

在 QLLC 上配置 DLSw+

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简介

在此配置中，两个不同的X.25资源(我们使用dspu-host模拟在此设置的终端设备)。关于下行流物理单元(DSPU)的更多信息，参考这些文档：

- [配置DSPU和SNA服务点支持](#)
- [下游物理组件常见问题](#)

这两个终端设备连通用不同的适配器在X.25的大型机站点。远程X.25资源为不同的目的地址配置(用不同的长度和不同的地址)。X.121目的地址匹配路由器的“qllc dls w subaddress”的所有呼入呼叫被调度对加强版数据链路交换(DLSW+) (与ID.STN IND)。当DLSw+接收“时能到达”关于一个虚拟MAC地址的查询在池，映射对指定的虚拟MAC地址的限定式逻辑链路控制(QLLC)代码尝试设置虚拟电路到X.121地址。如果呼入呼叫接收，QLLC发送与一个虚拟MAC地址的一ID.STN.IND从池到DLSw+。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- Cisco IOS软件版本12.2(6a)用于悲枪(Cisco 2612)
- Cisco IOS软件版本12.0(20)用于那慕尔& Goode (Cisco2500 , Cisco4000)
- Cisco IOS软件版本12.1(7)用于Nesle (Cisco4500)

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

拓扑图

配置

本部分提供有关如何配置本文档所述功能的信息。

注意：要查找本文档所用命令的其他信息，请使用[命令查找工具](#)（[仅限注册用户](#)）。

配置

大型机的MAC地址如下：

- 4000.7507.0000
- 4000.7507.ffff

本文档使用此处所示的配置：

- [Cisco 7507 \(Meatfeast\)](#)
- [Cisco 2612 \(悲枪\)](#)
- [Cisco4500 \(Nesle\)](#)
- [Cisco2500 \(那慕尔\)](#)
- [Cisco4000 \(Goode\)](#)

Cisco 7507 (Meatfeast)

```
source-bridge ring-group 100
dlsw local-peer peer-id 10.48.64.75 promiscuous
!
interface Channel4/2
 ip address 10.48.64.225 255.255.255.240
 no keepalive
 lan TokenRing 0
  source-bridge 88 1 100
  adapter 0 4000.7507.0000
  adapter 1 4000.7507.ffff
```

Cisco 2612 (悲枪)

```
!
source-bridge ring-group 200
dlsw local-peer peer-id 10.48.64.40
dlsw remote-peer 0 tcp 10.48.64.75
!
interface Ethernet0/0
 ip address 10.48.64.40 255.255.255.0
 half-duplex
!
interface Serial0/0
 no ip address
```

```

!
interface TokenRing0/0
  no ip address
  ring-speed 16
!
interface Serial0/1
  no ip address
  encapsulation x25
  x25 alias .*
!--- It is used against the destination !--- address of
a received call. x25 htc 10 x25 win 7 x25 wout 7 qllc
accept-all-calls qllc dlsw subaddress 123456789012345
vmacaddr 4000.3333.0000 2 partner 4000.7507.0000 qllc
dlsw subaddress 2224 vmacaddr 4000.2222.0000 2 partner
4000.7507.ffff ! ip default-gateway 10.48.64.1 ip
classless no ip http server ip pim bidir-enable ! !
dial-peer cor custom !

```

Cisco4500 (Nesle)

```

!
x25 routing
!
!
!
interface Ethernet0
  ip address 10.48.64.34 255.255.255.0
  media-type 10BaseT
!
interface Ethernet1
  no ip address
  shutdown
  media-type 10BaseT
!
interface Ethernet2
  no ip address
  media-type 10BaseT
!
interface Serial0
  no ip address
  encapsulation x25 dce
  clockrate 250000
!
interface Serial1
  no ip address
!
interface Serial2
  no ip address
  encapsulation x25 dce
  no ip mroute-cache
  clockrate 250000
!
interface Serial3
  no ip address
  encapsulation x25 dce
  clockrate 250000
!
interface TokenRing0
  no ip address
  ring-speed 16
!
ip default-gateway 10.48.64.1
ip classless
no ip http server
x25 route input-interface Serial2 interface Serial0

```

```
x25 route input-interface Serial3 interface Serial0
x25 route 555 interface Serial2
x25 route 666 interface Serial3
!
line con 0
  exec-timeout 0 0
line aux 0
  exec-timeout 0 0
line vty 0 4
  exec-timeout 0 0
  password 7 071836
  login
!
ntp clock-period 17179258
ntp server 10.48.64.100
end
```

Cisco2500 (那慕尔)

```
hostname namur
!
logging buffered 150000 debugging
enable password 7 120E12
!
dspu host OZDEN xid-snd 00000000 x25 2224 qllc 12
interface Serial1
!
interface Ethernet0
  no ip address
  no ip directed-broadcast
  shutdown
!
interface Serial0
  no ip address
  no ip directed-broadcast
  shutdown
!
interface Serial1
  no ip address
  no ip directed-broadcast
  encapsulation x25
  no ip mroute-cache
  x25 address 555
  x25 htc 10
  x25 win 7
  x25 wout 7
  dspu enable-host qllc 12
  dspu start OZDEN
!
interface TokenRing0
  no ip address
  no ip directed-broadcast
  shutdown
!
```

Cisco4000 (Goode)

```
dspu host GOODE xid-snd 11132323 x25 123456789012345
qllc 20 interface Serial1
!
interface Ethernet0
  ip address 10.48.64.17 255.255.255.0
  no ip directed-broadcast
  media-type 10BaseT
!
interface Serial0
```

```

no ip address
no ip directed-broadcast
shutdown
!
interface Serial1
no ip address
no ip directed-broadcast
encapsulation x25
no ip mroute-cache
x25 address 666
x25 htc 10
x25 win 7
x25 wout 7
dspu enable-host qllc 20
dspu start GOODE
!

```

验证

此部分提供您能使用确认您的配置是活跃的信息。

[命令输出解释程序工具](#) ([仅限注册用户](#)) 支持某些 **show** 命令，使用此工具可以查看对 **show** 命令输出的分析。

- **show llc2** —显示LLC2连接活动在路由器。
- **show version** —显示软件版本信息。
- **show dlsw peer** —显示DLSw对等连接信息。
- **show dlsw circuit detail** —显示DLSW电路的详细信息。
- **show qllc serial 0/1** —显示关于QLLC序列0/1的信息。
- **show x25 interface serial 0/1** —显示线路和协议的状况在X.25 serial interfaces 0/1。
- **show x25 route** —显示X.25路由表。
- **show x25 interface serial 0** —显示线路和协议的状况在X.25 serial interfaces 0。
- **show dspu** —显示DSPU功能的状况。
- **show x25 interface serial 1** —显示线路和协议的状况在X.25 serial interfaces 1。

Meatfeast

```

#show llc2 .... Channel4/2 DTE: 4000.7507.ffff
4000.2222.0000 04 04 state NORMAL V(S)=1, V??)=1, Last
N??)=1, Local window=7, Remote Window=127 akmax=3, n2=8,
xid-retry timer 0/0 ack timer 0/1000 p timer 0/1000 idle
timer 5430/10000 rej timer 0/3200 busy timer 0/9600 adm
timer 0/60000 llc1 timer 0/1000 akdelay timer 0/100 txQ
count 0/200 RIF: 06B0.0581.0640 Channel4/2 DTE:
4000.7507.0000 4000.3333.0000 04 04 state NORMAL V(S)=6,
V??)=6, Last N??)=6, Local window=7, Remote Window=127
akmax=3, n2=8, xid-retry timer 0/0 ack timer 0/1000 p
timer 0/1000 idle timer 5630/10000 rej timer 0/3200 busy
timer 0/9600 adm timer 0/60000 llc1 timer 0/1000 akdelay
timer 0/100 txQ count 0/200 RIF: 06B0.0581.0640

```

悲伦

```

pathos#show version Cisco Internetwork Operating System
Software IOS (tm) C2600 Software (C2600-IS-M), Version
12.2(6a), RELEASE SOFTWARE (fc1) Copyright ??) 1986-2001
by cisco Systems, Inc. Compiled Sat 01-Dec-01 22:30 by
pwade Image text-base: 0x80008088, data-base: 0x810616B4
pathos#show dlsw peer Peers: state pkts_rx pkts_tx type
drops ckts TCP uptime TCP 10.48.64.75 CONNECT 118 91

```

```

conf 0 2 0 00:32:12 Total number of connected peers: 1
Total number of connections: 1 pathos#show dlsw circuit
detail Index local addr(lsap) remote addr(dsap) state
uptime 234881048 4000.2222.0000(04) 4000.7507.ffff(04)
CONNECTED 00:29:50 PCEP: 81C25730 UCEP: 81D88528
Port:Se0/1 peer 10.48.64.75(2065) Flow-Control-Tx CW:20,
Permitted:19; Rx CW:20, Granted:39; Op: Repeat
Congestion: Low(02), Flow Op: Half: 0/0 Reset 0/0 RIF =
--no rif-- Bytes: 429/453 Info-frames: 1/1 XID-frames:
5/4 UInfo-frames: 0/0 HPR saps: local 0x0, remote 0x4
1426063385 4000.3333.0000(04) 4000.7507.0000(04)
CONNECTED 00:29:49 PCEP: 81D081B4 UCEP: 81D108B0
Port:Se0/1 peer 10.48.64.75(2065) Flow-Control-Tx CW:20,
Permitted:34; Rx CW:20, Granted:34; Op: Repeat
Congestion: Low(02), Flow Op: Half: 0/0 Reset 0/0 RIF =
--no rif-- Bytes: 554/513 Info-frames: 6/6 XID-frames:
5/4 UInfo-frames: 0/0 HPR saps: local 0x0, remote 0x4
Total number of circuits connected: 2 pathos#show qllc
serial 0/1 Interface Serial0/1 vc 2 66620 Circuit State
P4/D1, Logical Link State QLOpened 4000.3333.0000(04)-
>4000.7507.0000(04) 0 packets held vc 1 55512 Circuit
State P4/D1, Logical Link State QLOpened
4000.2222.0000(04)->4000.7507.ffff(04) 0 packets held
pathos# pathos#show x25 interface serial 0/1 SVC 1,
State: D1, Interface: Serial0/1 Started 00:30:51, last
input 00:30:50, output 00:30:50 Connects 55512 <--> qllc
4000.2222.0000 Window size input: 7, output: 7 Packet
size input: 128, output: 128 PS: 0 PR: 7 ACK: 6 Remote
PR: 0 RCNT: 1 RNR: no P/D state timeouts: 0 timer
(secs): 0 data bytes 463/441 packets 8/7 Resets 0/0 RNRs
0/0 REJs 0/0 INTs 0/0 SVC 2, State: D1, Interface:
Serial0/1 Started 00:30:51, last input 00:30:50, output
00:30:50 Connects 66620 <--> qllc 4000.3333.0000 Window
size input: 7, output: 7 Packet size input: 128, output:
128 PS: 5 PR: 4 ACK: 2 Remote PR: 5 RCNT: 2 RNR: no P/D
state timeouts: 0 timer (secs): 0 data bytes 523/566
packets 13/12 Resets 0/0 RNRs 0/0 REJs 0/0 INTs 0/0
pathos#

```

Nesle

```

nesle#show x25 route # Match Substitute Route to 1
input-int Serial2 Serial0 2 input-int Serial3 Serial0 3
dest 555 Serial2 4 dest 666 Serial3 nesle#show x25
interface serial 0 SVC 1, State: D1, Interface: Serial0
Started 00:32:47, last input 00:32:46, output 00:32:46
Connects 55512 <--> 2224 from Serial2 SVC 10 Window size
input: 2, output: 2 Packet size input: 128, output: 128
PS: 7 PR: 0 ACK: 0 Remote PR: 6 RCNT: 0 RNR: no P/D
state timeouts: 0 timer (secs): 0 data bytes 441/463
packets 7/8 Resets 0/0 RNRs 0/0 REJs 0/0 INTs 0/0 SVC 2,
State: D1, Interface: Serial0 Started 00:32:47, last
input 00:32:46, output 00:32:46 Connects 66620 <-->
123456789012345 from Serial3 SVC 1024 Window size input:
2, output: 2 Packet size input: 128, output: 128 PS: 4
PR: 5 ACK: 5 Remote PR: 2 RCNT: 0 RNR: no Window is
closed P/D state timeouts: 0 timer (secs): 0 data bytes
566/523 packets 12/13 Resets 0/0 RNRs 0/0 REJs 0/0 INTs
0/0 nesle#show x25 interface serial 2 SVC 10, State: D1,
Interface: Serial2 Started 00:32:51, last input
00:32:50, output 00:32:50 Connects 55512 <--> 2224 to
Serial0 SVC 1 Window size input: 2, output: 2 Packet
size input: 128, output: 128 PS: 0 PR: 7 ACK: 6 Remote
PR: 0 RCNT: 1 RNR: no P/D state timeouts: 0 timer
(secs): 0 data bytes 463/441 packets 8/7 Resets 0/0 RNRs

```

```
0/0 REJs 0/0 INTs 0/0 nesle#show x25 interface serial 3  
SVC 1024, State: D1, Interface: Serial3 Started  
00:32:53, last input 00:32:52, output 00:32:52 Connects  
66620 <--> 123456789012345 to Serial0 SVC 2 Window size  
input: 2, output: 2 Packet size input: 128, output: 128  
PS: 5 PR: 4 ACK: 2 Remote PR: 5 RCNT: 2 RNR: no P/D  
state timeouts: 0 timer (secs): 0 data bytes 523/566  
packets 13/12 Resets 0/0 RNRs 0/0 REJs 0/0 INTs 0/0
```

那慕尔

```
namur#show dspu dspu host OZDEN Serial1 (QLLC) PU STATUS  
Active FRAMES RECEIVED 8 FRAMES SENT 8 LUs USED BY DSPU  
0 LUs ACTIVE 0 LUs USED BY API 0 LUs ACTIVE 0 LUs  
ACTIVATED BY HOST BUT NOT USED 0 namur#show x25  
interface serial 1 SVC 10, State: D1, Interface: Serial1  
Started 00:34:55, last input 00:34:54, output 00:34:54  
Connects 2224 <--> qllc Window size input: 7, output: 7  
Packet size input: 128, output: 128 PS: 7 PR: 0 ACK: 0  
Remote PR: 6 RCNT: 0 RNR: no P/D state timeouts: 0 timer  
(secs): 0 data bytes 441/463 packets 7/8 Resets 0/0 RNRs  
0/0 REJs 0/0 INTs 0/0 namur#
```

Goode

```
goode#show dspu dspu host GOODE Serial1 (QLLC) PU STATUS  
Active FRAMES RECEIVED 18 FRAMES SENT 18 LUs USED BY  
DSPU 0 LUs ACTIVE 0 LUs USED BY API 0 LUs ACTIVE 0 LUs  
ACTIVATED BY HOST BUT NOT USED 5 goode#show x25  
interface serial 1 SVC 1024, State: D1, Interface:  
Serial1 Started 00:41:25, last input 00:41:25, output  
00:41:25 Connects 123456789012345 <--> qllc Window size  
input: 2, output: 2 Packet size input: 128, output: 128  
PS: 4 PR: 5 ACK: 5 Remote PR: 2 RCNT: 0 RNR: no Window  
is closed P/D state timeouts: 0 timer (secs): 0 data  
bytes 566/523 packets 12/13 Resets 0/0 RNRs 0/0 REJs 0/0  
INTs 0/0 goode#
```

故障排除

目前没有针对此配置的故障排除信息。

相关信息

- [加强版数据链路交换\(DLSW+\)技术支持页](#)
- [IBM技术支持](#)
- [技术支持和文档 - Cisco Systems](#)