

X.25 到 TCP 转换

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[规则](#)

[配置](#)

[网络图](#)

[配置](#)

[验证](#)

[测试 1：TCP到X.25的转换](#)

[测试 2：X.25到TCP的转换](#)

[故障排除](#)

[相关信息](#)

简介

XOT (X.25 over tcp)由Cisco系统在请求注释(RFC) 1613设计和被选派，传输在IP互联网的X.25。这允许在传输控制协议/互联网协议(TCP/IP)网络将发送的X.25数据包而不是链路接入过程，平衡式(LAPB)链路。XOT是发送在IP互联网的X.25数据包方法通过X.25数据包的封装级在TCP信息包。

本文呈现说明这两个转换的一配置示例：

- 对X.25转换的传输控制协议(TCP)。
- X.25到TCP的转换。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

此转换要求企业功能集，Cisco路由器平台26xx只支持以上。

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](#)。

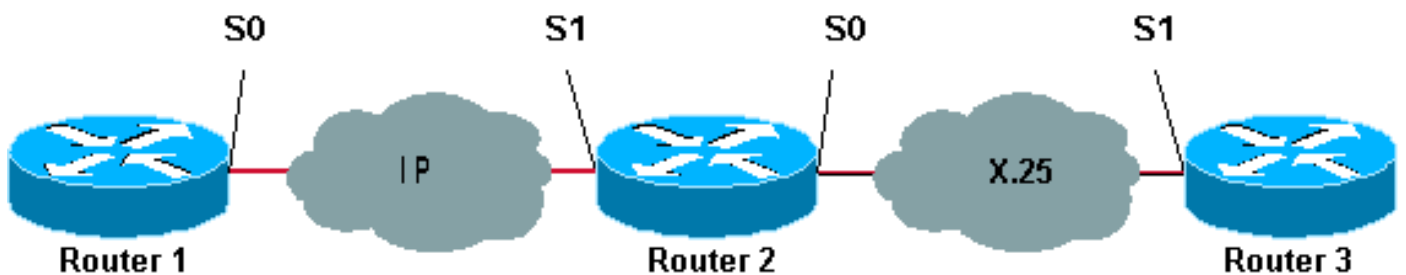
配置

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）。

网络图

本文档使用以下网络设置：



如显示此处，背对背链路使用在路由器1和2之间和在路由器2和3之间。

配置

本文档使用以下配置：

- Router1
- Router2
- Router3

注意：我们删节以下配置显示相关信息。

Router1

```
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname Router1
!
interface Serial0
description DCE connection to s1 Router2
ip address 10.0.0.6 255.255.255.252
no ip mroute-cache
clockrate 56000
!
ip route 192.168.7.0 255.255.255.0 10.0.0.5
```

Router2

```
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
```

```

!
hostname Router2
!
x25 routing
!
interface Loopback0
 ip address 192.168.7.1 255.255.255.0
!
interface Serial0
 description DCE connection to s1 Router3
 encapsulation x25 dce
 no ip mroute-cache
 clockrate 64000
!
interface Serial1
 description DTE connection to s0 Router1
 ip address 10.0.0.5 255.255.255.252
!
x25 route 123 interface Serial0
!
translate tcp 192.168.7.2 x25 123
translate x25 345 tcp 10.0.0.6

```

Router3

```

Router3#show running-config Building configuration...
Current configuration: ! version 12.1 service timestamps
debug datetime msec service timestamps log datetime msec
hostname Router3 ! ip subnet-zero ! x25 routing !
interface Serial1 description DTE connection to s0
Router2 encapsulation x25 x25 address 123 ! x25 route
345 interface Serial1

```

验证

请使用以下命令测试您的网络适当地操作：

[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 debug** -显示各种各样的debug信息，或者执行特定故障排除工作。
- **telnet 192.168.7.2** —连接到在互联网的计算机系统及时模式的。
- **填充位345** —登录您对PAD。
- **show x25 vc** —显示关于活跃的交换虚拟电路(SVC)的信息和永久虚电路(PVC)在特权EXEC模式。

在测验显示的输出下面是输入这些on命令结果在上面网络图中显示的设备。此输出表示，网络在适当地运行。

测试 1：TCP到X.25的转换

在此测验中，我们执行从Router1的一远程登录会话到Router2:的IP地址

1. 从Router1的Telnet 192.168.7.2。 **注意：** 此地址属于网络在Router2的192.168.7.0 /24。不能分配此地址到在网络的其他系统。
2. Router2执行TCP到X.25的转换为了到达Router3。输出如下所示。

```

Router2#show debug TCP: TCP special event debugging is on X.29 PAD: X25 PAD debugging is on
X.25: X.25 special event debugging is on Protocol translation: Protocol Translation debugging is
on Router2# Router1#telnet 192.168.7.2 Trying 192.168.7.2 ... Open Trying 123...Open User Access
Verification Password: Router3> Router2# *Mar 1 01:50:28.759: TCP0: state was LISTEN -> SYNRCVD
[23 -> 10.0.0.6(11007)] *Mar 1 01:50:28.763: TCB00499CAC setting property TCP_TOS (11) C0094
*Mar 1 01:50:28.767: tcppad2: fork started *Mar 1 01:50:28.767: TCP: sending SYN, seq
3338770911, ack 4026886977 *Mar 1 01:50:28.771: TCP2: Connection to 10.0.0.6:11007, advertising
MSS 1460 *Mar 1 01:50:28.775: TCP2: Connection to 10.0.0.6:11007, received MSS 556, MSS is 556
*Mar 1 01:50:28.791: TCP2: state was SYNRCVD -> ESTAB [23 -> 10.0.0.6(11007)] *Mar 1
01:50:28.803: pad_open_connection: found a valid route *Mar 1 01:50:28.807: Serial0: X.25 O R1
Call (11) 8 lci 1 *Mar 1 01:50:28.811: From (0): To (3): 123 *Mar 1 01:50:28.811: Facilities:
(0) *Mar 1 01:50:28.815: Call User Data (4): 0x01000000 (pad) *Mar 1 01:50:28.827: Serial0: X.25
I R1 Call Confirm (5) 8 lci 1 *Mar 1 01:50:28.831: From (0): To (0): *Mar 1 01:50:28.835:
Facilities: (0) *Mar 1 01:50:28.835: PAD2: Call completed *Mar 1 01:50:28.839: PAD2: Control
packet received. *Mar 1 01:50:28.851: PAD2: Input X29 packet type 4 (Read X.3 param) len 1 *Mar
1 01:50:28.855: PAD2: Output X29 packet type 0 (Parameter indication) len 45 1:1, 2:1, 3:2, 4:1,
5:0, 6:0, 7:4, 8:0, 9:0, 10:0, 11:14, 12:0, 13:0, 14:0, 15:0, 16:127, 17:21, 18:18, 19:0, 20:0,
21:0, 22:0, *Mar 1 01:50:28.879: PAD2: Control packet received. *Mar 1 01:50:28.883: PAD2: Input
X29 packet type 6 (Set and Read) len 9          2:0, 4:1, 15:0, 7:21,
*Mar 1 01:50:28.887: tcppad2: Sending WILL ECHO
*Mar 1 01:50:28.891: PAD2: Output X29 packet type 0 (Parameter indication) len 9          2:0,
4:1, 15:0, 7:21,

```

```

Router2#show x25 vc SVC 1, State: D1, Interface: Serial0 Started 00:00:25, last input 00:00:22,
output 00:00:22 Line: 2 vty 0 Location: Host: 10.0.0.6 connected to 123 PAD <--> X25 Window size
input: 2, output: 2 Packet size input: 128, output: 128 PS: 5 PR: 4 ACK: 4 Remote PR: 5 RCNT: 0
RNR: no P/D state timeouts: 0 timer (secs): 0 data bytes 57/62 packets 5/4 Resets 0/0 RNRs 0/0
REJs 0/0 INTs 0/0 Router2#

```

测试 2 : X.25到TCP的转换

在此测验中，我们启动一信息包组合/分拆器(PAD)会话从Router3到Router2: X.25地址

1. 执行PAD到345从Router3。
2. Router2执行X.25到TCP的转换为了到达Router1。输出如下所示。

```

Router2#show debug TCP: TCP special event debugging is on X.29 PAD: X25 PAD debugging is on
X.25: X.25 special event debugging is on Protocol translation: Protocol Translation debugging is
on Router2# Router3#pad 345 Trying 345...Open Trying 10.0.0.6 ... Open User Access Verification
Password: CCCC Router1> Router2# *Mar 1 01:51:31.475: Serial0: X.25 I R1 Call (12) 8 lci 1024
*Mar 1 01:51:31.479: From (3): 123 To (3): 345 *Mar 1 01:51:31.483: Facilities: (0) *Mar 1
01:51:31.483: Call User Data (4): 0x01000000 (pad) *Mar 1 01:51:31.487: PAD: translate call to
345 *Mar 1 01:51:31.491: Call User Data (4): 0x01000000 (pad) *Mar 1 01:51:31.495: PAD: Creating
proto translation on tty2 for vc 1024 *Mar 1 01:51:31.499: Serial0: X.25 O R1 Call Confirm (5) 8
lci 1024 *Mar 1 01:51:31.503: From (0): To (0): *Mar 1 01:51:31.503: Facilities: (0) *Mar 1
01:51:31.507: PAD2: Call completed *Mar 1 01:51:31.511: padtcp2: fork started *Mar 1
01:51:31.515: PAD2: Output X29 packet type 4 (Read X.3 param) len 1 *Mar 1 01:51:31.523:
TCB0049E7A4 created *Mar 1 01:51:31.523: TCB0049E7A4 setting property TCP_TOS (11) 49C853 *Mar 1
01:51:31.527: TCB0049E7A4 bound to UNKNOWN.44034 *Mar 1 01:51:31.531: PAD2: Control packet
received. *Mar 1 01:51:31.531: TCP: sending SYN, seq 3401534831, ack 0 *Mar 1 01:51:31.535:
TCP2: Connection to 10.0.0.6:23, advertising MSS 1460 *Mar 1 01:51:31.539: TCP2: state was
CLOSED -> SYNSENT [44034 -> 10.0.0.6(23)] *Mar 1 01:51:31.559: TCP2: state was SYNSENT -> ESTAB
[44034 -> 10.0.0.6(23)] *Mar 1 01:51:31.563: TCP2: Connection to 10.0.0.6:23, received MSS 1460,
MSS is 1460 *Mar 1 01:51:31.567: TCB0049E7A4 connected to 10.0.0.6.23 *Mar 1 01:51:31.571: PAD2:
Input X29 packet type 0 (Parameter indication) len 45 1:1, 2:1, 3:2, 4:1, 5:0, 6:0, 7:4, 8:0,
9:0, 10:0, 11:14, 12:0, 13:0, 14:0, 15:0, 16:127, 17:21, 18:18, 19:0, 20:0, 21:0, 22:0, *Mar 1
01:51:31.583: PAD2: Setting ParamsIn, length 44 *Mar 1 01:51:31.587: PAD2: Output X29 packet
type 6 (Set and Read) len 9          2:0, 4:1, 15:0, 7:21,
*Mar 1 01:51:31.599: PADTCP2: Telnet received WILL ECHO (1)
*Mar 1 01:51:31.599: PAD2: Control packet received.
*Mar 1 01:51:31.607: PADTCP2: Telnet received DO TTY-TYPE (24)
*Mar 1 01:51:31.611: PAD2: Output X29 packet type 6 (Set and Read) len 3 2:0,

```

```
*Mar 1 01:51:31.619: PAD2: Input
*Mar 1 01:51:31.619: PAD2: Control packet received.X29 packet type 0      (Parameter
indication) len 9 2:0, 4:1, 15:0, 7:21,
*Mar 1 01:51:31.627: PAD2: Setting ParamsIn, length 8
*Mar 1 01:51:31.631: PAD2: Input X29 packet type 0 (Parameter indication) len 3 2:0,
*Mar 1 01:51:31.635: PAD2: Setting ParamsIn, length 2
*Mar 1 01:51:31.643: PADTCP2: Telnet received DONT TTY-LOCATION (23)
*Mar 1 01:51:31.647: PADTCP2: Telnet received DONT TTY-SPEED (32)
Router2#
```

```
Router2#show x25 vc SVC 1024, State: D1, Interface: Serial0 Started 00:00:10, last input
00:00:07, output 00:00:05 Line: 2 vty 0 Location: Host: 123 123 connected to 345 PAD <--> X25
Window size input: 2, output: 2 Packet size input: 128, output: 128 PS: 1 PR: 6 ACK: 6 Remote
PR: 1 RCNT: 0 RNR: no P/D state timeouts: 0 timer (secs): 0 data bytes 3057/60 packets 33/6
Resets 0/0 RNRs 0/0 REJs 0/0 INTs 0/0 Router2# Router2#
```

在发出 **debug** 命令之前，请参阅[有关 Debug 命令的重要信息](#)。

[故障排除](#)

目前没有针对此配置的故障排除信息。

[相关信息](#)

- [更多X.25技术提示](#)
- [技术支持 - Cisco Systems](#)