在 CatOS 交换机与外部路由器之间配置 ISL 与 802.1q Trunking（VLAN 间路由）

目录

简介

本文档提供运行CatOS的Catalyst 6500/6000交换机与可执行InterVLAN路由的Cisco 7500路由器之间交换机间链路(ISL)和802.1q中继的示例配置。执行命令时，每个命令的结果都将显示出来。虽然此配置中使用Catalyst 6500交换机，但可以用运行CatOS且配置步骤不发生任何变化的Catalyst 4500/4000或5500/5000系列交换机来取代它。

开始使用前

背景理论

中继

中继是通过点对点第2层(L2)链路传输来自多个VLAN的流量的一种方式。以太网中继中使用的两种封装是：

- ISL（思科专有中继封装）
- 802.1q（IEEE标准中继封装）

有关ISL或802.1q中继的详细信息和配置示例，请参阅本文档：

- LAN 交换机产品支持

VLAN 间路由

为了使不同VLAN中的设备相互通信，需要路由器在VLAN之间路由。Catalyst 6500/6000上的多层

交换功能卡(MSFC)等内部路由器可用于此目的。Catalyst 5500/5000上的路由交换模块(RSM)是另一个示例。如果交换机Supervisor引擎仅支持L2，或交换机中没有第3层(L3)模块，则需要外部路由器（如Cisco 7500）在VLAN之间路由。

重要说明

- 请记住，运行CatOS的Catalyst 4500/4000系列交换机不支持ISL中继。请务必发出**show port capabilities <mod>** 命令，以确定特定模块在Catalyst 5500/5000上支持哪种中继封装。Catalyst 6500/6000中的所有模块都支持ISL和802.1q中继。
- 请确保使用指南，以便根据交换机的软件文档配置中继。例如，如果在Catalyst 5500/5000上运行软件版本5.5.x，请参阅《软件配置指南》(5.5)，并仔细检查所有配置指南和限制。

规则

有关文档规则的详细信息，请参阅 Cisco 技术提示规则。

先决条件

在您尝试此配置前，请保证您满足这些前提条件：

- Catalyst 6500/6000 系列交换机：所有软件和硬件都支持ISL和802.1q中继
- Cisco 7000或7500系列路由器：带有7000系列路由交换处理器(RSP7000)的Cisco 7000系列路由器7000系列机箱接口(RSP7000CI)Cisco 7500系列路由器，带快速以太网接口处理器(FEIP)或通用接口处理器(VIP2)端口适配器如果使用PA-2FEISL端口适配器，则必须具有硬件修订版1.2或更高版本。有关详细信息，请参阅2端口快速以太网ISL(PA-2FEISL)的更换建议。
- Cisco IOS®**软件版本12.1(3)T**中引入了encapsulation dot1q native命令。此命令更改了配置。有关详细信息，请参阅本文档配置部分中的Cisco 7500上Cisco IOS版本低于12.1(3)T的配置输出802.1q配置示例。
- Cisco 7500系列路由器默认启用Cisco快速转发。但是，在Cisco IOS 12.2和12.2T版本之前，IEEE 802.1q VLAN之间IP路由的思科快速转发支持不可用。仍可以在早期版本中配置802.1q封装，但必须首先在全局配置模式下使用**no ip cef**命令禁用思科快速转发。
- 支持ISL中继需要Cisco IOS 11.3(1)T版（任意加功能集）或更高版本。支持IEEE 802.1q中继需要Cisco IOS 12.0(1)T版（任意加功能集）或更高版本。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- 用于此配置的Catalyst 6500运行CatOS版本5.5(14)
- 用于此配置的Cisco 7500系列路由器运行Cisco IOS版本12.2(7b)

配置

本部分提供有关如何配置本文档所述功能的信息。

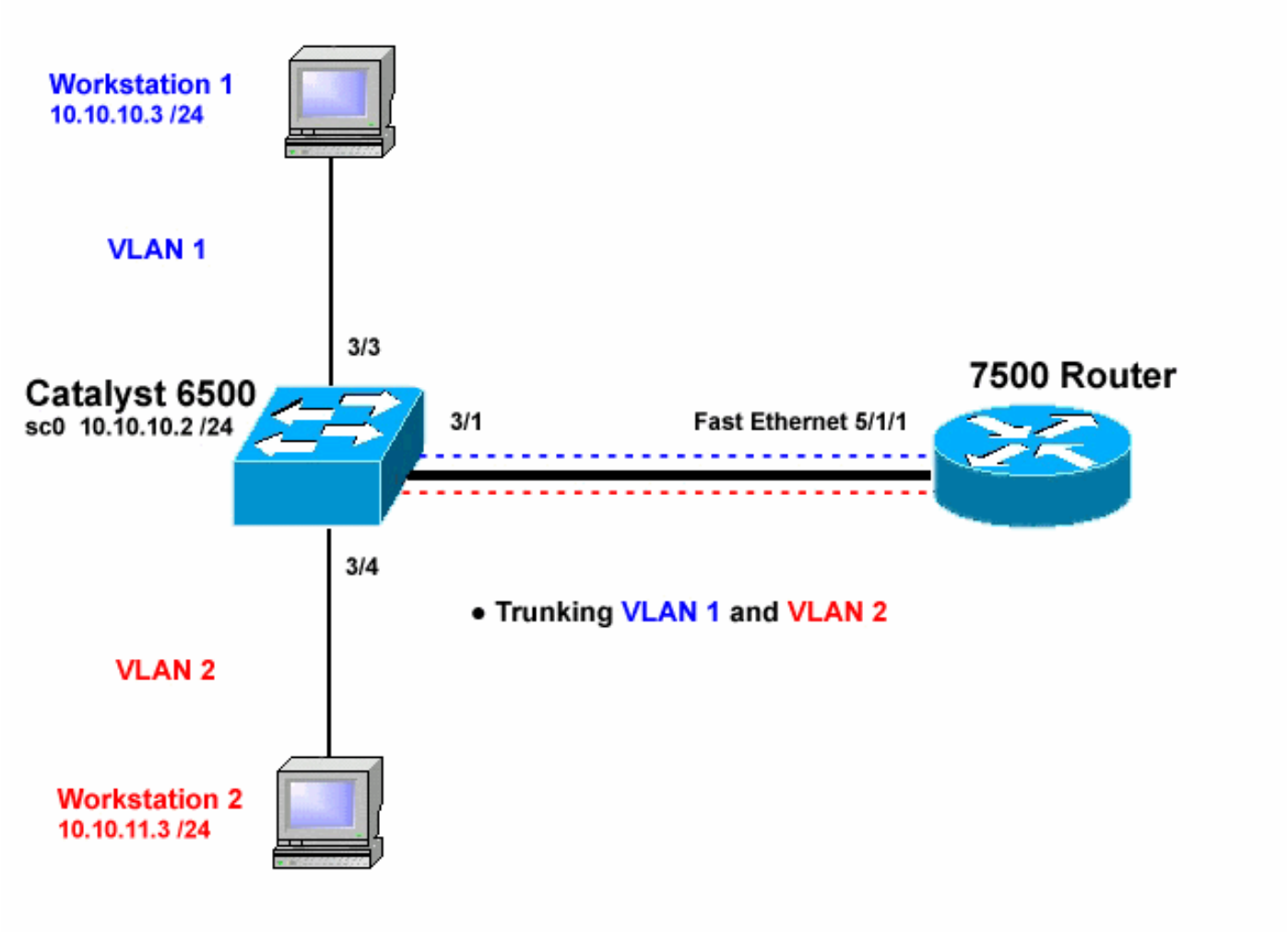
注意：要查找有关本文档中使用的命令的其他信息，请使用命令查找工具(仅注册客户)。

在配置部分，将执行以下任务：

- 在Catalyst 6500上配置两个接入端口。一个用于VLAN 1中的工作站1，另一个用于VLAN 2中的工作站2。
- 在Cisco 7500上，将工作站1和工作站2的各自默认网关配置为10.10.10.1 /24和10.10.11.1/24。
- 在Catalyst 6500交换机和Cisco 7500路由器之间配置ISL或802.1q中继。
- 为VLAN间路由配置两个FastEthernet子接口的IP地址。

网络图

本文档使用此图中所示的网络设置：



配置

本文档使用以下配置：

- Catalyst 6500 交换机
- Cisco 7500 路由器
- 在Cisco 7500上为12.1(3)T以前的Cisco IOS版本配置802.1q

本文档中的信息都是基于特定实验室环境中的设备创建的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您是在真实网络上操作，请确保您在使用任何命令前已经了解其潜在影响。

Catalyst 6500 交换机

```
!-- Set the sc0 IP address and VLAN. Catalyst6500>
(enable) set int sc0 10.10.10.2 255.255.255.0
Interface sc0 IP address and netmask set.

Catalyst6500 (enable) set int sc0 1

!-- Set the default gateway. Catalyst6500> (enable) set
ip route default 10.10.10.1
Route added.

!-- Set the VLAN Trunk Protocol (VTP) mode. !-- In this
example, the mode is set to transparent. !-- Depending
on your network, set the VTP mode accordingly. !-- For
details on VTP, refer to Understanding and Configuring
!-- VLAN Trunk Protocol (VTP). Catalyst6500> (enable)
set vtp mode transparent
VTP domain modified
!-- Add VLAN 2. VLAN 1 already exists by default.
Catalyst6500> (enable) set vlan 2
VLAN 2 configuration successful
!-- Add port 3/4 to VLAN 2. Port 3/3 is already in VLAN
1 by default. Catalyst6500> (enable) set vlan 2 3/4
VLAN 2 modified.
VLAN 1 modified.
VLAN  Mod/Ports
---- ------------------------
2     3/4

! -- Set the port speed and duplex at 100 and full. One
of !-- the requirements for trunking to work is for
speed and duplex to be the same on !-- both sides. To
guarantee this, hardcode both speed and duplex on port
3/1. !-- You can also make the devices auto-negotiate,
but make sure you correctly !-- do so on both sides.
Catalyst6500> (enable) set port speed 3/1 100
Ports 3/1 transmission speed set to 100Mbps.
Catalyst6500> (enable) set port duplex 3/1 full
Ports 3/1 set to full-duplex.

!-- Enable trunking on port 3/1. !-- Because routers do
not understand Dynamic Trunking Protocol (DTP), !-- the
trunking mode is set to nonegotiate, which causes ports
to trunk !-- but not generate DTP frames. !-- Enter the
trunking encapsulation as either ISL or as 802.1q.
Catalyst6500> (enable) set trunk 3/1 nonegotiate isl
Port(s) 3/1 trunk mode set to nonegotiate.
Port(s) 3/1 trunk type set to isl.
! -- Make sure the native VLAN (default is VLAN 1)
matches across the link. ! -- For more information on
the native VLAN and 802.1q trunking, refer to ! --
Trunking Between Catalyst 4500/4000, 5500/5000, and
6500/6000 Family Switches Using !-- 802.1q
Encapsulation. Catalyst6500> (enable) set trunk 3/1
nonegotiate dot1q
Port(s) 3/1 trunk mode set to nonegotiate.
Port(s) 3/1 trunk type set to dot1q.

Catalyst6500> (enable) show config
This command shows non-default configurations only.
Use 'show config all' to show both default and non-
default configurations.
```

```
.........
...................
..
begin
!
# ***** NON-DEFAULT CONFIGURATION *****
!
!
#time: Thu May 2 2002, 01:26:26
!
#version 5.5(14)
!
!
#system
set system name  Catalyst6500
!
#!
#vtp
set vtp mode transparent
set vlan 1 name default type ethernet mtu 1500 said
100001 state active
set vlan 2 name VLAN0002 type ethernet mtu 1500 said
100002 state active
set vlan 1002 name fddi-default type fddi mtu 1500 said
101002 state active
set vlan 1004 name fddinet-default type fddinet mtu 1500
said 101004 state active stp ieee
set vlan 1005 name trnet-default type trbrf mtu 1500
said 101005 state active stp ibm
set vlan 1003 name token-ring-default type trcrf mtu
1500 said 101003 state active
mode srb aremaxhop 7 stemaxhop 7
backupcrf off
!
#ip
set interface sc0 1 10.10.10.2/255.255.255.0
10.10.10.255
set ip route 0.0.0.0/0.0.0.0         10.10.10.1
!
#set boot command
set boot config-register 0x2102
set boot system flash bootflash:cat6000-sup.5-5-14.bin
!
#port channel
!
# default port status is enable
!
!
#module 1 empty
!
#module 2 : 2-port 1000BaseX Supervisor
!
#module 3 : 48-port 10/100BaseTX Ethernet
set vlan 2    3/4
set port disable    3/5
set port speed      3/1  100
set port duplex     3/1  full
set trunk 3/1  nonegotiate isl 1-1005
!-- If IEEE 802.1q is configured, !-- you will see the
following output instead: !-- set trunk 3/1 nonegotiate
dot1q 1-1005 ! #module 4 : 24-port 100BaseFX MM Ethernet
! #module 5 empty ! #module 6 empty ! #module 15 empty !
#module 16 empty end
```

Cisco 7500 路由器

```
7500#configure terminal
 Enter configuration commands, one per line. End with
CNTL/Z.

!-- Configure the FastEthernet interfaces for speed 100
depending on the port adapter. !-- Some FastEthernet
port adapters can auto-negotiate speed (10 or 100) !--
and duplex (half or full). Others are only capable of
100 (half or full). 7500(config)#int fa 5/1/1

!-- Configure full-duplex to match the duplex setting on
the Catalyst switch side. 7500(config-if)#full-duplex
7500(config-if)#speed 100

7500(config-if)#no shut
7500(config-if)#

01:46:09: %LINK-3-UPDOWN: Interface FastEthernet5/1/1,
changed state to up
01:46:10: %LINEPROTO-5-UPDOWN: Line protocol on
Interface FastEthernet5/1/1,
changed state to up

7500(config-if)#exit
!-- If you are using ISL trunking, configure two
FastEthernet !-- sub-interfaces and enable ISL trunking
by issuing !-- the encapsulation isl



           command. !-- Configure the IP addresses for
InterVLAN routing.

7500(config)#int fast 5/1/1.1
7500(config-subif)#encapsulation isl 1
7500(config-subif)#ip address 10.10.10.1 255.255.255.0
7500(config-subif)#exit
7500(config)#int fast 5/1/1.2
7500(config-subif)#encapsulation isl 2
7500(config-subif)#ip address 10.10.11.1 255.255.255.0
7500(config-subif)#exit

!-- If you are using 802.1q trunking, configure two !--
FastEthernet sub-interfaces, enable 802.1q trunking !--
by issuing the encapsulation dot1Q



           command, !-- and configure the IP addresses
for InterVLAN routing.


!-- Note: The encapsulation dot1Q 1 native command !--
was added in Cisco IOS version 12.1(3)T. If you are
using an earlier !-- version of Cisco IOS, refer to the
sample configuration output !-- 802.1q configuration for
Cisco IOS Versions Earlier than 12.1(3)T !-- to
configure 802.1q trunking on the router. !-- Make sure
the native VLAN (default is VLAN 1) matches across the
link. !-- For more information on the native VLAN and
802.1q trunking, refer to !-- Trunking Between Catalyst
```

```
4500/4000, 5500/5000, and 6500/6000 Family Switches
Using !-- 802.1q Encapsulation. 7500(config)#int fast
5/1/1.1
7500(config-subif)#encapsulation dot1Q 1 native
7500(config-subif)#ip address 10.10.10.1 255.255.255.0
7500(config-subif)#exit
7500(config)#int fast 5/1/1.2
7500(config-subif)#encapsulation dot1Q 2
7500(config-subif)#ip address 10.10.11.1 255.255.255.0
7500(config-subif)#exit
!-- Remember to save the configuration. 7500#write
memory
Building configuration...
[OK]
7500#

!-- Note: In order to make this setup work, and to
successfully ping !-- between Workstation 1 and
Workstation 2, you need to make sure that the default !-
- gateways on the workstations are setup properly. For
Workstation 1, the default !-- gateway should be
10.10.10.1 and for Workstation 2, the default gateway
should !-- be 10.10.11.1.


7500#show running-config
Building configuration...

Current configuration : 1593 bytes
!
version 12.2
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
no service single-slot-reload-enable
!
hostname 7500
!
boot system disk1:rsp-jsv-mz.122-7b.bin
!
ip subnet-zero
!
ip cef
call rsvp-sync
!
!
!
!
!
interface FastEthernet5/1/0
 no ip address
 no ip mroute-cache
 speed 100
 full-duplex
!
interface FastEthernet5/1/1
 no ip address
 no ip mroute-cache
 speed 100
 full-duplex

!
interface FastEthernet5/1/1.1
```

```
 encapsulation isl 1
 ip address 10.10.10.1 255.255.255.0
!
interface FastEthernet5/1/1.2
 encapsulation isl 2
 ip address 10.10.11.1 255.255.255.0

!-- If 802.1q trunking is configured, !-- you will see
the following output instead: !-- interface
FastEthernet5/1/1.1 !-- encapsulation dot1Q 1 native !--
ip address 10.10.10.1 255.255.255.0 !-- ! !-- interface
FastEthernet5/1/1.2 !-- encapsulation dot1Q 2 !-- ip
address 10.10.11.1 255.255.255.0


!
!
ip classless
no ip http server
ip pim bidir-enable
!
!
!
!
line con 0
line aux 0
line vty 0 4
 login
!
end
7500#
```

在低于12.1(3)T的Cisco IOS版本中，子接口下的**encapsulation dot1Q 1 native**命令不可用。但是，仍需要匹配链路上的本征VLAN，如上所述。

为了在低于12.1(3)T的软件版本中配置802.1q中继，本征VLAN（本文档中的VLAN 1）的IP地址在主快速以太网接口上配置，而不是在快速以太网子接口上配置。

在Cisco 7500上为12.1(3)T以前的Cisco IOS版本配置802.1Q

```
7500#configure terminal
 Enter configuration commands, one per line. End with
CNTL/Z.

!-- Configure the FastEthernet interfaces for speed 100
!-- depending on the port adapter. Some FastEthernet
port adapters can !-- auto-negotiate speed (10 or 100)
and duplex (half or full). !-- Others are only capable
of 100 (half or full). 7500(config)#int Fast 5/1/1
!-- Configure full-duplex to match the duplex setting !-
- on the Catalyst switch side. 7500(config-if)#full-
duplex
7500(config-if)#speed 100

7500(config-if)#no shut
7500(config-if)#

01:46:09: %LINK-3-UPDOWN: Interface FastEthernet5/1/1,
changed state to up
01:46:10: %LINEPROTO-5-UPDOWN: Line protocol on
```

```
Interface FastEthernet5/1/1,
changed state to up

7500(config-if)#exit
!-- Do not configure an interface FastEthernet5/1/1.1.
!-- Instead, configure the IP address for VLAN 1 (the
native VLAN). 7500(config)#int Fast 5/1/1
7500(config-if)#ip address 10.10.10.1 255.255.255.0
7500(config-if)#exit
7500(config)#
!-- It is still necessary to create a sub-interface for
VLAN 2. 7500(config)#int Fast 5/1/1.2
7500(config-subif)#encapsulation dot1Q 2
7500(config-subif)#ip address 10.10.11.1 255.255.255.0
7500(config-subif)#exit
! -- Remember to save the configuration. 7500#write
memory
Building configuration...
[OK]
7500#

!-- Note: Remember also that in any version of software
previous !-- to Cisco IOS 12.2 or 12.2T for the 7000 or
7500 series router, you !-- have to issue the no ip cef
command globally before configuring !-- 802.1q trunking
on a sub-interface. Otherwise, you will see the !--
following error message: !-- 802.1q encapsulation not
supported with CEF configured on the !-- interface. !--
For more information, refer to the Components Used
section of !-- this document. 7500#show running-config
Building configuration...
Current configuration : 1593 bytes
!
version 12.1
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname 7500
!
!
ip subnet-zero
!
no ip cef
!
!
!
interface FastEthernet5/1/0
 no ip address
 no ip mroute-cache
 speed 100
 full-duplex
!
interface FastEthernet5/1/1
ip address 10.10.10.1 255.255.255.0
speed 100
full-duplex
hold-queue 300 in
!
interface FastEthernet5/1/1.2
 encapsulation dot1Q 2
 ip address 10.10.11.1 255.255.255.0
!
```

```
!
!
ip classless
no ip http server
!
!
!
line con 0
line aux 0
line vty 0 4
 login
!
end
7500#
```

验证

本部分提供了可用于确认您的配置是否正常运行的信息。

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。**

在Catalyst 6500交换机上，发出以下命令：

- **show interface**
- **show ip route**
- **show port capabilities <mod/port>**
- **show port counters <mod/port>**
- **show port <mod>**
- **show vlan**
- **show trunk**

在Cisco 7500路由器上，发出以下命令：

- **show interfaces fastethernet <slot/port-adapter/port>**

Catalyst 6500 show 命令

show interface命令显示sc0管理接口IP地址和VLAN。在本例中，使用默认VLAN，即VLAN 1。

```
Catalyst6500> (enable) show interface
sl0: flags=51<UP,POINTOPOINT,RUNNING>
slip 0.0.0.0 dest 0.0.0.0
sc0: flags=63
```

```
Catalyst6500> (enable)
```

show ip route命令显示默认网关。在本示例中，10.10.10.1是端口通道1（用于802.1q中继）或端口通道1.1（用于ISL中继）的IP地址。

```
Catalyst6500> (enable) show ip route
Fragmentation   Redirect   Unreachable
-------------   --------   -----------
enabled         enabled    enabled
The primary gateway: 10.10.10.1
Destination      Gateway          RouteMask    Flags   Use       Interface
---------------  ---------------  ----------   -----   --------  ---------
default          10.10.10.1       0x0          UG      0           sc0
10.10.10.0       10.10.10.2       0xffffff00   U       8           sc0
default          default          0xff000000   UH      0           sl0
Catalyst6500> (enable)
```

show port capabilities **<mod/port>命**令用于查看交换模块的硬件功能。本示例显示端口3/1（3/2相同）支持EtherChannel，支持哪些中继封装以及其他信息。

```
Catalyst6500> (enable) show port capabilities 3/1
Model                     WS-X6248-RJ-45
Port                      3/1
Type                      10/100BaseTX
Speed                     auto,10,100
Duplex                    half,full
Trunk encap type          802.1Q,ISL
Trunk mode                on,off,desirable,auto,nonegotiate
Channel                   yes
Broadcast suppression     percentage(0-100)
Flow control              receive-(off,on),send-(off)
Security                  yes
Membership                static,dynamic
Fast start                yes
QOS scheduling            rx-(1q4t),tx-(2q2t)
CoS rewrite               yes
ToS rewrite               DSCP
UDLD                      yes
Inline power              no
AuxiliaryVlan             1..1000,untagged,dot1p,none
SPAN                      source,destination
COPS port group           not supported
Catalyst6500> (enable)
```

show port counters **<mod/port>命令可**以查看可能的端口错误。在本例中，此端口没有任何错误。如果在端口上遇到错误，请参阅排除交换机端口故障以了解详细信息。

```
Catalyst6500> (enable) show port counters 3/1

Port  Align-Err  FCS-Err    Xmit-Err   Rcv-Err    UnderSize
----- ---------- ---------- ---------- ---------- ---------
 3/1           0          0          0          0         0

Port  Single-Col Multi-Coll Late-Coll  Excess-Col Carri-Sen Runts     Giants
----- ---------- ---------- ---------- ---------- --------- --------- ---------
 3/1           0          0          0          0         0         0         -

Last-Time-Cleared
--------------------------
Thu May 2 2002, 02:11:55
Catalyst6500> (enable)
```

show port **<mod>命**令显示端口状态、VLAN、中继、速度和双工信息。在本例中，工作站1的接入端口是3/3，位于VLAN 1中。工作站2的接入端口是3/4，即VLAN 2。端口3/1是中继端口。

```
Catalyst6500> (enable) show port 3
```

```
Port  Name                 Status     VLAN       Duplex Speed Type
----- -------------------- ---------- ---------- ------ ----- ------------
 3/1                       connected  trunk        full   100 10/100BaseTX
 3/2                       connected  1            full   100 10/100BaseTX
 3/3                       connected  1          a-half  a-10 10/100BaseTX
 3/4                       connected  2          a-full a-100 10/100BaseTX

 !-- Output truncated
```

show vlan命令显示哪些端口已分配给特定VLAN。请注意，中继端口 — 3/1未显示在此输出中，这是正常的。

```
Catalyst6500> (enable) show vlan
VLAN Name                             Status    IfIndex Mod/Ports, Vlans
---- -------------------------------- --------- ------- -------------------------
1    default                          active    119     2/1-2
                                                        3/2-3,3/5-48
                                                        4/1-24
2    VLAN0002                         active    124     3/4

!-- Output truncated
```

show trunk命令显示中继模式、封装类型、允许的VLAN和活动VLAN。在本例中，VLAN 1（默认情况下始终允许并处于活动状态）和VLAN 2是中继的当前活动VLAN。注意，中继端口在VLAN 1中。

```
Catalyst6500> (enable) show trunk
* - indicates vtp domain mismatch
Port      Mode         Encapsulation  Status        Native vlan
--------  -----------  -------------  ------------  -----------
 3/1      nonegotiate  isl            trunking      1

Port      VLANs allowed on trunk
--------  ---------------------------------------------------------------------
 3/1      1-1005

Port      VLANs allowed and active in management domain
--------  ---------------------------------------------------------------------
 3/1      1-2

Port      VLANs in spanning tree forwarding state and not pruned
--------  ---------------------------------------------------------------------
 3/1      1-2
```

对于802.1q中继，命令的输出会以如下方式更改：

```
Catalyst6500> (enable) show trunk
* - indicates vtp domain mismatch
Port      Mode         Encapsulation  Status        Native VLAN
--------  -----------  -------------  ------------  -----------
 3/1      nonegotiate  dot1q          trunking      1

Port      VLANs allowed on trunk
--------  ---------------------------------------------------------------------
 3/1      1-1005

Port      VLANs allowed and active in management domain
--------  ---------------------------------------------------------------------
 3/1      1-2

Port      VLANs in spanning tree forwarding state and not pruned
--------  ---------------------------------------------------------------------
```

```
 3/1      1-2
Catalyst6500> (enable)
```

Cisco 7500 路由器 show 命令

以下是ISL中继的输出：

```
7500#show interface FastEthernet5/1/1.1
FastEthernet5/1/1.1 is up, line protocol is up
  Hardware is cyBus FastEthernet Interface, address is 0001.6490.f8a8 (bia 0001.
6490.f8a8)
  Internet address is 10.10.10.1/24
  MTU 1500 bytes, BW 200000 Kbit, DLY 100 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ISL Virtual LAN, Color 1.
  ARP type: ARPA, ARP Timeout 04:00:00

7500#show interface FastEthernet5/1/1.2
FastEthernet5/1/1.2 is up, line protocol is up
  Hardware is cyBus FastEthernet Interface, address is 0001.6490.f8a8 (bia 0001.
6490.f8a8)
  Internet address is 10.10.11.1/24
  MTU 1500 bytes, BW 200000 Kbit, DLY 100 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ISL Virtual LAN, Color 2.
  ARP type: ARPA, ARP Timeout 04:00:00
```

show interfaces **fastethernet <slot/port-adapter/port>命令**显示路由器物理接口的状态以及接口上是否存在任何错误。在本例中，它是无错的。

```
7500#show interface fa5/1/0
FastEthernet5/1/0 is up, line protocol is up
  Hardware is cyBus FastEthernet Interface, address is 0001.6490.f8a8 (bia 0001.
6490.f8a8)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, 100BaseTX/FX
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 1d00h, output 00:00:07, output hang never
  Last clearing of "show interface" counters 1d00h
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     2929 packets input, 425318 bytes, 0 no buffer
     Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
     0 watchdog
     0 input packets with dribble condition detected
     12006 packets output, 1539768 bytes, 0 underruns
     0 output errors, 0 collisions, 6 interface resets
     0 babbles, 0 late collision, 0 deferred
     0 lost carrier, 0 no carrier
     0 output buffer failures, 0 output buffers swapped out
7500#
```

故障排除

目前没有针对此配置的故障排除信息。

相关信息

- 在 Catalyst 2900XL/3500XL/2950 交换机上使用外部路由器配置 VLAN 间路由和 ISL/802.1Q 中继
- 在CatOS交换机和外部路由器之间配置快速EtherChannel和ISL/802.1q中继
- LAN 交换机技术支持
- LAN 交换机产品支持
- 技术支持和文档 - Cisco Systems