU: 2158 (2158 configured)

drop-type: no-drop, xon: 20480, xoff: 40320

Statistics:

```
Pkts received over the port          : 7837323
Ucast pkts sent to the cross-bar     : 7837323
Mcast pkts sent to the cross-bar     : 0
Ucast pkts received from the cross-bar : 4552726
Pkts sent to the port                : 4552726
Pkts discarded on ingress            : 0
Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

qos-group 4 q-size: 90240, HW MTU: 9216 (9216 configured)

drop-type: no-drop, xon: 17280, xoff: 37120

Statistics:

```
Pkts received over the port          : 0
Ucast pkts sent to the cross-bar     : 0
Mcast pkts sent to the cross-bar     : 0
Ucast pkts received from the cross-bar : 0
Pkts sent to the port                : 0
Pkts discarded on ingress            : 0
Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

show interface 优先级流控制

下来端口对 UCS (Ethernet1/1 - 2) 有 PFC (自动)。

Ethernet1/1 queuing information:

TX Queuing

```
qos-group  sched-type  oper-bandwidth
0          WRR         27
1          WRR         29
4          WRR         44
```

RX Queuing

qos-group 0

q-size: 240640, HW MTU: 9216 (9216 configured)

drop-type: drop, xon: 0, xoff: 240640

Statistics:

```
Pkts received over the port          : 20
Ucast pkts sent to the cross-bar     : 20
Mcast pkts sent to the cross-bar     : 0
Ucast pkts received from the cross-bar : 1
Pkts sent to the port                : 1
Pkts discarded on ingress            : 0
Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

```
qos-group 1
q-size: 79360, HW MTU: 2158 (2158 configured)
drop-type: no-drop, xon: 20480, xoff: 40320
Statistics:
  Pkts received over the port           : 7837323
  Ucast pkts sent to the cross-bar      : 7837323
  Mcast pkts sent to the cross-bar      : 0
  Ucast pkts received from the cross-bar : 4552726
  Pkts sent to the port                 : 4552726
  Pkts discarded on ingress             : 0
  Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

qos-group 4 q-size: 90240, HW MTU: 9216 (9216 configured)

drop-type: no-drop, xon: 17280, xoff: 37120

```
Statistics:
  Pkts received over the port           : 0
  Ucast pkts sent to the cross-bar      : 0
  Mcast pkts sent to the cross-bar      : 0
  Ucast pkts received from the cross-bar : 0
  Pkts sent to the port                 : 0
  Pkts discarded on ingress             : 0
  Per-priority-pause status            : Rx (Inactive), Tx (Inactive)
```

PFC

PFC(802.1Qbb)是Nexus/UCS设备作为数据中心Bridging(DCBX)一部分，如何创建一个无损的结构。FCoE需要一个无损的结构，多跳跃FCoE是特别倾向的对此配置问题。上行交换机，典型地连结5000，必须匹配在UCS配置的QoS设置。

作为以前陈述的PFC是交换机的一个方式能通知邻居交换机停下来发送另外的帧。考虑在与立即去许多方向的数据流的一个多个交换网络环境中，这不仅添加path1(source1/destination1)此的缓冲区倍增缓冲区，因为邻居交换机可能有数据流该入口多个端口(多个缓冲区)。当没有需要时PFC，当您使用IP存贮时大量地经常帮助改进防止多余的信息包丢失的性能由于此缓冲区增殖效果。

非常好的[PFC/DCBX概述](#)。

PFC为什么不协商？

NO-丢弃QoS策略必须配比在每一侧。

另一方面如果QoS类别在一台交换机被定义成NO-丢弃和不成NO-丢弃，PFC不协商。因为UCS配置被禁用的白金作为NO-丢弃，但是out-of-the-box，这经常发生，当白金是启用的。

系统qos必须配比在每一侧

如果排队输入和队列输出和qos输入不配比，PFC不协商。

NetApp

金子

是在Cos的NetApp标记的VLAN 4(Gold)默认情况下的NetApp锉刀发送所有IP存贮数据流。当Cos位在.1q报头，当NetApp被连接到接入端口NetApp数据流被放到尽力。

不对称的QoS

常见配置错误是选择另一Cos color(Silver)放网络文件系统从UCS的NFS数据流到，并且回归从NetApp的NFS数据流被放到金子。因此数据流是某事类似：

```
服务器 UCS  连结5k NetApp
发送  银>  银>  尽力
接受  <金子 <金子 <金子
```

如果UCS未为没有银是超大的，然而金子被配置，这将引起问题。

未定义QoS

当QoS类别(白金/金子/银/铜牌服务)时不是启用的，UCS和连结设备对待那些信息包作为尽力并且放他们到QoS组0。

```
服务器 UCS  连结5k NetApp
发送  银>  尽力>  尽力
接受  <金子 <尽力 <金子
```

注意：没有更改在信息包的Cos位/被重新标明，但是信息包不同地被对待。

虚拟计算环境(VCE) QoS

VCE QoS设计比理想是。

	连结1k	UCS	连结5k
是/Cos 0	1500	1500	1600
FC/Cos 1	--	2158(no-drop)	--
Cos 6	mgmt	--	--
白金/Cos 5	--	1500(no-drop)	1500
金子/Cos 4	vmotion	1500	1500
银/Cos 2	NFS	--	9216(no-drop)

如果有Cos组被定义在一个级别，但是忽略在另一个级别是复杂的，并且可能做不是工作打算的方式。例如VCE使用银NFS，但是，如果没有银被定义的UCS不是超大的，并且能造成NFS数据流降低或被分段的此数据流在尽力排队。PFC不协商的归结于在NO-丢弃策略的不匹配，但是明显这是好的，因为PFC没有对于以太网是必需的。

浅缓冲区

网络协议(IP)基于存贮协议是所有非常突变性协议和用9000 MTU经常配置。他们在白金/金子/银/铜牌服务不足执行由于29760 q大小/的这样9000 MTU只允许3个信息包到缓冲区，在尾部丢弃导致前。

更大的缓冲区

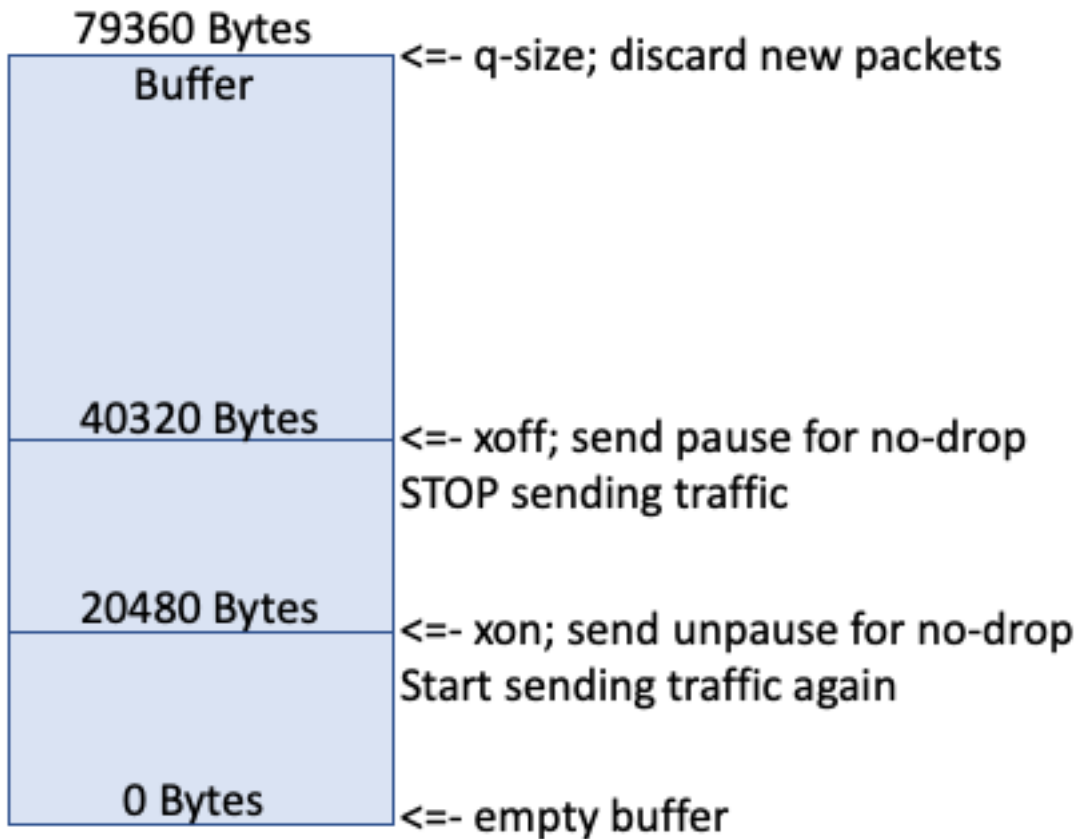
UCS允许vNIC缓冲区(环大小)增加以太网策略。默认值是512，并且最大数量是4096。如果更改此值到最大数量，充分的缓冲区潜伏期(###KB/10Gbps)从0.4ms增加到3.2ms。因此在此缓冲区更改允

许少量丢包，但是牺牲加长的等待时间。

9216 MTU与9000 MTU

巨型帧的配置的点是允许终点设备与有9000个字节第3层信息包的另一个终点设备谈。当使用时第2层封装技术交换机和路由器在终点设备之间比9000个MTU第3层信息包需要能处理轻微更大的第2层帧占封装在头顶上。请当不确定时允许9216 MTU在交换机。

PFC和PPP



当新的信息包排队，缓冲区充满。

当缓冲区达到20k时，缓冲区继续充满。

当缓冲区达到40k时，交换机发送一次PPP暂停，如果此队列是NO-丢弃， which指示远程交换机停下来发送数据流。

理论上来讲远端很快停下来发送数据流，并且缓冲区(79360-40320)的剩下的事保持流入飞行中信息包。

当缓冲区是充分的时，“Pkts在入口丢弃了”计数器增量。

FC和FCoE是在发送数据流和缓冲区级别的远程交换机终止最终落和reache 20k的一个理想情况的一个无损的协议。交换机发送通知远程交换机开始再发送数据流的此NO-丢弃队列的另一PPP unpauses。

Troubleshoot

没有特定的当前排除有用的资料故障为此配置。

Related Information

- [UCS管理器网络管理指南，版本4.0](#)
- [连结5000系列服务质量配置指南](#)
- [与VMware Esxi端对端超大MTU配置示例的UCS](#)
- [Technical Support & Documentation - Cisco Systems](#)